LV Cases of Interest by Diagnosis
10/18 to 3/20

Gregg Baldwin, OD

My following LV exam summary letters to referring ophthalmologists served as LV exam records; and when appropriate, as a means to educate referring ophthalmologists about DBVI services. Specific names and dates were removed.

Contents

ARMD

1).

To referring ophthalmologist

F, born in 1931, saw you in 2019, with a history of dry ARMD OU. At that time, his visual fields were full-to-finger-counting in each eye, and his best corrected distance acuities were:

OD -0.75 +1.75 X 015 20/60
OS -2.00 +0.75 X 155 20/200

According to your record, he was wearing the following glasses at the time:

OD -0.75 +1.50 X 015
OS -2.25 +0.75 X 155
(+4.00 add)

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone, and receives assistance from a neighbor. He does not leave his home unless accompanied by a sighted guide. His primary visual goals involve reading newsprint, writing, and watching television. The patient is hard of hearing, and has difficulty reading the closed-caption subtitles on his television. L is considering a deaf-blind services referral within the agency.

I provided a low vision exam in 2019. L was present during the exam. The patient does not complain of glare, indoors or outdoors. He stated that sun-wear, "bothers him," and he was not interested a sun-wear evaluation. He stated that the vision in his right eye has been better than that in his left for the past 22 years. The patient's distance acuities with his current (preferred) glasses were:

OD +0.75 -0.75 X 085	10/40
OS -1.00 -0.75 X 100	10/80
(OU +3.25 flat-top bifocal)	1.6M (CT)

A pair of "Coil Magnatel 2X" wearable focusable distance binoculars did not improve distance acuity. He will have to access TV closed-caption subtitles using a method other than distance magnification. When 2X distance magnification provides zero improvement, all higher distance magnification simply provides a higher factor of zero improvement with less visual field. An agency deaf-blind referral might provide other means of accessing closed-caption TV subtitles, such as viewing his TV on a tablet at near with near magnification.

When he held his drooping eyelids up, his near continuous text acuity improved to 0.6M. This was repeatable. His neighbor stated that he "always" holds his lids up when he reads his mail at home. I suggested he consult with you, to see if you felt eyelid surgery was indicated, but he stated he was not interested in that if it was.

A demonstration of 3X, 4X, and 5X bright LED-lighted stand magnifiers all provided 0.6M continuous text acuity, which was no better than that resulting from the patient simply holding his eyelids up. A pair of +6 readers also provided 0.6M continuous text acuity, but the patient disliked the required short working distance. Extra lighting did not improve near vision. A "2X BigEye" table-lamp/hands-free magnification system did not improve near vision. A portable CCTV provided 0.6M continuous text acuity, but only one or two words at a time. Since the patient is not interested in pursuing the question of whether lid surgery would improve his near vision, it is reasonable to demonstrate a desktop CCTV or TV/mouse magnifier, to see if he prefers either of these to any of the above magnification systems. Of the above magnification options, he clearly preferred the electronic portable CCTV option.

The patient's DBVI case manager, L, will provide access to the following trial low vision aid, and will provide the required training:

1. CCTV, portable, desktop, or TV/mouse

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

2).

To referring ophthalmologist

M, born in 1924, saw you in 2019. She had a history of wet ARMD OD, and dry ARMD OS. At that time, her corrected distance acuities were:

OD +2.25 +1.00 X 169 20/200
OS plano +1.00 X 170 20/200
(+3.50 add)

L, a DBVI vision rehabilitation teacher, recently provided an in-home, functional vision assessment. The patient travels using a walker. Her primary visual goals involve reading newsprint, writing, and reducing glare; both indoors and outdoors. L provided the patient with vision rehabilitation teaching skills in the kitchen, and marked her appliances with bump dots for safer use.

I provided a low vision exam in 2019. L and the patient's daughter were present during the exam. The patient's distance acuities when corrected with her current glasses were:

OD +3.75 -2.00 X 074 10/100+1
OS +1.50 -1.50 X 052 10/60-1
(+3.75 flat-top bifocal set high)

The patient's distance refraction results were the same. A "2X Coil Magnatel" wearable focusable distance binoculars, best set on #7, provided 10/20. The patient was not interested in trying a focusable distance hand-held monocular. Various light-colored tints were demonstrated indoors, and the patient preferred amber. Outdoors in bright sunlight, the patient preferred NoIR U-40 medium-amber sun-wear with top and side-shields.

A pair of +4 readers provided a slow 1.2M continuous text near acuity. A pair of +6 readers provided 0.8M continuous text acuity. Adding light improved this result to 0.6M continuous text acuity. The patient was comfortable with the +6 near add working distance for reading, but not writing. I demonstrated a "2X BigEye" table-lamp for the function of writing, and this was beneficial.

A reading stand was helpful with stand magnifiers. A "6X Reizen hollow-dome" non-lighted stand magnifier provided 0.6M continuous text acuity. Various lighted stand magnifiers were demonstrated, and the patient preferred bright LED light sources. A 4X bright LED-lighted stand magnifier, used with her current bifocals, provided 0.6M continuous text acuity. A 3.5X LED-lighted hand magnifier provided the same acuity.

The patient's DBVI case manager, L, will provide for the following sun-wear and trial low vision aids, with the required training:

1. NoIR U-40 medium-amber sun-wear with top and side-shields for outdoors
2. NoIR U-48 light-amber sun-wear with top and side-shields for indoor glare
3. "2X Coil Magnatel" wearable focusable distance binoculars, set on #7, to be used when seated only
4. +6 readers
4. "2X BigEye" table-lamp
5. 4X bright LED-lighted stand magnifier
6. 3.5X bright LED-lighted hand magnifier
7. Reading stand

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

3).

To referring ophthalmologist

F, born in 1948, saw Dr. M in 2019 with a history of bilateral ARMD and glaucoma. At that time, her uncorrected distance acuities were OD 20/50, OS 20/100, and OU 20/50. Her corrected distance acuities were:

OD plano 20/50
OS -0.75 -1.00 X 077 20/100

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involve reading newsprint, writing letters, and resuming her hobby of painting. She has a hearing loss, and lives with her family. She occasionally has trouble with mobility in unfamiliar settings. However, she declined agency orientation and mobility at training at this time.

I provided a low vision exam in 2019. D was present during the exam. The patient's confrontation visual fields were full-to-finger-counting in each eye. She complained of significant glare, both indoors and outdoors. Several light-colored tints were demonstrated indoors, and the patient preferred light-plum in the exam room, and light-amber when standing next to a window. (She specifically requested indoor glare protection when standing or sitting close to large windows in her home). Outdoors in bright sunlight, the patient preferred dark-plum sun-wear. I therefore recommended she also try medium-plum sun-wear for cloudy days.

The patient's uncorrected distance acuities were OD 10/25+1, and OS 10/80. She was aware of using eccentric fixation in each eye, and was able to describe the process. The following were the patient's relevant corrected acuities:

Relevant focused acuities						
Spectacle only					**c(Distance mag)**	
DIST	**Subjective DS Rx**	**Subjective DS/DC Rx**	**BVAcc**		**BVAcc c2X**	**BVAcc c4X**
OD	**plano +/- 0.50**		**10/25+1**			
OS	**-1.00 +/- 1.00**		**10/80**			
OU		**60 mm**				

NEAR	Add for 1M (IL/CT)	Non-lighted stand cAdd for 0.8M CT	BVAcc c+4		BVAcc c2X+6 cap	BVAcc c2X+8 cap
OD		**Reizen +4 add**	**2M**			
OS						
OU						

Various lighted stand magnifiers were demonstrated, and the patient preferred dim LED lighting to both bright LED lighting and incandescent lighting. Therefore, I recommended a "Coil 4.7X" dim-LED lighted stand magnifier, used with her current +3.25 readers, or a pair of +4 readers. For portability, I demonstrated and recommended a 3.5X LED-hand magnifier.

I demonstrated a "BigEye 2X" magnifying lamp. She was able to use it for writing, and thought it might be useful for resuming her hobby of painting. She wanted to try both a desk and a floor model.

The patient's DBVI case manager, D, will provide for the following sun-wear and low vision aids, with the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields for sunny days
2. NoIR U-81 medium-plum sun-wear with top and side-shields for cloudy days
3. NoIR U-88 light-plum sun-wear with top and side-shields for indoors
4. NoIR U-48 light-amber sun-wear with top and side-shields when indoors near large windows
5. Coil 4.7X" dim-LED lighted stand magnifier
6. +4 readers
7. "BigEye 2X" magnifying lamp, floor model
8. "BigEye 2X" magnifying lamp, desk model
9. 3.5X LED-lighted hand magnifier, for portability

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health.

4).

To referring ophthalmologist

R, born in 1946, saw you in 2019 with a history of bilateral wet ARMD. At that time, her corrected distance acuities were OD CF@2ft, and OS CF@2ft.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives in her home with her husband. She has a significant hearing loss. Her visual goals involve reading newsprint and watching television.

I provided a low vision exam in 2019. L was present during the exam. The patient preferred NoIR #21 medium gray sun-wear outdoors in direct sunlight. The patient's distance acuities with her current two year old glasses were:

OD +3.50 -0.50 X 110 10/160-1
OS +3.00 -0.50 X 080 10/40-2
OU 10/40-2
(+2.25 progressive bifocal)

Relevant focused acuities					
Trial frame refraction				c(Distance mag)	
DIST	**Sub DS Rx**	**Sub DS/DC Rx**	**BVAcc**	**BVAcc c2X**	**BVAcc c4X**
OD	**Occ**				
OS	**2.00**		**10/40-2**		
OU		**63mm**		**10/25***	
NEAR	**BVAcc c+4**	**lighted stand cAdd for 1M(CT)**	**BVAcc c+16 (4X)**	**BVAcc c2X+6 cap**	**BVAcc c2X+8 cap**
OD		**4X Bright LED c+2.25**			
OS	**0.5M(IL) 3.2M(CT)**		**2.5M(CT)**		
OU					

* Coil "Magnatel" wearable focusable distance magnification, on setting #7

Although the 4X LED stand magnifier used with her +2.25 bifocal provided her visual goal of 1M (newsprint) continuous text acuity, it did not provide a functional reserve. It would be reasonable to therefore provide up to a 6X LED stand magnifier to be used with her +2.25 bifocal if the 4X proves insufficient for extended use.

The patient's DBVI case manager, Lauren Conner, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-21 medium-gray sun-wear with top and side-shields
2. Coil "Magnatel" wearable focusable distance magnification, on setting #7; intended to be used to meet her goal of better vision when watching TV, and to be worn when seated only
3. 4X (or 6X) "Independent Living Aids" bright LED stand magnifier, to be used with her current bifocals

The patient understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

5).

To referring ophthalmologist

S, born in 1934, saw you in 2019 with a history of bilateral dry ARMD. At that time, her distance acuities were OD 1/200, OS 5/200, and OU 20/400.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone, has difficulty with balance, and uses a support cane. She complains of outdoor glare, and long dark adaptation times.

I provided a low vision exam in 2019. L was present with the patient's friend during the exam. The patient had a significant hearing loss. She had a pair of sunglasses equivalent to NoIR #422-31 gray sun-wear, which she stated were not dark enough. Various other colored lenses were tried for comfort, but the patient preferred gray. I therefore simply recommended she try the NoIR #423-31 gray sun-wear, which is darker than what she has. The patient's uncorrected near isolated letter acuity was 6M. Her uncorrected near continuous text acuity was 8M. Extra lighting was helpful. A "Coil 5123" non-lighted stand magnifier provided fleeting 1M isolated letter acuity. A 7X LED-lighted hand magnifier provided a stable 1M isolated letter acuity. This device worked better for spot reading than the relatively low powered lighted hand magnifier she had been using, and brought with her for comparison. A portable CCTV provided 1M continuous text acuity, but the patient complained that its small screen made using it difficult. It is therefore reasonable to demonstrate a desktop version.

I recommend that the patient try the following sun-wear and low vision aids, along with any necessary training:

1. NoIR #423-31 dark-gray sun-wear with top and side-shields
2. 7X LED-lighted hand magnifier for spot reading
2. Desktop CCTV

6).

To referring ophthalmologist

T, born in 1938, saw you in 2019, with a history of bilateral ARMD. At that time, his distance acuities were OD CF, OS 20/200, and OU 20/200.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives in a house with his wife. He has difficulty with balance, and uses a rollator when walking. He has a daughter nearby, and a caregiver in the home five days per week. He reports having had a retinal detachment in his right eye three years ago. His visual goals involve reading newsprint. He finds extra lighting helpful.

I provided a DBVI low vision exam in 2019. L, the patient's wife, and his caregiver, were present during the exam. Outdoors in direct sunlight, the patient preferred a NoIR #21 medium-gray tint. Standard NoIR "U series" frames were too small. The patient's acuities with his current four-year-old glasses were:

OD +0.75 -0.50 X 080	10/600
OS +0.25 -1.00 X 090	10/80-1
(OU +3.50 flat-top bifocal	2.5M@~30cm)

With his current bifocals, a "Coil 5428" non-lighted stand magnifier produced 3X, and provided 2M (standard large-print) continuous text acuity. With his current bifocals, a "Coil 5123" non-lighted stand magnifier produced 7X, but still only provided 2M continuous text acuity. He resisted the close working distance the "Coil 5123" required. Equivalent bright LED-lighted stand magnifiers did not improve acuity beyond this level. (Both 4X and 8X ILA bright LED lighted stand magnifiers provided only 2M continuous text acuity). However, a portable CCTV provided 0.5M continuous text acuity, which was twice his goal level of newsprint. Although he was able to move the device easily and effectively across a page of text when reading during the exam, it is an open question whether or not he will be able to do so for longer periods of time. L will work with him in his home using the device. If he is unable to use it effectively, a desktop CCTV should be considered, since moving reading material under a large camera is easier than moving a small camera over reading material. However, the simplicity, size, cost, and portability of a portable CCTV make it his best option, if it meets his needs.

The patient's DBVI case manager, L, will provide for the following trial sun-wear and low vision aids, and will provide the required training:

1. NoIR L-21 (or 421-39) medium-gray sun-wear with top and side-shields, (try on before purchasing)
2. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

7).

To referring ophthalmologist

N, born in 1925, saw you in 2018 with a history of bilateral dry ARMD. At that time, her corrected distance acuities were:

OD -1.50 +1.50 X 175 20/400
OS -1.25 +2.50 X 175 20/400+1
(OU +3.50 bifocal)

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a walker, and has had a couple of falls. She is hard of hearing, but has declined DBVI deaf-blind services. She reported that her current bifocals help her at distance, “a little;” and help her a near, “a lot.” She likes and uses her current sun-wear. D provided a talking watch. She will teach coin and currency identification, mark her appliances for easier use, provide writing guides, and help the patient access her phone.

I provided a low vision exam in 2019. D was present during the exam. The patient's uncorrected distance acuities were OD 10/180, OS 10/700, and OU 10/180. Outdoors in bright sunlight, NoIR gray tints were preferred. The #22 dark gray tint was preferred to the #23 extra-dark gray tint. There was no reason to recommend new glasses, since the patient's trial frame refraction results were:

OD +1.00 DS (+/- 1.00DS and +/-1.00DCx090) 10/180EF
OS NA
PD 64mm

Relevant focused acuities						
Spectacle only					c(Distance mag)	
DIST	**Subj DS Rx**	**Subj DS/DC Rx**	**BVAcc**		**BVAcc c2X**	**BVAcc c4X**
OD		**.+1.00**	**10/180**		**10/60**	**10/60**
OS		**NA**				
OU		**64mm**				
NEAR	**BVAcc c+4**	**BVAcc c+8 (2X)**	**BVAcc c+16 (4X)**		**BVAcc c2X+6 cap**	**BVAcc c2X+8 cap**
OU	**4M(CT)**	**4M(CT)**	**2M(CT)**			

A "Coil 8.7X" lighted stand magnifier provided only 2.5M continuous text near acuity, and a field of view the patient found restrictive. A portable CCTV with yellow on black letters provided 0.6M continuous text acuity, which met her near goal of 1M (newsprint).

The patient's DBVI case manager, D, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-22 dark-gray sun-wear with top and side-shields
2. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

8).

To referring ophthalmologist

P, born in 1923, saw you in 2019, with a history of ARMD OU. At that time, her corrected distance acuities were:

OD -1.50 +1.00 X 171 20/80
OS -0.25 ---
OU +2.75 spectacle add

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has hearing loss and physical mobility problems. Her visual goals involve reading newsprint, watching television, writing, and playing cards. She lives alone in an assisted living facility. According to the patient, her left acuity has been reduced since age five, following eye surgery for a "crossed eye."

I provided a low vision exam in 2019. L and the patient's daughter were present during the exam. The patient's corrected distance acuities were:

OD -0.50 -1.00 X 085	10/40
OS -0.25	4/600
OU +2.50 flat-top bifocal	

Her right over-refraction was plano. A pair of 2X "Coil" focusable distance binoculars provided 10/20, and was best for distance when set on setting number six. The patient understood that she should never stand while wearing that device. The patient stated her current medium-amber sun-wear is not dark enough in bright sunlight. I demonstrated several shades of several colors of sun-wear, and the patient preferred medium-plum by a bright window.

The patient's near continuous text visual acuity with her current bifocal was 2M (standard large-print) at 40cm. Extra lighting was helpful. The patient stated that even before her vision began to decrease, she preferred reading large-print books. She especially liked the large-print Readers Digest magazines. She complained that this activity is no longer comfortable or enjoyable. Lighted magnification may improve her comfort, and make this activity enjoyable again. I demonstrated a 4X LED-lighted stand magnifier, which provided 0.6M continuous text acuity. The patient did not like a 3.5X LED-lighted hand magnifier, because it was too difficult for her to control the focal length. I demonstrated a reading stand, and recommended she try both a reading stand and a lap desk with the stand magnifier. I demonstrated a 2X "BigEye" incandescent-lighted table lamp for hands-free near magnification. The patient used this device to sign her name, and concluded that it was not helpful.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields, for sunny days
2. NoIR U-81 medium-plum sun-wear with top and side-shields, for cloudy days
3. 2X "Coil" focusable distance binoculars, set on #6 for distance
4. 4X LED-lighted stand magnifier
5. Reading stand
6. Lap-desk

The patient reported that the central white spot she occasionally saw for a few seconds at a time, and discussed with you at her last visit, has gotten somewhat bigger. I advised her to keep you informed of *any* vision changes as they occur. The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions, keep you informed of any vision changes, and keep follow-up appointments with you.

9).

To referring ophthalmologist

J, born in 1939, saw you in 2018 with a history of dry ARMD OU, optic atrophy OU, and pseudophakia OU. At that time, his uncorrected distance acuities were OD 20/400, and OS 20/400.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. She referred the patient for help with spot-reading newsprint.

I provided a low vision exam in 2019. R was present during the exam. The patient's uncorrected distance acuities were OD 10/600, and OS 10/300. He had found NoIR U-20 light-gray lenses with top and side-shields to be useful for reducing bothersome indoor glare in the past, but had broken the frames recently. I dispensed a more durable pair of NoIR 420-35 wrap-around light-gray frames from stock on 4/11/19.

The patient's uncorrected near isolated letter acuity was 5M at 30cm. An 8X left-mounted spectacle loupe provided OS 1M (newsprint) isolated letter acuity, and was dispensed from stock on 4/11/19.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR 420-35 wrap-around light-gray sun-wear, dispensed from stock
2. 8X left-mounted spectacle loupe, dispensed from stock
3. Gooseneck floor-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

10).

To referring ophthalmologist

S, born in 1934, saw you in 2018 with a history of dry ARMD OU. At that time, her corrected distance acuities were:

OD +1.00 -2.75 X 105	20/50
OS +0.50 -0.50 X 085	20/50
OU +3.00 progressive add	

She has since seen Dr. T, who prescribed these new glasses one month ago, (which I also measured with a manual lensometer):

OD +1.25 -2.75 X 100
OS + 1.00 -1.00 X 095
OU +3.50 flat-top bifocal

The patient said she sees the same out of both pairs of glasses, but likes her newer frames better.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. She is currently working with the patient to help with adjustments to vision loss. The patient's primary near visual goal involves reading newsprint.

I provided a low vision exam in 2019. L was present during the exam. The patient's corrected distance acuities with her newest glasses were OD 10/25-1, OS 10/25-1, and OU 10/25-1. I explained that these functional distance acuities were not measured with standard backlighting, and so are not useful for DMV determination of legal driving. (Additionally, I explained that low vision functional distance acuities are measured at ten feet, rather than the twenty feet specified as standard by the DMV). The patient wanted to know if her standard distance acuities as recently measured by you on met legal driving requirements. I called your office and spoke to your assistant, who read the record from that visit, and stated that the patient's manifest refraction distance acuities were 20/80 OD, OS, and OU. I informed the patient of that. When seated by a bright window, the patient preferred medium-amber sun-wear to both medium-gray, and medium-plum. The patient stated that the trial NoIR "U series" fit-over frame with top and side-shields fit well.

The patient's near acuity with her newest bifocals was a slow 1M (newsprint) continuous text acuity. She stated that she looses her place when reading with both eyes more often than when reading with either eye separately. Extra lighting was helpful. For those reasons, I demonstrated lighted magnifiers designed for monocular use, (such as lighted stand or hand magnifiers rather than spectacles with short focal lengths). The patient preferred a 4X LED-lighted stand magnifier, and a 3.5X LED-lighted hand magnifier, both of which provided 0.6M continuous text acuity.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-40 medium-amber sun-wear with top and side-shields
2. 4X LED-lighted stand magnifier
3. 3.5X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

11).

To referring ophthalmologist

T, born in 1935, will be seeing you again this month, (in 2019), with a history of bilateral dry macular degeneration. You last saw him in 2018. At that time, his corrected distance acuities were OD 20/400, OS 20/250, and OU 20/250. The patient and his son describe him having had a right YAG capsulotomy, and a right retinal detachment since that time. He reportedly saw physicians elsewhere regarding those issues.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has a hearing loss, and uses an OTC pocket talker. L will help him replace his malfunctioning headphones, and refer him for agency deaf-blind services if necessary. The patient has physical difficulty with mobility. He uses a walker in his home, and a motorized scooter elsewhere. He lives with his son's family. His visual goals include reading newsprint, seeing his flip-phone and Android tablet, and watching TV. Since the patient reported that his vision has gotten worse since he last saw you, L recommended that he follow-up with you for continuity.

I provided a low vision exam in 2019. L and the patient's son were present during the exam. The patient stated that the vision in his left eye has always been his best vision, and that it remains so following the compromises to his right ocular health since his last visit with you. Although we don't have a record from the ophthalmologists that addressed those reported compromises, it was reasonable to begin a low vision exam with focus on his functional vision with his left eye, and reassess strategies after we receive a report regarding the patient's upcoming visit with you.

The patient's corrected distance acuities with his current three-year-old glasses were:

OD	+2.00 -3.00 X 090	10/350
OS	+2.00 -2.50 X 075	10/80+2

His uncorrected left distance vision was OS 10/120. His glasses had a +2.75 flat-top bifocal in each lens, which he stated is not helpful at near. I provided a left (trial-framed) distance refraction, which resulted in no change in his left distance prescription. During his left distance refraction, he was able to notice +/-1.00DS. I used a +/-1.00DC flip-cross cylinder to subjectively verify his current left cylinder correction. I demonstrated various shades of various colors of sun-wear outdoors on a cloudy day, and the patient preferred medium-amber.

A +4 spectacle add provided only 8M isolated letter near acuity at 25cm. A +8 spectacle add also provided only 8M isolated letter near acuity at 12cm. Extra light increased this acuity to 6.4M, (6.4 times the size of newsprint). While extra contrast was therefore somewhat helpful, magnification was not helpful at all. His near acuity was not consistent with what would be expected, and the effect of magnification was also not consistent with what would be expected. Lighted stand magnifiers, (5, 7 and 8X), did not improve near acuity. A 2X tele-microscope also did not improve near acuity, even slightly. A portable CCTV, however, improved near acuity to his goal level of 1M (newsprint) continuous text acuity.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields, for sunny days
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields, for cloudy days
3. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

12).

To referring ophthalmologist

E, born in 1931, saw you in 2019 with a history of wet ARMD OU, and PCIOL OU. At that time, her corrected distance acuities were OD 20/200-1, and OS 20/50.

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has a hearing loss, and travels using a walker. Her primary visual goal involves reading newsprint.

I provided a low vision exam in 2019. N was present during the exam. The patient's distance acuities, with and without her current glasses, were:

OD -1.00 4/700
OS -1.00 -0.75 X 130 10/60+2
(OU +3.00 flat-top bifocal)

The patient stated that these glasses were not helpful at near or far. Her left subjective over-refraction was plano. A pair of 2X "TV Max" wearable focusable distance binoculars only provided 10/60. The patient preferred dark-gray sun-wear.

The patient's near continuous text acuity with her current bifocals was 1M (newsprint). Since she had reported subjective near difficulty with that print size, I demonstrated an "ILA" bright LED-lighted 4X stand magnifier, which provided 0.5M continuous text acuity. Although this provided better subjective vision than a "Coil" dim LED-lighted 4.7X stand magnifier, she could not change the batteries in the "ILA" stand magnifier, and so requested the "Coil." I also demonstrated a 3.5X LED-lighted hand magnifier, but she preferred the fixed focal length of the stand magnifier form, even when reading curved medicine bottles.

The patient's agency case manager, N, provided these items from stock on the day of the low vision exam, and will provide the required in-home training:

1. NoIR 422-30 "Spectra-Shield" dark-gray sun-wear with top and side-shields
2. "Coil" dim LED-lighted 4.7X stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

13).

To referring ophthalmologist

S, born in 1936, you in 2019 with a history of bilateral ARMD. At that time, her uncorrected distance acuities were OD CF@2ft, and OS 20/100-1. You recorded a refraction of:

OD -0.50 +1.75X 177
OS plano +0.75X 090
(OU +3.00 add)

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a walker and lives in a one-level home. Her primary visual goals involve reading newsprint and writing checks. L plans to help the patient set up automatic bill draft, if she is unable to visually manage her checking account.

I provided a low vision exam in 2018. L was present during the exam. The patient stated that she lost vision in her right eye, "many years ago." Her uncorrected distance acuities were OD 10/350, and OS 10/100. Her trail-framed distance refraction results were:

OD +1.00 10/350
OS +1.25 -0.50 X 080 10/60+3

A simple pair of +1 OTC readers provided 10/60+3. The distance acuity improvement with these inexpensive glasses was significant, surprising, and repeatable. The patient complains of outdoor glare when relaxing on her front porch, even on cloudy days. In a bright room surrounded by windows, I demonstrated various light-colored tints across the visual spectrum, to determine whether her symptoms of glare were wavelength-dependent. She preferred gray, rather than amber, plum, or topaz. I therefore recommended medium-gray sun-wear with top and side-shields for cloudy days, and dark-gray for sunny days.

The patient's near continuous text acuity was 4M with a pair of +4 readers. The addition of a "Coil 5428" non-lighted stand magnifier improved this to to 0.8M (newsprint). Increasing the reading add to +5 improved results, and increasing the reading add to +6 produced blur. Since a 5X ILA LED-lighted stand magnifier provides the same optical constants as a "Coil 5428," I recommend she use that device with a pair of +5 readers. For portability, I recommended a 5X ILA LED-lighted hand magnifier. I verified her preference for ILA (bright) LED internal magnifier light sources by demonstrating dimer LED options, (such as those provided by Coil stand magnifiers).

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray fit-over sun-wear with top and side-shields
2. NoIR U-21 medium-gray fit-over sun-wear with top and side-shields
3. +1.00 OTC dollar-store glasses for distance as needed
4. +5 readers for use with her stand magnifier
5. 5X ILA LED-lighted stand magnifier, (to be used with +5 readers at all times)
6. 5X ILA LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

14).

To referring ophthalmologist

M, born in 1933, saw you in 2018 with a history of bilateral ARMD. At that time, her uncorrected distance acuities were OD LP, and OS HM.

L, an agency vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has hearing loss and lives alone. She always travels with a sighted guide. She declined DBVI orientation and mobility training. Her visual goals primarily involve reading newsprint, but she also has difficulty seeing large dials at arm's length in her laundry room. L felt she would greatly benefit from increased lighting in her home.

I provided a low vision exam in 2019. L and the patient's sister were present during the exam. The patient stated that she has not had vision in her right eye since age 14, and that the vision in her left eye recently began to decrease. The patient complained of significant indoor glare, especially in places like department stores and from her television. She leaves lights off in her apartment due to this problem. L will provide increased in-home lighting, together with the appropriate wavelength of glare protection. I demonstrated several light colors across the visual spectrum under bright fluorescent lights, and the patient preferred gray rather than

amber, plum, or topaz. She stated that light-gray lenses significantly improved comfort in this setting. For outdoor glare, the patient currently wears Spectra-Shield #422-39 dark-gray sun-wear with top and side-shields. These are reportedly dark enough in sunshine, but too dark on cloudy days. I therefore recommended a medium-gray pair for cloudy days.

The patient's uncorrected distance vision was OD LP, and OS 10/100-1. Initially, her uncorrected left distance vision was much worse. However, when given extra time, she was able to correctly read two of the three letters on the 10/100 row, as well as two of the three letters on the 10/120, 10/140, and 10/160 rows of the Feinbloom distance low vision chart, (used at ten feet as designed). Her left distance refraction was plano, with +/-1.00DS providing subjective change. The patient currently has no reading glasses. Her uncorrected near continuous text acuity was 8M. A "Coil 4206" non-lighted stand magnifier produced 6X when used without a reading add, (since it is designed to be used with a +1.00 spectacle add, and the patient does not notice +1.00DS of defocus). This device provided slow 2M (standard large-print) continuous text acuity. Extra ambient lighting made her vision worse with this device. A "Coil 4210" produced 8X, and provided slow 1.6M continuous text acuity, (both with and without the +2 spectacle add for which it was designed). A "Coil 4212" produced 10X, and provided slow 1.25M continuous text acuity, (both with and without the +2 spectacle add for which it was designed). A "Peak" non-lighted stand magnifier provided her goal of 1M (newsprint) continuous text acuity when used without a reading add. When used with a +4 reading add, (as designed), this device provided 0.8M continuous text acuity. *This device, even when used without a reading add, will provide for portable spot-reading of newsprint sized labels, which was one of the patient's goals.* I demonstrated a B&L 4-9X two-lens folding pocket non-lighted hand magnifier, in order to see how the patient handled the task of maintaining a focal distance with a high plus lens. This was difficult for her, and confirmed her need for near magnification in a stand magnifier form.

In an attempt to provide increased reading speed, I experimented with three different stand magnifier internal light sources. I demonstrated a 10X incandescent-lighted, dim LED-lighted, and bright LED-lighted stand magnifier with 2M (standard large print). The patient preferred the incandescent internal light source because it was not too bright, and helped decrease the appearance of reflections from the surface of the stand magnifier lens. Therefore, a Peak 15X incandescent-lighted stand magnifier would probably provide reasonable reading function of newsprint sized text. However, at no point in her testing was her reading speed anywhere near normal. I therefore demonstrated a portable CCTV with reversed contrast, and the patient read 0.8M continuous text at a normal reading speed.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. Spectra-Shield # 421-39 medium-gray sun-wear for cloudy days, (the patient currently has a similar pair of #22 dark-gray sun-wear for sunny days)
2. Spectra-Shield # 420-39 light-gray sun-wear for indoor glare, (specifically in department stores and from TV)
3. Peak 15X non-lighted stand magnifier, (for portable spot-reading)
4. Portable CCTV
5. Gooseneck floor-lamp
6. Gooseneck table-lamp
7. OTT desk-lamp
8. 5X LED-lighted hand magnifier, (for viewing large dials at arm's length)

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

15).

To referring ophthalmologist

L, born in 1938, saw you in 2019 with a history of bilateral wet ARMD. At that time, her distance acuities were OD 20/200, OS 20/100-1, and OU 20/100-1.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient reports a history of at least two strokes in 1994, which resulted in partial right-side paralysis. She remains seated most of the time, but can walk using a support cane. She always travels with a sighted guide. She also reports a history of cataract surgery in 2013, and in 2017. Her visual goals involve reducing outdoor glare, watching television, and reading newsprint.

I provided a low vision exam in 2019. R and the patient's daughter were present during the exam. The patient benefited from light-gray sun-wear under fluorescent lighting, and medium-gray sun-wear when looking outside. A standard NoIR "U" series frame was way too large. I recommend a smaller "Spectra-shield #30" frame for light, medium, and dark-gray sun-wear with top and side-shields. The patient's uncorrected distance acuities were OD 10/80, OS 10/80, and OU 10/80. She reported better subjective vision with her right eye. A clear pair of "Coil" 2X wearable focusable distance binoculars provided OU 10/30+1. It was best when focused with setting #4-5. The patient understood that they were to be used when seated only. The patient's trial-framed subjective distance refraction results were plano in each eye.

The patient's uncorrected near continuous text acuity was 4M. A pair of +3 readers provided 2.5M continuous text acuity. Extra light was helpful. The patient disliked the close working distance required by +6 readers. When used with +3 readers, a 5X "IIa" bright LED-lighted stand magnifier produced 2.5X and provided 2.5M continuous text acuity, which was not an improvement. When used with +3 readers, a 7X "IIa" bright LED-lighted stand magnifier produced 4.2X and provided 2M continuous text acuity. Lighted stand magnifiers were difficult for her to hold. It was difficult for her to control the focal length of hand magnifiers. Therefore, I demonstrated a "Coil #4210" non-lighted stand magnifier with a +2 spectacle add as designed. This provided a slow 1M newsprint continuous text acuity. It was light enough that she could handle it well, and its fixed focal length allowed her to maintain a consistently focused image. I recommended she try a "Coil #4212" non-lighted stand magnifier with a +2 spectacle add as designed.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. Spectra-shield 420-30
2. Spectra-shield 421-30
3. Spectra-shield 422-30
4. A clear pair of "Coil" 2X wearable focusable distance binoculars
5. Coil #4212 non-lighted stand magnifier
6. +2 readers, to be used with the "Coil #4212"

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

16).

To referring ophthalmologist

H, born in 1935, saw you in 2019 with a history of bilateral wet ARMD. At that time, his uncorrected distance acuities were OD 3/200, OS HM, and OU 3/200.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient currently uses a portable CCTV when reading newsprint on flat surfaces. It is difficult for him to use this device when reading large-print labels on cans of food. He is extremely light-sensitive, both indoors and outdoors. He does not have sun-wear with top or side-shields.

I provided a low vision exam in 2019. L and the patient's wife were present during the exam. I demonstrated various shades of various colored sun-wear outdoors in bright sunlight, and the patient preferred dark-plum. In the shade, he preferred medium-plum. Indoors under fluorescent lighting, light-plum glare protection lenses improved his subjective vision and comfort significantly. The patient's uncorrected distance acuities were OD 10/600, and OS HM@2ft. These did not change with his current glasses:

OD -0.25 -1.00 X 100 10/600
OS -0.25 -1.50 X 073 HM@2ft
(OU +2.50 flat-top bifocal)

His right subjective distance refraction result was OD -1.00 DS 10/600. A "Coil 4206" non-lighted stand magnifier requires a +1.00 spectacle add at the spectacle plane. When this device was used without any glasses, which essentially provided that add, this device produced 6X and provided 1.6M isolated letter acuity.

His +2.50 spectacle add alone provided only 12M isolated letter acuity. When used in conjunction with a 7X LED-lighted hand magnifier, it produced 2M (standard large print) isolated letter acuity. Although this met his stated near goal, it did not provide any functional reserve. I therefore recommended he also try a 10X LED-lighted hand magnifier for reading canned goods. The patient was able to hold the hand magnifier steady, and reported no tremor or fatigue with extended periods of hand use. I demonstrated a two-lens 4-9X folding B&L (extremely) small non-lighted pocket magnifier, which only provided 1.6M isolated letter acuity.

Since the patient complained that when using his portable CCTV for reading newsprint, words would "run together" after a short period of time, I was curious how he would do with a traditional 10X or 15X incandescent-lighted stand magnifier. A 10X "Peak" incandescent-lighted stand magnifier provided 1.6M isolated letter acuity. A 15X "Peak" incandescent-lighted stand magnifier provided 1.2M isolated letter acuity. Clearly, his portable CCTV remains his best option for accessing newsprint.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields for sunny days

2. NoIR U-81 medium-plum sun-wear with top and side-shields for cloudy days
3. NoIR U-88 light-plum lenses with top and side-shields for indoor glare
4. 7X LED-lighted hand magnifier
5. 10X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

17).

To referring ophthalmologist

E, born in 1938, saw you in 2019 with a history of dry ARMD OU, and bilateral pseudophakia. At that time, her corrected distance acuities were OD 20/70, and OS 20/400.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient currently has portable and desktop CCTVs which meet her low vision needs. She has a pair of light, dark, and extra dark-gray NoIR sunglasses which adequately reduce glare in a variety of settings. R felt the patient's lack of understanding regarding her own visual condition distracted significantly from her vision rehabilitation, and referred the patient for a general discussion of dry ARMD.

I provided a low vision exam in 2019. R was present during the exam. The patient's corrected and uncorrected distance acuities were OD 10/100 EF, and OS 10/120 EF. The patient's near continuous text acuity with her current flat-top bifocal was 0.8M (newsprint) at 30cm, when using her Ruby portable CCTV. I discussed the effects of dry ARMD on vision in general, and the patient understood.

The patient understood that I provided a consult only, and that you are the professional working to maintain her ocular health. The patient therefore agrees to follow your instructions and keep follow-up appointments with you.

18).

To referring ophthalmologist

R, born in 1930, saw you in 2019 with a history of bilateral advanced ARMD. At that time, her uncorrected distance acuities were OD 20/300, OS 20/800, and OU 20/400.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient is widowed, and lives with her daughter and son-in-law. She always travels with a sighted guide. The patient's primary visual goals involve reading newsprint, seeing her iPhone, and watching TV.

I provided a low vision exam in 2019. L was present during the exam. The patient reported having had cataract surgery "years ago" in both eyes. The patient currently uses medium-amber sun-wear for both sunny and cloudy days, and never finds them too dark, or too light. She reported no difficulty with indoor glare. The patient's uncorrected distance acuities were OD 10/100, OS 10/180-1, and OU 10/180-1. A pair of "Coil" 2X wearable focusable distance

binoculars provided OU 10/60. The patient understood that they were to be used when seated only. The patient's trial-framed right subjective distance refraction was OD plano (+/-1.50 DS).

With her left eye occluded, OD +8DS produced 2X, and provided 1.6M isolated letter acuity. Extra lighting was not helpful. When the right lens power was increased to +12DS, this produced 3X, and provided 1M isolated letter acuity. However, the required working distance was too close for comfort. Increasing add power simply allows for a closer clear image, and therefore simply increases relative distance magnification, without providing actual optical magnification. When optical magnification is added in the form of stand magnifier image enlargement, a lower spectacle add can be used, providing a longer working distance. It is usually instructive to isolate variables, and initial testing with non-lighted stand magnifiers is therefore usually helpful.

A pair of +6 readers provided 2M isolated letter acuity. When combined with a "Coil 5428" non-lighted stand magnifier, they produced 5X, providing 0.8M isolated letter acuity and 2M continuous text acuity. A pair of +2.50 readers, when combined with a "Coil 5123" non-lighted stand magnifier, produced 5.8X, providing 0.8M continuous text acuity. This difference illustrates the advantage of initially testing with non-lighted stand magnifiers. Although the combined magnification when using +6 readers with the "Coil 5428" was essentially the same as that produced when using +2.50 readers with the "Coil 5123," the resulting continuous text acuity was far better when most of the magnification was provided by stand magnifier image enlargement, rather than the reading add.

In most cases, lighted stand magnifiers perform better than non-lighted stand magnifiers by shrinking the size of relative central scotomas. (Of course, the factor of wavelength-dependent glare must be considered, since although extra lighting increases contrast, extra glare decreases it). A pair of +2.50 readers combined with a "Coil 5.4X" LED-lighted stand magnifier produced 4.8X, and provided 1.6M continuous text acuity. A "Coil 8.7X" LED-lighted stand magnifier, when used as designed with its maximum +1 reading add, produced 8.7X, and provided 1.2M continuous text acuity. A 10X "Peak" incandescent-lighted stand magnifier, when used as designed with a +4 reading add, produced 10X, and provided her near goal of 1M (newsprint) continuous text acuity. I demonstrated the use of a reading stand, and the patient consistently functioned better when she held the reading material herself. Ms. Conner felt a 7X LED-lighted hand magnifier might be useful as a more portable device for relatively large-print, such as price tags, and this is certainly a reasonable device to try for that purpose.

Incandescent and LED stand magnifier internal light sources produced similar results, with near continuous text acuity in M units equally predicted by magnification. To illustrate that, note that increasing LED assisted magnification from 4.8 to 8.7 decreased the acuity/magnification ratio from [1.6/4.8 = 0.33] to [1.2/8.7 = 0.14]. In other words, increasing LED assisted magnification involved diminishing returns. The inverse acuity/magnification function was essentially linear. With 4.8X total magnification, the inverse acuity/magnification ratio was 0.13. With 8.7X total magnification, the inverse acuity/magnification ratio was 0.09. Both these conditions involved LED-lighted stand magnifiers. With 10X total magnification using an incandescent-lighted stand magnifier, the inverse acuity/magnification ratio was 0.10. Therefore, there was no significant acuity difference between LED-lighted and incandescent-lighted magnifiers.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. "Coil" 2X wearable focusable distance binoculars, to be used when seated only
2. +4 readers, for hands-free large-print, and for use with the "Peak" stand magnifier
3. 10X "Peak" incandescent-lighted stand magnifier
4. 7X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

19).

To referring ophthalmologist

J, born in 1928, saw you in 2019 with a history of advanced bilateral ARMD. At that time, his distance acuities were OD 20/200, OS 20/300, and OU 20/200.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involve spot reading at near, indoor and outdoor glare reduction, and watching TV.

I provided a low vision exam in 2019. L was present during the exam. Outdoors in bright sunlight, the patient preferred NoIR U-40 medium-amber sun-wear with top and side-shields. The patient's distance acuities with his current five-year-old glasses were:

OD -1.50 -0.50 X 090 10/180 EF (eccentric fixation)
OS plano -1.00 X 090 10/200-1 EF
(OU +3.00 flat-top bifocal set high)

The patient's near isolated letter acuity with his current bifocals was 5M. Extra light produced no effect. Various colors of light-tinted lenses were combined with extra lighting, and none improved function. Because the patient reported previously enjoying "tinkering" at his workbench, a 2X "BigEye" table-lamp was demonstrated, both with and without its 3X booster-lens. However, it only improved isolated letter near acuity to 3.2M, and would not be useful with small tools.

When used with his current bifocal, a 3.5X LED-lighted hand magnifier provided 2M isolated letter acuity. A 5X version did not improve acuity. Although a 7X version provided 1.6M isolated letter acuity, it was difficult for the patient to maintain the correct focal distance. For that reason, I demonstrated an 8.7X LED-lighted stand magnifier, which provided 1.6M isolated letter acuity. Increasing this to a 12X LED-lighted stand magnifier did not improve acuity beyond this level. It became obvious that electronic magnification was the only possible means for this patient to achieve his near visual goal. A portable CCTV, best for him with yellow letters on a black background, provided 0.6M isolated letter acuity. Unfortunately, although the device allowed him to see his goal sized font, he was unable to keep more than three letters in the right order, so that continuous text acuity was not feasible.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-40 medium-amber sun-wear with top and side-shields
2. 3.5X LED-lighted hand magnifier for spot-reading large print, especially when traveling
3. Portable CCTV for access to newsprint

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

20).

To referring ophthalmologist

H, born in 1932, saw you in 2019 with a history of POAG OD, and wet ARMD OS. At that time, his corrected distance acuities were OD 20/80, and OS 20/100.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a support cane, and always travels with a sighted guide. L addressed many of the patient's goals, and referred him to me for optical assistance when reading a 1.25M font book, in which he has taken notes for many years. His secondary optical visual goal is to read 0.8M newsprint.

I provided a low vision exam in 2019. L was present during the exam. The patient's corrected distance acuities were:

OD -2.00 10/40
OS -1.50 10/30+2
OU 10/30+2
(OU +2.50 flat-top bifocal)

A pair of 2X "TV Max" wearable focusable distance binoculars provided OU 10/20. Various colors of sun-wear were demonstrated outdoors in bright sunlight, and the patient preferred medium-plum, which were reported to be dark enough. The patient reported no indoor glare issues.

The patient's near continuous text acuity with his current bifocals was 2M at 40cm. A pair of large +4 readers provided an easy 1.25M continuous text acuity at 25cm, (slightly beyond the focal length of his resulting effective +5.50 spectacle add). A 3.5X LED-lighted hand magnifier, used with his current bifocals, provided 0.8M continuous text acuity. A 2X "BigEye" table-lamp was useful for handwriting.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-81 medium-plum sun-wear with top and side shields
2. Large +4 readers
3. 3.5X LED-lighted hand magnifier
4. 2X "BigEye" table-lamp
5. Gooseneck floor-lamp
6. 2X "TV Max" wearable focusable distance binoculars

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

21).

To referring ophthalmologist

S, born in 1926, saw you in 2018 with a history of bilateral wet ARMD; and bilateral choroidal neovascularization, (which you described as worsening in each eye). You also noted a left PVD and left subretinal hemorrhage, as well as bilateral pseudophakia. At that time, her distance acuities were OD 20/200-1, and OS 20/200-1.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone in an assisted living facility with good lighting. She uses a wheelchair due to osteoporosis, and has a severe hearing loss. R will demonstrate a "PocketTalker" in the patient's home, and has recommended a consult with a DBVI deaf-blind specialist. In part due to her hearing loss, the patient is not interested in talking books or the "Virginia Voice" radio reading service. Her primary visual goal is reading large-print.

I provided a low vision exam in 2018. R and the patient's niece were present during the exam. The patient's uncorrected distance acuities were OD 10/60, OS 10/60, and OU 10/60. Neither eye had subjectively better distance acuity. A pair of 2X "TV Max" wearable focusable distance binoculars provided 10/30-2, and were best when focused for emetropia. She might benefit from these if she decides to put a bird feeder outside her window. If these are ever dispensed, she should never stand or try to walk when wearing them. The patient stated she had no indoor or outdoor problems with glare.

The patient's uncorrected near continuous text acuity was 4M at 40cm. The patient stated that the 4M letter (four times the size of newsprint) was the print size of her bingo card, and that her vision does not impair her bingo game. A pair of 2X "MaxDetails" wearable focusable tele-binoculars provided a slow 1.6M continuous text acuity at 40cm, and a fast 2M (standard large print, twice the size of newsprint) continuous text acuity at 40cm. She should never stand or walk while wearing them. Should she ever be required to read newsprint, an 8X "Agfa" spectacle-mounted loupe would be required, which provided 0.8M continuous text acuity with either eye. She was better able to hold reading material against the loupe as required when it was mounted on her right spectacle lens, though that could change for any number of reasons.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. 2X "MaxDetails" wearable focusable tele-binoculars designed for use between 40 and 50 cm, and only to be used when seated
2. Gooseneck floor-lamp

The patient and her niece understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. They therefore agreed to follow your instructions and keep follow-up appointments with you.

22).

To referring ophthalmologist

J, born in 1923, saw you in 2018 with a history of bilateral wet ARMD, and a left disci-form scar. At that time, his distance acuities were recorded as OD 20/100, and OS 1/200.

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient is hard of hearing. He sits three feet from the television, and uses earphones from the TV. He uses an iPad. D will review its accessibility functions. His primary visual goal is to read newsprint-sized font.

I provided a low vision exam in 2019. The patient's son was present for most of the exam. Indoors, the patient preferred the NoIR amber tint to other colors. The patient does not experience indoor glare, but is at times bothered by outdoor glare. The patient's uncorrected distance acuities were OD 10/60, and OS 10/200 EF. His corrected distance acuities were:

OD +1.25 -2.50 X 096 10/40+3
OS +1.50 -2.50 X 087 10/200 EF
(OU +3.25 flat-top trifocal)

The patient's near isolated text acuity, corrected with his current +3.25 spectacle add, was 1.25M at 30cm. However, his near continuous text acuity, corrected with this spectacle add, was only 2M at 30cm. Extra lighting improved this acuity to 1.25M, and the addition of a "Coil 5428" non-lighted stand magnifier further improved this to 0.8M (newsprint). I also demonstrated a 5X LED-lighted stand magnifier, and a "Coil 5213" non-lighted tilting stand magnifier with a large usable field, which also provided 0.8M continuous text acuity at 30cm. The patient preferred the "Coil 5213" non-lighted tilting stand magnifier due to its large field. I demonstrated the proper use of a gooseneck table-lamp with this item, and demonstrated ways to avoid bothersome reflections. The patient felt it might be useful for writing. Because lighting was so important for his success, he might also like to try a bright 4X "Besser" LED-lighted stand magnifier for comparison when reading, (although it would not be useful for writing).

The patient's agency case manager, D, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields for outdoors
2. Coil 5213 non-lighted tilting stand magnifier
3. Gooseneck table-lamp
4. 4X Besser LED-lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

23).

To referring ophthalmologist

R, born in 1917, saw you in 2018 with a history of bilateral macular degeneration, and a right disciform macular scar. At that time, her corrected distance acuities were:

OD balance HM
OS +0.50 +3.00 X 075 20/400
OU 20/400
(OU +2.50 progressive bifocal)

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a walker, and has a hearing loss. Her visual goal involves reading newsprint. She is primarily interested in "stronger glasses," and not particularly interested in using magnifiers.

I provided a low vision exam in 2019. D was present during the exam. The patient's corrected distance acuities were OD HM@2ft, OS 10/60-1, and OU 10/60-1. She disliked a pair of 2X “TV Max” wearable focusable distance binoculars, and was unable to successfully manipulate a 4X “Specwell” focusable distance monocular. Various colors of sun-wear were demonstrated, and the patient preferred gray.

The patient's near continuous text acuity, with her current +2.50 reading add, was 1.6M at 30cm. Extra lighting made her vision worse. Adding extra lighting with light-gray glare protection did not produce better subjective near vision than simply not using extra lighting. I demonstrated a pair of +10 readers, but the patient did not like the required 10cm working distance, and therefore would not try to read the near acuity card using it. A 3.5X LED-lighted hand magnifier was difficult for her to maneuver, and she therefore disliked it, (with and without its light on). Both a 6X LED-lighted stand magnifier, and a 10X incandescent-lighted stand magnifier, were difficult for her to manipulate. After several demonstrations, she remained confused about how and where to hold the devices. A portable CCTV with reversed contrast allowed her to read 0.8M, (which met her newsprint goal), with relative ease.

The patient's agency case manager, D, will provide the following trial low vision aids with the required in-home training:

1. NoIR S-22 dark-gray fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR S-21 medium-gray fit-over sun-wear with top and side-shields for cloudy days
3. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

24).

To referring ophthalmologist

M, born in 1941, saw you in 2018 with a history of wet macular degeneration OU. At that time, her corrected distance acuities were:

OD -1.50 +2.50 X 009	20/70
OS -1.75 +1.75 X 166	20/70
OU	20/60
(OU +4.00 bifocal)	

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives with her husband in a single family home. Neither of them drive. Due to her and her husband's combination of disabilities, they receive assistance from a caretaker several hours per day. The patient is able to perform some personal and home management tasks independently with some difficulty, (such as dressing, clothing identification, telling time, telephone use, light cooking, bill-paying, and tracking appointments). She receives assistance with other tasks from a housekeeper and her caretaker, (such as housecleaning, cooking, laundry, medication management, and shopping). The patient does not use any mobility aids, and is able to navigate independently in her home. She is always accompanied by her caregiver when she leaves her home. The patient's primary visual goals involve reading newsprint and writing checks.

I provided a low vision exam in 2019. L was present during the exam. The patient's distance acuities with the above correction were OD 10/40+1, OS 10/60, and OU 10/40+1. The patient complained of poor vision while trying to watch her TV, which is reportedly 15 feet from her chair at home. A pair of 2X "TV Max" wearable focusable distance binoculars provided only OU 10/40. I therefore recommended she simply move closer to her television. Various colors of sun-wear were demonstrated, and the patient preferred dark-amber in full sun.

The patient's near continuous text acuity with her current +4.00 add, (in her preferred reading lens form), was a slow 2M at 40cm. The addition of a 6X LED-lighted stand magnifier provided a slow 1.6M continuous text acuity at 40cm. The patient explained that she had been a fast reader, and loved to read. She stated that she has, "lots of books," but hasn't been able to read since May of 2018. She uses a Kindle with enlarged print, but that hasn't solved the problem of a slow reading speed. This is surprising, since a portable CCTV provided a fast 0.8M continuous text acuity. The patient disliked reversed contrast. L will assess the patient's use of her Kindle. A 5X LED-lighted hand magnifier provided a more difficult and slow 1M continuous text near acuity, but the patient felt it would be useful for portable spot-reading of isolated near targets such as price tags and labels.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields for cloudy days
3. 5X LED-lighted had magnifier for spot reading isolated near targets when traveling
4. Portable CCTV for reading text at home

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

25).

To referring ophthalmologist

S, born in 1938, saw you in 2018 with a history of macular degeneration OU. At that time, her distance acuities with and without her updated distance correction were:

OD plano	5/200
OS +0.50 +0.25X 085	20/40
OU	20/50

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone in an apartment. She has three children, a niece, and neighbors who are available to assist her if needed. She is able to perform some personal and home management tasks independently with some difficulty, (such as clothing and money identification, dressing, telling time, telephone use, cooking, laundry, bill-paying, and medication management). She receives assistance with housecleaning and shopping from her housekeeper and family. She is able to navigate independently in and around her home, as well as in familiar public places. The patient has had both knees replaced, and often uses a support cane or a walker. She occasionally has difficulty seeing steps. She currently drives during the day in familiar areas. Her primary visual goals involve reading newsprint, using her checkbook,

and working crossword puzzles. She was given access to talking books through the National Library Service.

I provided a low vision exam in 2019. L was present during the exam. Various light-colored lenses were demonstrated indoors. Red, plum, and green lenses did not improve comfort or the visibility of large objects, but topaz was slightly helpful. When medium-yellow lenses were demonstrated, the patient exclaimed, "Wow, these help a lot." The patient's uncorrected distance acuities were OD 10/300, OS 10/30-1, and OU 10/30-1.

The patient's uncorrected near continuous text acuity was 2.5M at 40cm. The patient's current pair of +3 readers provided 1.6M continuous text acuity at 40cm, and a pair of +6 readers provided 0.8M continuous text acuity at 10cm. Occluding the patient's right eye did not improve objective or subjective near acuity, and extra lighting was not helpful. The patient felt that +6 readers would be useful when reading, but wanted an option with a longer working distance. When used with her current +3 readers, a "Reizen" hollow-dome non-lighted stand magnifier produced 3X, and provided 1M continuous text acuity at 40cm. The patient especially liked this stand magnifier due to her hand tremor. However, a 3.5X LED-lighted hand magnifier provided 0.8M continuous text acuity, and the patient felt it could be useful when traveling.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-50 medium-yellow fit-over lenses with top and side-shields for glare reduction
2. +6 readers
3. "Reizen" hollow-dome non-lighted stand magnifier
4. 3.5X LED-lighted hand magnifier
5. Gooseneck table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

26).

To referring ophthalmologist

E, born in 1927, saw you in 2018 with a history of dry ARMD OU. At that time, her uncorrected distance acuities were OD 20/60, OS 20/150, and OU 20/60.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient is widowed and currently lives with her daughter and son-in-law in a house. She plans to move into an assisted living apartment soon. She is able to perform some personal tasks independently, such as dressing, clothing identification, money identification, eating, telephone use, and telling time. She currently receives assistance with other personal and home management tasks from her daughter, such as cooking, laundry, house cleaning, medication management, shopping, and tracking appointments. She does not drive, and her primary source of transportation is her daughter. The patient is able to navigate independently in her daughter's home and in familiar public places. She reported that she might have difficulty navigating in unfamiliar public places independently, but is always accompanied by her daughter, who provides feedback when needed about upcoming steps and curbs. L discussed available DBVI orientation and mobility training, and although the patient declined it at this

time, she feels it might be helpful later in her new living space. The patient is interested in trying to locate the aids to help with reading newsprint and writing checks. Her in-home DBVI vision rehabilitation teaching services will attempt to address any goals that cannot be adequately met with low vision aids, as well as playing cards, tracking appointments, exploring accessible telephones, operating appliances in her new apartment, and obtaining large-print books through the National Library Service.

I provided a low vision exam in 2018. L and the patient's daughter were present during the exam. The patient's uncorrected distance acuities were OD 10/40+3, OS 10/100, and OU 10/40+3. The patient has poor hearing, and would like to be able to read captions for the hearing impaired on her television. A pair of 2X "TV Max" wearable focusable distance binoculars provided OU 10/20. These worked best when focused for emetropia. Both the patient and her daughter understood that the device is to be used when seated only, and that standing or walking while wearing them is unsafe. A 2.5X "ring" focusable distance monocular provided OD 10/25 in a more portable option. Various colors of sun-wear were demonstrated across the visual spectrum, and the patient preferred light-green for indoor glare. I therefore recommended she also try medium-green for outdoor glare.

The patient's near continuous text acuity was 0.8M at 30cm with her current readers:

OD +3.00 -0.50 X 145
OS +3.50 -0.50 X 180

A pair of +4 readers provided 0.5M continuous text acuity at 25cm, and made a, 'big difference.' Extra lighting was very helpful.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR S-30 medium-green sun-wear with top and side-shields for outdoor glare
2. NoIR S-38 light-green sun-wear with top and side-shields for indoor glare
3. 2X "TV Max" wearable focusable distance binoculars, to be used when seated only
4. 2.5X "ring" focusable distance monocular
5. +4 readers
6. Lap-desk
7. Gooseneck desk-lamp
8. Gooseneck floor-lamp

The patient and her daughter understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. They therefore agreed to follow your instructions and keep follow-up appointments with you.

27).

To referring ophthalmologist

M, born in 1927, saw you in 2019, with a history of bilateral macular degeneration. At that time, her distance acuities were OD 20/200, OS 20/200, and OU 20/200.

L, an agency vision rehabilitation teacher, recently provided a functional vision assessment. The patient has been unable to read newsprint since 2018, and has been unable to enjoy her

hobby of crocheting since April of 2019. She has a floor-lamp at home which is not a gooseneck lamp. She wears sun-wear outside on sunny days only.

I provided a low vision exam on 10/23/19. L and the patient's daughter were present during the exam. Various light-colored sun-wear with top and side-shields were demonstrated indoors under fluorescent lighting, and the patient preferred light-green. I therefore recommended medium-green outdoors. The patient's uncorrected distance acuities were OD 10/40, and OS 8/600. The patient's right distance refraction result was plano. A pair of 2X "TV Max" wearable focusable distance binoculars provided 10/30-1. I explained the disappointing outcome resulting from distance magnification as a common result with central blind spots resulting from macular degeneration. The patient and her daughter understood that magnifying small distant targets also magnifies central distance blindspots, and is therefore not particularly useful. The patient sits 10 feet from her television and will simply move closer.

The patient's near acuity with her current +2.75 readers was 4M continuous text. A pair of 2X "MaxDetails" wearable focusable tele-binoculars provided 2M continuous text acuity at 40cm. A 4X LED-lighted stand magnifier, when used with her +2.75 readers, also provided 2M continuous text acuity. I demonstrated a 2X "BigEye" table-lamp, and the patient felt the floor-lamp variety might be useful for her crocheting hobby. Due to the patient's arthritis, she is unable to use larger crochet hooks that are specifically made for the visually impaired, and will need some form of hands-free magnification while using standard sized hooks. A portable CCTV provided 0.8M continuous text acuity, and will be necessary for her goal of reading newsprint.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-30 medium-green sun-wear with top and side-shields for outdoors
2. 2X "MaxDetails" wearable focusable tele-binoculars, four hands-free magnification when reading large-print books at standard distances, using a gooseneck floor-lamp
3. 2X "BigEye" floor-lamp
4. Gooseneck floor-lamp
5. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

28).

To referring ophthalmologist

D, born in 1928, saw you in 2019, with a history of bilateral macular degeneration. At that time, her uncorrected distance acuities were OD HM, OS 20/400, and OU 20/400.

L, a DBVI vision rehabilitation teacher, recently provided a functional vision assessment. The patient uses a walker and has significant hand tremors. She uses a digital recorder instead of writing, and is getting talking books. Her visual goals involve reading newsprint in order to access her mail and labels. She currently uses a medium-yellow pair of sun-wear to reduce indoor glare, and a dark-gray pair for bright sunny days. On cloudy days, she is bothered by glare, and yet her dark-gray sunglasses are too dark.

I provided a low vision exam on 11/5/19. L was present during the exam. The patient's uncorrected distance acuities were OD 3/160EF, and OS 10/40+2. The patient currently sits about 2 1/2 feet from her television, and still can not see faces on the screen. A pair of 2X distance binoculars did not improve distance acuity.

The patient currently uses a pair of +8 readers, which provided 2M (large print) continuous text acuity at 13cm. Extra light produced too much glare. The addition of a coil 5428 non-lighted stand magnifier produced 6X, but the image was not bright enough to be seen. An “Independent Living Aids” 5X LED-lighted stand magnifier provided equivalent optics with controlled lighting. However, the device only provided 1.6M continuous text acuity, and the patient required two hands in order to use the device due to her tremor. A portable CCTV provided 0.8M continuous text acuity, and the patient handled it well using just one hand. A Coil non-lighted 5314 “tilt” stand magnifier allowed the patient to write and read back her writing, when using a felt-tip pen. A 2X “BigEye” table-lamp was insufficient for writing.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR N-40 medium-amber sun-wear with top and side-shields for cloudy days. (The NoIR U series frame does not fit)
2. Portable CCTV
3. Coil non-lighted 5314 “tilt” stand magnifier for writing with a felt-tip pen, (used without readers)

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

29).

To referring ophthalmologist

S, born in 1961, saw you in 2019 with ARMD OU, and clinically insignificant cataracts OU. You reported possible pseudo-xanthoma elasticum due to what appeared to be angiod streaks. At that time, her uncorrected distance acuities were OD CF, and OS CF. Using the carrier portion of her bioptics only, her corrected distance acuities were OD CF, and OS CF. Her distance acuity with her right bioptic was OD 20/40+1.

N, a DBVI vision rehabilitation teacher, recently provided a functional vision assessment. The patient reported having had a low vision a couple years ago, and was then prescribed a 4X Optelec LED-lighted stand magnifier, as well as a 4X focusable Optech right distance bioptic. The patient’s vision gradually worsened since that time, and she lost her job and stopped driving a year ago.

I provided a low vision exam in 2020. N was present during the exam. The patient's uncorrected distance acuities were OD 10/160+1, OS 10/225, and OU 10/160+1. She reported that her right eye had, “always been her better eye.” Her current right carrier lenses provided:

OD -2.25 -1.25 X 180 10/100
OS -1.00 -1.00 X 160

Her current 4X Ocutech focusable distance bioptic provided OD 10/25. Several “Specwell” focusable distance monoculars were demonstrated. A 4X provided OD 10/25. A 6X provided OD 10/20+2. An 8X provided OD 10/10-2. It was difficult for her to maintain a steady image with the 6X and 8X monoculars. A 7X 30° “Beecher” wearable focusable distance right monocular, fit above the line of sight without her carrier lenses, provided OD 10/10-2. The patient’s trail-framed right distance refraction was

OD -2.25 -1.25 X 180 10/100
(OS -1.00 -1.00 X 160)
PD 62mm

Since this was the same right prescription she had in her current bioptic carrier lenses, and her current 4X Ocutech bioptic provided insufficient distance magnification, she can simply remove the 4X bioptic from her carrier lenses and use them as her distance correction, or she could purchase new glasses without the bioptic. In either case, she can use the 7X 30° “Beecher” wearable focusable distance right monocular when she needs clear distance vision. I demonstrated various colors of sun-wear outdoors in direct sunlight, and the patient preferred medium-plum.

The patient’s uncorrected near continuous text acuity was 3.2M at 30cm. Extra light improved this to 2M. A pair of +12 readers provided 0.8M continuous text acuity at its focal distance when used with good lighting. A pair of +16 readers required an “uncomfortable” working distance.

The patient’s current 4X LED-lighted stand magnifier was, “not strong enough.” A 6X “IIa, (independent Living Aids)” LED-lighted stand magnifier provided 0.4M continuous text acuity. This is designed to be used with a spectacle add equivalent to her uncorrected right myopia. She preferred this to a 5X “IIa” LED-lighted stand magnifier, (which is designed to be used with a much higher spectacle add). A 5X “IIa” LED-lighted hand magnifier provided 0.4M continuous text acuity, and provided acuity that was subjectively equivalent to that provided by the 6X “IIa” LED-lighted stand magnifier. The patient preferred LED-lighted near magnification to incandescent or yellow-lighted near magnification.

The patient's DBVI case manager, N, provided or will provide the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-81 medium-plum sun-wear with top and side-shields
2. 7X 30° “Beecher” wearable focusable distance right monocular, dispensed from stock 1/9/20
3. +12D readers, (right lens only), dispensed from stock 1/9/20
4. 6X “IIa” LED-lighted stand magnifier
5. 5X “IIa” LED-lighted hand magnifier, dispensed from stock 1/9/20

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

30).

To referring ophthalmologist

N, born in 1951, saw you in 2019 with a history of wet ARMD OU. At that time, her corrected distance acuities were:

OD -0.50 +0.50 X 015 20/200
OS -0.50 +0.25 X 150 20/100

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's vision began decreasing in her "better" eye in June of 2019.

I provided a low vision exam in 2020. L and the patient's husband were present during the exam. Outdoors on a cloudy day, the patient preferred NoIR U-81 medium-plum sun-wear with top and side-shields. I therefore also recommended dark-plum for sunny days. The patient's uncorrected distance acuities were OD 10/80-1, OS 10/40+2, and OU 10/40+2. The patient was aware that she missed letters on the right side of lines, and she habitually looks to the left because of that. Her left distance refraction, using trial lenses and a +1/-1.00 DC flip-cross lens, was plano. A pair of 2X "Coil" wearable focusable distance binoculars provided 10/20. A 2.5X "ring" focusable distance monocular provided the same acuity in a portable form.

The patient's near continuous text acuity, with her current +2.50 readers, was 2M. Extra light improved acuity. Focused non-lighted 3.4X near magnification was produced using a pair of +4 readers with a "Coil 5428" non-lighted stand magnifier, which provided the patient's near goal of 1M (newsprint) fluent continuous text acuity using a glossy magazine. Focused LED-lighted 3.3X near magnification was produced using a pair of +4 readers with a "5X Independent Living Aids, (ILA)" LED-Lighted stand magnifier, which also provided the patient's near goal of 1M (newsprint) fluent continuous text acuity using a glossy magazine. Focused LED-lighted 4X near magnification was produced using a pair of +4 readers with a "4X Independent Living Aids, (ILA)" LED-Lighted stand magnifier, but when using +4 readers, the patient preferred the LED-lighted *lower* level of near magnification provided by the *5X* "ILA" stand magnifier to the *higher* level of near magnification provided by the *4X* "ILA" stand magnifier. (This apparent contradiction is due to the fact that the enlargement factor of a "5X ILA" LED-lighted stand magnifier is actually *less* than that of a "4X ILA" LED-lighted stand magnifier).

I demonstrated a 5X non-lighted packette hand magnifier, and an "ILA" 5X LED-lighted hand magnifier, in order to determine the best portable option. The patient preferred the lighted hand magnifier form. The patient preferred the stand magnifier to the hand magnifier form, but agreed that a hand magnifier might be useful when traveling. I mentioned that a reading stand might be beneficial for use with a stand magnifier. I demonstrated a 2X "BigEye" table-lamp with a 3X booster lens. This allowed the patient to read newsprint. She wanted to try this device for writing checks at home.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields
2. NoIR U-81 medium-plum sun-wear with top and side-shields
3. 2X "Coil" wearable focusable distance binoculars, to be used when seated only
4. 2.5X "ring" focusable distance monocular
5. +4 readers
6. "ILA 5X" LED-lighted stand magnifier, to be used with +4 readers
7. "ILA 5X" LED-lighted hand magnifier
8. 2X "BigEye" table-lamp with a 3X booster lens
9. Reading stand

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

31).

To referring ophthalmologist

L, born in 1931, saw you in 2019, with a history of ARMD OU. At that time, her corrected distance acuities were:

OD +1.25 -1.50 X 090	CF
OS +1.00 -1.25 X 080	20/70
OU	20/70
(OU +2.50 bifocal)	

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. I provided a low vision exam on 2/11/20. L and the patient's daughter were present during the exam. The patient reported that her vision decreased in both eyes in July of 2019. She reported glare to be a significant problem, both indoors and outdoors. She preferred gray sun-wear, rather than other color options. Her uncorrected distance acuities were OD 5/700, OS 10/60, and OU 10/60. Her left refraction was plano. Her near continuous text acuity with +4 readers was 3.2M. A pair of +8 readers provided 2M (standard large-print) continuous text near acuity, but she disliked the required close working distance. A pair of 2X "Max Details" wearable focusable tele-binoculars provided this acuity at the customary reading distance of 40cm. Increasing tele-binocular magnification did not improve acuity. No stand magnifier/reading add combination improved near acuity at workable distances with usable fields. The patient was bothered by glare from the screen of a portable CCTV with reversed contrast, and the screen letter size was required to be 3.2M, so that no more than one word would fit on the screen at a time. It is possible that a desktop CCTV with glare control might provide the patient's primary near goal of 1M (newsprint) continuous text near acuity. L will investigate that option at a later time. In the meantime, I recommended she limit her reading to large-print material, while using 2X "Max Details" wearable focusable tele-binoculars.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-22 dark-gray sun-wear with top and side-shields for sunny days
2. NoIR U-21 medium-gray sun-wear with top and side-shields for cloudy days
3. 2X "Max Details" wearable focusable tele-binoculars
4. Desk-top CCTV with glare control

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

32).

To referring ophthalmologist

K, born in 1934, saw you in 2019, with a history of ARMD OU. At that time, his distance acuities were OD 20/80, and OS 20/70-1.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient suffered a stroke approximately 20 years ago, which resulted in a left facial droop, which lasted approximately six months. As far as he remembers, his reading and comprehension were not affected. I provided a low vision exam on 2/11/20. L and the patient's son were present during the exam. The patient preferred NoIR amber sun-wear for outdoors, and NoIR topaz glare protection lenses for indoor glare. The patient's current glasses measured:

OD +0.50
OS plano
(OU +2.00 flat-top bifocal)

The patient's trial frame refraction results were:

OD +0.50	10/140
OS -0.50	10/140-1
PD 68mm	

A pair of 2X "Coil" wearable focusable distance binoculars provided 10/25, and were best focused on setting #4. These would be best with a 10% tint for outdoor wear, and should only be worn when seated.

The patient's near corrected isolated letter acuity was 1.25M. His near corrected continuous text acuity was 4M. The addition of extra light and topaz glare protection lenses provided 2M (standard large-print) continuous text acuity, effectively doubling his near acuity. The addition of a 4X LED-lighted stand magnifier to his current bifocal lenses produced a focused 2X, and provided 0.8M continuous text acuity. He preferred a 5X LED-lighted hand magnifier to a 3X version. A 2X "BigEye" table-lamp without a booster lens provided 0.8M continuous text acuity. The patient felt it would not be useful at this time.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-43 dark-amber sun-wear with top and side-shields for sunny days
2. NoIR U-40 medium-amber sun-wear with top and side-shields for cloudy days
3. NoIR U-47 medium-topaz sun-wear with top and side-shields for indoor glare
4. 2X "Coil" wearable focusable distance binoculars, with a 10% tint, and only one when seated
5. 4X LED-lighted stand magnifier, used with his current bifocal
6. 5X LED-lighted hand magnifier, useful without his current bifocal or reading glasses

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

33).

To referring ophthalmologist

W, born in 1939, saw you in 2019, with a history of ARMD OU. At that time, his distance acuities were OD 20/200, OS CF@2ft, and OU 20/200.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. I provided a low vision exam on 2/11/20. L and the patient's wife were present during the exam. The patient's uncorrected distance acuities were OD 10/100+1, and OS 5/225. His right distance refraction was OD -0.75, which provided OD 10/100+1. The patient preferred plum sun-wear to other color options. A pair of "Coil" 2X wearable focusable distance binoculars provided OD 10/30+1, and was best when set on #6, for both far and intermediate distances. A 2.5X focusable distance monocular provided OD 10/25.

The patient's near continuous text acuity with his current +2.75 readers was 3.2M. The addition of a 4X LED-lighted stand magnifier produced 2.75X providing 2M continuous text near acuity. The combination of +4 readers with a 5X LED-lighted stand magnifier provided 0.8M continuous text acuity. A 5X LED-lighted hand magnifier also provided 0.8M continuous text acuity. A 2X "BigEye" table lamp with a 3X booster lens provided 1M continuous text acuity at 50cm. The patient felt this would be useful for hands-free intermediate-distance tasks.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields for Sunny days
2. NoIR U-81 medium-plum sun-wear with top and side-shields for cloudy days
3. A pair of +4 readers
4. 5X LED-lighted stand magnifier
5. 5X LED-lighted hand magnifier
6. 2X "BigEye" table lamp with a 3X booster lens

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

34).

To referring ophthalmologist

P, born in 1933, saw you in 2019 with a history of bilateral dry ARMD and bilateral pseudophakia. At that time, her uncorrected distance acuities were OD CF@1ft, and OS CF@1ft.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a 5X LED-lighted hand magnifier to read her television remote control. She uses her desktop and portable CCTV for reading newsprint. She is unhappy with her isolated letter acuity when using her current lighted hand magnifier, and wonders whether a stronger one might work better when trying to see her television remote control. She does not have sun-wear with top and side shields, and is bothered by glare when riding in the car.

I provided a low vision exam in 2020. R and the patient's daughter were present during the exam. The patient's uncorrected distance acuities were OD 10/225, OS 3/700, and OU 10/225. A 2X "TV Max" pair of wearable, focusable, distance binoculars provided 10/160, and were best when focused for emetropia. A pair of 3.5X wearable focusable distance binoculars provided 10/125. A pair of 7X 30° "Beecher" wearable focusable distance binoculars provided

10/100. However, in all cases, distance magnification provided only fleeting acuity, one character at a time, and did not involve spatial consistency. The patient was not able to read the characters on the 10/100 line in any consistent or correct order. She complained that there were, “holes in her vision,” that moved around. I explained that distance magnification would not change this. I also explained that magnification of 7X increases target size by seven, but reduces field by the same amount and therefore makes things seven times more difficult to find. I explained that this was true even without considering the fact that her macular degeneration produced, “holes in her central vision,” that would not be “fixed” with distance magnification. I summarized this demonstration and discussion with a simple statement that in my opinion, distance magnification would not be useful. The patient certainly was not happy with the vision it provided. I demonstrated various colors of sun-wear outdoors in direct sunlight, and the patient preferred medium-gray.

I explained that near magnification can be useful since a target can be brought closer to the eye, causing central blindspots to shrink in absolute size, while angular target sizes increase. The patient’s current 5X LED-lighted hand magnifier provided 2M continuous text acuity. Increasing this lighted near magnification to 8X did not improve continuous text acuity beyond 2M. However, a 7X LED-lighted hand magnifier did provide 0.6M isolated letter acuity, which is all that would be required to meet her goal of reading the television remote control. The patient was satisfied with the near isolated letter acuity improvement provided by increasing her current 5X LED-lighted hand magnifier to a 7X version. This was the patient’s primary reason for visiting the low vision clinic. I felt that the patient and her daughter also had questions about the nature of the patient’s reduced visual function, so I was careful to explain as much as possible. I explained that the, “holes in her central vision,” which were responsible for making magnification at distance functionally ineffective, were also responsible for her reduced continuous text near acuity, relative to her isolated letter near acuity, when using lighted optical magnification. I explained that the improved reading function offered by her desktop or portable CCTV was most likely due to electronically enhanced contrast and the subsequent reduction of relative central scotoma size.

The patient's DBVI case manager, R, provided or will provide the following sun-wear and low vision aid, and will provide any required training:

1. NoIR U-22 medium-gray sun-wear with top and side-shields
2. 7X LED-lighted hand magnifier, (a 7X yellow-lighted hand magnifier was dispensed from stock on 1/9/20)

The patient and her daughter understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. They therefore agree to follow your instructions and keep follow-up appointments with you.

35).

To referring ophthalmologist

N, born in 1934, saw you in 2019, with a history of bilateral worsening ARMD. At that time, her uncorrected distance acuities were OD CF, OS 20/100, and OU 20/100. Her corrected distance acuities were:

OD	-2.50 +1.75 X 171	1/200
OS	-0.50 +1.25 X 167	20/70
OU		20/70

J, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient reported that the vision in her right eye was worse than the vision in her left, and that it decreased about five years ago. The vision in the patient's left eye reportedly decreased about one year ago. At that time, she was still able to read newsprint. The patient complains of indoor glare, especially from shiny objects in the kitchen. She reports having had cataract surgery in her left eye several months ago. She has many visual goals, including clearer distance vision for television and watching her bird-feeder at a distance of about five feet from her bedroom window.

I provided a low vision exam in 2019. J was not present during the exam. The patient's son was present. The patient's uncorrected distance acuities were OD 10/120, OS 10/80, and OU 10/80. The patient's distance acuities with her current glasses, (as measured with an analogue lensometer by hand), were:

OD -1.00 -1.50 X 078	10/120 EF
OS +0.50 -1.00 X 078	10/60
OU	10/60-1
(+2.50 flat-top bifocal)	

Although theses glasses were the same as her trial-frame refraction results on the day of the exam, and although these provided an objective improvement over her uncorrected distance acuity in the exam room, the patient reported that these glasses generally do not improve subjective distance acuity at home. The patient reported difficulty with glare. I demonstrated various lightly tinted lenses, including light-plum, amber, gray, green, and topaz. None provided any improvement in contrast or comfort. I therefore suggested she try a light-gray neutral tint in the kitchen, where she is bothered by glare off shiny objects. I discussed the effects of glare from distance glasses, and the possibility that although her distance correction improves objective distance acuity in the exam room, glare from those lenses might be the reason she prefers the enhanced contrast resulting from removing them. The patient has a pair of dark sun-wear with top and side-shields which is reportedly adequate on sunny days. The patient might benefit from a lighter pair for cloudy days.

The patients near acuity, when corrected with her current +2.50 flat-top bifocal, (or her single-vision version of that), was 1.6M continuous text with eccentric fixation. Extra lighting was helpful. Since the patient finds her distance prescription not helpful, presumably due to increased glare, and since her current bifocal power is insufficient for her goal of 1M (newsprint) continuous text acuity, her current bifocals are not something she needs to meet her goals of improving subjective distance vision, or reading newsprint. However, the +2.50 single-vision version of the +2.50 flat-top bifocal is useful for targets at 40 to 50 cm, especially due to its large field of view. These single-vision glasses were more helpful at this distance than her weaker pair of "computer glasses." These +2.50 single-vision readers provided 3.2M continuous text acuity at 50cm. The astigmatism portion of the correction did not improve her near acuity. For that reason, simple over-the-counter +2.50 single-vision readers should be sufficient for use at arms length. I demonstrated a pair of 2X "MaxDetails" wearable focusable tele-binoculars, which only provided 3.2M continuous text acuity at 50cm. Tele-binoculars therefore did not provide increased acuity at arms length over simple single-vision readers. However, a 2X "BigEye" gooseneck table-lamp provided 1.6M continuous text acuity at arms length, and might be useful in the kitchen.

A simple pair of +4 readers provided 0.6M continuous text acuity at 25cm. The patient brought her knitting with her, and was able to use these reading glasses for knitting. I demonstrated a 3X LED-lighted hand magnifier, which also provided 0.6M continuous text acuity. I explained that this might be a useful portable item when she needs to read small print in dark areas such

as restaurants. I recommend that the patient try a pair of 2X “Magnatel” wearable focusable distance binoculars for watching her bird feeder. However, these should be used when seated only.

The patient's DBVI case manager, J, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-21 medium-gray sun-wear with top and side-shields for cloudy days
2. NoIR U-20 light-gray sun-wear with top and side-shields for indoor glare
3. +4 readers
4. 3X LED-lighted hand magnifier
5. 2X “BigEye” gooseneck table-lamp
6. 2X “Magnatel” wearable focusable distance binoculars for viewing her bird feeder, to be used when seated only
7. OTT desk-lamp for the kitchen

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

36).

To referring ophthalmologist

I, born in 1931, saw you in 2019, with a history of wet ARMD OU. You also noted clinically significant posterior capsular opacities in each eye. You mentioned that her anxiety prevented YAG capsulotomies in the past. Her uncorrected distance acuities were OD CF@3ft, and OS 20/200 (PHNI).

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives in a house with her daughter nearby who checks on her frequently. The patient has had a stroke, and currently travels with a walker or in a wheelchair. She has been an avid reader throughout her life, and her primary visual goal is reading newsprint. R marked her microwave for easier use. She provided a talking clock, a liquid level indicator, a contrasting cutting board, and bold lined paper with a felt tip pen, so the patient can write and read back her own writing. R also provided signature guides and access to talking books through the National Library Service.

I provided a low vision exam in 2019. R and the patient’s daughter were present during the exam. The patient’s uncorrected distance acuities were OD 4/600, and OS 10/60-1. The patient's distance acuities with her 5/6/19 refraction provided by Dr. L, were:

OD -1.00 +2.00 X 010	4/600
OS -0.50 +2.00 X 180	10/60+2

I provided a trial frame refraction which confirmed Dr. L’s distance prescription. However, the patient did not notice a significant subjective difference in her vision when using the distance correction, and it is certainly reasonable for her not to do so. Outdoors in bright sunlight, the patient preferred the darkest gray tint made by NoIR.

The patient's uncorrected near isolated letter acuity was 8M at 30cm. A pair of +8 readers provided 1M isolated letter near acuity, and 1.2M continuous text near acuity at the

corresponding focal distance. A pair of +16 lenses provided her goal of 1M newsprint continuous text acuity, but required a working distance which was uncomfortable. A 5X “PowerMag” LED-lighted stand magnifier provided 0.8M continuous text acuity at 30cm.

The patient's DBVI case manager, R, provided the following sun-wear and low vision aids on 10/10/19, and will provide the required training:

1. NoIR 423-31 extra-dark gray sun-wear with top and side-shields, dispensed on 10/10/19
2. NoIR 422-31 dark gray sun-wear with top and side-shields, dispensed on 10/10/19
3. 5X “PowerMag” LED-lighted stand magnifier, dispensed on 10/10/19

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

37).

To referring ophthalmologist

O, born in 1933, saw you in 2019 with a history of right age-related macular degeneration. At that time, her corrected distance acuities were OD 20/150, and OS LP.

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient always travels with a sighted guide, and lives with her daughter. N marked the patient’s appliances for easier use, and taught stove safety. The patient’s primary visual goals involve reading newsprint. She has difficulty seeing the thermostat and spot-checking items at arms length.

I provided a low vision exam on 10/10/19. N and the patient’s daughter were present during the exam. The patient reported that she was diagnosed with retinoschisis in her left eye 5 years ago. She also reported that since her May visit with you, she has seen Dr. C because she now has wet macular degeneration. She reported that she saw Dr. C two weeks ago, and is now getting shots for wet macular degeneration in her right eye. The patient's distance acuities with her five-month-old single-vision distance correction were:

OD -11.00 10/100-1
OS -11.00 (LP)

Without these glasses, her near isolated letter acuity was 1.2M at 10cm. The addition of either a 4X PowerMag, or a 10X Peak lighted Stand magnifier provided only 2.5M continuous text acuity. Obviously, electronic magnification will be necessary to provide her near visual goal of 1M (newsprint) continuous text acuity. A portable CCTV provided 0.8M continuous text acuity. I demonstrated the camera function for spot-checking items at arms length. Indoors, the patient preferred amber lenses to yellow, plum, gray, or topaz. Outdoors in bright sunlight, the patient preferred her own new prescription sun-wear to all other options.

The patient's DBVI case manager, N, provided training with a trial portable CCTV on 10/10/19. The patient will practice using the device in her home for a month, before deciding if she wants it.

The patient understood that I provided a vision exam only, and that you and Dr. C are the professionals working to maintain her ocular health. The patient therefore agrees to follow the instructions of her ophthalmologists, and keep follow-up appointments.

38).

To referring ophthalmologist

J, born in 1948, saw you in 2019, with a history of bilateral dry ARMD. At that time, his distance acuities were OD 20/200, OS 20/200, and OU 20/200.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives with his wife in a house. His daughter and her family live next-door and are available to provide assistance as needed. His primary visual goals involve reading newsprint, writing, better distance vision, and enjoying arms-length hands-free hobbies, such as assembling jigsaw puzzles. The patient does not use any mobility aids. He is able to navigate independently in his home and in familiar public places. When traveling in unfamiliar public places, he is always accompanied by his wife.

I provided a low vision exam in 2019. L and the patient's wife were present during the exam. The patient uses sun-wear outdoors, and finds that occasionally his drugstore sunglasses are not dark enough. He does not complain of indoor glare. It was dark and cloudy on the day of the low vision exam. Therefore, various light-colored lenses were demonstrated indoors, including green, amber, topaz, and plum. The patient reported that the light-plum tint improved his subjective vision significantly. I therefore recommended he try a pair of medium-plum and dark-plum sun-wear with top and side-shields. The patient's uncorrected distance acuities were OD 10/60, and OS 10/60-1. The following were the patient's relevant corrected acuities:

DIST	Subjective DS/DC Rx	BVAcc	BVAcc c2X	BVAcc c4X
OD	-0.25	10/60	10/30+1	10/25-2
OS	-0.25 -0.75 X 110	10/60 -1	10/30-1	10/30+2
OU	67mm			
NEAR		BVAcc c+6		
OU		1M		

A pair of "Coil 2X Magnatel" wearable focusable distance binoculars provided OU 10/25-2. These were best when focused at the 5-6 setting. The patient understood that he was never to stand or walk while wearing these glasses.

The patient had the above distance correction in a pair of glasses with a no-line +2 bifocal. These provided 2M continuous text at 40cm. The addition of a 2X "BigEye" table-lamp provided 1.6M continuous text acuity. When adding the 2X table-lamp's 3X booster lens, his near acuity improved to only 1.25M continuous text. A pair of 2X "MaxDetails" wearable focusable tele-binoculars provided his goal of 1M (newsprint) continuous text acuity. He

demonstrated the use of this device for writing, and expressed that this would be useful for not only reading at a more comfortable working distance than his current +6 readers allow, but also working on Sudoku and jigsaw puzzles. The patient understood that he was never to stand or walk while wearing these glasses. For portable magnification with lighting, I demonstrated and recommended a 3.5X LED-lighted hand magnifier, which also provided 1M continuous text acuity. The patient disliked the stronger 5X version, due to its smaller usable field.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields
2. NoIR U-81 medium-plum sun-wear with top and side-shields
3. Coil 2X “Magnatel” wearable focusable distance binoculars, set on the 5-6 setting, used when seated only
4. 2X “MaxDetails” wearable focusable tele-binoculars, used when seated only
5. 3.5X LED-Lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

Glaucoma

1).

To referring ophthalmologist

A, born in 1928, saw you on 1/4/19 with a history of bilateral dry ARMD, bilateral open angle glaucoma, and bilateral cataracts. At that time, his distance acuities were OD NLP and OS 20/600.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient reported having had a prior stroke. He uses a walker. His visual goal involves reading font the size of newsprint.

I provided a low vision exam in 2019. L and the patient’s daughter were present during the exam. The patient’s uncorrected distance acuities were OD NLP, and OS 10/350. The patient's distance acuities with his current single-vision distance glasses were:

OD	NA	NLP
OS	-2.50 -1.00 X 110	10/350

These improved his subjective distance acuity, but did not improve his measured distance acuity. I performed an extensive trial-framed distance refraction, which confirmed that his present distance glasses are correct and subjectively helpful. Distance magnification did not improve distance acuity. I demonstrated several light-colored tints across the visible spectrum

in a room with considerable glare from windows on two sides. The patient preferred light-gray lenses. The patient spends time exercising indoors in a room with west windows and considerable indoor glare. It is likely that NoIR U-20 light-gray fit-over lenses with top and side-shields will improve comfort in that setting. A similar pair with NoIR U-21 medium-gray lenses might be helpful outdoors on cloudy days. He already has a pair of dark-gray wrap-around sun-wear which are reportedly sufficient on sunny days.

The patient's uncorrected near isolated letter acuity was 3.2M at about 30cm. His uncorrected near continuous text acuity was only 8M at about 30cm. I discussed with the patient and his daughter the functional implications of that difference, and the fact that central blind spots from macular degeneration frequently cause a need for larger font when reading more than one letter at a time. A pair of +6 readers offered no improvement. A pair of +8 readers provided 2M isolated letter acuity at about 13cm. A pair of +12 readers provided 1.6M isolated letter acuity at about 9cm. A pair of +16 readers provided 1.6M isolated letter acuity at about 7cm. Therefore, increasing near magnification beyond that offered by +12 readers did not improve near acuity. I explained to both the patient and his daughter that increasing the power of readers requires a shortened reading distance that corresponds to the increased power of the lens, and that for that reason, high powered readers such as the +12 readers, (which don't meet his near goal of 1M newspaper-sized font anyway), required an impractical reading distance of 9cm.

I explained to both the patient and his daughter that if a high powered lens is held in the patient's hand, rather than worn in his glasses, the short focal distance can be held further from the eye, allowing for a better reading posture, but requiring the use of one hand to move the magnifier across the page. I demonstrated a 6X LED-lighted stand magnifier, which contained more than the maximum useful power as determined with readers, but added the advantage of increased contrast with a powerful LED light source. This device provided 1.25M isolated letter acuity, and though this extra contrast did improve his near acuity, it was still short of his 1M (newsprint-sized font) goal. I then demonstrated a portable CCTV, which produced much more additional contrast than an LED light source. It also allowed for reversed contrast, which reduces glare. This device provided 0.8M isolated letter acuity. This allowed for one or two words to appear on the screen at one time. With practice, this device might allow him to read his desired material, (such as financial statements and the newspaper). However, I was clear with both the patient and his daughter that while the device made his visual goal *possible* on the day of his low vision exam, it did not, and would not, make it *easy*. I was also clear that electronic magnification is required to produce enough enhanced contrast for the patient to see his desired material, and that no lenses would suffice, even with extra lighting.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-21 medium-gray fit-over sun-wear with top and side-shields for cloudy days
2. NoIR U-20 light-gray fit-over sun-wear with top and side-shields for indoor glare
3. Portable CCTV

The patient and his daughter understood that I provided a vision exam only, and that you are the professional working to maintain the patient's ocular health. They therefore agree to follow your instructions and keep follow-up appointments with you.

2).

To referring ophthalmologist

A, born in 1930, saw you in 2018 with bilateral open angle glaucoma. At that time, her distance acuities were OD 20/400+1, OS 20/100-2, and OU 20/100-2.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient and her husband live in a single family home. Her husband has dementia, and the patient serves as his primary caretaker. Her daughter lives nearby, and is available to provide assistance. The patient is able to perform some personal and home management tasks independently, such as dressing, clothing identification, eating, medication management, cooking, laundry, some housecleaning, telling time, and telephone use. The patient receives assistance with bill paying from her daughter, and has two paid assistants to help her with housecleaning and shopping. The patient's primary visual goals involve reading newsprint, handwriting, seeing her television, and birdwatching. Ms. Conner will attempt to address any goals that cannot be adequately met with low vision aids, such as operating kitchen appliances, kitchen and cooking safety, tracking appointments, and locating misplaced items. Ms. Conner will provide access to talking books through the National Library Service.

I provided a low vision exam in 2018. L was present during the exam. The patient's distance acuities, corrected with glasses she purchased two months ago, were:

OD +2.00 -3.25 X 085 10/180
OS +1.50 -2.00 X 092 10/60-2
OU 10/60-2
(OU +2.25 progressive bifocal)

The patient reported having gray fit-over sun-wear with top and side-shields that are dark enough on a sunny day, and not too dark on a cloudy day. Various light-colored lenses across the visual spectrum were demonstrated indoors under bright lighting, and no color improved comfort or subjective vision. A 2.5X "ring" focusable distance monocular provided only OS 10/60-1. A pair of 2X "TV Max" wearable focusable distance binoculars provided 10/40+3. The patient's subjective vision was better with the right lens occluded.

The patient's near continuous text acuity with her current bifocal was 2.5M at 40cm. The addition of a 6X LED-lighted stand magnifier provided only 1.6M continuous text acuity. Occluding her right lens did not improve subjective acuity. The patient stated that the LED light source was not too bright, and did not produce bothersome glare. In order for the patient to achieve her 1M (newsprint) near goal, either contrast would need to be increased with electronic reversed-contrast magnification, (in order to maintain what the patient would consider usable fields), or the viewing distance would have to be changed, in hopes of providing less functionally limiting central scotomas. A pair of 2X "Max Details" wearable focusable tele-binoculars, with the right lens occluded, provided the patient's goal of 1M (newsprint) continuous text acuity at 40cm. A gooseneck table-lamp was needed for contrast. I demonstrated both a small paperweight magnifier, and a "Reizen" hollow-dome non-lighted stand magnifier with 0.8M isolated numbers, and the patient preferred the small paperweight magnifier. I therefore suggested she use a small paperweight magnifier, (or a 6-inch bar magnifier), with her 2X "Max Details" wearable focusable tele-binoculars, with the right lens occluded, since she occasionally needs to read numbers slightly smaller than newsprint. The 2X "Max Details" wearable focusable tele-binoculars, with the right lens occluded, allowed the patient to read the 3.2M font size she believes she uses on her computer screen, at her reported screen viewing distance of 60cm.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. 2X "TV Max" wearable focusable distance binoculars with the right lens occluded, for distance viewing, and when seated only; (focused with maximum intra-lens distance)
2. 2X "TV Max" wearable clip-on distance binoculars with the right lens occluded, for distance viewing, and when seated only
3. 2X "Max Details" wearable focusable tele-binoculars with the right lens occluded, for near viewing, and when seated only; (focused with maximum intra-lens distance)
4. 2X "Max Details" wearable clip-on tele-binoculars with the right lens occluded, for near viewing, and when seated only
5. Small paperweight magnifier, to be used with 2X "Max Details" when needed, especially when reading small numbers
6. 6-inch bar magnifier, to be used with 2X "Max Details" when needed, especially when reading small numbers
7. Gooseneck table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

3).

To referring ophthalmologist

C, born in 1939, saw you in 2018 with a history of severe glaucoma OS, and moderate glaucoma OD. She has bilateral dry ARMD, and bilateral pseudophakia. Her corrected distance acuities were OD 20/60+1, and OS HM. You noted a right nasal hemianopsia.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone in a one-story house. She visits a senior center, and can no longer identify stairways consistently. R referred the patient for DBVI orientation and mobility training, and will provide kitchen safety training. The patient is now only able to read large-print, and would like to be able to read newsprint and sign her name in a straight line. Outdoor glare is often a problem for the patient.

I provided a low vision exam in 2018. R was present during the exam. The patient's distance acuities with her current glasses were:

OD -0.75 -0.50 X 105 20/60+1
OS +0.50 -1.00 X 082 HM
(OD +3.00 progressive bifocal)

I verified the right distance refraction in a trial frame using a +/- 1.00DC flip-cross cylinder. I recommended that she remove the bifocal segment from her distance glasses, since it produces the need for excessive head movements when looking down, and she has significantly reduced inferior fields. The patient preferred a gray tint to other colors of sun-wear. I therefore recommended NoIR U-21 medium-gray fit-over sun-wear with top and side-shields for outdoors.

The patient's near continuous text acuity with her current bifocal was a slow 2M at 40cm. A fast 2M continuous text acuity at 40cm was provided by her current single-vision readers:

OD +4.75 -0.75 X 095
OS balance

The addition of a "Reizen" hollow-dome non-lighted stand magnifier provided 4X and a fast 1.25M continuous text acuity at 30cm. The addition of a 6X "Besser" LED-lighted stand magnifier instead, provided 5X and 0.8M continuous text acuity, which will meet her near visual goal of newsprint. A Coil 4206 non-lighted stand magnifier, which only requires a +1.00 reading add, provided 5X when used without a near correction, and provided 1M continuous text acuity at 40cm. Although this acuity was not as good as that from the reader/6X lighted stand combination, it worked as designed, and provided a greater working distance, as well as her near visual goal of 1M (newsprint). In the end, the benefit of the light source/magnifier combination surpassed that of a longer working distance.

A 2X "BigEye" table-lamp did not aid her writing ability more than a simple gooseneck table-lamp. She was able to write her name clearly and her signature was not larger than normal. As she stated, however, she could not write in a straight line. R will dispense writing guides with sufficient training.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-21 medium-gray fit-over sun-wear with top and side-shields for outdoors
2. 6X yellow-lighted stand magnifier to be used with her current single-vision readers for reading newsprint
3. Writing guides
4. Gooseneck table-lamp
5. The following distance corrective lenses, as a means to eliminate her bifocal:

OD -0.75 -0.50 X 105
OS +0.50 -1.00 X 082
PD 66mm

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

4).

To referring ophthalmologist

S, born in 1942, saw you in 2019 with a history of bilateral glaucoma. You mentioned that his IOPs were well controlled, and requested a four month follow-up. On 4/25/19, his corrected distance acuities were:

OD -3.25 +2.25 X 007 CF@1ft
OS -0.50 20/40+2

You measured his best corrected distance vision as:

OD same CF@1ft
OS -1.25 20/30+2

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involve reading newsprint, and reducing outdoor glare.

I provided a low vision exam in 2019. R and the patient's sister were present during the exam. Outdoors in bright sunlight, the patient preferred NoIR #22 dark-gray sun-wear with top and side-shields to amber, plum, or green sun-wear with similar transmission. The NoIR frame #31 fit best. The patient did not complain of indoor glare. He complained of inadequate light for reading in most settings. Lighted stand magnifiers were discussed as convenient inexpensive solutions. The patient's uncorrected distance acuities were OD 10/400, OS 10/25, and OU 10/25. The patient's distance acuities with his one-month-old trifocals were:

OD balance 10/400
OS -0.75 10/20
(+3.00 flat-top trifocal)

I discussed the patient's case with his DBVI orientation and mobility instructor, who will assess the patient's safety while wearing trifocals and receiving training. The following were the patient's relevant corrected acuities:

Relevant focused acuities						
Spectacle only					**c(Dist mag)**	
DIST	**Subj DS Rx**	**Subj DS/DC Rx**	**BVAcc**		**BVAcc c2X**	**BVAcc c4X**
OD		**Balance**	**10/400**			
OS		**-1.00**	**10/20**		**worse**	
OU		**65 mm**				
NEAR	**Add for 1M CT**	**stand cAdd for 0.6M CT**	**BVAcc c+5**		**BVAcc c2X+6 cap**	**BVAcc c2X+8 cap**
OD		**4X LED Stand +3.00**				
OS	**3.00**		**0.6M**			
OU						

The patient's DBVI case manager, R, provided the following sun-wear and trial low vision aids from stock on 8/8/19. She will order a trial 4X LED-lighted stand magnifier for the patient to use with his reading glasses, (or his trifocal if his orientation and mobility instructor deems the patient can safely wear trifocals during the patient's orientation and mobility training).

1. NoIR 422-31 dark-gray sun-wear with top and side-shields
2. +4 readers, (providing the equivalent of a +5 spectacle add)
3. 3.5X LED-lighted hand magnifier for portability

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

5).

To referring ophthalmologist

H, born in 1957, saw you in 2019, with a history of glaucoma OU, PDR OU, and epiretinal membranes OU. At that time, her uncorrected distance acuities were OD HM@1ft, and OS 20/200.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has a portable CCTV. She would like to investigate optical options, and would like glare protection. Her visual goals involve reading newsprint and identifying distant targets.

I provided a low vision exam in 2019. R was present during the exam. The patient's uncorrected distance acuities were OD 6/700, OS 10/80-1, and OU 10/80-1. Various shades of various colors of glare protection were demonstrated indoors and outdoors. Various shades of NoIR U-43 amber lenses with top and side-shields provided the most comfort and contrast.

The patient's near continuous text goal acuity was OU 1M @ 30cm. The following were the patient's relevant corrected isolated letter acuities:

Relevant corrected isolated letter acuities						
Spectacle only					**c(Distance mag)**	
DISTANCE	**Subjective DS Rx**	**Subjective DS/DC Rx**	**BVAcc**		**BVAcc/ c2X**	**BVAcc/ c4X**
OD		plano	6/700			
OS		plano +/- 1.00DS	10/80-1		10/60	10/60+1 (Hard to find target)
OU						
NEAR	**Add for 1M**	**Non-lighted stand cAdd**	**BVA/c+4**		**BVA/ c2X+6**	**BVA/ c4X+6**
OD		+5 readers and a Coil #5428 provided 4X; but produced too				
OS	+16 (4X)		2M		1.25M	Hard to find target

OU		much glare, (as did all lighted stands)				

A 2.8X focusable distance monocular provided OS 10/40. A pair of 2X "Coil" wearable focusable TV glasses provided 10/60. The 10% tinted version was not more comfortable.

The patient's near corrected isolated letter acuity with 2X distance magnification and a +8 reading cap was 1.25M at 12cm. A +10 reading cap provided 0.8M at 10cm, but that was not a significantly more practical working distance than what was provided by a simple pair of +16 readers. It was important to the patient to have hands-free near magnification that would let her see the print on her smartphone. A pair of +16 readers were demonstrated with that specific task, and were appreciated. I demonstrated a pair of wearable focusable 4X Eschenbach tele-binoculars. These only provided only 2M continuous text acuity at 30-40 cm, (the same acuity provided by a pair of wearable focusable 2X "MaxDetails" tele-binoculars). This was insufficient for her hands-free near tasks such as writing. We discussed her option of writing larger, but she has had a habit of writing small her whole life. Surprisingly, she was happy using +16 readers for writing, as she was indeed comfortable writing quite small text.

Various optical approaches to the tasks she now completes with a portable CCTV were investigated. All produced too much glare, including non-lighted stand magnifiers as well as lighted stand magnifiers with various light sources.

The patient's agency case manager, R, provided the following trial low vision aids from stock on 7/25/19. She will provide in-home training. R referred the patient for DBVI orientation and mobility training, and the patient will receive training with her distance monocular at that time.

1. NoIR U-43 dark-amber sun-wear with top and side-shields for direct sunlight
2. NoIR U-40 medium-amber sun-wear with top and side-shields for shade
3. NoIR U-48 light-amber lenses with top and side-shields for indoor glare
4. 2.8X focusable distance monocular
5. 2X "Coil" wearable focusable TV glasses, to be used when seated only
5. +16 (4X) readers

The patient understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

6).

To referring ophthalmologist

L, born in 1935, saw you in 2019 with a history of glaucoma and exposure keratitis. At that time, her uncorrected distance acuities were OD 20/80-2, and OS 20/80. Her corrected distance acuities were:

OD +0.75 +2.00 X 165 20/80-
OS +3.00 +1.00 X 133 20/40-2

She apparently wears the following 8.4BC "Air Optix Night & Day" bandage contact lenses:

OD +1.50

OS +2.75

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient complains of eye fatigue and glare. N provided access to talking books through the National Library Service.

I provided a low vision exam in 2019. N was present during the exam. The patient's distance acuities over her bandage contact lenses were OD 10/60, and OS 10/30. The addition of the patient's current distance glasses provided:

OD +1.25 -0.25 X 128	10/60
OS +1.00 -1.00 X 050	10/30

The patient's new reading glasses, (worn with her bandage contact lenses), provided:

OD +3.50 -1.50 X 110
OS +3.50 -1.50 X 110
OU 1.2M continuous text acuity

The addition of each of the following lighted stand magnifiers provided 0.8M continuous text acuity. These were preferred in the following order:

1) 5X Yellow LED-lighted Power Mag stand magnifier
2) 5X incandescent-lighted Reizen stand magnifier
3) 4.7X LED-lighted Coil stand magnifier

The yellow LED-lighted Power Mag stand magnifier is apparently no longer available, and the incandescent-lighted Reizen stand magnifier was a close second favorite. It was therefore dispensed from stock on 7/11/19. If the patient continues to be bothered by glare after she begins wearing the dark-gray prescription sun-wear that she received the day before her low vision exam, (and wishes to try), N will provide an additional pair of U-21 medium-gray NoIR fit-over sun-wear with top and side-shields to be worn with the prescription sun-wear, (due to the extra protection top and side-shields can provide).

The patient's agency case manager, N provided the following trial low vision aids on the day of her low vision exam:

1. 5X incandescent-lighted Reizen stand magnifier
2. (He will potentially add a pair of NoIR U-21 medium-gray NoIR fit-over sun-wear with side-shields to be worn over her new prescription sun-wear if needed)

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

7).

To referring ophthalmologist

B, born in 1971, you in 2019 with a history of HLA B27 related uveitic glaucoma.

R, an agency vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives in a single-floor rural home with his wife and two children. He has been referred to Kim Ladd, RN, an agency diabetic educator, and has been referred for agency orientation and mobility training.

I provided a low vision exam in 2019. R was present during the exam. The patient's uncorrected distance acuities were OD NLP, and OS 10/40-2. His corrected distance acuities were:

OD +2.50 NLP
OS +2.50 10/20

His left trial-framed refraction, (using a +/- 1.00DC flip-cross lens to check for astigmatism), was OS +2.00, yielding OS 10/20. His left field was less than five degrees by finger-counting. We discussed his occasional driving. I stated clearly that it was not safe or legal, even on rural roads during the day. Ms. Hoerber was involved in the discussion, and although the information was understandably difficult to come to terms with, he agreed. I demonstrated several shades of several colors of sun-wear outdoors in bright sunlight, and the patient preferred light-gray, rather than medium or dark-gray.

The patient's near continuous text acuity with his current above-measured glasses was 1.2M at 50cm. Extra light, when combined with light-gray glare protection, provided 1M continuous text acuity at 50cm. A pair of +4 readers produced a spectacle add of +2.00, and provided 1M continuous text acuity at 40cm. A pair of +6 readers produced a spectacle add of +4.00, and provided 0.8M continuous text acuity at 20cm.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR 420-39 light-gray sun-wear with top and side-shields, dispensed from stock on 5/9/19
2. +6 readers, (49mm eye-size), dispensed from stock on the day of the low vision exam

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

8).

To referring ophthalmologist

T, born in 1954, saw you in 2018 with a history of POAG OU, and bilateral pseudophakia. At that time, her uncorrected distance acuities were OD 20/200, and OS CF@3ft.

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. N taught in-home kitchen safety skills. The patient's primary visual goal involves reading newsprint.

I provided a low vision exam in 2019. N was present during the exam. The patient's uncorrected distance acuities were OD 10/100-1, and OS 5/700. Her right subjective distance refraction was plano +/-1.50DS. A pair of "Coil 2X" wearable focusable distance binoculars provided 10/60. Both N and myself explained that these lenses drastically distort depth

perception, and that she could therefore not safely stand or walk while wearing them. The patient understood, and agreed not to do so. Both N and myself explained that because these lenses drastically distort depth perception, they could not be used safely for food preparation in the kitchen. The patient understood, and agreed not to do so. Various tinted lenses were demonstrated in bright sunlight, and the patient preferred NoIR U-43 dark-amber sun-wear with top and side-shields. I therefore also recommended NoIR U-40 medium-amber sun-wear with top and side-shields for cloudy days.

A pair of +8 readers provided 1M isolated letter acuity, but only 4M continuous text acuity. A "Coil 4.7X" LED-lighted stand magnifier provided 2M continuous text acuity when combined with a +4 reading add. Increasing the power of the Coil LED-lighted stand magnifier to 5.4X, and 7.1X, did not improve acuity. A "Coil 10.1X" LED-lighted stand magnifier, used without a reading add, only provided 1.6M continuous text acuity, and increasing the magnifying power to 12X did not improve acuity. A portable CCTV, best for the patient with black letters on a white background, provided her goal near acuity of 1M (newsprint) continuous text acuity.

The patient's agency case manager, N, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-43 dark-amber sun-wear with top and side-shields, dispensed from stock 4/25/19
2. NoIR U-40 medium-amber sun-wear with top and side-shields
3. "Coil" 2X wearable focusable distance binoculars, to be used when seated only, (and not for food prep or kitchen work)
4. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

9).

To referring ophthalmologist

C, born in 1945, saw you in 2019 with a history of uncontrolled glaucoma. At that time, her distance acuities were OD LP, and OS 20/200.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone. Her family members are supportive, but live in a different region. The patient has difficulty navigating in familiar and unfamiliar places due to reduced fields. She therefore has been referred for agency orientation and mobility training. L provided both tactile and auditory labeling systems in the patient's home, and provided access to talking books through the National Library Service. The patient is bothered by outdoor glare, but reports that her current sun-wear is too dark.

I provided a low vision exam in 2019. L was present during the exam. The patient's uncorrected distance acuities were OD NLP, and OS 10/160. The patient's left distance refraction was plano, with a just noticeable difference of +/- 2 diopters. Various colors of sun-wear were demonstrated outdoors in bright sunshine. The patient preferred neutral gray to amber, green, plum, and topaz. The patient preferred NoIR U-20 light-gray to NoIR U-21 medium-gray, which she reported was too dark. The NoIR 420-35 wrap-around frame provided the best fit, as well as the best glare protection, and was dispensed from stock.

The patient's uncorrected near isolated letter acuity was 4M at 30cm. A pair of +6 readers provided 2M isolated letter acuity. A pair of +10 readers also provided 2M isolated letter acuity. In both cases the patient held the target at the appropriate focal distance without resistance. Clearly, increasing magnification using simply a stronger reading add with a closer working distance was not a strategy that would help her achieve her goal of 1M (newsprint) continuous text near acuity. A pair of +6 readers with a "Reizen" hollow-dome non-lighted magnifier produced 5X, but only provided 2.5M continuous text near acuity. A pair of +6 readers with a "Coil 5428" non-lighted magnifier also produced 5X, and only provided 2.5M continuous text near acuity. Because the patient would require magnification above 10X to achieve her goal, and she wanted a relatively long working distance, I demonstrated a portable CCTV, which worked best with black letters on a white background, and provided 0.6M continuous text acuity at 30cm. The letters needed to be magnified to a 4M level to be seen on the screen.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR 420-35 light-gray wrap-around sun-wear, dispensed from stock
2. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

10).

To referring ophthalmologist

R, born in 1930, saw you in 2019 with a history of bilateral primary open angle glaucoma, bilateral stable dry ARMD, a central retinal artery occlusion in the right eye, and left macular puckering. You also noted endothelial corneal dystrophy. At that time her distance vision was OD CF@1ft, and OS 20/80 (PH 20/70+1).

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. She also provided the patient with various large-print materials, as well as access to talking books through the National Library Service. The patient’s primary visual goals are to read newsprint-sized font, to reduce outdoor glare, and to increase safety when traveling. She reports reduced peripheral vision, and that her balance has been “off” for the past two years. She has been considering the use of a support cane, and would like agency orientation and mobility training.

I provided a low vision exam in 2019. L was present during the exam. Outdoors in bright sunlight, medium green, amber, plum, gray, and topaz NoIR tints were demonstrated. The patient reported that NoIR U-47 medium-topaz fit-over sun-wear with top and side-shields were best for bright sunlight. Darker lenses were too dark. The patient’s confrontation visual fields were less than 20 degrees in each eye. She reported daily visual fluctuation. She reported occasionally seeing “diamonds in the grass.” L discussed the symptoms of Charles Bonnet Syndrome, and asked the patient to discuss her visual symptoms with you. The patient's corrected distance acuities were:

OD +2.00 -3.75 X 105	10/30
OS +2.00 -3.25 X 114	10/40+1 (“fuzzy”)
OU	10/25
(OU +3.00 flat-top trifocal)	

These acuity results were repeatable. The addition of NoIR U-47 medium-topaz fit-over sun-wear with top and side-shields improved her objective corrected distance acuity to 10/20-3. This result was repeatable. I performed an over-refraction and verified that her current distance correction provided her best distance vision. I discussed the difficulties trifocals can cause for patients with reduced peripheral fields. This will be revisited during agency orientation and mobility training. It may be determined that the patient will travel more safely with single-vision distance lenses, and a separate pair of glasses for reading.

The patient's near continuous text acuity with her current +3.00 spectacle add was 2M (standard large-print) at 30cm. She greatly preferred using her left eye when reading, due to reported right central scotomas. Both a Coil 5432 non-lighted hand magnifier, and a Reizen “6X” non-lighted stand magnifier, provided 0.8M continuous text acuity at 30cm. Extra near lighting created bothersome glare. The patient was interested in hands-free near magnification in the form of stronger reading glasses. Since the 3X provided by the Reizen “6X” non-lighted stand magnifier when used with her +3.00 spectacle add met her near goal of 0.8M continuous text acuity, I demonstrated the following 3X readers with her astigmatism correction in a trial frame:

OD occluded for best results
OS +14.00 -3.00 X 115

As expected, the patient disliked the short working distance such a strong spectacle lens required.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-47 medium-topaz fit-over sun-wear with top and side-shields for bright sunlight
2. Coil 5432 non-lighted hand magnifier
3. Reizen “6X” non-lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agrees to follow your instructions and keep follow-up appointments with you.

11).

To referring ophthalmologist

H, born in 1947, saw you in 2018 with a history of bilateral glaucoma, bilateral PCIOLs, and phthisis OS. At that time her corrected acuities were OD 20/200, and OS NLP.

J, a DBVI vocational rehabilitation counselor, recently provided an in-home functional vision assessment. The patient runs a business out of her home, and needs visual assistance reading newsprint sized font and with handwriting. J referred the patient to a DBVI vision rehabilitation teacher for assistance with activities of daily living, a DBVI orientation and mobility instructor for review of safe travel techniques, and a DBVI assistive technology specialist for help making her computer more accessible and help incorporating its advantages in vision accessibility into her business routine.

I provided a low vision exam in 2019. J was present during the exam. The patient's distance acuities with her current one-year-old distance prescription were:

OD -1.75 -2.50 X 088 10/225
OS NLP
(+8.00 flat-top bifocal)

The patient mentioned a history of a right corneal transplant with removal of a sector of her iris. She has experienced significant glare since that time, and has sun-wear with top and side-shields. She finds these too dark inside, where she also experiences glare. I demonstrated several light-colored NoIR sun-wear with top and side shields indoors, including light gray, amber, plum, and green. The patient preferred NoIR U-38 light green. Outdoors in full sun, she found that these were dark enough.

The patient's right confrontation field was less than 20 degrees. Not surprisingly, a 2.8X focusable distance monocular did not improve acuity. The patient described the 10/225 target being magnified beyond her available field. I explained that distance magnification reduced the available field by the same amount.

The patient's near isolated letter acuity with her +8 bifocal was 1.6M at 25cm. I discussed the increased safety single-vision distance glasses would provide when traveling. Her near continuous text acuity with this bifocal was only 4M at 25cm. A "Coil 5428" non-lighted stand magnifier, when used with this add, produced 6X and provided no acuity improvement, with lighting varied from room level to maximum available LED intensity. A portable CCTV with maximum reversed contrast, however, provided 0.6M near acuity. However, she was only able to fit one visible word on its screen at a time. I demonstrated a desktop CCTV which provided her goal of newsprint continuous text acuity. I also demonstrated the "Seeing AI" free app that will read text aloud to her, and mentioned that text-reading technology is also available in certain desktop CCTV models, should she ever require that.

J will provide the following low vision aids in the patient's home with training:

1. NoIR U-38 light-green sun-wear with top and side-shields
2. Desktop CCTV

The patient understood that I provided a low vision exam only, and that you are the professional working to maintain her ocular health. She therefore agreed to keep you informed of vision changes, and keep her follow-up appointments with you.

12).

To referring ophthalmologist

N, born in 1948, saw you in 2018 with bilateral glaucoma. She had a history of both a right retinal vein occlusion, and a left central vein occlusion. At that time her uncorrected distance acuities were OD 20/100, OS 20/60, and OU 20/60. Her corrected distance acuities were:

OD +1.50 +0.50 X 175 20/100
OS -0.75 20/50
OU 20/50

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a support cane and always travels with a sighted guide. She complains of glare. She would like to see distant targets better and read her mail.

I provided a low vision exam in 2019. R was present during the exam. The patient's uncorrected distance vision was OD 10/160-2, OS 10/100+1, and OU 10/100+1. Her distance refraction results were:

OD +8.00 10/100-1
OS -1.00 10/100+1

The patient complained of diplopia when her right eye was corrected. Various colored NoIR sun-wear with top and side-shields were demonstrated outdoors in bright sunlight, including medium gray, green, amber, and plum. The patient preferred NoIR U-81 medium-plum, and found it to be dark enough. She had no complaints of indoor glare. A 2.8X focusable distance monocular provided OS 10/80, which was, "much better." She was able to use it to detect facial expressions ten feet away, which was very important to her. I carefully instructed the patient how to focus the device for distance, as well as on a target four feet away, where her isolated letter acuity was 3M.

The patient's uncorrected near continuous text acuity was 4M at 30cm. A pair of +4 readers provided 2M, best at 25cm. The addition of a 6X LED-lighted stand magnifier produced 4.8X and provided 0.8M continuous text acuity. The addition of a 5X LED-lighted hand magnifier provided 0.8M continuous text acuity. The patient preferred this to a 3.5X LED-lighted hand magnifier.

R will provide the following low vision aids in the patient's home with training:

1. NoIR U-81 medium-plum sun-wear with top and side-shields
2. 2.8X focusable distance monocular
3. 6X LED-lighted stand magnifier
4. 5X LED-lighted hand magnifier
5. +4 readers

The patient understood that I provided a low vision exam only, and that you are the professional working to maintain her ocular health. She therefore agreed to keep you informed of vision changes, and keep her follow-up appointments with you.

13).

To referring ophthalmologist

N, born in 1921 saw you in 2018 with a history of right open angle glaucoma with ARMD, and left angle closure glaucoma with ARMD and choriodal neovascularization. At that time, her corrected distance acuities were:

OD -1.50 +3.00 X 010 20/50-1
OS -2.00 +2.00 X 175 3/200E
OU 20/50-1

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone in an assisted living apartment. She has mobility problems and uses a walker. She is

able to navigate independently in her apartment and residential facility. She is always accompanied by her son, (who acts as her sighted guide), when she leaves her residential facility. The patient is not bothered by glare, either outdoors and indoors, and does not wear sun-wear. Extra lighting is helpful for near tasks. The patient suffers from hearing and memory loss. She is able to perform some personal tasks independently; such as clothing identification, dressing, eating, and telephone use. She receives assistance with other personal and home management tasks from the staff of her residential facility; such as with laundry, house cleaning, and medication management. The patient reported difficulty seeing food on her plate at mealtime, and relies on residential facility staff to identify some food items. Her son assists her with paying bills. The patient no longer drives, and her primary source of transportation is her son. L provided access to talking books through the National Library Service. The patient is interested in trying low vision aids to help with reading books, newspapers, dining room menus, and activity schedules. She is also interested in assistance with telling time and tracking appointments. L will attempt to address any goals that cannot be adequately met with low vision aids.

I provided a low vision exam in 2019. L and the patient's son were present during the exam. The patient's son provided additional history. The patient's left posterior chamber IOL became displaced in 2017, and was replaced with an anterior chamber IOL. The patient's right posterior chamber IOL is reportedly still intact. The patient's son stated that the patient frequently loses things such as hearing aids and glasses. L provided the patient with a demonstration "Pocket-Talker" during the low vision exam, which allowed the patient to adequately hear normal speech. This device is readily available and relatively inexpensive, and might therefore be part of a successful strategy when dealing with the patient's hearing loss. The patient's son stated that the patient had had single-vision reading glasses for the usable vision in her right eye, but that she lost them recently. I discussed the wisdom of using single-vision glasses rather than bifocals, especially given the patient's mobility difficulties and central vision loss. The patient stated that she was able to read with her astigmatic readers as little as one year ago, but that her vision has since gotten worse. Her uncorrected distance acuities were OD 10/140, OS 10/700, and OU 10/140. Her trial frame right distance refraction was -2.00DS, with a just noticeable spherical lens difference of +/-2.00DS, which corresponds to a just noticeable astigmatic lens difference of +/-4.00DC. I also discussed the current limited benefit of her astigmatism correction, given her vision loss since 2018. Given the frequency with which the patient has been losing her glasses, I discussed the possible strategy of simply purchasing inexpensive spherical near corrections of the appropriate power, (without astigmatism correction).

The patient has had a career as a university language instructor. She reported that she, "loves her books." While her memory issues might preclude some academic activities, adequate near vision might provide the tremendous benefit of reading for pleasure. Although she has some large-print material, this accommodation alone is not sufficient for her to meet that goal. The patient's uncorrected near continuous text acuity was 2M at 30cm. Given her distance refraction of -2.00DS, her effective reading add without glasses was +2.00DS, which was appropriate for a 30cm reading distance given the depth of focus associated with her reduced retinal power of resolution. A pair of +4 readers were "better," and a pair of +5 readers were "worse." These results were repeatable and subjectively significant. By this time in the exam, the patient was beginning to tire, and objective results were not nearly as reliable as subjective ones. Extra lighting was helpful, but the patient was not able to easily use hand or stand lighted magnifiers. Therefore it was my assessment that simple +4 or +3 readers with a gooseneck light source to maximize contrast and control glare probably would be the best and simplest strategy.

To address other hands-free magnification options, I considered 2X "MaxDetails" wearable focusable tele-binoculars, as well as the 2X "BigEye" table-lamp with a 3X booster lens. Patients should never walk while wearing tele-binoculars, due to their effects on depth perception. The patient's son reported that the patient would likely forget that she should never walk while wearing them. Given the possible catastrophic results of that, I elected not to demonstrate the 2X "MaxDetails" wearable focusable tele-binoculars, and stated that she should simply not try them. However, I demonstrated the 2X "BigEye" table-lamp with a 3X booster lens. The patient stated that it was not helpful. Even if training could change that, it seemed doubtful that she would remember to use it correctly. Simple high-plus readers

with a gooseneck light source therefore remained the best option to increase her visual function. Even the simple talking-book machine that L provided was found to be too complex for the patient to operate, and the patient returned it. The patient might theoretically benefit from the accessibility features of a modern smartphone, which could reverse and increase contrast, as well as magnify or read text on-line. However, the patient's memory issues would probably make that too difficult, especially considering her reported propensity to lose items, (such as her phones).

The patient's agency case manager, L, will either provide, (or provide access to), the following trial low vision aids:

1. +4 or +3 readers, (with the required in-home training)
2. Lap-desk, (or reading stand)
3. Gooseneck floor-lamp, (or gooseneck table-lamp)

The patient's son understood that I provided a vision exam only, and that you are the professional working to maintain the patient's ocular health.

14).

To referring ophthalmologist

N, born in 1940, saw you in 2018 with a history of bilateral glaucoma. At that time, her uncorrected distance acuities were OD 20/50, OS 20/50, and OU 20/50. Her distance acuities with her current glasses were OD 20/60, OS 20/50, and OU 20/50.

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has arthritis in her fingers, and has diabetes. She must be able to see the markings on her syringe when injecting herself with insulin, and currently relies on extra lighting. She lives in a two-story home with her husband. She has multiple hobbies that require vision at arm's length, including baking, quilting, and playing the dulcimer. She prefers using readers, rather than bifocals; and currently uses +2.75 readers for sheet music, and +3.00 readers when using her "Nook." She requires dark sun-wear outdoors, and is not able to enjoy her sunroom due to indoor glare.

I provided a low vision exam in 2019. D was present during the exam. The patient reported being diagnosed with glaucoma in 2007. She reported having had trabeculectomies, (as well as receiving IOL implants), in 2013 and 2014. The patient reported that her left eye had been her better eye until December of 2018. She has a nursing background, and recently has been told that she has a left macular hole. I emphasized my inability to answer any questions regarding her ocular health, and advised the patient to contact you with such questions. The patient's distance acuities with her current one-year-old glasses were:

OD plano 10/20
OS -0.75 10/40
OU 10/20
(OU +2.25 progressive add)

The patient's subjective distance vision was slightly improved with her left eye occluded. A pair of 2X "TV Max" wearable focusable distance binoculars provided OU 10/10. The patient reported that these helped, "a lot." Various light colors of lenses with top and side-shields were demonstrated indoors, and the patient preferred medium-topaz. Outdoors in shade she preferred medium-plum, and she preferred dark-plum in direct sunlight.

The patient's continuous text acuity with her current +2.25 bifocal was 1M (newsprint) at 40cm. Extra lighting was helpful. The addition of a "Reizen" hollow-dome non-lighted stand magnifier produced 2.25X, and provided 0.5M continuous text acuity. The addition of a 6X LED-lighted stand magnifier instead, produced 2.7X, and provided the same acuity. The patient preferred the lighted stand magnifier. A 3.5X LED-lighted hand magnifier also provided 0.5M continuous text acuity. For hands-free magnification, I demonstrated a pair of 2X "MaxDetails" wearable focusable tele-binoculars, which did not provide a comfortable depth of focus. A 2X "BigEye" table-lamp with a 3X booster lens, however, provided 0.6M continuous text acuity, and usable hands-free magnification. The patient was able to use it to see the markers on her syringe. The patient already uses a needle-threader, but felt the device might provide additional help when quilting.

The patient's agency case manager, D, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-80 dark-plum fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-81 medium-plum fit-over sun-wear with top and side-shields for cloudy days
3. NoIR U-47 medium-topaz fit-over lenses with top and side-shields for indoor glare
4. 2X "TV Max" wearable focusable distance binoculars, to be used when seated only
5. 6X LED-lighted stand magnifier
6. 3.5X LED-lighted hand magnifier
7. 2X "BigEye" table-lamp with 3X booster lens

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

15).

To referring ophthalmologist

R, born in 1946, saw you in 2018 with a history of bilateral glaucoma associated with bilateral severe field loss, as well as right macular pucker. At that time, his corrected distance acuities were:

OD -2.00 +0.75 X 111 20/200
OS -3.75 +0.75 X 180 20/50

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient and his wife live in a single family home. He is able to perform many personal tasks independently, such as dressing, clothing identification, eating, medication management, telling time, and telephone use. He receives assistance with some home management tasks from his wife, such as cooking, laundry, house cleaning, shopping, and tracking appointments. He does not drive, and his primary source of transportation is his wife. The patient currently does not use any mobility aids. He is able to independently navigate around his home and in familiar public places. He would have trouble navigating in unfamiliar places, but reports that his wife always accompanies him. Orientation and mobility training was recommended, but he declined it at this time. The patient is interested in trying low vision aids to help with reading newsprint, writing checks, seeing his thermostat and stove dials, using his computer, reading movie subtitles, and spotting distant signs.

I provided a low vision exam in 2018. L was present during the exam. The patient's distance acuities with his current two-year-old glasses were:

OD -1.00 -0.25 X 010 10/80+2
OS -2.00 -1.25 X 045 10/20
OU 10/20
(OU +2.25 progressive bifocal)

A pair of 2X "TV Max" wearable focusable distance binoculars provided OU 10/20+4 when focused for low myopia. A 2.5X "ring" focusable distance monocular did not provide a useful field, with or without his distance glasses. The patient complained of difficulty with outdoor glare, increasing over the past year, and indoor glare from fluorescent lights in certain stores. Various colored tints across the visual spectrum were demonstrated indoors under fluorescent lights, and the patient consistently preferred light-green. I therefore also recommended medium-green for outdoor glare. I discussed the benefits of orientation and mobility instruction for patients with severe field loss, and re-enforced L's recommendation that he be referred for those services through the agency.

The patient's near continuous text acuity, corrected with his current +2.25 bifocal, was 1.25M at 40cm. A pair of +4 readers provided 0.6M continuous text acuity at 25cm. To improve his reading function, he sometimes uses a water glass to occlude his right eye, and has noticed that it works better than simply covering or patching the eye. I therefore covered the right lens of the +4 readers with translucent scotch tape, which seemed to improve his subjective near vision. Extra light was helpful. The patient felt the required 25cm working distance would make +4 readers impractical for him. A "Coil 5213" non-lighted stand magnifier provided 0.5M continuous text acuity with his current bifocal. The longer working distance it provided relative to +4 readers made it more useful for writing, especially when used with a gooseneck table-lamp. A 2X "BigEye" table-lamp was also useful for writing, and he wanted to try both. A 3.5X LED-lighted hand magnifier provided 0.5M continuous text acuity with his current bifocal. He wanted to try the device for reading his thermostat and stove dials.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-30 medium-green fit-over sun-wear with top and side-shields for outdoors
2. NoIR U-38 light-green fit-over sun-wear with top and side-shields for indoors
3. 2X "TV Max" wearable focusable distance binoculars, to be used when seated only
4. 3.5X LED-lighted hand magnifier
5. 2X "BigEye" table-lamp
6. "Coil 5213" non-lighted stand magnifier
7. Gooseneck table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

16).

To referring ophthalmologist

M, born in 1966, saw you in 2018 with a history of bilateral worsening severe pigmentary glaucoma, and an age-related stable left cataract. At that time, his corrected distance acuities were:

OD -2.75 20/80+/- (with right head turn)
OS -2.75 HM

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives in a house with his wife. Although he is comfortable maneuvering in that familiar environment, he has been referred for DBVI orientation and mobility training in order to be able to travel independently in unfamiliar places. He complains of vision fluctuation day-to-day, and worsening vision throughout each day as he experiences visual fatigue. His two-year-old single-vision distance glasses are helpful for distance. He attempts to read without them, but would like a device that will allow him to read newsprint. He previously has had significant difficulty with glare, especially from his left eye, which he therefore sometimes closed.

I provided a low vision exam in 2018. N and the patient's wife were present during the exam. The patient stated that glare from his left eye has become less of a problem over the past few months. This may be related to his stable left cataract and his worsening severe glaucoma. Outdoors on a cloudy day, the patient preferred light-plum to other colored lenses. I therefore recommended he also try medium-plum sun-wear on sunny days. A trial-framed refraction confirmed the validity of his current distance glasses:

OD -2.75 10/250
OS -2.75 HM @ 10 ft
PD 70mm

Adding both 2X and 4X distance magnification to the right eye in the trial frame provided OD 10/180-1. I explained the diminishing returns of distance magnification for patients with severely reduced fields, in that visual fields are reduced by the same amount distant targets are magnified.

The patient's uncorrected near acuity, (equivalent to a +2.75 reading add over his distance correction), provided a slow 3.2M near continuous text acuity. Surprisingly, enlarging text to 6.4M did not improve reading speed. In fact, text had to be enlarged to 8M, (eight times the size of newsprint), in order for him to read it quickly. A 6X LED-lighted stand magnifier provided only a slow 3.2M near continuous text acuity, which was no improvement. A 10X LED-lighted magnifier did not provide a usable field. A portable electronic magnifier allowed the patient to see 1M (newsprint) text, and was best with reversed contrast. However, the text had to be magnified to 8M, so that only one word could be seen on the screen at a time. Desktop CCTVs were therefore discussed. The patient will first try a portable CCTV in his home. It is possible that visual fatigue and worsening vision may make electronically magnified vision only useful for spotting near targets. The patient currently has access to talking books. I recommended other auditory aids, as well as the free "Seeing AI" app, which will read isolated text, documents, bar codes, and handwriting. It will also identify colors and describe surrounding scenes.

The patient's agency case manager, N, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-81 medium-plum fit-over sun-wear with top and side-shields for bright sunlight, (dispensed from stock 12/20/18)

2. NoIR U-88 light-plum fit-over sun-wear with top and side-shields for cloudy days, (dispensed from stock 12/20/18)
3. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

17).

To referring ophthalmologist

J, born in 1930, saw you in 2018 with bilateral open angle glaucoma. At that time, her distance acuities were OD 20/400+1, OS 20/100-2, and OU 20/100-2.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient and her husband live in a single family home. Her husband has dementia, and the patient serves as his primary caretaker. Her daughter lives nearby, and is available to provide assistance. The patient is able to perform some personal and home management tasks independently, such as dressing, clothing identification, eating, medication management, cooking, laundry, some housecleaning, telling time, and telephone use. The patient receives assistance with bill paying from her daughter, and has two paid assistants to help her with housecleaning and shopping. The patient's primary visual goals involve reading newsprint, handwriting, seeing her television, and birdwatching. L will attempt to address any goals that cannot be adequately met with low vision aids, such as operating kitchen appliances, kitchen and cooking safety, tracking appointments, and locating misplaced items. L will provide access to talking books through the National Library Service.

I provided a low vision exam in 2018. L was present during the exam. The patient's distance acuities, corrected with glasses she purchased two months earlier, were:

OD +2.00 -3.25 X 085	10/180
OS +1.50 -2.00 X 092	10/60-2
OU	10/60-2
(OU +2.25 progressive bifocal)	

The patient reported having gray fit-over sun-wear with top and side-shields that are dark enough on a sunny day, and not too dark on a cloudy day. Various light-colored lenses across the visual spectrum were demonstrated indoors under bright lighting, and no color improved comfort or subjective vision. A 2.5X "ring" focusable distance monocular provided only OS 10/60-1. A pair of 2X "TV Max" wearable focusable distance binoculars provided 10/40+3. The patient's subjective vision was better with the right lens occluded.

The patient's near continuous text acuity with her current bifocal was 2.5M at 40cm. The addition of a 6X LED-lighted stand magnifier provided only 1.6M continuous text acuity. Occluding her right lens did not improve subjective acuity. The patient stated that the LED light source was not too bright, and did not produce bothersome glare. In order for the patient to achieve her 1M (newsprint) near goal, either contrast would need to be increased with electronic reversed-contrast magnification, (in order to maintain what the patient would consider usable fields), or the viewing distance would have to be changed, in hopes of providing less functionally limiting central scotomas. A pair of 2X "Max Details" wearable focusable tele-binoculars, with the right lens occluded, provided the patient's goal of 1M (newsprint) continuous text acuity at 40cm. A gooseneck table-lamp was needed for contrast. I demonstrated both a small paperweight magnifier, and a "Reizen" hollow-dome non-lighted stand magnifier with 0.8M isolated numbers, and the patient preferred the small paperweight magnifier. I

therefore suggested she use a small paperweight magnifier, (or a 6-inch bar magnifier), with her 2X "Max Details" wearable focusable tele-binoculars, with the right lens occluded, since she occasionally needs to read numbers slightly smaller than newsprint. The 2X "Max Details" wearable focusable tele-binoculars, with the right lens occluded, allowed the patient to read the 3.2M font size she believes she uses on her computer screen, at her reported screen viewing distance of 60cm.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. 2X "TV Max" wearable focusable distance binoculars with the right lens occluded, for distance viewing, and when seated only; (focused with maximum intra-lens distance)
2. 2X "TV Max" wearable clip-on distance binoculars with the right lens occluded, for distance viewing, and when seated only
3. 2X "Max Details" wearable focusable tele-binoculars with the right lens occluded, for near viewing, and when seated only; (focused with maximum intra-lens distance)
4. 2X "Max Details" wearable clip-on tele-binoculars with the right lens occluded, for near viewing, and when seated only
5. Small paperweight magnifier, to be used with 2X "Max Details" when needed, especially when reading small numbers
6. 6-inch bar magnifier, to be used with 2X "Max Details" when needed, especially when reading small numbers
7. Gooseneck table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

18).

To referring ophthalmologist

D, born in 1950, saw you in 2018 with a history of bilateral open angle glaucoma. At that time, her corrected distance acuities were OD 20/350-1, (PH 20/250-1); and OS 20/150, (PHNI). You noted a significant reduction in all visual field quadrants in each eye, and recommended a follow-up appointment with her in three months, for which she is overdue.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone. Her daughter occasionally stays with her. The patient has a big-screen TV, which she has no difficulty viewing. Her primary visual goals involve reading newsprint, signing her name, writing letters, reducing glare, and cooking. She is currently receiving DBVI vocational rehabilitation services, and will be referred for DBVI orientation and mobility training. R provided kitchen safety training and marked her stove dials with tactile markings for easier use. R also provided the patient with a talking watch and a talking clock.

I provided a low vision exam in 2018. R was present during the exam. The patient reported having had bilateral cataracts as a child, with associated amblyopia and nystagmus. She reported having had bilateral cataract surgery without intraocular implants at an early age. She reported having had two right retinal detachments in 1993, as well as a right cornea transplant in 1993. She tried aphakic contact lenses in both eyes without success due to discomfort. She reported that you provided a left intraocular lens implant which greatly improved her vision, and that she now, "depends on her left eye." The patient's uncorrected distance acuities were OD 10/350, OS 80-1, and OU 10/80-1. Various colors of sun-wear were demonstrated outdoors in bright sunlight, and the patient preferred medium-plum. In shade, light-plum lenses reduced

glare and increased comfort. A pair of 2X "TV Max" wearable focusable distance binoculars provided 10/40-1. A 2.8X focusable distance monocular provided OS 10/40. A 4X 12 degree "Specwell" version provided 10/30 and 5/10. I demonstrated how to focus the device for both 10 feet, and 5 feet. She said the improved spotting acuity the device offered at both distances would be especially helpful when shopping.

The patient's near continuous text acuity with a pair of +4 readers was 1.2M at 25cm. A pair of +6 readers provided 1M (newsprint) continuous text acuity at 17cm. A spot-LED floor-lamp was particularly helpful. When writing, a more diffuse gooseneck table-lamp would probably be more useful. For writing, I also demonstrated a 4X "Coil 5214" non-lighted tilting stand magnifier used as designed, (without a near add). The patient preferred the simpler +6 readers for the task. A 3X LED-lighted hand magnifier provided 0.8M continuous text acuity.

After the patient has kept her three-month follow-up appointment with you, the patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-81 medium-plum fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-88 light-plum fit-over sun-wear with top and side-shields for shade
3. 4X 12 degree "Specwell" focusable distance monocular
4. +6 readers
5. Spot-LED floor-lamp
6. Gooseneck table-lamp
7. 3X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to schedule your recommended three month follow-up appointment, and I explained that we will wait on your report before dispensing low vision aids.

19).

To referring ophthalmologist

B, born in 1946, saw you in 2018 with a history of bilateral glaucoma associated with bilateral severe field loss, as well as right macular pucker. At that time, his corrected distance acuities were:

OD -2.00 +0.75 X 111 20/200
OS -3.75 +0.75 X 180 20/50

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient and his wife live in a single family home. He is able to perform many personal tasks independently, such as dressing, clothing identification, eating, medication management, telling time, and telephone use. He receives assistance with some home management tasks from his wife, such as cooking, laundry, house cleaning, shopping, and tracking appointments. He does not drive, and his primary source of transportation is his wife. The patient currently does not use any mobility aids. He is able to independently navigate around his home and in familiar public places. He would have trouble navigating in unfamiliar places, but reports that his wife always accompanies him. Orientation and mobility training was recommended, but he declined it at this time. The patient is interested in trying low vision aids

to help with reading newsprint, writing checks, seeing his thermostat and stove dials, using his computer, reading movie subtitles, and spotting distant signs.

I provided a low vision exam in 2018. L was present during the exam. The patient's distance acuities with his current two-year-old glasses were:

OD -1.00 -0.25 X 010 10/80+2
OS -2.00 -1.25 X 045 10/20
OU 10/20
(OU +2.25 progressive bifocal)

A pair of 2X "TV Max" wearable focusable distance binoculars provided OU 10/20+4 when focused for low myopia. A 2.5X "ring" focusable distance monocular did not provide a useful field, with or without his distance glasses. The patient complained of difficulty with outdoor glare, increasing over the past year, and indoor glare from fluorescent lights in certain stores. Various colored tints across the visual spectrum were demonstrated indoors under fluorescent lights, and the patient consistently preferred light-green. I therefore also recommended medium-green for outdoor glare. I discussed the benefits of orientation and mobility instruction for patients with severe field loss, and re-enforced L's recommendation that he be referred for those services through DBVI.

The patient's near continuous text acuity, corrected with his current +2.25 bifocal, was 1.25M at 40cm. A pair of +4 readers provided 0.6M continuous text acuity at 25cm. To improve his reading function, he sometimes uses a water glass to occlude his right eye, and has noticed that it works better than simply covering or patching the eye. I therefore covered the right lens of the +4 readers with translucent scotch tape, which seemed to improve his subjective near vision. Extra light was helpful. The patient felt the required 25cm working distance would make +4 readers impractical for him. A "Coil 5213" non-lighted stand magnifier provided 0.5M continuous text acuity with his current bifocal. The longer working distance it provided relative to +4 readers made it more useful for writing, especially when used with a gooseneck table-lamp. A 2X "BigEye" table-lamp was also useful for writing, and he wanted to try both. A 3.5X LED-lighted hand magnifier provided 0.5M continuous text acuity with his current bifocal. He wanted to try the device for reading his thermostat and stove dials.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-30 medium-green fit-over sun-wear with top and side-shields for outdoors
2. NoIR U-38 light-green fit-over sun-wear with top and side-shields for indoors
3. 2X "TV Max" wearable focusable distance binoculars, to be used when seated only
4. 3.5X LED-lighted hand magnifier
5. 2X "BigEye" table-lamp
6. "Coil 5213" non-lighted stand magnifier
7. Gooseneck table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

20).

To referring ophthalmologist

M, born in 1943, saw you in 2019, with a history of glaucoma. At that time, her corrected distance acuities were OD 20/30, OS HM, and OU 20/30.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has difficulty with glare, both indoors and outdoors. She always travels with a sighted guide, and correct sighted guide techniques were demonstrated.

I provided a low vision exam in 2019. L and the patient's husband were present during the exam. The patient's corrected, (and uncorrected), distance acuities were:

OD +0.75	10/25
OS balance	10/600
(OU +2.25 progressive spectacle add)	

Her right over-refraction was plano. Outdoors in direct sunlight, the patient preferred medium-gray sun-wear with top and side-shields. I recommended light-gray for indoor glare as needed. The patient's near continuous text acuity with her current spectacle add was 0.6M. The addition of a Coil "Bright" 5850 paperweight magnifier, a 4X LED-lighted stand magnifier, or a 2X "BigEye" table lamp improved the patient's subjective near vision significantly, and allowed the patient to read 0.5M print. I discussed and demonstrated a Coil 5820 necklace magnifier for hands-free magnification, since the patient had enjoyed needlework in the past. She will consider this option. I also demonstrated a pair of +4 readers, which allowed for a comfortable working distance, and also provided 0.5M continuous text acuity.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-21 medium-gray sun-wear with top and side-shields
2. NoIR U-20 light-gray sun-wear with top and side-shields
3. Coil "Bright" 5850 paperweight magnifier
4. 4X LED-lighted stand magnifier
5. 2X "BigEye" table lamp
6. +4 readers
7. Lighting as needed

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

21).

To referring ophthalmologist

M, born in 1943, saw you in 2019, with a history of glaucoma. At that time, the patient's corrected distance acuities were OD 20/30, OS HM, and OU 20/30.

L, a DBVI vision rehabilitation teacher, recently provided a functional vision assessment.

I provided a low vision exam in 2019. L was present during the exam. The patient reported having had cataract surgery in both eyes 10 years ago. The patient's corrected (and uncorrected) distance acuities were:

OD +0.75 10/25
OS balance 10/600

The patient's over-refraction was OD plano. The patient preferred gray colored sun-wear. Although she complained that standard sun-wear was too dark outdoors, she also complained of indoor glare. The patient's near acuity, corrected with her current bifocal power of +2.25, was 0.6M continuous text. A Coil "Bright" 5850 paperweight magnifier provided 0.4M continuous text near acuity, with light enhancement. A 4X LED-lighted stand magnifier produced a larger field, but also glare. An incandescent version was more comfortable. A Coil "tilt" 5213 non-lighted stand magnifier provided 0.5M continuous text acuity, and was demonstrated for writing checks. However, the patient preferred the 2X "BigEye" table lamp for that function. A pair of +4 readers provided 0.5M continuous text acuity at 30cm, and was "much better," than her current +2.25 bifocal.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-21 medium-gray sun-wear with top and side-shields for outdoors
2. NoIR U-20 light-gray sun-wear with top and side-shields for indoor glare
3. Coil "Bright" 5850 paperweight magnifier, (or Reizen equivalent)
4. 4X incandescent-lighted stand magnifier
5. 2X "BigEye" table lamp for writing
6. +4 readers

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

22).

To referring ophthalmologist

J, born in 1934, saw you in 2019, with a history of bilateral glaucoma, and a stroke in 2018 which produced right homonymous hemianopsia. At that time, his corrected distance acuities were:

OD -2.00 +3.25 X 180 20/20-
OS -2.50 +1.25 X 015 20/30+1
(+2.50 bifocal)

You noted bilateral pseudophakia with a history of YAG capsulotomy OU. You mentioned a decrease in vision in his left eye of unclear etiology, and a pending MRI scan of the left orbit. You also mentioned that the patient's 30–2 and 60–4 visual field results did not meet DMV requirements for driving.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. She reported that the patient lives with his wife, and reported difficulty with orientation and mobility since his stroke in 2018. However, the patient declined agency orientation and mobility training at the time of his functional vision assessment. The patient exhibited difficulty reading text, although he could read isolated letters fairly well.

I provided a low vision exam in 2020. L and the patient's wife were present during the exam. I accompanied the patient and his wife from the third-floor to the parking lot using the elevator. Neither were familiar with proper sighted guide techniques when traveling. I spent several minutes demonstrating this outdoors and in the office building, and observed the couple using this technique correctly on the way back to the exam room. I was quite clear in that this technique should be used at all times in unfamiliar environments, and recommended agency orientation and mobility training to provide the patient the ability to travel independently. I emphasized that only orientation and mobility training would allow the patient to travel safely and independently. The patient and his wife agreed to meet with an agency orientation and mobility instructor. Outdoors in bright sunlight, the patient preferred NoIR U-47 medium-topaz sun-wear with top and side-shields. This sun-wear was also subjectively beneficial when using bright lights for extra contrast when reading. The patient's corrected distance acuities were OD 10/20, OS 10/20, and OU 10/20.

The patient's near isolated letter acuity with his current bifocal was 0.8M at 30cm. However, his reading speed was slow, and he scrambled words in the process. Rotating the reading material so that the patient read each line top-to-bottom, and then scanned lines right-to-left, allowed him to read at a normal reading speed, and provided 0.8M continuous text acuity at 30cm. I explained that this improved reading function was most likely the result of no longer reading, "into his blind spot." Extra light was helpful, and at times the medium-topaz tint was an additional help. I demonstrated a bar magnifier, which improved his continuous text vertical reading acuity to 0.6M at 30 cm. A pair of +4 readers provided this improvement in a hands-free form. A 2X "BigEye" table-lamp provided the same hands-free acuity, but with improved contrast. The patient felt that the 2X "BigEye" table-lamp worked better without its 2X booster lens.

The patient's wife asked about a potential role for prisms in his vision rehabilitation. I explained that certain brain injuries can cause a distortion in a patient's perception of space, and that can cause posture abnormalities that can be addressed by an occupational therapist using prism. However, right homonymous hemianopsia appears to be the only visual perceptual consequence of his stroke. I explained that this simply requires effective habitual scanning to the right, and that this can be effectively taught by an orientation and mobility instructor. "Peli-prisms" can move the upper right field to the left, and lower the need for scanning to the right with a learned habitual head tilt downward, but this is still a learned visual skill, and will not by itself ensure safety without orientation and mobility training. "Peli-prisms" don't substitute for orientation and mobility training, and effective orientation and mobility training, by itself, is all that is required for safe and independent travel. The patient's orientation and mobility instructor can let his case manager, L, know if there are issues with training effectiveness. Only if that is the case would such prisms be considered during a follow-up low vision exam, and in my opinion, they should not be considered unless the patient's orientation and mobility instructor feels they might be useful at some point during training, so that we are not effectively complicating his visual fields without a demonstrated need.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-47 medium-topaz sun-wear with top and side-shields
2. Bar magnifier, used vertically
3. +4 reading glasses
4. 2X "BigEye" table-lamp and/or floor-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

23).

To referring ophthalmologist

C, born in 1942, saw you in 2019, with a history of bilateral pseudophakia, bilateral iritis, and glaucoma OU. At that time, her corrected distance acuities were OD 20/40, and OS CF@1ft.

M, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. I provided a low vision exam on 3/5/20. M and the patient's husband were present during the exam. Various shades and colors of glare protection were demonstrated indoors and outdoors, and the patient preferred blue-gray. The patient's distance acuity, with her current glasses, was 10/30-1. A 2X "TV Max" wearable, focusable distance binocular provided 10/20. A 2.8X focusable distance monocular provided 10/20. A 4X version did not provide enough contrast to be useful.

The patient's near continuous text acuity with her current bifocals was 2.5M. Extra light made her vision worse. Extra light with a medium-gray tint improved her near continuous text acuity to 1.2M. The patient preferred stand magnifiers to hand magnifiers when reading. A 4X LED-lighted stand magnifier, when used with a medium-gray tint, provided 0.6M continuous text acuity. A 2X BigEye table-lamp, when used with a medium-gray tint, provided 1M (newsprint) continuous text acuity. The addition of a 3X booster lens improved this to 0.6M continuous text acuity.

The patient's DBVI case manager, M, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-22 dark sun-wear with top and side-shields
2. NoIR U-21 medium sun-wear with top and side-shields
3. NoIR U-20 light sun-wear with top and side-shields
4. 2X "TV Max" wearable, focusable distance binoculars, to be worn when seated only
5. 2.8X focusable distance monocular
6. 4X LED-lighted stand magnifier
7. 2X "BigEye" table-lamp with 3X booster lens

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

Degenerative Myopia

1).

To referring ophthalmologist

G, born in 1989, saw you in 2019 with a history of myopic retinopathy OU. At that time, his distance acuities with his current glasses were:

OD -14.75 -1.50 X 179 20/40
OS -14.75 -1.50 X 179 20/40

F, a DBVI vocational rehabilitation teacher, recently provided a functional vision assessment. The patient takes public transportation, and has difficulty spotting distant bus signs. He wishes to maintain his position in a restaurant. He is having difficulty spotting written text on an order board, and reading text on a computer screen. He complains of poor peripheral vision, especially at night. He has been referred for agency orientation and mobility training. He wears tinted lenses and a cap outdoors during the daytime, but is still bothered by glare. He complains of long dark and light adaptation times.

I provided a low vision exam in 2019. F was present during the exam. Various shades of various colors of sun-wear were demonstrated indoors and outdoors. Dark-amber was preferred for both direct sunlight and shaded environments. Medium-amber was preferred indoors. Light-amber might be useful in the dim restaurant setting where he works. I discussed the technique of putting on appropriate sun-wear before going outside, and waiting to switch to indoor glare lenses until after coming inside. This simple habit will most likely reduce his prolonged dark and light adaptation times, since his new sun-wear will have top and side-shields. The patient's distance acuities with his above current glasses were OD 10/30, OS 4/700, and OU 10/30. A pair of NoIR U-48 light-amber, and a pair of NoIR U-40 medium-amber, fit-over lenses with top and side-shields improved his subjective indoor vision. The patient's trial-framed subjective distance refraction results were:

OD -14.00 in back cell; -1.00 -1.50 X 180 in front cell 10/25+2
OS balance
PD 68mm

There is virtually no way to predict the vertex distance associated with the new spectacle lens that the patient will choose. Additionally, given the approximate power indicated by a customary vertex distance, (OD -16.00 -1.50 X180), the best approach will be to have him purchase glasses and return for a followup over-refraction, to eliminate the effects of the significant, yet impossible to predict vertex distance. This will allow for his best possible distance correction while wearing his yet-to-be-determined new spectacle frames. I confirmed his astigmatism correction with a +/- 1.00 DC flip-cross cylinder.

The patient's near continuous text acuity was 1.2M with his current distance glasses. Extra light alone improved this to 1M (newsprint). Adding a pair of NoIR U-48 light-amber fit-over lenses with top and side-shields then improved subjective acuity.

The patient's agency case manager, F, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields, dispensed from stock on 5/16/19
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields, dispensed from stock on 5/16/19
3. NoIR U-48 light-amber fit-over lenses with top and side-shields, dispensed from stock on 5/16/19
4. The following initial distance prescription without tints, coatings, or extra options, (the right lens will likely be replaced after an over-refraction)

OD -16.00 -1.50 X 180
OS balance
PD 68mm

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

2).

To referring ophthalmologist

B, born in 1951, saw you in 2018 with a history of bilateral congenital Staphyloma Posticum, degenerative myopia, and bilateral cataract surgery. At that time, his uncorrected distance acuities, as well as those with his current glasses, were:

OD +0.50 -1.50 X50 20/200
OS +0.50 -1.50 X50 20/200
OU 20/200
(OU +4.00 flat-top bifocal)

Your records indicated that his 2018 refraction results did not indicate a need for new glasses. These results were recorded as:

OD -0.75 +1.50 X 140
OS plano
(OU +3.50 add)

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient currently uses a desktop CCTV, which allows him to read newsprint. However, he complains that the desktop CCTV limits his reading to his desk space. He also uses a “10.1X Coil” LED-lighted stand magnifier with his +4 reading add, which produces 10X with either a +2 or +4 reading add, (and has a maximum useful reading add of +2). He mainly uses it for portable spot-reading only, and finds it bulky in some circumstances. He would also like a hands-free magnification option for viewing his flip-phone.

I provided a low vision exam in 2019. D was present during the exam. The patient stated that he had suffered a sudden vision loss in both eyes about twenty years ago. At that time he hadn’t yet had cataract surgery and was highly myopic. He had been in the habit of removing his distance glasses and reading at a very close distance, in order to provide sufficient magnification. Since his cataract surgery, this has no longer been possible. Because he has already developed the habit of using a very close working distance, I explained that simply using very strong reading glasses might now provide a successful hands-free magnification strategy for use with his flip-phone.

The patient's corrected and uncorrected distance acuities were OD 10/80, OS 10/600EF, and OU 10/80. The patient has a 6X “Specwell” focusable distance monocular, but “doesn’t have an occasion to use it.” Various colored sun-wear was demonstrated, and the patient preferred gray. The patient's near continuous text acuity with his current +4 reading add was 4M at 20cm. A pair of +10 readers provided only 1.6M continuous text acuity at 10cm. A “10X Peak” non-lighted stand magnifier provided 1M (newsprint) continuous text acuity. An incandescent-lighted version did not improve function. It makes sense to try this device mounted on the right

lens, (his preferred eye), of a pair of spectacles, as well as to try a simple 10X (40D) pair of readers. I explained that although the readers are less bulky, they would have a smaller depth of focus than the spectacle-mounted “10X Peak” stand magnifier, which may or not be significant to him when using his flip phone. His current “10.1X Coil” LED-lighted stand magnifier provided 0.8M continuous text acuity, and worked noticeably better than a 7X LED-lighted hand magnifier.

The patient's agency case manager, D, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-21 medium-gray fit-over sun-wear with top and side-shields for cloudy days
3. “10X Peak” spectacle-mounted right “loupe”
4. 10X (40D) readers, either OU or OD
5. 10X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

3).

To referring ophthalmologist

R, born in 1985, saw you in 2019 with a history of myopic retinopathy OU. At that time, his distance acuities with his current glasses were:

OD -14.75 -1.50 X 179 20/40
OS -14.75 -1.50 X 179 20/40

F, a DBVI vocational rehabilitation teacher, recently provided a functional vision assessment. The patient does not drive. He takes public transportation, and has difficulty spotting distant bus signs. He wishes to maintain his position in a restaurant. He is having difficulty spotting written text on an order board, and reading text on a computer screen. He complains of poor peripheral vision, especially at night. He has been referred for agency orientation and mobility training. He wears tinted lenses and a cap outdoors during the daytime, but is still bothered by glare. He complains of long dark and light adaptation times.

I provided a low vision exam in 2019. F was present during the exam. Various shades of various colors of sun-wear were demonstrated indoors and outdoors. Dark-amber was preferred for both direct sunlight and shaded environments. Medium-amber was preferred indoors. Light-amber might be useful in the dim restaurant setting where he works. I discussed the technique of putting on appropriate sun-wear before going outside, and waiting to switch to indoor glare lenses until after coming inside. This simple habit will most likely reduce his prolonged dark and light adaptation times, since his new sun-wear will have top and side-shields. The patient's distance acuities with his above current glasses were OD 10/30, OS 4/700, and OU 10/30. A pair of NoIR U-48 light-amber, and a pair of NoIR U-40 medium-amber, fit-over lenses with top and side-shields improved his subjective indoor vision. The patient's trial-framed subjective distance refraction results were:

OD -14.00 in back cell; -1.00 -1.50 X 180 in front cell 10/25+2
OS balance

PD 68mm

There is virtually no way to predict the vertex distance associated with the new spectacle lens that the patient will choose. Additionally, given the approximate power indicated by a customary vertex distance, (OD -16.00 -1.50 X180), the best approach will be to have him purchase glasses and return for a followup over-refraction, to eliminate the effects of the significant, yet impossible to predict vertex distance. This will allow for his best possible distance correction while wearing his yet-to-be-determined new spectacle frames. I confirmed his astigmatism correction with a +/- 1.00 DC flip-cross cylinder.

The patient's near continuous text acuity was 1.2M with his current distance glasses. Extra light alone improved this to 1M (newsprint). Adding a pair of NoIR U-48 light-amber fit-over lenses with top and side-shields then improved subjective acuity.

The patient's agency case manager, F, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields, dispensed from stock on 5/16/19
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields, dispensed from stock on 5/16/19
3. NoIR U-48 light-amber fit-over lenses with top and side-shields, dispensed from stock on 5/16/19
4. The following initial distance prescription without tints, coatings, or extra options, (the right lens will likely be replaced after an over-refraction)

OD -16.00 -1.50 X 180
OS balance
PD 68mm

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

(Note: His subsequent over refraction was:
OD -0.75DS   10/20
I therefore recommended his right lens be remade into:
OD -16.75 -1.50 X 180
I also dispensed a pair of NoIR U-50 medium-yellow fit-over lenses with top and side-shields to help reduce night glare.

4).

To referring ophthalmologist

B, born in 1996, saw you in 2019, with a history of poor vision and poor hearing since early childhood, albinism, and high myopia. At that time, his corrected distance acuities were OD 20/100, and OS 20/80.

J, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient presents with a diagnosis of Autism and Anxiety Disorder. He communicates well with the support of an ASL interpreter. Records show that he received a low vision exam

elsewhere in 2018 in which he was prescribed his current glasses and a table magnifier of unknown power. He attended a School for the Deaf and Blind from 2011 to 2016 to complete his high school education. His mother reported that reading is difficult for him, but that he is good at math. The patient has been participating in a training program at a Workforce and Rehabilitation Center, where he is learning to stock shelves. He has had difficulty reading the labels on items and on shelves. J felt that an agency assistive technology assessment, as well as a low vision exam, might be helpful.

I provided a low vision exam on 12/17/19. J and an ASL interpreter were present during the exam. The patient's distance acuities with his current glasses were:

OD -13.00 -4.25 X 018	10/60+4
OS -12.50 -4.25 X 172	10/60+3

His over-refraction results were:

OD plano	10/60+4
OS -1.00	10/60+4

He noted no bi-ocular subjective difference in vision with the additional left lens. The patient reported no difficulties with indoor glare. Outdoors in bright sunlight, his current “Transitions” photochromic lenses reportedly provide adequate glare protection. He never wears a hat with a sunvisor outdoors to reduce glare. A 4X 12° “Specwell” focusable distance monocular provided OD 10/10, and OS 10/10 OS. I demonstrated how to focus the device, and the patient stated that it provided equal distance vision with either eye when focused. The patient agreed that this device would probably be useful for spotting distant targets, and he was able to focus the device clearly for targets just beyond arm’s-length. I demonstrated a 2X “TV Max” distance binocular glasses-clip. It provided 10/20 distance vision. With this device, the patient was able to read ASL sign language at 40 feet instead of 10 feet. The patient agreed that this would be useful in lectures where sign language was provided at a great distance. He understood that he should not walk while wearing this device. I demonstrated a 4X Beecher distance bioptic, but it did not fit well over his glasses. I discussed built-in bioptics for driving. I mentioned that, assuming his standardized visual field findings were full, your standardized distance acuity measurements indicated that he could meet the vision requirements for driving with bioptics. A simple non-standardized visual field check using, “Confrontations,” indicated that his visual fields were probably full in each eye.

The patient's near continuous text acuity with his current glasses was 1.6M at approximately 30cm. A 2X “MaxDetail” glasses-clip provided 0.5M continuous text acuity. The patient stated that the clip was too heavy for long-term near use. A 3X non-lighted “Packette” provided the same acuity, and worked well with his lighted cell phone in a dark room. The patient preferred this combination to a 3X LED-lighted hand magnifier. The patient stated that both the “Reizen” hollow-dome, and the Coil 5428 non-lighted stand magnifiers were too big and too dark, relative to the vision provided by the 3X packette. However, he liked the 4X ILA (Independent Living Aids) LED-lighted stand magnifier, which also provided the same near acuity of 0.5M continuous text.

The patient's DBVI case manager, J, will provide for the following low vision aids, and will provide the required training:

1. 4X 12° “Specwell” focusable distance monocular
2. 2X “TV Max” distance binocular glasses-clip, to be used when seated only
3. 3X non-lighted “Packette”
4. 4X ILA LED-lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health.

5).

To referring ophthalmologist

P, born in 1998, saw you in 2019 with a history of bilateral degenerative myopia with stage four ROP. At that time, his distance refraction was:

OD -4.25 -4.25 X 170 20/200
OS -8.00 -3.75 X 170 20/400

The patient reported that his distance vision was subjectively better with new contacts, which were dispensed on a trial basis.

S, a DBVI orientation and mobility instructor, recently provided a functional vision assessment. The patient stated that neither glasses or contacts improve his distance vision, so he does not wear either. He reads near material several inches from his face.

I provided a low vision exam in 2020. S was present during the exam. I demonstrated several shades of several colors of sun-wear, and amber was preferred, both indoors and outdoors. Under indoor fluorescent lighting, the patient consistently reported that light-amber sun-wear reduced glare and improved comfort. Outdoors on a cloudy day, these lenses were also helpful, and darker medium-amber sun-wear was too dark. In addition to light-amber sun-wear, medium-amber sun-wear was recommended for trial on bright sunny days.

The patient's uncorrected distance acuities were OD 10/200-1, and OS 10/180-1. A trial frame refraction confirmed your results and provided corrected distance acuities of OD 10/200-1, and OS 10/100-1. Adding 2X distance magnification provided OD 10/120, and OS 10/80. A 4X “Specwell” focusable distance monocular provided OS 10/30+2. A 6X version did not improve distance acuity beyond that. I demonstrated a pair of “Beecher” SportSpecs, but the patient found them uncomfortable.

The patient's uncorrected near continuous text acuity was 2M, which is standard large-print. Extra LED lighting made his near vision worse. Extra LED lighting was helpful, however, when combined with light-amber lenses. I demonstrated a 4X LED-lighted stand magnifier, which provided 1.25M continuous text acuity. The patient preferred the optically equivalent “6X Reizen” non-lighted, hollow-dome stand magnifier, which provided the same acuity. An 8X “Agfa” non-lighted stand magnifier, and a 10X “Peak” non-lighted stand magnifier, both provided 1M (newsprint) continuous text near acuity. Consistent with the patient’s preference for light amber illumination, the patient preferred a 10X “Peak” incandescent-lighted stand magnifier, to the non-lighted version. A 15X “Peak” incandescent-lighted stand magnifier provided 0.8M continuous text acuity, which was his best optically corrected near spotting acuity. The patient preferred a portable CCTV, and reported that he currently uses the “Seeing AI” app on his smart phone for the same purpose. A “Topaz” desktop CCTV allowed the patient to easily and quickly read 0.8M continuous text. He was able to read his low-contrast book fluently. The patient has had experience with desktop CCTVs in the past, and stated that it was easier and faster for him to read with a CCTV, than to listen to audiobooks. He certainly read quite quickly with the desktop CCTV. He was obviously comfortable with it, and well-versed in its use.

The patient's DBVI case manager, S, will provide for the following sun-wear and low vision aids, and will provide for the required training:

1. NoIR U-40 medium-amber sun-wear with top and side-shields
2. NoIR U-48 light-amber sun-wear with top and side-shields
3. 4X “Specwell” focusable distance monocular
4. Desktop CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agrees to follow your instructions and keep follow-up appointments with you.

Diabetic Retinopathy

1).

To referring ophthalmologist

G, born in 1966, saw you in 2019 with a history of bilateral PDR, vitreous hemorrhages, and tractional retinal detachments. At that time, her uncorrected distance acuities were listed as OD NLP, and OS 20/50. Her corrected distance acuities were listed as:

OD +13.25 +0.50 X 091 LP
OS +0.50 +0.50 X 028 20/200

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has dialysis three times per week. She has difficulty with mobility, and uses a rollater, wheelchair, or a support cane. She was referred for an agency orientation and mobility assessment. R provided kitchen safety training, a contrasting cutting board, "Ove-gloves," and a large-print timer. R marked the patient's stove dials with tactile dots for safer use. The patient's primary visual goals involve reading large-print, writing, playing cards, and watching birds at her bird-feeders. R provided bold-lined paper and a felt-tip pen, as well as writing guides, which allow the patient to write and read back her own writing. R provided access to talking books through the National Library Service, and provided a talking clock.

I provided a low vision exam in 2019. R and the patient's son were present during the exam. Various tinted lenses and frames were demonstrated. The patient preferred light-plum for indoor glare, and either medium or dark-plum for outdoor glare. The NoIR frame #431 provided the best fit, though the NoIR "U" frame provided an adequate substitution. The patient's left uncorrected distance acuity was OS 10/80-1. A pair of "2X Coil Magnatel" wearable focusable distance binoculars, best focused on setting #7, provided 10/30. A pair of "2X MaxDetails" wearable focusable tele-binoculars provided 1.2M continuous text acuity at 40cm. The patient's current (left-handed) 3X LED-lighted hand magnifier provided 0.8M continuous text acuity, once I replaced the batteries. The patient prefers hands-free aids most of the time, due

to her peripheral neuropathy. I demonstrated how to focus both the distance and near head-borne magnifiers, and made sure and her son understood the need for the lenses in each device to be maximumly separated for her best result.

The patient's DBVI case manager, R, provided the following sun-wear and trial low vision aids from stock on 8/29/19, and will provide the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields for sunny days
2. NoIR #431-81 medium-plum sun-wear with top and side-shields for cloudy days
3. NoIR #431-88 light-plum sun-wear with top and side-shields for indoor glare
4. "2X Coil Magnatel" wearable focusable distance binoculars, focused on setting #7
5. "2X MaxDetails" wearable focusable tele-binoculars

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

2).

To referring ophthalmologist

W, born in 1950, saw you in 2019 with a history of cataracts OU, and severe bilateral glaucoma. At that time, you noted visual fields of less than 20 degrees in each eye, and the following corrected distance acuities:

OD +2.00 HM
OS +3.00 20/60+2
(OU +3.25 add)

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient declined DBVI orientation and mobility training. Her primary visual goals are to reduce glare and to read her mail.

I provided a low vision exam on 5/16/19. R and the patient's daughter were present during the exam. The patient's corrected distance acuities with her above three-year-old glasses were OD HM@30cm, OS 10/30+2, and OU 10/30+2. The patient's over-refraction results were OS plano. A pair of 2X "MaxTV" distance clip-on binoculars did not improve distance acuity. Various shades of various colors of sun-wear were demonstrated outdoors in sun and shade, and the patient preferred NoIR U-22 dark-gray sun-wear with top and side-shields.

The patient's near isolated letter acuity with her current bifocals was 1.6M at 30cm. The patient's near continuous text acuity with her current bifocals was 2M (standard large-print) at 30cm. Strengthening the power of her spectacle add, up to +9, did not produce a reliable improvement in near acuity. LED-lighted stand magnifiers of powers 4, 5, and 8X did not improve near acuity. However, a portable CCTV provided her goal of 1M (newsprint) continuous text acuity. The patient preferred reversed contrast.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray sun-wear with top and side-shields, dispensed from stock on 5/16/19
2. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

3).

To referring ophthalmologist

R, born in 1950, saw you in 2018 with a history of bilateral proliferative diabetic retinopathy with macular edema. At that time, her uncorrected distance acuities were OD 20/200, and OS HM.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has had two strokes, and therefore travels using a wheelchair. Her primary visual goals involve reading newsprint, as well as seeing the keys on a cash register at 50cm. The print on the keys is approximately two and a half times the size of newsprint, (2.5M), but the keys themselves are larger. The patient uses an iPad, and will need both accessibility training as well as a reading stand to use it effectively.

I provided a low vision exam on 3/26/19. L and the patient's husband were present during the exam. The patient's uncorrected distance acuities were OD 10/100, OS HM@3ft, and OU 10/100. Her right trial lens refraction result was plano, with a just noticeable difference of +/- 1DS. Various light-colored lenses were demonstrated, and the patient found that none improved comfort or contrast more than neutral gray. Outdoors, NoIR U-21 medium-gray sun-wear with top and side-shields was not quite dark enough on a sunny day.

The patient's near continuous text acuity with +4 readers was 3.2M at 25cm. The addition of a "Reizen" hollow-dome non-lighted stand magnifier produced 4X, and provided 2M continuous text acuity. A pair of +6 readers alone provided the same acuity. Since 2M text is the size of standard large-print, and since the patient has much large-print reading material in her library, this hands-free form of magnification is likely to be useful with sufficient lighting. Since a "Coil 5428" non-lighted stand magnifier can be used with +6 readers, (and a "Reizen" non-lighted stand magnifier can't), I demonstrated this combination, which produced 5X and provided 0.8M continuous text acuity, which is smaller than newsprint. I discussed how breaking down her required magnification into two components, one provided by readers, and the other provided by a stand magnifier, would provide a larger field when reading newsprint than if both components were combined into a stand magnifier, and provide for a longer working distance than if both components were combined into readers. Nevertheless, I think a high-powered lighted stand magnifier with its obligate small field could be useful to the patient for spot-reading small targets. An 8.7X LED-lighted stand magnifier, designed to be useful without readers, provided 0.6M continuous text acuity.

For intermediate distance magnification, such as is needed when working on a cash register, I demonstrated a pair of 2X "MaxDetails" wearable focusable tele-binoculars, which provided 3.2M at 50cm. For use with 2M large-print word-search puzzles at 40cm, I demonstrated a 2X "BigEye" table-lamp, which provided this acuity. It was also useful to the patient for writing, but the patient will need writing guides when using it.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray sun-wear with top and side-shields for direct sunlight
2. NoIR U-21 medium-gray sun-wear with top and side-shields for indirect sunlight
3. Gooseneck table-lamp
4. Reading stand
5. +6 readers
6. "Coil 5428" non-lighted stand magnifier
7. "Coil 8.7X" LED-lighted stand magnifier
8. 2X "MaxDetails" wearable focusable tele-binoculars, to be used when seated only
9. 2X "BigEye" table-lamp
10. Writing guides

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

4).

To referring ophthalmologist

F, born in 1950, saw you in 2018 with a history of bilateral proliferative diabetic retinopathy and vitreous hemorrhaging, bilateral macular edema, a right posterior chamber IOL, right neovascular glaucoma, and a left cataract. At that time, her uncorrected distance acuities were OD NLP, and OS 20/200+1 (PH 20/70).

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone. Her family helps with some activities of daily living, but she would like assistance reading and seeing well enough for light cooking and managing her diabetes. She travels using a rollator.

I provided a low vision exam in 2019. R and the patient's sister-in-law were present during the exam. The patient stated that she was last able to read newsprint two years ago, and that she can no longer read large-print labels, or see well enough to adequately manage her diabetes. Due to the obvious importance of diabetic management, I immediately met with the DBVI diabetic educator, who is an RN, and was able to come to the low vision exam room for an initial consult with the patient, and to make initial arrangements for a home visit. The patient's uncorrected distance acuities were OD NLP, and OS 20/100-1. The patient's left distance refraction result was OS -3.00, which slightly improved subjective distance acuity, but did not improve objective distance acuity.

The patient's uncorrected near isolated letter acuity was 3.2M at 40cm. Her uncorrected near continuous text acuity was 4M at 40cm. Since when uncorrected, she had an effective near add of +3.00, a "Coil 5123" non-lighted stand magnifier produced 7X, but provided only 3.2M continuous text acuity at 40cm. A 7X LED-lighted stand magnifier did not improve this acuity, even though it greatly increased contrast. As would be evident later, only increased *reversed* contrast improved function. This helped explain her statements about the importance of specific home lighting arrangements for visual function. For example, she reported better function with multiple light sources strategically placed throughout her home, allowing her to control glare that is not perceived by other family members. Increasing magnification with a 12X LED-lighted stand magnifier did not improve her near acuity, and provided a much smaller usable visual field. Fortunately, reversing contrast with a portable CCTV provided 0.5M isolated letter acuity, which constituted a radical improvement. It was this radical improvement with glare control that inspired the lengthy conversation on the

importance of her lighting choices, regardless of how idiosyncratic they may seem to her. The DBVI diabetic educator witnessed the advantage the portable CCTV provided to the patient, and also felt that when used with a proper stand, it could be a useful way to alleviate the difficulty the patient was having visualizing blood on her glucose strips. The DBVI diabetic educator will visit the patient in her home to provide training and assistance with independent diabetic management.

The patient's agency case manager, R, dispensed the following sun-wear on the day of the low vision exam:

1. NoIR U-80 dark-plum fit-over sun-wear with top and side-shields for direct sunlight
2. NoIR U-81 medium-plum fit-over sun-wear with top and side-shields for indirect sunlight
3. NoIR U-88 light-plum fit-over lenses with top and side-shields for indoors

She will provide the following trial low vision aid with the required in-home training:

1. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

5).

To referring ophthalmologist

G, born in 1939, saw you with a history of severe bilateral NPDR in 2018. At that time, her distance acuities were recorded as OD 20/200, and OS 20/200.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a walker and lives with her husband, who provides assistance with activities of daily living and serves as her sighted guide when traveling. The patient may require a home visit from a DBVI diabetic educator to review her diabetes management, and R will arrange for that if needed. The patient's visual goals involve reading newsprint, as well as reducing glare indoors and outdoors.

I provided a low vision exam in 2018. R was present with the patient's husband during the exam. The patient's uncorrected distance acuities were OD 10/30, OS 10/100, and OU 10/100. A careful trial-framed refraction provided:

OD +0.50 -1.00 X 050 10/30+3
OS +1.50 -1.00 X 090 10/100

A 2X distance "Vollmorgan" magnifier placed with the right trial lens provided OD 10/20. A 2X distance "Vollmorgan" magnifier placed with the left trial lens provided only OS 10/100. A pair of 2X "TV Max" wearable focusable distance binoculars were not helpful. A 2.8X focusable distance monocular provided OD 10/20. These were too difficult for her to use. A pair of 2.8X wearable focusable distance binoculars were not helpful.

The patient's continuous text acuity using a +3 reading add with the right trial lens was a slow 3.2M at 33cm. A pair of +6 readers provided 1.25M continuous text acuity, and a pair of +8 readers provided a slow 1M continuous text acuity. Both these acuities were measured at the

corresponding focal distances of the reading adds, and in both cases the patient strongly resisted the required near working distances. A sequence of 6X, 8.7X, 10X, and 15X lighted stand magnifiers were demonstrated with their required reading adds, and none provided her near goal of 1M (newsprint) continuous text acuity. However, a portable CCTV with reversed contrast provided a comfortable 0.8M continuous text acuity. Various light-colored NoIR lenses were demonstrated indoors, and the patient preferred light-plum. I therefore recommended she also try medium-plum lenses outdoors.

The patient's DBVI case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-81 medium-plum fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-88 light-plum fit-over sun-wear with top and side-shields for indoor glare as needed
3. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health.

6).

To referring ophthalmologist

G, born in 1961, saw you in 2019, with a history of PDR with TRDs OU. At that time, her uncorrected distance acuities were OD NLP, and OS 20/200 (PHNI). Her refraction results were:

OD	NA	NLP
OS	-1.00 +0.50 X 090	20/200

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient has had trouble reading computer monitors in her previous work settings, such as when she was a fast food prep cook. She has difficulty spotting distant targets. The patient's vocational goal is office work, or work in a fast food restaurant. She has a high school education. She has difficulty with glare, but does not use sun-wear. She has difficulty with death perception, and struggles to read small print. She has learned non-visual techniques for a lot of activities. She mostly listens to television and does not rely on her vision for distance. She complains of having no usable fields in her right eye, and constricted fields in her left eye. She uses a mobility cane, and has had orientation and mobility training at VRCBVI.

I provided a low vision exam in 2019. C was present during the exam. The patient's uncorrected distance acuities were OD NLP, and OS 10/60. A 2.8X focusable distance monocular provided OS 10/40. A 4X version was too, "dark," and an 8X wide version was too, "narrow." A pair of 7X 30 degree "Beecher" focusable wearable bioptics provided 10/20, but were too difficult to use. A 6X "Specwell" focusable distance monocular provided OS 10/20. I demonstrated it's use, and dispensed it from stock. The patient agreed not to use the device while standing until she is comfortable focusing and using it while sitting. The patient had previously enjoyed light-plum sun-wear for reducing computer glare. I therefore recommend she replace those, and order medium and dark-plum sun-wear for outdoor glare.

The patient's uncorrected near continuous text acuity was 2M at 20cm. A pair of +4 readers provided 1.6M continuous text acuity at 20cm. The addition of a 5X "ILA" bright LED-lighted stand magnifier provided a slow 1M continuous text acuity. The patient reported that the 7X "Besser" bright LED-lighted stand magnifier was too bright. The addition of an 8X "PowerMag"

bright LED-lighted stand magnifier provided 0.5M continuous text acuity. She preferred this to the 8.7X “Coil” dim LED-lighted stand magnifier, (with it’s appropriate add of +2D). A 5X bright LED-lighted hand magnifier provided 0.6M continuous text acuity.

The patient's DBVI case manager, C, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields
2. NoIR U-81 medium-plum sun-wear with top and side-shields
3. NoIR U-88 light-plum sun-wear with top and side-shields
4. 6X “Specwell” focusable distance monocular, dispensed 10/17/19
5. Large +4 readers
6. 8X “PowerMag” bright LED-lighted stand magnifier, dispensed 10/17/19, to be used with the readers
7. 5X bright LED-lighted hand magnifier, dispensed 10/17/19

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

7).

To referring ophthalmologist

C, born in 1958, saw you in 2019, with a history of bilateral cataracts, bilateral diabetic retinopathy, right diabetic macular edema, and left proliferative diabetic retinopathy. At that time, her uncorrected distance acuities were OD (not recorded), and OS 20/200.

M, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient reported diabetic retinopathy with onset at age 60. She reported difficulty with glare, both indoors and outdoors. Her primary visual goals involve reading newsprint, price tags, and seeing her computer at 40 and 50cm. She must also read (and write on) her office sign-in sheet, and see diagrams on a whiteboard. The patient prefers to use her right eye.

I provided a low vision exam on 10/3/19. M was present during the exam. I discussed the bothersome reflections and glare from the patient’s computer screen at work. I explained that the patient’s eye condition makes her sensitive to glare levels that others, including her co-workers, simply don’t notice. I therefore discussed the necessity of orienting her computer screen so that she see no significant reflections in the screen when the screen is turned off. Faint reflections of surrounding objects are to be expected, and are unavoidable; but reflections of light sources are to be avoided at all cost. This might require window blinds, a different desk orientation, or a different desk. I explained that the reflected light sources she sees on her screen when the computer is off, are actually still there when it’s on, and that they produce a veiling glare, that although not obvious to other onlookers, would no doubt seriously impact her visual function while on the computer.

Indoors under fluorescent lighting, the patient preferred light-gray sun-wear with top and side-shields rather than light-plum, amber, green; or medium-topaz. Outdoors in bright sunlight, extra-dark gray was too dark. I therefore recommended NoIR U-22, U-21, and U-20, (dark, medium, and light), gray sun-wear. The patient's uncorrected distance acuities were OD 10/30, OS 10/60, and OU 10/30. The patient’s distance refraction results were:

OD -1.50 10/30+3
OS -1.00 10/60

The patient stated that her morning glucose level was 235. A 2.8X focusable distance monocular provided OD 10/20. A 4X 12 degree focusable distance monocular provided OD 10/10.

The patient's (uncorrected myopic) near acuity was 1.2M continuous text. Extra light made her acuity subjectively worse. A "Reizen 6X" hollow-dome non-lighted stand magnifier provided 0.8M continuous text acuity. A pair of 2X "MaxDetails" wearable focusable tele-binoculars provided 1M (newsprint) continuous text acuity at 40cm, and 1.2M continuous text acuity at 3ft. The patient felt that stronger tele-binoculars were too heavy. I therefore recommended a 4X 12 degree focusable distance monocular, and a pair of 2X "MaxDetails" wearable focusable tele-binoculars.

The patient's DBVI case manager, M, will refer the patient for an agency assistive technology assessment at the job site, to assess needed software and electronic accommodations. She will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-22 dark-gray sun-wear with top and side-shields
2. NoIR U-21 medium-gray sun-wear with top and side-shields
3. NoIR U-20 light-gray sun-wear with top and side-shields
4. "Reizen 6X" hollow-dome non-lighted stand magnifier
5. 4X 12 degree focusable distance monocular
6. 2X "MaxDetails" wearable focusable tele-binoculars

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

Miscellaneous

1).

To referring ophthalmologist

R, born in 1992, saw you in 2019, with a history of cerebral palsy, and the following bilateral conditions: retinitis pigmentosa, worsening cystoid macular edema, new polar posterior sub-capsular cataracts, stable astrocytic hamartomas of the retina, and stable optic disc drusen. You also noted a stable left epiretinal membrane. At that time, his corrected distance acuities were OD 20/60-1, and OS 20/200. You noted a superior and nasal visual field construction in each eye, worse in the right eye, and requested a six month follow-up visit.

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient finished law school recently, and is now studying for the bar. He is interested in low

vision aids that might be useful with paper reference material. The patient has been referred for an agency assistive technology evaluation.

I provided a low vision exam in 2019. C was present during the exam. Outdoors in bright sunlight, the patient preferred dark-amber sun-wear. Indoors and in shade, he preferred medium-topaz. The patient was wearing his soft daily wear contact lenses in both eyes. These lenses were fit within the last three months. The patient's distance acuities, corrected with these contact lenses, were OD 10/40, OS 10/100+1, and OU 10/40. A 2.8X focusable distance monocular provided OD 10/30. A 4X focusable distance monocular provided OD 10/20-1. A pair of 2X "Max TV" wearable focusable binoculars provided 10/20.

The patient's uncorrected near continuous text acuity was 1.6M. A "6X Reizen" non-lighted stand magnifier provided 0.8M continuous text. The patient already has one of these and likes it. I demonstrated a 4.7X LED-lighted stand magnifier, which provided 0.8M continuous text acuity. The patient expressed an interest in trying this. He disliked the 3.5X LED-lighted hand magnifier, because it did not control the focal distance. A pair of 2X "MaxDetails" wearable focusable tele-binoculars provided 0.8M hands-free continuous text acuity at 40cm.

The patient's DBVI case manager, C, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR #KM 43 dark-amber sun-wear with top and side-shields for sunny days
2. NoIR #KM 47 medium-topaz sun-wear with top and side-shields for cloudy days and indoor glare
3. 2X "Max TV" wearable focusable binoculars, dispensed from stock on 9/26/19
4. 4.7X LED-lighted stand magnifier
5. 2X "MaxDetails" wearable focusable tele-binoculars

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

2).

To referring ophthalmologist

E, born in 1963, saw you in 2019 with a history of bilateral congenital cataracts, current bilateral aphakia, left retinal detachment, left phthisis bulbi, right micro-cornea and right POAG. You noted nystagmus. His corrected distance acuities were:

OD +4.50 +3.00 X 015	20/400
OS balance	HM

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient currently uses a 5X non-lighted hand magnifier, and a 10X lighted magnifier. He also uses a portable CCTV, as well as a desktop CCTV for larger items. He finds these low vision aids satisfactory. However, he expressed dissatisfaction with the following new pair of glasses, measured with lensometry as:

OD +7.50 -3.00 X 105
OS balance
OU +8.00 flat-top bifocal

and prescribed by Dr. W in 2019. The visual distraction produced from the glare off the +8.00 flat-top bifocal ledge was significant. He preferred the following older pair of glasses, measured with lensometry as:

OD +7.00
OS +7.00
OU +6.00 22mm round bifocal segment, in a polycarbonate aspheric lenticular carrier lens

and prescribed by Dr. H in 2016. I performed a trial frame refraction. R was present during the exam. The patient's older glasses produced OD 10/160. His new ones provided only OD 10/160+1, but with significant distortions. I therefore recommended and re-wrote his older prescription with a PD measured of 58mm.

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

3).

To referring ophthalmologist

T, born in 1976, saw you in 2019, with a history of bilateral keratoconus with a left corneal graft. At that time, her distance acuities corrected with Synergeyes scleral contact lenses were OD 20/40, and OS 20/30. Her best distance refraction results were:

OD	-1.75 -8.75 X 155	20/100
OS	-8.50 -1.50 X 050	20/70

You noted, "normal confrontation visual fields OU." You also noted the patient's history of shingles in her left eye in August. The patient apparently indicated that the contact lenses were no longer wearable due to dryness and discomfort.

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient has pharmacy technician credentials, and is seeking employment in that field. She experiences diplopia at distance and arms length, and blur at near. Her contact lenses, though uncomfortable, reduced her diplopia.

I provided a low vision exam in 2019. C was present during the exam. The patient's uncorrected distance acuities were OD 10/200-2, and OS 10/225. A trial frame refraction with spherical lenses, done with the intention of potentiating maximum magnifier benefit, produced these results:

OD plano	10/200-2	diplopia
OS -2.00	10/225	diplopia
PD 68mm		

Outdoors in bright sunlight, the patient preferred medium-plum sun-wear. Indoors under fluorescent lights, she preferred light gray sun-wear.

The patient's near isolated letter acuity with +6 readers was OU 1.6M at 17cm. Lower reading powers were less effective, and the patient disliked the required near viewing distance

associated with higher powered readers. The addition of a Coil 5428 non-lighted stand magnifier provided 0.8M continuous text acuity, and was useful with her cell phone. The addition of an Independent Living Aids 7X LED-lighted stand magnifier also provided 0.8M continuous text acuity. The patient was able to read fine print on a medicine bottle using this combination of aids.

The patient's case manager, C, provided the following sun-wear and low vision aids on 9/20/19, and will provide the required training:

1. NoIR 481-31 medium-plum sun-wear with top and side-shields, for outdoors
2. NoIR 420-31 light-gray sun-wear with top and side-shields, for indoors
3. A pair of +6 reading glasses, to be used with her stand magnifiers, or singly with large print
4. Coil 5428 non-lighted stand magnifier, to be used with her lighted cell phone
5. Independent Living Aids 7X lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

4).

To referring ophthalmologist

M, born in 1961, saw you in 2019 with a history of bilateral pigmentary retinal dystrophy. At that time, her corrected distance acuities were:

OD	plano	20/150
OS	+0.50 -1.25 X 035	20/60+2

You mentioned that the patient had also seen Dr. A in 2016.

F, a DBVI vocational rehabilitation counselor, provided a functional vision assessment, which indicated that the patient's vocational goal is to maintain her job at a diner. This will require better vision when using the computer and the register at work, as well as an increased ability to read written receipts and see facial expressions at distance. The patient needs help seeing stove dials and cooking, and needs increased lighting with decreased glare. The patient reportedly bumps into things, and has been referred for DBVI orientation and mobility services. The patient has also been referred for DBVI assistive technology services, and will need accessibility software for her computer at work.

I provided a low vision exam in 2019. F and the patient's husband were present during the exam. The patient's uncorrected distance acuities were OD 10/30, and OS 10/30. The patient stated that her left eye was, "her better eye." She stated that although her vision has been gradually decreasing since age 7, it has recently gotten much worse. She was reportedly driving last year. Confrontation visual fields indicated that her visual fields were approximately 5° in each eye. Various shades and colors of sun-wear were demonstrated outdoors in bright sunlight, and the patient found that amber worked best. Dark-amber sun-wear was too dark, and medium-amber sun-wear provided the best result. A 2.8X focusable distance monocular was hard to use because the patient could not find the target.

The patient's uncorrected near continuous text acuity was OU 8M. Both an 8X and 12X LED-lighted stand magnifier did not allow for measurable near acuity. A portable CCTV, best with

reversed contrast, provided 0.8M continuous text acuity. I demonstrated a desktop CCTV in addition to this device, although it is doubtful that a desktop version would be useful at her job at a diner. It might be useful in a different job situation later, which is why I demonstrated it.

Because the patient's visual fields are so restricted, it is likely that although she can read text with her portable CCTV, she will not be able to notice or respond appropriately to customers in her workplace. I explained that her visual fields are essentially no larger than a soda straw in each eye, and that most people will be unable to understand how someone who can read text is not able to detect when they walk into a room. This can be mistaken for rudeness on the job. It might be a good idea for this patient to have some kind of identification on her, such as a white cane, that she can use on the job so that coworkers and customers will understand her situation without her trying to explain it to everyone.

Please provide a portable CCTV, and a pair of NoIR N-40 sun-wear.

The patient understood that I provided a vision exam only, and that Dr. L is the professional working to maintain her ocular health.

5).

To referring ophthalmologist

C, born in 2004, saw Dr. R in 2019 with a history of optic nerve glioma diagnosed in 2005, and optic pathway glioma diagnosed in 2010. He reported that the patient received chemotherapy from 12/17/10 to 1/19/12. A pediatric ophthalmologist wrote a letter addressed to Dr. R in 2019, which mentioned corrected distance E-ETDRS acuities of OD HM, and OS 20/40; and that the patient's glasses did not need to be changed. The pediatric ophthalmologist mentioned that the patient's left Ishihara color plate test results were OS 8/8. He also noted right optic disc pallor, and left temporal optic disc pallor.

F, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient described an upper temporal field defect in the left eye, and severe vision loss in the right. The patient does not currently use a cane, but is interested in receiving orientation and mobility instruction. The patient is able to use accessibility options for reversed contrast and font/curser enlargement on her Apple iPad Pro. Indoor glare is sometimes problematic, especially in her cafeteria at school. The patient is registered for the National Library Service, and has requested academic materials in audio and in large print.

I provided a low vision exam in 2019. F and the patient's mother were present during the exam. Outdoors in bright sunlight, the patient preferred the NoIR #81 medium-plum tint. Indoors, the patient preferred the NoIR #88 light-plum tint. The patient was wearing a left soft contact lens that she received as a new fit, less than one month prior. Her distance corrected acuities, with this left contact lens, were OD 2/700, and OS 10/25+1. The patient was squinting during her distance acuity measurement. When a pair of NoIR U-88 light-plum lenses with top and side-shields were worn, she no longer squinted, and this improved her distance acuity to OS 10/20-1. The patient stated that occluding her right eye, "never helps."

A 2.8X focusable distance monocular provided OS 10/20. A 4X 12° "Specwell" focusable distance monocular provided her distance goal of OS 10/10. Both a pair of 3.5X "Eschenbach Sports-specs," and a pair of 4X 20° "Beecher" bioptics, provided OS 10/10. I provided a trial pair of the Beechers, which she preferred. If she finds these useful, they can be ordered with simply a left optical, which will be much less bulky and heavy.

The patient's near continuous text acuity, corrected with her current left contact lens, was 1.6M. A pair of +3.50 readers provided 1M (newsprint) continuous text acuity. A pair of 2X "MaxDetails" wearable focusable tele-binoculars also provided 1M continuous text acuity, but at a working distance of 40-50cm. This device will probably be useful for paperwork at a desk. The patient previously used a "6X Reizen" hollow-dome non-lighted stand magnifier, and found it to be helpful, but she lost it and would like to try one again. This device also provided 1M continuous text acuity. I demonstrated a 3.5X LED-lighted hand magnifier as a portable device to be used in dark settings. The patient felt that for now it would not be particularly useful, but that it might become useful at a later date.

The patient's DBVI case manager, F, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-81 medium-plum sun-wear with top and side-shields, (dispensed from stock 9/19/19)
2. NoIR U-88 light-plum sun-wear with top and side-shields
3. 4X 12° "Specwell" focusable distance monocular, (dispensed from stock 9/19/19)
4. 4X 20° "Beecher" bioptics, (order with simply a left optical if the patient finds the sample pair useful at home or school)
5. "6X Reizen" hollow-dome non-lighted stand magnifier, (dispensed from stock 9/19/19)
6. +3.50 readers, (dispensed from stock 9/19/19)
7. 2X "MaxDetails" wearable focusable tele-binoculars, (dispensed from stock 9/19/19)

The patient and her mother understood that I provided a vision exam only, and that the patient's ophthalmologist is the professional working to maintain her ocular health.

6).

To referring ophthalmologist

B, born in 1957, saw you in 2019 with a history of visual acuity loss and left visual field loss, presumably due to several strokes.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involve reading newsprint, signing his name, and watching television. He has some difficulty with mobility outside of his home. He always travels in a wheelchair, and with a sighted guide. He lives alone, and prefers to keep his house dimly lit. He also has difficulty with outdoor glare, and currently wears sunglasses outdoors.

I provided a low vision exam in 2019. L and the patient's caregiver were present during the exam. The patient preferred gray tints for a glare reduction, both indoors and outdoors. I recommend extra-dark, dark, and medium-gray NoIR "L" series sun-wear, with top and side-shields. He definitely required a larger than standard frame. The patient's uncorrected distance acuities were OD 10/160, OS 10/160, and OU 10/160. The following were the patient's relevant best corrected acuities:

Relevant focused acuities	
Spectacle only	**c(Distance mag)**

DIST	Subjective DS Rx	Subjective DS/ DC Rx	BVAcc	BVAcc c2X	BVAcc c4X
OD		-2.00	10/140	10/80*	
OS		plano	10/160		
OU		70 mm			
NEAR	Add for 1M	Non-lighted stand cAdd for 1M	BVAcc c+4	BVAcc c2X+6 cap	BVAcc c2X+8 cap
OD					
OS					
OU			6.4M IL		

* With 2X "Magnatel" Coil wearable focusable binoculars

Stand magnifiers with dim LED, bright LED, and incandescent lighting were demonstrated, and the patient consistently preferred incandescent-lighted stand magnifiers. A "Coil 8.7X" incandescent-lighted stand magnifier provided 1.6M isolated letter acuity. Both a "Coil 10.1X," and a "Peak 10X," incandescent-lighted stand magnifier provided 1.25M isolated letter acuity. Either of these would be adequate for spot-reading at near, but given the patient's refraction, the "Coil 10.1X" incandescent-lighted stand magnifier would likely provide the most comfort when used for long periods, since it would allow for a focused closer working distance, which would provide for greater usable field when used in focus.

A portable CCTV was necessary for 1M newsprint near continuous text acuity. I recommended he try using a shoebox with the top cut out, and the portable CCTV on top, as a makeshift hands-free electronic magnification device. If this is not sufficient, a desktop CCTV is always an option.

The patient's DBVI case manager, L, will provide for the following sun-wear and trial low vision aids, with the required training:

1. NoIR L-23 extra-dark gray sun-wear with top and side-shields
2. NoIR L-22 dark-gray sun-wear with top and side-shields
3. NoIR L-21 medium-gray sun-wear with top and side-shields
4. 2X "Magnatel" Coil wearable focusable binoculars, set on #7
4. "Coil 10.1X" incandescent-lighted stand magnifier
5. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

7).

To referring ophthalmologist

T, born in 1975, saw you in 2019 with a history of vision loss of uncertain etiology. At that time, her uncorrected distance acuities were OD HM, and OS 2/200. Her left visual field results were full-to-finger-counting. Her distance refraction results were:

OD balance
OS -3.25 +2.25 X 165

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involved reading newsprint and reducing glare. L provided a sun-wear assessment, and the patient preferred NoIR U-80 dark-plum sun-wear with top and side-shields for outdoors, and NoIR U-81 medium-plum sun-wear with top and side-shields for indoors.

I provided a low vision exam in 2019. L and the patient's personal aid were present during the exam. The patient stated that her retinal specialist was unable to explain her vision loss, and he therefore referred her to a neuro-ophthalmologist. She stated that her right eye's reduced vision has been present since birth, and that her left eye's vision began to decrease approximately four years ago.

The patient's uncorrected distance acuities were OD CF, and OS 10/180. I confirmed that NoIR U-81 medium-plum sun-wear with top and side-shields improved comfort and subjective vision indoors. Her distance correction provided OD CF, and OS 10/160, but it made her feel "cross eyed," and she simply doesn't wear it. A "Specwell" 4X focusable distance monocular provided OS 10/140. A "Specwell" 6X provided OS 10/80. A "Specwell" 8X provided OS 10/80+1. I therefore recommended that her agency orientation and mobility instructor teach the patient to use a "Specwell" 6X focusable distance binocular when traveling. If she receives the device before she receives agency orientation and mobility instruction, she should certainly never use it while standing or walking. I explained this to everyone present, including Angela.

The patient's uncorrected near continuous text acuity was 2.5M. A "6X Reizen" hollow-dome non-lighted stand magnifier provided 2M continuous text near acuity, with or without a +3 reading add. The patient preferred a 10 inch working distance. A "Coil 8X" LED-lighted and incandescent-lighted stand magnifier provided 1.6M continuous text acuity, but the patient stated that all lighted magnifiers were too bright. A "Coil 12X" non-lighted stand magnifier provided a slow 1M continuous text acuity, as did a "Peak 15X" non-lighted stand magnifier. The "Coil 12X" non-lighted stand magnifier provided a larger visual field. It could be used on her smartphone screen without activating any touchscreen functions. She may find it useful to access text the may not be accessible with the special functions on her Samsung phone. A portable CCTV provided a fast 0.6M continuous text acuity.

The patient's DBVI case manager, L, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-80 dark-plum sun-wear with top and side-shields for outdoors
2. NoIR U-81 medium-plum sun-wear with top and side-shields for indoors
3. "Specwell 6X" focusable distance binocular
4. Portable CCTV
5. The "Coil 12X" non-lighted stand magnifier, for use with her smart phone if necessary

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

8).

To referring ophthalmologist

S, born in 1997, saw you in 2018, with a history of hereditary choroidal dystrophy OU. At that time, her uncorrected distance acuities were OD CF@2ft (PH 20/400), and OS 20/400 (PHNI). You noted bilateral mid-peripheral retinal pigment changes, and stable central macular RPE atrophy.

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient has successfully used ZoomText screen magnification software in school, but she now has a new job involving more extensive computer work. She will therefore receive an agency assistive technology evaluation.

I provided a low vision exam in 2019. C and the patient's father were present during the exam. The patient reported "bumping into things," and using shadows from street lamps at night to tell her where steps are located. She definitely needs agency orientation and mobility training for safe travel. The patient reported that glasses have, "never helped." Her uncorrected distance acuities were OD 10/200, and OS 10/180. She reported a persistent central blind spot in her right eye. Her left trail frame refraction results were:

OS -1.00DS (+/-1.00DS) 10/160-1
(add 2X 10/100+1); (add 4X 10/60-2)
PD 63mm

A pair of 2X Coil wearable focusable distance binoculars provided OU 10/60-1, and "helped a-lot." A 2.8X focusable distance monocular provided OS 10/60. Outdoors she could use it to read a low contrast sign in shadow with 4 inch letters at 20ft. Increasing the magnification of the focusable distance monocular from 2.8X to 4X only increased distance acuity by two letters, and was therefore not recommended. Outdoors in bright sunlight the patient preferred NoIR N-22 dark-gray sun-wear with top and side-shields. In shade she preferred the #21 light-gray tint.

The patient's uncorrected near continuous text acuity was 2.5M at 30cm. Extra light made her vision at near worse. A pair of 2X wearable focusable tele-binoculars were demonstrated, (in part because of the patient's success with 2X wearable focusable distance binoculars). These did not improve her intermediate-distance continuous text acuity beyond 2.5M at 40cm, and were therefore not recommended. A pair of +4 readers provided 2.5M near continuous text acuity at 25cm. Dim lighting was helpful. A pair of +8 (2X) readers provided 2M near continuous text acuity, but the patient said it was, "hard to find the letters." She appeared to be losing her place in the text. An 8X Agfa loupe provided 2M, and a Peak 15X loupe provided 1M (newsprint) continuous text acuity. With the loupes, the patient no longer lost her place in the text. Dim lighting was helpful. A portable CCTV provided 1M (newsprint) continuous text acuity, and the patient found it much easier to use than the Peak 15X loupe. It is reasonable for the patient to keep a Peak 15X loupe for quick spotting of tags and labels.

The patient's DBVI case manager, C, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR N-22 dark-gray sun-wear with top and side-shields
2. NoIR N-21 medium-gray sun-wear with top and side-shields
3. 2X Coil wearable focusable distance binoculars, to be used when seated only, (dispensed from stock on 8/22/19)
4. 2.8X focusable distance monocular
5. Peak 15X non-lighted loupe
6. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

9).

To referring ophthalmologist

L, born in 1994, saw you in 2018 with Reiter's syndrome, Ehlers-Danlos syndrome, and a reported previous diagnosis of “fibromyalgia.” You noted no change in optic disc pallor OU, and reported that the patient's refraction was stable. Her distance acuities with her glasses were:

OD -4.50 +2.25 X 080 20/30-1
OS -3.75 +2.25 X 080 20/40
(PHNI)

The patient has had a history of multiple flare-ups of conjunctivitis, for which she has been treated with topical steroids. As you know, she reports significant variation in her daily acuity.

I provided a low vision exam in 2016. At that time I recommended light and medium-amber fit-over sun-wear with top and side-shields, for glare reduction indoors and outdoors. I recommended a 2.8X focusable distance monocular, a 4X LED-lighted stand magnifier, a 3.5X LED-lighted hand magnifier, and a pair of 2X "MaxDetails" wearable focusable tele-binoculars for reading sheet music.

I provided an additional low vision exam in 2019. The patient complained of worsening acuity and discomfort from glare. Based on a sun-wear evaluation outdoors, I recommended adding a pair of dark-amber fit-over sun-wear with top and side-shields. The patient's corrected distance acuity was OD 10/40, OS 10/25, and OU 10/25-1. A 2.8X focusable distance monocular provided OS 10/20. A 4X focusable distance monocular provided OS 10/10. I recommended this change. A 4X LED-lighted stand magnifier was, "too bright," and a 4X incandescent-lighted stand magnifier was "not clear." A 6X incandescent-lighted stand magnifier provided 2M (standard large-print) continuous text acuity, but not with a practical reading speed. A portable CCTV with reversed contrast provided 0.8M continuous text acuity with a normal reading speed. I recommended she forgo the use of her optical stand and hand magnifiers, and begin using a portable CCTV. For the specific task of reading sheet music, a pair of 2X "MaxDetails" wearable focusable tele-binoculars remains her best option due to the long working distance it provides in hands-free mode. She was able to use it to read 1.6M continuous text acuity at 40cm.

In summary, I recommend she try the following low vision aids as trials, and that you provide the necessary training:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields for sunny days
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields for cloudy days
3. NoIR U-48 light-amber fit-over sun-wear with top and side-shields for indoor glare
4. 4X 12 degree "Specwell" focusable distance monocular, (used with her left eye)
5. 2X "MaxDetails" wearable focusable tele-binoculars for sheet music
6. Portable CCTV

The patient and her mother understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health.

10).

To referring ophthalmologist

R, born in 2000, saw you in 2019 with a history of a stable rod/cone disorder and congenital nystagmus. At that time, her fields were full-to-finger-counting in each eye, and her corrected distance acuities were:

OD -7.75 +1.25 X 100	20/200
OS -6.75 +0.75 X 070	20/200
OU	20/200

C, a DBVI vocational rehabilitation teacher, recently provided a functional vision assessment. The patient will be starting college in the fall, and C wanted to be certain she had the tools to maximize her visual function in that setting. She currently uses Windows-Plus on her laptop. Although reversed contrast is helpful, colored text or background is not. She wears daily soft contact lenses during the day, and glasses during the evening. She has had orientation and mobility training in the past. She is familiar with cane travel, and plans to use this technique on campus as necessary, specifically at night and in unfamiliar places. C will arrange for additional orientation and mobility training if necessary.

I provided a DBVI low vision exam in 2019. C and the patient's grandmother were present during the exam. Outdoors in bright sunlight, the patient preferred amber sun-wear to gray or plum. The patient did not complain of indoor glare, and in fact did not find green, yellow or topaz indoor tints helpful. The patient's distance acuities with her contacts were OD 10/200-2, OS 10/225, and OU 10/200-1. The patient's angle of nystagmus was the same in each eye monocularly, as well as binocularly. A pair of Coil Magnatel 2X wearable focusable distance binoculars provided 10/100-1. A 2.8X focusable distance monocular provided OD 10/100+2, but was too difficult for her to use. She had been given one years before, and hasn't found it useful. Although her nystagmus did not increase monocularly, the lens diameter of a monocular was simply too small to be useful with her angle of nystagmus.

The patient's uncorrected near continuous text acuity was OU 1.2M @30cm. Extra light was helpful. A small paperweight magnifier, similar to the one she had used successfully before, provided 1M (newsprint) continuous text acuity. A "Reizen 6X" hollow-dome non-lighted stand magnifier was, "too dark," and all lighted 4X stand magnifiers were too bright. She did appreciate a 3.5X LED-lighted hand magnifier, however. A pair of 2X "MaxDetails" wearable focusable tele-binoculars were not helpful.

The patient's DBVI case manager, C, provided the following sun-wear and low vision aids from stock on the day of the low vision exam. He will provide the required training.

1. NoIR 440-35 medium-amber wrap-around sun-wear
2. 2X Coil Magnatel wearable focusable distance binoculars, to be worn when seated only
3. Small paperweight magnifier
4. 3.5X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

11).

To referring ophthalmologist

L, born in 1986, saw you in 2019 with a history of bilateral sudden vision loss on 10/7/18 resulting from benign intracranial hypertension. You noted bilateral optic atrophy, and uncorrected distance acuities of OD 20/125, and OS 20/250. Her corrected distance acuities were:

OD -0.75 20/125-1
OS NA 20/300EF

Pinholes did not improve her acuities in either eye. You informed the patient that it was not legal for her to drive based on her acuities, and her visual field.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. I provided a low vision exam in 2019. L and the patient's sister were present during the exam. The patient's uncorrected distance acuities were OD 10/60, and OS 6/700. A 2.8X focusable distance monocular provided OD 10/40, but was, "not much help." The patient's near continuous text goal acuity was 1M (newsprint) at 30cm.

The following were the patient's relevant corrected isolated letter acuities:

Relevant corrected isolated letter acuities						
Spectacle only					**c(Distance mag)**	
DISTANCE	**Subjective DS Rx**	**Subjective DS/ DC Rx**	**BVAcc**		**BVAcc/ c2X**	**BVAcc/ c4X**
OD		plano	10/60		10/30	10/25-3
OS		plano	6/700			
OU		60 mm				
NEAR cDC	**Add for 1M (IL)**	**Non-lighted stand cAdd for 1M (IL)**	**BVA/c+4**		**BVA/ c2X+6**	**BVA/ c2X+8**
OD	+8 (2X) @12cm	Coil #5248 stand magnifier	1.6M		2M	1.6M

OS		with a +5 Add for 4.25X: "I can see it but not read it."				
OU						

The patient was able to read 1M (newsprint) continuous text with +8 readers at 12cm. Due to the patient's need of extra contrast to read continuous text at working distances beyond 12cm, only a portable CCTV (with or without reversed contrast) provided the patient's near continuous text goal acuity of 1M@ 30cm. Various bright lighted stand magnifiers were also demonstrated, including 4X and 6X bright LED-lighted stand magnifiers, both used with +3 adds. In both cases the patient said, "I can see it but not read it."

The patient's agency case manager, L, will refer the patient for a DBVI assistive technology evaluation, and will provide the following trial low vision aids with the required in-home training:

1. NoIR N-81 medium-plum sun-wear with top and side-shields
2. +8 prism half-glasses
3. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

12).

To referring ophthalmologist

K, born in 1995, saw you in 2019 with a history of sudden left homonymous hemianopsia following cranial surgery in September of 2018, as well as a history of glaucoma. At his 2018 visit with Dr. L, his corrected distance acuities were:

OD -2.50 +2.00 X 090 20/100
OS -2.00 +1.50 X 075 20/100

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involve reading newsprint, and reducing both indoor and outdoor glare.

I provided a low vision exam in 2019. R and a correctional facility officer were present during the exam. The patient's uncorrected distance acuities were OD 10/60, OS 10/80, and OU 10/60. His uncorrected near isolated letter acuity was OD 4M@30cm, and OS 4M@30cm.

The patient reported that he normally elects to keep indoor lights off as much as possible due to indoor light sensitivity. I explained that brain injury patients can have glare sensitivity that involves a level of discomfort not shared by those around them, and that this sensitivity can be wavelength dependent. I therefore demonstrated various colors of indoor glare protection, and pair of NoIR U-47 medium-topaz lenses with top and side-shields best reduced bothersome indoor glare. Outdoors in direct sunlight, dark-amber lenses with top and side-shields were necessary. In the shade, a pair of medium-amber wrap-around sunglasses were sufficient. Other colors were not as effective.

The following were the patient's relevant corrected isolated letter acuities:

Relevant corrected isolated letter acuities						
Spectacle only					**c(Distance mag)**	
DISTANCE	**Subjective DS Rx**	**Subjective DS/ DC Rx**	**BVA c+s Cyl**		**BVAcc/ c2X**	**BVAcc/ c4X**
OD	-1.50	-2.50 +2.00 X 090	10/30		10/30	
OS	-1.25	-2.00 +1.50 X 075	10/30		Can't find target	
OU	----------	72 mm				
NEAR c+s Cyl	**Add for 1M**	**Non-lighted stand cAdd for 0.6M**	**BVA/c+4**		**BVA/ c2X+6**	**BVA/ c4X+6**
OD	+8 (2X)	Reizen "6X" hollow dome/ +4	1.6M			
OS	+8 (2X)		1.25M			
OU	+8 (2X)					

The patient preferred bright LED-lighted hand magnifiers to more dimly lit ones, and preferred hand magnifiers to stand magnifiers. A 3X bright LED-lighted hand magnifier provided 0.6M continuous text near acuity, which met his near visual goal. The patient is left handed.

The patient's agency case manager, R, provided the following trial low vision aids from stock on the day of the low vision exam:

1. NoIR U-47 medium-topaz lenses with top and side-shields for indoor glare as needed
2. NoIR 440-35 medium-amber wrap-around sun-wear for outdoor glare as needed
3. NoIR U-43 dark-amber sun-wear with top and side-shields for outdoor glare in direct sunlight
4. +8 prism half-eye readers
5. 3X LED-lighted hand magnifier, (suitable for left-handed patients)

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

13).

To referring ophthalmologist

B, born in 1972, saw you in 2019 with a history of bilateral optic neuropathy. You referred the patient to DBVI at that time, with corrected distance acuities recorded as OU 20/400.

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient is an RN who lives with her husband. She has physical difficulty with mobility. N noted poor in-home lighting. The patient has sun-wear that reduces glare.

I provided a low vision exam in 2019. N and the patient's husband were present during the exam. The patient reported that her visual difficulties began in October of 2018, following complications from surgery that resulted in extreme low blood pressure at that time. On 7/18/19, the patient's distance acuities were OD 10/120, and OS 10/140, (over the soft contact lenses you prescribed). The patient reported that her left eye is a "lazy eye." Her right trial-framed refraction over her contact lens was OD +1.00DS. Various shades of various colors across the visual spectrum were demonstrated indoors and outdoors. The patient stated that light-red sun-wear with top and side-shields improved her vision and comfort significantly. Other colors either had no effect, or made her vision worse. Darker red sun-wear was not better in direct sunlight. I explained that patients with optic nerve atrophy often report that standard sun-wear is too dark outdoors, and often have significantly improved visual comfort and contrast with color choices that may not be the color choices common to other medical ocular conditions. We had a discussion involving the metaphor of traffic flow through the optic nerve, given separate pathways for separate colors, and the sometimes surprising effect a specific tint can have on that traffic flow. I emphasized that this was a metaphor only, but given her educational background and work history as an RN, I felt an extended discussion might be useful.

A +7 add provided 2.5M isolated letter acuity at 15cm. A +11 add provided 1.6M isolated letter acuity at 10cm. A +19 add provided 0.8M isolated letter acuity at 7cm. Although the required working distance was short, the patient wished to try these +20 (5X) readers with a gooseneck floor and/or table lamp, due to the hands-free nature of the correction. The patient wishes to re-enter the workforce, and there may be other devices that can provide job-specific hands-free 5X near magnification at required specific distances other than 7cm. I mentioned agency vocational rehabilitation as an avenue to pursue vision related goals specific to a particular required job skill.

In order to provide her near goal of 1M (newsprint) continuous text acuity at the standard reading distance of 40cm, I demonstrated both a 6X and 7X "Independent Living Aids" bright-LED lighted stand magnifier. These provided 0.8M continuous text acuity at 40cm. Although these particular stand magnifiers normally perform better with spectacle adds of +2.50, the patient noticed no visual difference when using these stand magnifiers with +2 or +3 spectacle adds, (even though her right contact lens over-refraction was +1.00). The patient disliked the hand magnifier form of correction, since it was difficult for her to maintain the precise focal length required.

The patient's agency case manager, N, provided the following trial low vision aids from stock on 7/18/19, and will provide the required in-home training:

1. NoIR U-98 light-red NoIR sun-wear with top and side-shields
2. +20 (5X) readers, (which will require gooseneck lighting)
3. 7X "Independent Living Aids" LED-lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

14).

To referring ophthalmologist

S, born in 1973, saw you in 2019 with a history of bilateral optic atrophy following two strokes in 2019. You found her uncorrected distance acuities to be OD 20/250, OS 20/150, and OU 20/150; and her corrected distance acuities to be:

OD -2.00 20/80-
OS -1.00 -0.75 X 020 20/50--

N, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient reported significant difficulties resulting from a reduction in peripheral vision following her strokes. N therefore referred the patient for DBVI orientation and mobility training. The patient still manages her own insulin injections, and monitors her own blood glucose. N provided writing and stove safety instructions. The patient's primary visual goal involves reading newsprint.

I provided a low vision exam in 2019. N was present during the exam. The patient reported that she can read enlarged print on her phone. She reported that her primary difficulty with reading seems to be from visual "crowding." The patient's uncorrected distance acuities were OD 10/140, OS 10/140, and OU 10/140. She reported less glare with her left eye only. Her trial frame refraction results were:

OD -2.00 10/140
OS -1.00 -0.75 X 020 10/140
PD 68mm

Although this provided her best subjective acuity, it did not improve her objective distance acuity. Various colors of sun-wear were demonstrated indoors, and the patient preferred NoIR U-70 purple sun-wear with top and side-shields. Outdoors, she preferred NoIR U-40 medium-amber sun-wear with top and side-shields. A 2.8X focusable distance monocular provided OS 10/25. A pair of wearable focusable distance binoculars made her vertigo worse. I demonstrated various optical magnifiers, but none eliminated her difficulty with missing letters. A portable CCTV with reversed contrast, however, eliminated that problem, and significantly reduced her functional reading difficulties resulting from the "crowding" phenomenon.

The patient's agency case manager, N, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-70 purple sun-wear with top and side-shields, dispensed from stock 7/11/19
2. NoIR U-40 medium-amber sun-wear with top and side-shields
3. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

15).

To referring ophthalmologist

E, born in 1972, saw you in 2019 with a history of RP associated with Usher's syndrome. At that time, his corrected and uncorrected distance vision was OD HM, OS HM, and OU HM.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has been referred for DBVI deaf-blind services, as well as DBVI orientation and mobility training. His primary visual goals involve glare reduction, reading newsprint, and improved distance vision.

I provided a low vision exam in 2019. L, and an ASL interpreter, were present during the exam. The patient preferred amber sun-wear. He complained of long adaptation times. Techniques were discussed to reduce that problem, such as placing on sun-wear before going outside, and waiting to remove it until after coming inside. He was unaware of the technique. I also discussed the importance of top and side-shields on sun-wear, which he did not have. In bright light, he preferred dark-amber. Under fluorescent lighting, he preferred light-amber. I therefore also recommended medium-amber for cloudy days. The standard NoIR "U" series frame was too small. He will need the NoIR "L" series, or the "Spectra-shield" large series, (frame#39). Due to his need for a long temple length, the Spectra-shield frame #39 will most likely fit better than the NoIR "L" series, which might pinch behind his ears. His distance acuities with his current (two-year-old) glasses, (which had a medium-amber tint), were:

OD -0.25	10/350
OS plano -0.50 X 046	10/40
OU	10/40
OU +2.25 flat-top bfocal	

He reported that these did not improve his vision at distance. He prefers to read with a pair of OTC +2.00 readers, due to their larger field. Confrontation visual fields measured less than ten degrees by finger-counting in each eye. A 2.5X monocular reduced usable field significantly at four feet. He was only able to see two of the four fingers I held up. I explained that distance magnification reduces the visual field by the same amount. A pair of 2X "Coil" wearable focusable distance binoculars provided distance acuity of 10/30, and he was able to see four of the four fingers I held up at four feet. I recommended the version of this device with a 10% tint, and demonstrated how to focus it.

The patient's uncorrected near vision was 2M isolated letter acuity at 40cm. When corrected with his current bifocals, or +2.00 OTC readers, this improved to 1.2M isolated letter acuity. He regularly uses a head-lamp indoors when he reads. His increased comfort with light-amber sun-wear under fluorescent lighting indicated that indoor glare was a significant factor, as well as his need for extra lighting. A 5X "Independent Living Aids," (ILA), bright LED-lighted stand magnifier produced 1.2X when used in focus with his +2.00 readers. The patient preferred the "ILA" bright LED-lighted stand magnifiers to the "Coil" dim LED-lighted stand magnifiers, or an the incandescent-lighted stand magnifiers. A 7X "ILA" bright LED-lighted stand magnifier produced produced 2.8X when used in focus with his +2.00 readers, and provided 0.6M continuous text acuity. The patient preferred this device. A 7X "ILA" bright LED-lighted hand magnifier also provided this acuity. Although the patient preferred the comfort of using a stand magnifier, a hand magnifier form also might be useful as a more portable version.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. Spectra-shield 448-39 sun-wear
2. Spectra-shield 440-39 sun-wear
3. Spectra-shield 443-39 sun-wear
4. 2X "Coil" wearable focusable distance binoculars, with 10% tint
5. A 7X "ILA" bright LED-lighted stand magnifier
6. A 7X "ILA" bright LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that his ophthalmologist is the professional working to maintain his ocular health. The patient therefore agreed to follow his medical instructions and keep follow-up appointments with his ophthalmologist.

16).

To referring ophthalmologist

P, born in 1952, saw you in 2019 with a history of RP associated with Usher's syndrome. At that time, her corrected distance acuities were:

OD -1.75 +2.00 X 078	20/100
OS +0.25	20/200
OU	20/100
OU +2.75 add	

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a support cane, and travels independently at home. She travels with a sighted guide away from home. D will provide vision rehabilitation teaching, including coin and currency identification, the use of writing and signature guides, and will mark the patient's home appliances with tactile labels for easier use. She will provide vision rehabilitation teaching in the kitchen, to help with cooking safely and measuring food.

I provided a low vision exam in 2019. D and the patient's husband were present during the exam. The patient's visual fields were less than twenty degrees in each eye using finger counting. The patient's distance acuities with her current glasses were OD 10/40+2, OS 10/80, and OD 20/40+2. Her over-refraction results were plano in each eye. Outdoors in bright sun-light, the patient preferred NoIR U-22 dark-gray sun-wear with top and side-shields. In shade she preferred NoIR U-21 medium-gray sun-wear with top and side-shields. Techniques were discussed to reduce the patient's long dark and light adaptation times, including using top and side-shields, as well as putting on sun-wear before going outside, and only removing it after coming inside. The patient is in the habit of using a flashlight when traveling during the day. I recommended head-borne hands-free lighting.

The patient's near continuous text acuity with her current bifocals was 2.5M. An additional 3X LED-lighted hand magnifier provided 0.8M continuous text acuity, but it was slow and labored, and was not a functional level that would allow for anything other than spot reading. Her functional difficulties were clearly not as much due to a need for high magnification, as a need for increased contrast with limited glare. A portable CCTV with reversed contrast provided for a comfortable, rapid, easy 0.8M continuous text acuity. The patient uses an iPad, but is not fully aware of its accessibility functions. She especially needs a way to increase the contrast on its

keyboard. I recommended an agency assistive technology evaluation. The patient's home has all new lighting fixtures, reportedly with 300 watt bulbs approximately ten feet apart.

The patient's agency case manager, D, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray sun-wear with top and side-shields
2. NoIR U-21 medium-gray sun-wear with top and side-shields
3. Portable CCTV
4. Lap desk

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

17).

To referring ophthalmologist

C, born in 2000, saw you in 2019 with a history of stable bilateral optic atrophy. At that time, her uncorrected distance acuities were reported to be OD LP, and OS 20/40+1.

T, a DBVI Teacher of the Blind and Visually Impaired, recently provided a functional vision assessment. The patient will be attending college in the fall. She uses a MacBook Air, which currently meets her accessibility needs. She will be having a DBVI assistive technology evaluation, since her needs will likely change in college. Her only difficulties with visual tasks involve glare, indoors and outdoors; as well as reading on paper where font size and contrast can not be controlled.

I provided a low vision exam in 2019. T and the patient's mother were present during the exam. The patient's corrected distance acuities were:

OD +5.00 Finger-counting @1ft in right field only
OS +4.50 10/25+3
(OU +2.50 flat-top bifocal)

Various shades of various colors of sun-wear with top and side-shields were demonstrated indoors and outdoors. NoIR U-88 light-plum lenses were helpful indoors. NoIR U-81 medium-plum sun-lenses were helpful in shade. NoIR U-80 dark-plum sun-lenses were helpful in direct sunlight.

The patient's near continuous text acuity was 1.2M at 40cm. A "Reizen 6X" non-lighted hollow-dome stand magnifier produced 2.5X when used with her bifocal, and provided 0.8M continuous text acuity. However, the patient did not like the peripheral distortions produced by the magnifier lens. A "Coil 5428" non-lighted stand magnifier produced 2.1X when used with her bifocal, and also provided 0.8M continuous text acuity, but without noticeable distortions. For more portable near magnification, the patient liked the 3X "Walters Packette" non-lighted hand magnifier.

For hands-free near magnification, I demonstrated a clip-on pair of 2X "MaxDetails" wearable focusable intermediate-distance tele-binoculars, which provided 1M continuous text acuity at 40cm. If tolerated, this device may greatly reduce her need for computer accessibility software.

I also demonstrated a 2X "BigEye" table-lamp, which provided 0.8M continuous text acuity at 40cm.

The patient's DBVI case manager will provide training with the following trial low vision aids. All were dispensed from stock on the day of the low vision exam, (except the 2X "BigEye" table-lamp):

1. NoIR U-88 light-plum lenses
2. NoIR U-81 medium-plum sun-lenses
3. NoIR U-80 dark-plum sun-lenses
4. Coil 5428 non-lighted stand magnifier
5. 3X "Walters Packette" non-lighted hand magnifier
6. Clip-on pair of 2X "MaxDetails" wearable focusable intermediate-distance tele-binoculars
7. 2X "BigEye" table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

18).

To referring ophthalmologist

N, born in 1968, saw you in 2019 with a history of chronic uveitis and neovascular glaucoma OD. At that time, her corrected distance acuities were OD HM, and OS NLP.

D, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives with her husband. She reports having had vision loss since childhood, which became more severe in October of 2018. She has had previous orientation and mobility training, but due to this fairly recent vision loss, she requires additional training. She has been referred for this service within the agency. The patient's primary visual goal is reading newsprint.

I provided a low vision exam on 5/7/19. D was present during the exam. The patient reported having had a left retinal detachment in March of 2018. The patient currently wears NoIR U-23 (extra-dark gray) 4% transmission sun-wear with top and side-shields. She has a lighter gray version for cloudy days, and reports no indoor glare. A pair of NoIR U-20 light-gray lenses with top and side-shields did not improve indoor comfort. The patient's uncorrected distance acuities were OD 10/120, and OS NLP. The patient's distance acuities with her current five-year-old glasses were:

OD +2.75 -3.25 X 150 10/100-1
OS balance NLP
(OU +5.50 flat-top bifocal)

Her right over-refraction result was plano.

The patient's near isolated letter acuity with her current +5.50 spectacle add was 6M. A "Peak 10X" incandescent-lighted stand magnifier provided 1M (newsprint) isolated letter acuity, when used with her current spectacle add. A "Peak 15X" incandescent-lighted stand magnifier provided 0.8M continuous text acuity, when used with her current spectacle add. A non-lighted version provided the same result. Although this magnifier is portable and suitable for short

periods of reading short text, a portable CCTV with reversed contrast allowed for easier prolonged reading. It is possible that either of the "Peak 15X" magnifiers would be preferred in certain settings.

The patient's agency case manager, D, will provide the following trial low vision aids with the required in-home training:

1. "Peak 15X" incandescent-lighted stand magnifier, for spot reading text in dimly lit stores
2. "Peak 15X" non-lighted stand magnifier, for use with her cell phone
3. Portable CCTV, for extended reading

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

19).

To referring ophthalmologist

B, born in 1993, saw you in 2018 with pendular nystagmus and ocular albinism. At that time, his corrected distance acuities were:

OD -0.25 +0.50 X 180 20/60+2
OS -0.75 +2.25 X 025 20/60+2

C, a DBVI vocational rehabilitation counselor, recently provided a workplace functional vision assessment. The patient is a college graduate, and operates his own print and online advertising company on a full-time basis. He finds that print is often too small to be seen or worked with efficiently, and that the computer accessibility functions available to him are insufficient. The patient does not drive.

I provided a low vision exam in 2019. C was present during the exam. The patient's distance acuities with his current one-year-old glasses were:

OD +1.50 -0.50 X 090	5^ base-up	10/30
OS +2.00 -2.00 X 135	5^ base-up	10/40
OU		10/30+

The patient reported wearing his glasses constantly, which based on his correction and diagnosis alone, would have been unexpected. However, his nystagmus null point was in down gaze, and correlated with his bilateral base-up prism. A 2.8X focusable distance monocular provided OD 10/20+2. A pair of light-plum lenses provided the best indoor glare relief. A pair of medium-plum lenses provided the best outdoor glare relief.

The patient's corrected near continuous text acuity was 0.6M at 30cm. Since his occupational near functional visual difficulties involve workplace visual errors, and yet his instantaneous near acuities were normal, it was reasonable to assume his near functional visual difficulties might be due to visual fatigue. A +3.50 bottom clip-on add, when used with his current glasses produced a "good" subjective result with a 20cm working distance. A pair of "2X MaxDetails" wearable focusable intermediate-distance tele-binoculars provided 0.8M continuous text acuity at 40cm. It is possible that this device alone might make advanced computer accessibility functions unnecessary.

The patient's agency case manager, C, will provide the following trial low vision aids with the required workplace training:

1. NoIR 481-38 medium-plum fit-over sun-wear with top and side-shields, dispensed from stock
2. NoIR 481-21 medium-plum clip-on sun-wear, dispensed from stock
3. NoIR U-88 light-plum fit-over (indoor) glare protection with top and side-shields, dispensed from stock
4. 2.8X focusable distance monocular
5. +3.50 bottom clip-on add
6. 2X MaxDetails wearable focusable intermediate-distance tele-binoculars

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

20).

To referring ophthalmologist

M, born in 1975, saw you in 2019 with retinitis pigmentosa. At that time, his best corrected distance acuities were:

OD -3.00 +0.75 X 075 20/60-2
OS -2.00 +0.25 X 122 20/50-1

This represented a myopic shift from his previous correction. You noted small bilateral age-related posterior sub-capsular cataracts. His central 10-2 fields were less than 10 degrees according to a 3/26/14 record on file at the agency.

C, a DBVI vocational rehabilitation counselor, recently provided a workplace functional vision assessment. The patient travels using an orientation and mobility cane. He lives in a multi-story home in a neighborhood with sidewalks. He often tele-works from home. He travels by air for his job approximately two weeks per month, and is having difficulty navigating and maneuvering in airports. He has been referred for agency orientation and mobility training. He reports that his left eye is his better eye. He reports that enlarging font on his computer is of limited use, because font must often be enlarged to the point that letters fall outside his usable field. He is having trouble seeing facial expressions during meetings. Brighter environments are usually much easier for him, but he does experience significant problems associated with glare, which can limit the benefit of additional lighting. He reports that it is difficult for him to locate targets. His agency orientation and mobility instructor will review techniques for that. He reports exceptionally long dark and light adaptation times.

I provided a low vision exam in 2019. C and the patient's wife were present during the exam. The patient's distance acuities with your new correction were OD 10/30-2, OS 10/30+, and OU 10/30. A 2.8X focusable distance monocular provided 10/20. Due to his reduced field, this device was only helpful when he used it without his glasses, (allowing the monocular's exit pupil to be as close to his pupil as possible). His orientation and mobility instructor may recommend removing his bifocal, and providing separate reading glasses. Even no-line bifocals can interfere with orientation and mobility with severely restricted visual fields. Extra lighting was only helpful when combined with a light-green tint, (which provided a better result than

other colors). I explained that glare is sometimes wavelength-dependent. Outdoors in bright sunlight, medium-green was dark enough, and as expected, dark-green was too dark. The patient was unaware that putting on sun-wear before going outside, and removing it after coming inside, could significantly reduce his dark and light adaptation times. This was discussed.

The patient's near continuous text acuity, with his current +2.50 bifocal, was 1.6M at 40cm. A "Coil 5214" non-lighted stand magnifier, when used as designed without his +2.50 spectacle add, produced 3X and provided 0.5M continuous text acuity. A "Reizen" hollow-dome non-lighted stand magnifier, when used with his spectacle add, produced 2.5X, and provided 0.8M continuous text acuity. A "Coil 5428" non-lighted stand magnifier, when used with his spectacle add, produced 2.1X, but the patient preferred the "Reizen" non-lighted stand magnifier with his spectacle add. Various lighted stand magnifiers were demonstrated, and as expected, the patient was sensitive to the type of light source incorporated within the stand magnifier. LED light sources were too bright, and incandescent light sources were too dim. The 5X "PowerMag" yellow-lighted stand magnifier provided the most comfort, as well as 0.8M continuous text acuity. A 3.5X incandescent-lighted hand magnifier, designed for left-handed patients, was also helpful, and would allow for a more portable option.

The patient's agency case manager, C, will provide the following trial low vision aids with the required workplace training:

1. NoIR U-30 medium-green sun-wear with top and side-shields for outdoors, dispensed from stock
2. NoIR U-38 light-green sun-wear with top and side-shields for indoor glare, dispensed from stock
3. 2.8X focusable distance monocular
4. 3.5X incandescent-lighted hand magnifier, suitable for left-handed patients, dispensed from stock
5. 5X "PowerMag" yellow-lighted stand magnifier, dispensed from stock

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

21).

To referring ophthalmologist

J, born in 1944, saw you in 2019 with a history of left homonymous hemianopsia following stroke, bilateral epiretinal membranes, bilateral pseudophakia, bilateral corneal verticillata, and left optic neuropathy. At that time, his best corrected distance acuities were:

OD -1.00 +2.25 X 105 20/50
OS -2.25 +1.50 X 165 20/30+2

He was wearing the following glasses:

OD -0.75 +2.25 X 115
OS -2.00 +1.50 X 164
OU +2.75 flat-top bifocal

R, a DBVI vision rehabilitation teacher, recently provided an in-home, functional vision assessment. The patient always travels with a sighted guide, and was referred for agency orientation and mobility instruction. The patient's primary visual goal involves reading newsprint. He does not track to the beginning of each new line of text due to his left field loss, and will require line guides with adequate training to read more effectively. He also complains of blurry letters when reading with his current bifocals, and may therefore need near magnification. He has difficulty seeing the letters on his computer keyboard, and will be given access to a large-print keyboard for trial use. He was provided access to talking books through the National Library Service. He is bothered by glare, both indoors and outdoors.

I provided a low vision exam in 2019. R was present during the exam. Various shades of various colored sun-wear were demonstrated both indoors and outdoors. It is likely that the patient will benefit from light, medium, and dark-grey sun-wear with top and side-shields.

The patient's near continuous text acuity was 1.2M at 30cm. An additional +2 diopters provided 0.6M continuous text acuity. Extra light, especially when combined with light-grey glare protection, provided better function than customary light. I demonstrated several stand magnifier options, and the patient stated that lighted magnifiers produced too much glare. A Reizen 6X hollow-dome non-lighted magnifier was difficult for him to handle with his left hand, (which he said had become less coordinated following his stroke). A simple +3.00 bottom clip-on, which centered over his current +2.75 spectacle add, provided 0.8M (newsprint) continuous text acuity. When used with the right combination of lighting and glare protection, (to be determined in his home environment), the +3.00 bottom clip-on will provide simple easy use and sufficient magnification.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-grey sun-wear with top and side-shields
2. NoIR U-21 medium-grey sun-wear with top and side-shields
3. NoIR U-20 light-grey sun-wear with top and side-shields
4. +3.00 bottom clip-ons, dispensed from stock

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

22).

To referring ophthalmologist

N, born in 2002, saw you in 2019 with a history of congenital bilateral optic atrophy, ocular albinism, and nystagmus. At that time, his best spectacle corrected distance acuities were:

OD -11.50 -1.00 X 030 20/250
OS -11.50 -1.25 X 030 20/250

His best soft contact lens corrected distance acuities were:

OD -10.50 /8.5BC / 14.2Dia 20/200
OS -10.50 /8.5BC / 14.2Dia 20/100

OU 20/200

You noted full confrontation fields in each eye, full ocular motilities, and binocular fusion with orthophoria.

M, a DBVI Teacher of the Blind and Visually Impaired, recently provided an in-school functional vision assessment. The patient is academically successful and uses assistive technology appropriately. He uses an iPad Pro. He does not report photophobia, and prefers to no longer wear sun-wear or a brimmed hat. He hasn't used a distance monocular since grade school, and hasn't expressed a need for one due to reported sufficient classroom accommodations. However, M brought the patient for a low vision exam in order to evaluate and discuss distance magnification and bioptic options, (which will be pursued privately for driving). She felt that the primary purpose of that exam should be to discuss the potential for bioptic driving success, as well as the pros and cons of a variety of bioptics, given his specific visual condition.

I provided a low vision exam in 2019. M and the patient's mother were present during the exam. The patient's confrontation fields were full in each eye. A Galilean telescope has an internal exit pupil, and therefore often works better for patients with nystagmus than a Keplerian telescope with its external exit pupil, (which must remain within his anatomic pupil throughout all the phases of his nystagmus in order to provide vision). His angle of nystagmus was small enough to expect success with at least a Galilean bioptic.

The patient's spectacle corrected distance acuities were OD 10/100-1, OS 10/100+1, and OU 10/100+2. These were good enough to expect success meeting distance acuity driving requirements with a bioptic carrier lens. However, I explained that these functional low vision acuities can only predict this success, and not establish it. The patient reported that his contact lenses are uncomfortable, and that he therefore prefers to wear his glasses. I advised that he receive follow-up contact lens care from you. However, given his functional distance acuities, he may not require contact lenses to meet distance acuity driving requirements with a bioptic carrier lens. When handing the patient a 4X "Specwell" Galilean focusable distance monocular, he immediately used it with his right eye. Although he stated that his left eye consistently provides slightly better distance acuity, he noted that he uses his right eye for sighting when using cameras. I explained that the eye with better distance acuity is not always the eye that provides better directional context. Although the 4X focusable distance monocular provided 10/20-1 in each eye, the patient mixed up the order of the letters when using his left eye. I therefore suggested any bioptic be placed on his right spectacle lens.

The patient's mother stated that he had tried both an Ocutech Keplerian and a Galilean distance bioptic at age nine, and both worked well. Because his angle of nystagmus might not preclude the use of the Ocutech Keplarian bioptic with its external exit pupil, he should be shown an Ocutech Keplarian as well as a Galilean bioptic. I explained that the Ocutech Keplerian bioptic would provide a larger field of view with greater light gathering properties than a Galilean version, if his nystagmus did not preclude its use. It is worth noting that the patient stated that he had prefered the Galilean version at age nine, although that may have been for other reasons.

The patient's agency case manager, M, will provide the following trial low vision aid with the required training:

1. 4X "Specwell" (Galilean) focusable distance monocular

The patient's mother understood that I provided a vision exam only, and that you are the professional working to maintain her son's ocular health.

23).

To referring ophthalmologist

S, born in 1953, saw you in 2019 with a history of retinitis pigmentosa, Usher's Syndrome, and bilateral pseudophakia. At that time, her Goldmann visual fields were OD 8 degrees, and OS 5 degrees. Her best corrected distance acuities were:

OD +0.50 20/40-2
OS plano 20/40-2
OU 20/40

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient has worked for a local college for many years, and has been having more visual difficulties on the job over the past year. She has fallen while traveling with a cane. She sometimes uses a dog guide. The patient also reports increasing difficulties with balance over the past year, but is not interested in using a support cane at this time, because she, "already has enough things to hold on to." C has referred the patient for agency orientation and mobility training, and the issue of her balance in relation to her safety while traveling will be evaluated during those training sessions. The patient is now having difficulty using Zoomtext, her screen magnification program, in the workplace, and may benefit from an agency assistive technology evaluation. The patient requires extra lighting for best indoor vision, yet is significantly bothered by indoor glare. In the past, she has found the NoIR light-plum tint to be the most helpful shade and color indoors, and also outdoors in bright sunlight where she finds medium-plum tints to be too dark. She is bothered by long light and dark adaptation times, and has been aware of the compensating strategy of placing sun-wear on before entering sunlight, and removing sun-wear only after leaving sunlight. Due to her cochlear implant, standard NoIR frames are uncomfortable, and for that reason they have been abandoned in the past, in favor of less effective OTC sun-wear without top and side-shields.

I provided a low vision exam in 2019. C, and a DBVI orientation and mobility instructor, were present during the exam. The patient's uncorrected distance acuities were OD 10/20-4, OS 10/25, and OU 10/20-3. A 2.5X focusable distance monocular was usable, and allowed for slightly enhanced distance acuity. I explained the phenomenon of its concurrent 2.5X field reduction, (and that it also multiplies the apparent motion of targets by 2.5X). Nevertheless, based on her responses to the low vision aid in the exam room, she agreed that a field trial is warranted. A 2.8X version would be the best for that purpose due to its larger field. I demonstrated several light-colored tints outdoors, and the patient preferred light-plum. The patient reported that the NoIR 435 frame fit best over her cochlear implant. Although the NoIR 435 frame does not have top and side-shields, it is a wrap-around design, and fits closely to the patient's face.

The patient's uncorrected near continuous text acuity was 1.6M at 50cm. Extra lighting provided 1.2M at 50cm. A pair of 2X "MaxDetails" wearable focusable tele-binoculars provided 0.5M continuous text acuity at 50cm with extra lighting. This will more than meet her near and computer distance acuity goals, though it obviously won't alleviate issues related to her reduced fields at near, and might even exacerbate those issues. However, given that most of her difficulties working on her computer were reported to be due to difficulties with her screen enlargement software, (which also reduces functional near fields), these tele-binoculars may alleviate her difficulties working on the computer by eliminating her need to use the software.

The patient's agency case manager, C, will continue to coordinate the patient's services within the agency, and will provide the following trial low vision aids with the required training:

1. NoIR 435-88 light-plum wrap-around sun-wear for indoors and outdoors
2. 2.8X focusable distance monocular, (to be demonstrated during orientation and mobility training)
3. 2X "MaxDetails" wearable focusable tele-binoculars, (to be used when seated only)
4. Gooseneck floor-lamp
5. Gooseneck desk-lamp

The patient understood that I provided a vision exam only, and that ophthalmology is the profession working to maintain her ocular health.

24).

To referring ophthalmologist

C, born in 1928, saw you in 2019 with a history of bilateral dry ARMD. You measured her distance acuities as OD LP, and OS 20/70. You also reported that the patient sees Dr. K for a history of bilateral DSEK.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient is a college graduate, and lives with her daughter in a single-story home with entry steps and a railing. Her daughter helps her manage her medications. Her primary visual goals involve watching TV, spot reading, and reducing glare. She travels using a walker, and does not report bumping into, or knocking over, objects. R provided a talking clock and several other non-optical aids.

I provided a low vision exam in 2019. R and the patient's friend were present during the exam. The patient reported seeing Dr. K in 2019, and reported also seeing Dr. B for glaucoma in 2019. She stated that glaucoma had caused the vision loss in her right eye, and that the effects of glaucoma were, "moving fast." She reported occasionally seeing patterns of leaves on non-patterned surfaces. Although these symptoms were consistent with Charles Bonnet Syndrome, I obviously did not make that diagnosis, and emphasized that she must report all such new visual symptoms directly to her ophthalmologist's office as soon as she experiences them. She understood, and agreed to do so.

The patient's distance acuities with her current glasses were:

OD +0.50 -0.75 X 120 Occasionally detected HM@1ft
OS +0.75 -2.50 X 065 20/60
OU 20/60
(+3.00 flat-top bifocal)

A left "finger-counting" visual field revealed a horizontal field of about 40 degrees. Various light-colored tints were demonstrated across the visual spectrum, and no wavelength provided more comfort or contrast than (neutral) gray. Light-gray lenses reduced subjective acuity indoors under fluorescent lighting. Outdoors in direct sunlight, NoIR #22 dark-gray sun-wear provided sufficient glare relief, and NoIR #23 extra-dark gray sun-wear was too dark. The NoIR #430 frame fit best. A pair of new NoIR 430-22 sunglasses were dispensed from stock. A left trial-framed refraction indicated that:

OS +0.75 -1.50 X 030

provided the best subjective distance acuity, but did not change objective distance acuity, or provide any benefit the patient felt was significant. A pair of 2X "TV Max" wearable distance binoculars provided 10/25-1. The patient understood that these were to be worn when seated only.

The patient's near continuous text acuity, corrected with her current +3.00 spectacle add, was 1M at 40cm. Both a large paperweight magnifier, and a 3X "Coil 5432" non-lighted hand magnifier, provided 0.5M continuous text acuity at 30cm. The patient disliked demonstrations of LED and incandescent-lighted magnifiers, table-lamp mounted magnifiers, necklace-mounted magnifiers, and a pair of 2X "MaxDetails" wearable focusable tele-binoculars.

The patient's agency case manager, R, will provide the following trial low vision aids with the required instruction and in-home training:

1. NoIR #430-22 dark-gray fit-over sun-wear with top and side-shields for direct sunlight, (dispensed from stock 3/18/19)
2. 2X "TV Max" wearable focusable distance binoculars, (to be worn when seated only)
3. Large paperweight magnifier
4. 3X "Coil 5432" non-lighted hand magnifier

The patient understood that I provided a vision exam only, and that her ophthalmologists are the professionals trained to make medical diagnoses, follow her medical eye conditions and visual changes, and work to maintain her ocular health.

25).

To referring ophthalmologist

F, born in 1962, saw you in 2019 with a history of chronic bilateral optic neuritis associated with MS. You also noted bilateral cataracts, but did not recommend surgery. Her corrected distance acuities were:

OD -2.75 -0.50 X 109	20/100 (PHNI)
OS -3.00	20/200 (PHNI)
(OU +1.75 bifocal)	

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient travels with a rollator. She has an old Aladdin desktop CCTV with a broken tray that will not hold material steady. Her MS has therefore made using the device difficult, since her hands, “do funny things.”

I provided a low vision exam in 2019. R was present during the exam. The patient reported that you said her new glasses would not improve her vision. She reported that the corrected vision in her left eye was worsening, and that her fields were, “getting smaller.” The patient's uncorrected distance acuities were OD 10/180, OS 10/180, and OU 10/180. Her corrected distance acuities were:

OD -2.75 -0.50 X 109	10/60-1
OS -3.00	10/100-2

A 2.5X “ring” focusable distance monocular provided OD 10/30. This was difficult for her to manipulate. A pair of 2X “TV Max” wearable focusable distance binoculars provided only 10/60, even when focused for her myopia. She sits six feet from her TV, and reports seeing it clearly. Various light-colored filters were demonstrated indoors under fluorescent lighting. Given her optic nerve pathology, it was especially important to demonstrate a large variety, which included NoIR purple, plum, gray, green, topaz, amber, yellow, and orange. Light-green fit-over lenses with top and side-shields significantly improved indoor comfort and subjective contrast, allowing the patient to discern facial expressions across the room. I therefore also recommended she try similar medium-green sun-wear outdoors.

The patient's uncorrected near continuous text acuity was 4M at 30cm. A pair of +5 readers provided 2M continuous text acuity at 15cm. Gooseneck well-directed lighting was helpful. The patient had two distinct visual goals, one to read standard 2M large-print books, and another to read 1M newsprint when necessary. I discussed using two separate strategies to meet these goals, since meeting the 2M goal was possible with hands-free use of reading glasses. This would be especially important because this goal was her primary acuity goal for recreational reading. For her secondary goal of reading newsprint, I demonstrated the addition of a “Coil 5428” non-lighted stand magnifier, which produced 4.25X with her +5 readers and gooseneck well-directed lighting. However, this combination of devices only provided 1.6M continuous text acuity. I demonstrated the addition of a “7.1X Coil” LED-lighted stand magnifier, which produced 7.5X with her +5 readers. However, this combination of devices only provided 1.25M continuous text acuity. I demonstrated a “8.1X Coil” LED-lighted stand magnifier alone, which produced 8X without her +5 readers. However, this device only provided 1.25M continuous text acuity. Increasing optical magnification beyond this level would reduce available field to a level impractical for efficient reading. A portable CCTV, best with reversed contrast, provided 0.5M continuous text acuity with an adequate usable field. The patient was able to easily manipulate the device, and it may represent a reasonable alternative to replacing her fifteen-year-old broken desktop CCTV.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-30 medium-green fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-38 light-green fit-over sun-wear with top and side-shields for indoor glare
3. +5 readers
4. Gooseneck floor-lamp
5. Gooseneck table-lamp
6. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

26).

To referring ophthalmologist

M, born in 1949, saw you in 2018 with a history of bilateral retinal dystrophy, and non-visually significant cataracts in each eye. At that time, her visual fields were less than 20 degrees in each eye, and her corrected distance acuities were:

OD +1.75 -1.25 X 180 CF@face

OS +1.50 -1.00 X 180 20/40-2
(OU +1.50 progressive bifocals)

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone in a two story house. She likes to walk in her neighborhood, and often uses a support cane. She has difficulty navigating due to her restricted visual fields, and has been referred for agency orientation and mobility training. Although extra lighting generally improves her vision, she complains of glare, both indoors and outdoors. Her primary visual goal is to read newsprint.

I provided a low vision exam in 2019. L and a DBVI orientation and mobility instructor were present during the exam. The patient stated that she first noticed a reduction in fields and acuity approximately two years ago. On 2/21/19, her uncorrected distance acuities were OD 10/700EF, OS 10/60-2, and OU 10/60-2. Glare from her right eye reduced subjective comfort and binocular vision. Central right lens occlusion did not significantly change that. Her left trial frame refraction results were:

OD balance 10/700
OS +1.50 10/25+3
PD 63mm

The left refractive correction was significant to +/-0.25DS and +/-0.50DC. The patient stated that her bifocals, “make her stumble.” I therefore recommended a pair of single-vision distance lenses.

For near reading, the patient currently uses a dimly lighted 3X LED hand magnifier, and the left lens of the following broken readers:

OD +4.50 -1.50 X 010
OS +4.25 -0.25 X 170

A pair of +5.50 readers provided only 1.6M continue text acuity at 25cm. Again, glare from her right eye reduced subjective comfort and vision, and central right lens occlusion did not significantly change that. However, a pair of NoIR U-48 light-amber fit-over lenses with top and side-shields did. A NoIR 448-30 frame was required for a comfortable and effective fit. A pair of +8 readers provided a slow 1M (newsprint) continuous text acuity. A pair of +10 readers provided 0.8M continuous text acuity. Well directed lighting was required.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR 440-30 medium-amber fit-over sun-wear with top and side-shields for outdoors
2. NoIR 448-30 light-amber fit-over lenses with top and side-shields for indoors
3. +10 prism-compensated half-eye readers
4. The following single-vision distance correction:

OD +1.50
OS +1.50
PD 63mm

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

27).

To referring ophthalmologist

H, born in 2012, saw you in 2019 with a history of ROP, nystagmus, and a right vitrectomy. At that time, her corrected distance acuities were OD 20/150, OS 20/100, and OU 20/80. You prescribed her cycloplegic refraction with no add:

OD -15.50 +1.75 X 090
OS -17.50 +2.50 X 075

S, a DBVI Teacher of the Blind and Visually Impaired, recently provided an in-school functional vision assessment. The patient reportedly trips and falls frequently, and will therefore be referred for agency orientation and mobility training. The patient wears photochromic lenses, and does not complain of glare inside or outside on sunny days. Her parents and teachers have not witnessed squinting or signs of discomfort in bright conditions.

I provided a low vision exam in 2019. S and the patient's mother were present during the exam. The patient's distance acuities with the above glasses were OD 10/60+2, OS 10/60, and OU 10/25+2. Her nystagmus was reduced under binocular conditions. Not surprisingly, a distance monocular was difficult for her to use. However, when distance goals become relevant to her academic success, binocular distance magnification could be an option. A pair of NoIR S-20 light-gray fit-over lenses with top and side-shields did not increase comfort or vision in a bright window-filled room.

The patient's near isolated letter acuity with the above glasses was 4M at 30cm. Simply adding extra lighting provided 0.8M isolated letter acuity at 30cm. The patient immediately smiled when I showed her the 4X LED-lighted stand magnifier. A 3X LED-lighted hand magnifier could offer portability, if she finds that is important. A "Coil 5214" non-lighted tilt stand magnifier, when used with a gooseneck table-lamp, allowed the patient to write more easily.

The patient's agency case manager, S, will provide the following trial low vision aids with the required in-school training:

1. 4X LED-lighted stand magnifier
2. 3X LED-lighted hand magnifier, (patient is left handed)
3. "Coil 5214" non-lighted tilt stand magnifier for writing tasks
4. Gooseneck table-lamp

The patient's mother understood that I provided a vision exam only, and that you are the professional working to maintain her daughter's ocular health. She therefore agrees to follow your instructions and keep her daughter's follow-up appointments with you.

28).

To referring ophthalmologist

J, born in 1963, saw you in 2018 with a history of rod-cone dystrophy. At that time, her corrected distance acuities were:

OD -5.50 +0.50 X 174 1/200E

OS -7.50 +1.50 X 086 1/200E
(OU +2.50 bifocal)

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives alone in an apartment. Her brother lives nearby and is available to assist her with some tasks. In the recent past, she has received assistance from a home health aide for several hours two days each week. She receives services from the local community services board, including participation in a day program three days each week. She is able to perform some personal and home management tasks independently; such as dressing, eating, shopping, and some cooking. In the past she has received assistance with other personal and home management tasks from her home health aide, such as with cooking, house cleaning, laundry, medication, and diabetes management. Without her home health aid, it is unclear who will assist her with these tasks. L will attempt to address any goals that cannot be adequately met with low vision aids using non-visual techniques. These may include operating appliances, medication management, testing her blood glucose, using a digital recorder for brief note-taking tasks, labeling and identifying household items, telling time, exploring accessible landline telephones, using her cell phone, accessing familiar and unfamiliar telephone numbers, bill paying by check or telephone, tracking appointments, exploring lighting options, and operating her National Library Service digital book player. L provided the patient with a “PenFriend” to create audio labels for canned goods and medicines. L provided a sun-wear evaluation indoors as well as outdoors, demonstrating a variety of colors. The patient was extremely light sensitive, and preferred NoIR U-30 medium-green sun-wear with top and side-shields for outdoors and indoors. The agency provided this sun-wear, and L dispensed it to the patient. The patient does not drive, and her primary sources of transportation are her brother and the transportation service provided by the local community services board. The patient has balance problems and uses a walker and a support cane depending on her situation. She is able to navigate independently within her apartment and apartment complex. She also travels independently to the local community service board clubhouse three days each week, and shops with the assistance of a customer service assistant. However, she reported difficulty navigating in unfamiliar environments, seeing step/curbs, and avoiding obstacles. She received orientation and mobility training three years ago; and at her request, she has been referred for additional DBVI orientation and mobility training. The patient was specifically interested in trying low vision aids to help with reading newsprint and writing checks.

I provided a low vision exam in 2019. L was present during the exam. The patient reports that she sees best at 25cm. Her uncorrected distance acuities using medium-green sun-wear under fluorescent lighting for comfort were OD 3/700, OS 3/700, and OU 3/700. She had a definite preference for vision using her right eye. Her right subjective refraction result at three feet was:

OD -5.00 3/160

This result was obtained using medium-green sun-wear with room lights on. The same objective and subjective result was obtained with no medium-green sun-wear and with room lights off. Although 3/160 seems to be much better vision than 3/700, the patient was unimpressed with the difference, most likely due to a wide variety of other visual factors that may have actually been made worse with the OD -5.00 lens, (such as contrast sensitivity for large targets, perceived contrast, glare, or comfort).

The patient's uncorrected near isolated letter acuity was 8M at 25cm. This is equivalent to a letter eight times the size of newsprint. This result was obtained using medium-green sun-wear with room lights on. The same objective and subjective result was obtained with no medium-green sun-wear and with room lights off. I demonstrated a portable CCTV with reversed contrast. The patient was able to read newsprint by magnifying the letters to an 8M screen

size. Using non-reversed contrast, (black on yellow), a 5M letter screen size was sufficient. However, this still would allow only a couple of small words to appear on the screen at any one time. Ms. Conner had expressed that the patient's visual fatigue was a significant factor, and that any momentary relative success in the low vision exam might not translate to usable sustained vision in the home environment. Nevertheless, she felt it seemed reasonable to pursue electronic magnification on a desktop CCTV, since it would have a much larger screen than a portable CCTV.

Following the low vision exam, L provided a demonstration of a Merlin desktop CCTV in the regional DBVI office. She oriented the patient to the device, showed her how to operate its controls, (magnification, color, and contrast), and showed her how to position print material beneath its camera, (by moving the page or the movable platform). The patient practiced using it to read a near vision card. With the CCTV set to 16x magnification, and white letters on a black background, the patient was able to read a sentence of 1M (newsprint), and start to read 0.8M print, (although she could not complete the sentence). Based on the patient's performance with the desktop CCTV, L felt she could benefit from evaluating a desktop CCTV further in her home. L will provide a demonstration model. If it proves useful, DBVI will provide a donated model.

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

29).

To referring ophthalmologist

R, born in 1952, saw you in 2018 with a history of right anterior ischemic optic neuropathy, (AION OD). You reported that this is responsible for some of the vision loss in her right eye. The patient also had a history of bilateral corneal grafts, (DSAEK OU), which you reported were doing well. Her corrected distance acuities were:

OD +1.00 +0.50 X 170 20/60-
OS +0.50 +1.50 X 010 20/40-
(OU +2.50 bifocal)

S, a DBVI vocational rehabilitation counselor, recently provided an in-home functional vision assessment. The patient lives with her sister, and does not drive. The patient reported having had a stroke in the late eighties which affected her eyes. She has worked forty hours per week at home on her computer for the IRS over the past ten years, and now notices blur that interferes with her work. She uses "Excel" spreadsheets, and must magnify them to the point that all relevant information will not fit on the screen. The patient has tried her sister's 2X "MaxDetails" wearable focusable tele-binoculars, designed for computer-distance use, and reports that they have solved the problem. S has referred the patient for an agency low vision exam, in part to determine whether or not "MaxDetails" are the best device for this task. She has also referred the patient for a DBVI assistive technology evaluation to determine if a software solution would be more practical. (The patient's employer has already provided "ZoomText" screen-magnification and screen-reading software, but the patient may not be taking full advantage of it, and she might be better served by different software). S demonstrated several pairs of sun-wear with various tints outdoors, and the patient preferred NoIR U-22 dark-grey fit-over sun-wear with top and side-shields.

I provided a low vision exam in 2018. S and the patient's sister were present during the exam. The patient does not wear the above pair of glasses for distance, but prefers to use the glasses you prescribed for computer use full time:

OD +2.25 +0.50 X 170
OS +1.50 +1.50 X 010
(+1.50 bifocal)

The patient's distance acuities with both these and her distance glasses were OD 10/100, OS 10/40, and OU 10/40+2. Her distance prescription provided a subjective, but not an objective improvement in distance acuity. Since she doesn't drive, and her visual world is usually within several feet, it seems reasonable for her to enjoy the simplicity of a single pair of glasses. I was very clear, however, that your distance refraction was correct. A pair of 2X "TV Max" wearable focusable distance binoculars provided OU 10/25. She felt they would be useful when watching television, and especially for shows with subtitles or captions. Both she and her sister understood that she should never walk while wearing them. A 2.5X "ring" focusable distance monocular provided OS 10/20.

The patient's near continuous text acuity with the bifocal portion of her computer glasses was 1M (newsprint) at 40cm. She complained that her right eye often interferes with her near vision, (but not her distance vision). She stated this effect is not immediate, and that she often addresses it by wearing a right eye patch. I demonstrated scotch tape over her right bifocal segment, and she will experiment with this at home. To reduce eye fatigue when reading with her bifocals over time, I also suggested she try a "6X Reizen" non-lighted hollow-dome stand magnifier with a gooseneck desk lamp. This combination provided 2.5X, and improved her subjective near acuity at 40cm, as did a 2X "BigEye" table-lamp.

The patient's intermediate-distance continuous text acuity, using the top portion of her computer glasses, was only 1.6M at 50cm. When using a pair of 2X "MaxDetails" wearable focusable tele-binoculars instead, this increased to 1M (newsprint) at 50cm, which is her intermediate-distance goal acuity.

The patient's agency case manager, S, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-grey fit-over sun-wear with top and side-shields
2. 2.5X "ring" focusable distance monocular
3. 2X "TV Max" wearable focusable distance binoculars
4. 2X "MaxDetails" wearable focusable tele-binoculars
5. "6X Reizen" non-lighted hollow-dome stand magnifier
6. Gooseneck table-lamp
7. 2X "BigEye" table-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

30).

To referring ophthalmologist

C, born in 1977, saw you in 2018 with sclerouveitis and band keratopathy OD, and a history of a left corneal perforation from a corneal ulcer. At that time, her corrected distance acuities were recorded as HM in each eye.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient does not drive. She lives with her boyfriend and 15 year-old daughter in a small home. She has a 22 year-old daughter nearby, who stays with her occasionally. Her mother and sister also live nearby, and are also available to provide assistance. The patient is able to perform some personal tasks independently, (such as dressing and tracking appointments). She receives assistance with many personal and home management tasks from her boyfriend, (such as clothing identification, medication management, bill-paying, some cooking, and laundry). Her daughter helps with cooking, and her mother helps with shopping. The patient is only able to navigate independently within her small home, (and is accompanied by a sighted guide outside her home). She was therefore referred for agency orientation and mobility services. L will demonstrate accessibility features on her cell phone, (such as text enlargement, screen magnification, voice commands, and Talk-Back). The patient is interested in trying low vision aids to help with reading mail, labels, food-prep instructions, price tags, medicine bottles, and debit card machines. L will address goals such as operating appliances, (oven, microwave, and washer/dryer); cooking, (pouring, measuring, preventing burning, and determining when food is adequately cooked); using a digital recorder for brief note-taking tasks; telling time; managing medications; eating; identifying money; accessing her Android smart-phone; using her land-line phone; accessing phone numbers; and accessing her computer non-visually if low vision aids are insufficient. She will provide the patient with access to talking books through the National Library Service, and will help assess the patient's home lighting, and make recommendations for any needed improvements.

I provided a low vision exam in 2019. L was present during the exam. Various light-colored lenses were demonstrated indoors. Some colors decreased comfort and the visibility of large objects at three feet. Other colors made no difference whatsoever. However, light-plum lenses improved comfort and the visibility of large objects at three feet. The patient felt this improvement was significant. When looking out a window on a sunny day, medium-plum lenses improved comfort and visibility, and were not, "too dark." Using the Feinbloom Low Vision Distance Chart, the patient's uncorrected acuities were OD 3/160, OS <1/700, and OU 1/700. Obviously, her left eye seriously reduced her vision when open. The use of light-plum glare control lenses did not change this situation at all. Her right eye was not able to visualize even the largest target at any distance beyond three feet, indicating a large exponential decrease in vision with testing distance. A trial of OD +/-2D, +/-5D, and +/-10D; was demonstrated with the largest target at six feet, and nothing provided visibility. The patient complained of monocular diplopia with her right eye.

The patient's uncorrected near isolated letter acuity was 3M at 15cm with her left eye closed. An "8.7X Coil" LED-lighted stand magnifier provided 1.6M isolated letter acuity at 15cm. A "10.1X Coil" LED-lighted stand magnifier provided 1.25M isolated letter acuity at 15cm. Surprisingly, a 5X LED-lighted hand magnifier also provided 1.25M isolated letter acuity at 15cm. A 7X LED-lighted hand magnifier produced too much glare. The patient felt the 5X LED-lighted hand magnifier would provide sufficient spotting acuity of isolated near targets such as price tags. However, it did not provide adequate continuous text acuity for reading newsprint. A portable CCTV provided 0.8M continuous text acuity at 25cm, and worked best with reversed contrast. The patient's hands shook constantly, and the patient reported that this was due to systemic medication. For that reason, I recommended a desktop CCTV for paper reading material. L will provide for an agency assistive technology assessment in the home, due to the patient's difficulty using her computer.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-81 medium-plum fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-88 light-plum fit-over lenses with top and side-shields for indoor glare
3. 5X LED-lighted hand magnifier for spot reading isolated near targets when traveling
4. Desk-top CCTV from donated stock for reading text at home

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

31).

To referring ophthalmologist

L, born in 1955, saw you in 2018 with a history of Stargardt's Disease. At that time, her corrected (and uncorrected) distance acuities were OD 20/200, OS 20/400, and OU 20/200.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's primary visual goals involve reading newsprint and signing her name. The patient is also bothered by glare, and has difficulty navigating in unfamiliar environments. She has been referred for agency orientation and mobility instruction.

I provided a low vision exam in 2019. R was present during the exam. The patient stated that she last could read the newspaper five years ago, and that she had to quit her full-time job due to the effects of vision reduction on her ability to use a computer. The patient currently works part-time. R will continue to assess the patient's need for DBVI assistive technology services. The patient's distance acuities, corrected with her current one-year-old glasses, were:

OD +0.75 -2.25 X 028	10/160
OS +0.50 -2.00 X 150	10/100-1
(OU +2.50 progressive bifocal)	

Over-refraction results were plano in each eye. A 4X 12 degree "Specwell" focusable distance monocular, best when used with her distance glasses and focused for emetropia, provided OS 10/25. In situations were available field is more important than central acuity, it may be more useful without her glasses, (for the larger field a shorter vertex distance can provide). The 4X 12 degree "Specwell" distance monocular was focusable to 4ft, where it provided 8M continuous text acuity. Outdoors in bright sunlight, a pair of NoIR U-43 dark-amber fit-over sun-wear with top and side-shields provided glare relief, and she preferred amber to other colors. A medium-amber version was recommended for cloudy days. The patient reported no difficulty with indoor glare.

The patient's near acuity was 2M continuous text at 50cm. This acuity was subjectively better with extra light and her right eye shut. I demonstrated reversed contrast on her phone, but this reduced subjective acuity. A 6X LED-lighted stand magnifier, held in front of her left eye, provided 0.5M continuous text acuity at 30cm. She much preferred this to a 4.7X LED-lighted stand magnifier, which only provided 0.8M continuous text acuity at 30cm. She preferred LED-lighted stand magnifiers to similar yellow-lighted stand magnifiers. For portability, I also demonstrated LED-lighted hand magnifiers. A 3X LED-lighted hand magnifier provided 1.6M

continuous text acuity. A 5X LED-lighted hand magnifier provided 0.5M continuous text acuity at 40cm.

Due to the patient's visual goal of writing by hand more easily, I demonstrated a 2X "BigEye" table-lamp, which provided lighted hands-free magnification. The patient was able to write more easily with it. R will also provide writing guides, in order to make it easier for the patient to write in straight lines in her journal.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields for cloudy days
3. 4X 12 degree "Specwell" focusable distance monocular
4. 5X LED-lighted hand magnifier
5. 6X LED-lighted stand magnifier
6. 2X "BigEye" table-lamp
7. Writing guides

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

32).

To referring ophthalmologist

J, born in 1942, saw you in 2018 with a history of a longstanding left macular scar, and new right corneal scaring resulting from exposure keratitis. He has bilateral IOLs, and has a reported history of strabismus surgery. His corrected distance acuities were OD CF@3ft, and OS CF@5ft.

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient has a pair of one-year-old distance glasses and a pair of +5 readers which are no longer helpful. His right eye has provided his best central vision the past, and he reports only having peripheral vision in his left eye for quite some time. Glare is a significant problem, both indoors and outdoors. He has Parkinson's Disease, and it is difficult for him to use his hands. For that reason, he can not effectively use his desktop CCTV for reading.

I provided a low vision exam in 2019. R and the patient's wife were present during the exam. The patient's uncorrected distance acuities were OD 6/700, and OS 10/180+1. His distance acuities with his current distance glasses were unchanged:

OD +2.50 6/700
OS +4.00 -1.00 X 090 10/180+1

The patient stated that he had noticed a significant reduction in acuity about 6-8 months ago; and that before then, his vision was only slowly changing. He ascribed his vision reduction to, "years of dry eye." He stated that his current +5 readers are only useful in conjunction with a lighted hand magnifier, (which is difficult for him to use due Parkinson's Disease). He clearly needed a vision aid that would not require the use of his hands. A pair of 3.5X wearable focusable distance binoculars provided OS 10/60+1, and was best when focused for

emetropia. The device was focusable to 50cm, where it provided 1.6M isolated letter acuity, as well as 2M continuous text acuity, (which is twice the size of newsprint font, and available in standard large-print books and magazines). I demonstrated how to focus the device to his wife as well, since she will probably need to focus the device for him. He has a floor-lamp, but will need a reading stand. I explained that this will not make reading large-print paper material easy, but it will make it possible. There are options for hands-free reading electronically with assistive technology, and R will assess the need for that approach with the patient in his home. I demonstrated various colors of sun-wear in direct sunlight, and he preferred amber.

The patient's agency case manager, R, will provide in-home training with the following trial low vision aids:

1. NoIR U-43 dark-amber fit-over sun-wear with top and side-shields for bright sunlight, dispensed from stock
2. NoIR U-40 medium-amber fit-over sun-wear with top and side-shields for cloudy days, dispensed from stock
3. NoIR U-48 light-amber fit-over sun-wear with top and side-shields for indoor glare, dispensed from stock
4. 3.5X wearable focusable distance binoculars, focusable to 50cm, dispensed from stock with instruction
5. Reading stand, dispensed from stock

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

33).

To referring ophthalmologist

S, born in 1991, saw you in 2018 with a history of congenital optic nerve hypoplasia with nystagmus. At that time, her uncorrected distance acuities were OD HM @6ft, and OS HM @6ft. Her confrontation fields were full to hand motion in all four quadrants of each eye separately.

In 2008, the patient saw Dr. K, who noted optic nerve hypoplasia with nystagmus. Her uncorrected distance acuities were OD 20/700 EF, and OS 20/700 EF. He prescribed a pair of 6X “Walters” focusable distance bioptics, (set for right eye distance spotting), and a pair of +11 readers. The patient still uses the readers, but no longer uses the 6X bioptic. She had thought it would be useful in class, but its required 6X magnification also reduced its field by six times, and it was too difficult for her to follow a line of print on the blackboard. She now feels distance magnification in a portable hand-held form might be useful for spotting distant signs.

M, a DBVI vocational rehabilitation counselor, recently provided an in-home functional vision assessment, and has been coordinating DBVI services for the patient as she pursues her vocational goals.

I provided a low vision exam on in 2018. M and the patient's father were present for the exam. The patient’s uncorrected distance acuities were OD 10/600, OS 10/600, and OU 10/400. Her nystagmus increased when she was monocular, and this reduced her monocular acuities. I demonstrated several light-colored lenses across the visual spectrum indoors, and the patient noted that yellow lenses made things appear more bold. Her response to reddish lenses was,

“ouch.” Her response to light-green lenses was that they made her vision, “way more,” comfortable. Outdoors in bright sun-light, medium-green sun-wear was dark enough, and dark-green sun-wear was too dark. A 6X “Specwell” focusable distance monocular provided OD 10/100+2. An 8X “Specwell” focusable distance monocular provided OD 10/40-1. An 8X 25 degree “Carson” focusable distance monocular provided OD 20/40+1. She preferred this version because it provided more light, a larger field, and she could hold and focus it with one hand.

The patient uses a “Pebble” portable CCTV for many near tasks, but prefers using her +11 readers when reading books, since books often don’t lie flat. Her uncorrected near continuous text acuity was 1.2M at 8cm. A “Coil 5214” non-lighted stand magnifier is designed to be used with a maximum reading add of +1.00 because its 3X enlarged virtual image lies one meter behind its lens. It provided the patient with her most “crisp” near vision when used with an OD -5.00 trial lens. This indicated that the patient’s right eye had six diopters of myopia. This was corroborated with a distance trial lens refraction using “crispness” as the criterion; rather than distance acuity, which was not affected by lens changes. The patient’s subjective sensitivity at distance using this criteria was only +/-2 diopters. However, this range was centered with an assumed refraction of OD -6.00, and again, this was corroborated with the refraction results using the virtual image of a “Coil 5214” stand magnifier rather than a distant target.

A “Coil 5428” non-lighted stand magnifier is particularly suited for use by a six diopter myope, since its maximum spectacle add is +7.00. Its enlargement factor is 3.4. Therefore, when used by a six diopter myope, it produces 5X. However, it only provided the patient with 1.2M continuous text acuity at 12cm. Although the extended working distance provided by the stand magnifier mode of magnification, (relative to a simple high plus add), was convenient, this particular stand magnifier did not provide her goal near continuous text acuity of 1M (newsprint).

Both the 10X and 15X “Peak” stand magnifiers have maximum usable spectacle adds of +5.00, which is close enough to +6.00 to have been a possible solution. The incandescent-lighted versions worked better than the non-lighted versions with external lighting, and when combined with light-green lenses, the patent exclaimed, “Hey, my eyes don’t hurt!” The 10X provided 0.8M continuous text acuity at 12cm, and the 15X provided 0.6M continuous text acuity at 12cm. The patient preferred the 10X version due to its larger field. With it, she could see an entire word at one time, which she could not do with the 15X version.

M, the patient's agency case manager, will provide the following trial low vision aids with the required training in a relevant setting:

1. NoIR U-30 medium-green fit-over sun-wear with top and side-shields for outdoors
2. NoIR U-38 light-green fit-over sun-wear with top and side-shields for indoors
3. 8X 25 degree “Carson” focusable distance monocular
4. 10X “Peak” incandescent-lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. She therefore agrees to follow your instructions and keep follow-up appointments with you.

34).

To referring ophthalmologist

J, born in 1968, saw you in 2018 with a history of bilateral anterior ischemic optic neuropathy. At that time, his distance acuities were OD 20/60-1, and OS 20/125-2. Pinholes provided no improvement in either eye. You noted visual fields of less than ten degrees in each eye. Dr. M had seen the patient on 3/26/18, and noted acuities of OD 20/50-2, OS 20/100-2, and OU 20/50. He also noted NPDR with DME OU.

L, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient lives with his wife in a townhouse. There are stairs into and within his home on which he has difficulty navigating. He is able to perform some personal tasks independently, such as dressing, clothing identification, telling time, telephone use, and tracking appointments. He receives assistance with other personal and home management tasks from his wife, such as cooking, laundry, bill paying, and shopping. He does not drive, and his primary source of transportation is his wife. He recently retired from the county sheriff's department, and is interested in seeking part time work. He is interested in trying low vision aids to help with reading newsprint, food labels, price tags, debit-card machines, medicine bottles, and his thermostat. He is also interested in low vision aids that might be helpful with writing tasks, such as completing financial and medical forms. L marked his microwave and stove dials with raised dots for easier use. At one point, the patient found it difficult to see well enough to use his computer, but this was addressed when L and a DBVI assistive technology specialist visited his office. They provided a large-print keyboard, and determined that his vision was best with purple letters on a black background. The patient is diabetic, and has some difficulty seeing his blood glucose test strips. He has been referred for DBVI orientation and mobility training, as well as DBVI vocational rehabilitation services. Outdoor glare and indoor fluorescent lights present significant discomfort.

I provided a low vision exam in 2018. L was present during the exam. The patient reported that his optic nerve function decreased gradually three years ago while he was hospitalized for a severe skin infection. The patient's uncorrected distance acuities were OD 10/40, OS 10/100, and OU 10/40. These were not improved with his current distance glasses, which he wears out of habit:

OD +0.50 -0.75 X 080
OS +0.25 -0.75 X 090

He currently uses a pair of +3.75 OU readers, and a 3X LED-lighted hand magnifier, and finds neither sufficient, either individually, or in combination. A pair of 2X "TV Max" wearable focusable distance binoculars were of no assistance, because although they doubled the size of a distant target, they cut the available field in half. Various light-colored tints were demonstrated under fluorescent lights, and the patient preferred light-gray, which he said, "cuts glare." I also recommended medium-gray for cloudy days, and dark-gray for sunny days. The patient always wears a hat with a brim.

The patient's near continuous text acuity with a pair of +4 readers was 2M at 25cm. Extra light made his vision worse. A 2X "BigEye" table-lamp with a 3X booster lens provided only 1.6M continuous text acuity. A "Coil 5214" non-lighted stand magnifier provided 1M (newsprint) continuous text acuity. The addition of a gooseneck table-lamp provided 0.8M continuous text acuity. This stand magnifier has an opening on one side, and tilts, so that the patient can write under it. He felt it would be helpful with paperwork. A 5X LED-lighted hand magnifier provided a slow 1M continuous text acuity. A 7X version provided an easy 0.6M continuous text acuity, and the patient found it easier to use. Given his already reduced fields, its smaller lens diameter was not an issue.

The patient's agency case manager, L, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-21 medium-gray fit-over sun-wear with top and side-shields for cloudy days
3. NoIR U-20 light-gray fit-over lenses with top and side-shields for indoors as needed
4. "Coil 5214" non-lighted stand magnifier
5. Gooseneck table-lamp
6. 7X LED-lighted hand magnifier

The patient understood that I provided a vision exam only, and that you and Dr. M are the professionals working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

35).

To referring ophthalmologist

A, born in 1933, saw you in 2018 with bilateral POAG, bilateral dry ARMD, and bilateral Fuch's Corneal Dystrophy. At that time, her best corrected distance acuities were:

OD -0.25 +1.00 X 170 20/60+1
OS plano +0.75 X 010 20/80

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient's visual goals involve reading newsprint, as well as large-print material.

I provided a low vision exam in 2018. R, and patient's daughter and son-in-law, were present during the exam. The patient's uncorrected distance acuities, as well as her distance acuities with her current glasses, were:

OD plano +0.75 X 169 10/40
OS +0.25 10/60
(+3.00 bifocal)

Various colors of fit-over sun-wear with top and side-shields were demonstrated, and the patient preferred gray. A careful trial-framed refraction provided:

OD +0.50 -1.00 X 090 10/40
OS +0.50 -1.00 X 090 10/60
PD 64mm

A 2X distance "Vollmorgan" magnifier placed with the right trial lens provided only OD 10/40. A 2X distance "Vollmorgan" magnifier placed with the left trial lens provided OS 10/25-2. A 4X distance "Vollmorgan" magnifier placed with the left trial lens provided OS 10/25. However, neither a pair of 2X "TV Max" wearable focusable distance binoculars, or a left 2.8X focusable distance monocular, improved her distance vision. This was likely due to the limited distance field provided by these devices, relative to that provided by a trial "Vollmorgan" magnifier. Although the patient reported no distance goals, this distance magnification testing informed intermediate distance magnification strategies.

The patient was able to read 1M (newsprint) continuous text with her current +3 reading add, but only slowly and with difficulty. The addition of a "Reizen" hollow-dome non-lighted stand

magnifier with added near lighting provided 3X, but produced too much glare. A 4.7X and 6X LED-lighted stand magnifier, as well as a 5X yellow-lighted stand magnifier, did not improve near vision or reading speed. A "Coil 5214" 4X non-lighted stand magnifier, used as designed with extra lighting and no reading add, produced too many distortions. The patient's comfortable continuous text acuity with a +8 reading add in the trial frame was only 1.2M at 12cm. However, the patient's comfortable continuous text acuity with a +12 reading add in the trial frame was 0.8M at 6cm. A reduced working distance was clearly the key to achieving her near goal. Due to her success with distance magnification in her left trial lens, and her desire for a longer working distance for some tasks, I demonstrated a pair of 2X "MaxDetails" wearable focusable tele-binoculars, which provided an easy 1M at 40cm.

The patient's agency case manager, R, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-22 dark-gray fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-21 medium-gray fit-over sun-wear with top and side-shields for cloudy days and car rides
3. NoIR U-20 light-gray fit-over sun-wear with top and side-shields for indoor glare as needed
4. 2X "MaxDetails" wearable focusable tele-binoculars for reading at 40cm
5. +4 readers for reading at 25cm
6. Gooseneck table-lamp
7. Gooseneck floor-lamp

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

36).

To referring ophthalmologist

G, born in 1979, saw you in 2018 with a history of ‘unexplained optic neuropathy syndrome.’ At that time his distance acuities were OD 20/100 (PH 20/80), and OS 20/80 (PHNI). You noted vision loss in his right eye beginning in 2008, and stable since 2016. You noted more recent vision loss in his left eye.

M, a DBVI vocational rehabilitation counselor, recently provided an in-home functional vision assessment. The patient lives with his wife who drives. The patient has recently gotten a job in customer service, and will be required to perform duties on a desktop computer that was provided by his employer. The monitor sits approximately 50cm from the patient on his desk. M has referred the patient for DBVI assistive technology services, which will involve on-the-job training with necessary software. The patient has seen several optometrists in hopes of getting glasses for improved distance vision, and still hoped that would be possible when I saw him for a low vision exam.

I provided a low vision exam in 2018. M and the patient's wife were present. Using the *Feinbloom Low Vision Distance Acuity Chart* and fluorescent room lighting, I measured uncorrected distance acuities of OD 10/60+1, OS 10/60, and OU 10/60+2. I reminded the patient that the acuities you measured did not meet legal driving requirements for daytime or nighttime. I stated that the acuities I measured with the Feinbloom chart did not either. Each eye demonstrated a fairly large blind spot just above fixation. The patient stated that his vision was, "better and bolder," with his right eye. The patient had been a photographer, and stated

that his left eye had always been the eye he used for sighting. I provided a trial-framed refraction, which verified the validity of his current (favored) single-vision distance glasses:

OD -0.25 -0.50 X 168 10/60+1
OS -0.25 -0.50 X 028 10/60
PD 68mm

The patient reported a wide range of lenses, (+/- 1.00DS and +/-2.00DC), producing no change in objective distance vision. However, his current glasses provided some subjective benefit, so should not be changed. Interestingly, distance magnification in the trial frame was much more effective with his right eye:

OD 2X 10/30-1; 4X 10/25+2
OS 2X 10/40+3; 4X 10/30

This was not the case with focusable distance monoculars. A 2.8X focusable distance monocular provided 10/25 with either the right or left eye. A 4X 12 degree "Specwell" focusable distance monocular provided 10/20-1 with either the right or left eye.

A pair of 2X "TV Max" wearable focusable distance binoculars provided 10/30. The patient felt these would be useful when viewing TV. I therefore recommended these, as well as a 4X 12 degree "Specwell" focusable distance monocular for quick distant spotting. I also recommended a 4X right-lens, high-mounted, focusable distance "bioptic" to allow for hands-free distance viewing for extended times in the workplace. If these are useful, the 2X "TV Max" wearable focusable distance binoculars probably won't be necessary. Various colors of sun-wear were demonstrated outdoors on a cloudy day, and the patient stated that light-green lenses significantly improved subjective vision, while light-gray, amber, and plum did not.

The patient's uncorrected near isolated letter acuity was 1.6M, best at 30cm. Extra light provided 1.25M isolated letter acuity, best at 30cm, and a slow 1.6M continuous text acuity, best at 20cm. A 2X (+8) near lens provided 0.8M continuous text acuity at 12cm with each eye separately, and binocularly. This exceeded his goal near acuity of 1M (newsprint), and should provide enough functional acuity reserve for comfortable reading. Of course, the patient preferred to experience this near magnification with a working distance more useable in the workplace. A pair of 2X "Max Details" wearable focusable tele-binoculars provided a fast 1.25M continuous text acuity, best at 50cm. This should be useful at his computer, as well as at his desk with a gooseneck lamp.

For better near acuity at a more customary reading distance of 30-40cm, a 4X LED-lighted stand magnifier with +4 readers provided a fast 0.8M continuous text acuity. The patient preferred the brighter LED light source to the version with a yellow light source. A 6X version also worked, but the patient preferred the 4X version due to its larger field. A 3.5X LED-lighted hand magnifier provided a fast 0.8M continuous text acuity at 30-40cm, and due to the variable focal length it provided, it did not require +4 readers. This device will be useful away from his desk.

The patient's agency case manager, M, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-30 medium-green fit-over sun-wear with top and side-shields for bright sunlight, dispensed from stock on the day of the low vision exam
2. NoIR U-38 light-green fit-over sun-wear with top and side-shields for cloudy days, dispensed from stock on the day of the low vision exam
3. 3.5X LED-lighted hand magnifier, dispensed from stock on the day of the low vision exam

4. 4X (or 6X if 4X unavailable) LED-lighted stand magnifier
5. +4 readers to be used with either stand magnifier, and not designed for useful vision alone
6. 2X "TV Max" wearable focusable distance binoculars for viewing TV scroll, and to be used when seated only
7. 2X "Max Details" wearable focusable tele-binoculars for viewing his computer screen at 50cm, and to be used when seated only
8. Gooseneck table-lamp for use with "Max Details" and non-backlit material at 50cm
9. 4X 12 degree "Specwell" focusable distance monocular for quick distance spotting
10. 4X right-lens, high-mounted, focusable distance "bioptic" to allow for hands-free distance viewing for extended times in the workplace, possibly an "Ocutech" Keplerian version for maximum field and light gathering

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

37).

To referring ophthalmologist

B, born in 1973, saw you in 2018 with a history of bilateral retinal detachments and a right nuclear cataract. At that time, her corrected distance acuities were OD 20/100 (PH 20/40), and OS 20/20.

M, a DBVI vocational rehabilitation counselor, recently provided an in-home functional vision assessment. The patient is currently training and testing for an information technology certification, and has a bachelor of science degree in political science. Her primary visual goals involve reading newsprint comfortably and without fatigue.

I provided a low vision exam in 2018. C, a DBVI vocational rehabilitation counselor, was present during the exam. The patient reported that her visual fields were no longer changing since her retinal detachments last year. Confrontation visual field results were full in the left eye, but reduced in the right eye. The patient complained of, "poor peripheral vision on the right side, and poor depth perception." The patient's current glasses were purchased in 2017, before her retinal detachments and right cataract development. These provided the following distance acuities:

OD -6.25 10/100-1
OS -5.25 -1.25 X 165 10/20

Retinoscopy revealed a right central media opacity. Her distance refraction results were:

OD -7.25 10/40
OS -5.25 -1.25 X 165 10/20
PD 65mm

Outdoors in bright sunlight, the patient preferred green sun-wear to other colors. A 2.5X "ring" focusable distance monocular provided OS 10/10.

The patient's near continuous text acuity was 0.8M at 40cm. The patient's primary near visual difficulty was reported to be fatigue. For that reason, the patient frequently uses the magnifier on her phone at work. Extra lighting was helpful. Light-green lenses improved comfort and

reduced bothersome glare from fluorescent lights. Both a "Reizen" hollow-dome non-lighted stand magnifier, and a 2X "BigEye" table-lamp, improved comfort.

The patient's DBVI case manager, M, will provide the following trial low vision aids with the required in-home training:

1. NoIR U-30 medium-green fit-over sun-wear with top and side-shields for bright sunlight
2. NoIR U-38 light-green fit-over lenses with top and side-shields for indoor glare as needed
3. A 2.5X focusable "ring" monocular
4. A "Reizen" hollow-dome non-lighted stand magnifier
5. LED-Spot floor-lamp
6. Gooseneck table-lamp
7. The following distance glasses:

OD -7.25	10/40
OS -5.25 -1.25 X 165	10/20
PD 65mm	

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

38).

To referring ophthalmologist

V, born in 1962, saw you in 2019, with a history of Stargardts Disease. At that time, her corrected distance acuities were:

OD -11.50 +2.25 X 100	20/150
OS -8.25 +1.75 X 090	20/100

You prescribed this correction, with a +2.50 add. You also noted worsening age-related cataracts. You noted fields that were FTFC OU, and that the patient was “legally blind.”

F, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient used to read books and use her computer for email, but she doesn’t do either anymore. She has a problem with glare recovery. She has bifocals, but she doesn’t see any difference when she uses them. She recently purchased new glasses. She has to take the glasses off and lean close to things to read. She said her peripheral vision is good. She has to sit close to the computer. She is has a large magnifier with a light, but it “doesn’t work well.” The patient has diabetes. She does not have a talking glucometer. She doesn’t check her blood sugars as recommended. The patient is currently employed with Mary Scott school as an instructional assistant. She has over 27 years of experience working with children. She is experiencing functional limitations due to her vision. She is unable to read books to children because she is unable to read standard print. Although the patient has a drivers license, she states she is unable to drive due to her vision loss. She is unable to read street signs or distinguish between colors on the street lights. She recently applied for a specialized transportation to get to and from work. She will be referred for agency orientation and mobility training. The patient uses a computer at work. She will be referred for an agency assistive technology evaluation. The patient requested assistance marking appliances maintaining independence in the home. She will also be referred for specialized home training from an

agency vision rehabilitation teacher. She was referred to VRCBVI to receive training in keyboarding, technology, computers using adaptive software, and diabetic health education.

I provided a low vision exam in 2019. F was present during the exam. The patient's corrected distance acuities were:

OD -11.50 +2.25 X 100 10/100
OS -8.25 +1.75 X 090 10/100+1

The patient was wearing a two-year-old pair of glasses, which only provided OD 10/120-1, and OS 10/100. Ms. Williams will assist the patient in filling your prescription, written above, at an optical office capable of filling such a prescription correctly. A 2.8X focusable distance monocular provided OS 10/80. A 4X 12° “Specwell” focusable distance monocular provided OS 10/30+2. The patient said, “wow,” when she looked through this device. Outdoors in bright sunlight, the patient preferred light-plum sun-wear.

The patient’s near acuity with her current glasses was 4M continuous text. Extra lighting helped. Various light-colored tinted lenses were demonstrated with extra lighting, and the patient preferred light-plum. A 4X bright LED-lighted stand magnifier provided 2M continuous text acuity, but was too bright. An 8X dimly lighted LED stand magnifier was not too bright, but did not improve near acuity beyond 2M continuous text. A 10X “Peak” incandescent-lighted standard magnifier provided a slow 1M (newsprint) continuous text acuity. The patient preferred the 10X to the 15X version. A portable CCTV, best with yellow letters on a black background, was required to allow the patient to read newsprint fluently. This device provided 0.6M continuous text acuity.

The patient's DBVI case manager, F, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR U-88 light-plum sun-wear with top and side-shields
2. 4X 12° “Specwell” focusable distance monocular
3. 10X “Peak” incandescent-lighted standard magnifier, for spot reading and travel
4. Portable CCTV

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

39).

To referring ophthalmologist

G, born in 1940, saw you in 2019, with a history of diabetic retinopathy and a left retinal detachment. At that time, her uncorrected distance acuities were recorded as OD NA, and OS CF@4ft.

N, a DBVI vision rehabilitation teacher, recently provided a functional vision assessment. The patient’s right acuity has been reduced since her right cataract was reportedly removed approximately 25 years ago. The patient had a retinal detachment in June 2019 in her left eye, which currently contains an oil bubble. It has been patched to prevent visual confusion.

I provided a low vision exam in 2019. N was present during the exam. The patient was wearing a patch on her left eye to prevent visual confusion. The patient's uncorrected right distance acuity was 10/60. Her over-refraction was plano. A pair of 2X distance binoculars only provided OD 10/40+1. A 7X Beecher wearable focusable distance monocular provided OD 10/10. She requires this vision to maintain her function as a choir director, and understood that she must remain seated while using it.

The patient's uncorrected near isolated letter acuity was 3.2M. Extra lighting was helpful. A pair of +4 readers provided 2M continuous text acuity. A 4.7X Coil LED-Lighted Stand magnifier, as well as a 3.5X LED-Lighted hand magnifier, provided 0.8M continuous text acuity. A 2.5X Craft wearable tele-binocular provided 1.25M continuous text acuity at 50cm, and should be helpful when reading sheet music and working on the computer. The patient understood she must never stand or walk while wearing them.

The patient's DBVI case manager, N, provided the following sun-wear and low vision aids, and will provide the required training:

1. NoIR 481-38 medium-plum sun-wear with top and side-shields
2. 4.7X Coil LED-lighted stand magnifier
3. 3.5X LED-lighted hand magnifier
4. 7X Beecher wearable focusable distance monocular, (OD only), for use when seated only
5. 2.5X Craft wearable tele-binocular, for intermediate distance use, and when seated only

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

40).

To referring ophthalmologist

R, born in 1957, saw you in 2019, with a history of congenital nystagmus, bilateral amblyopia, and bilateral age-related cataracts. At that time, his corrected distance acuities were:

OD +4.00 -3.50 X 015 20/200
OS +4.50 -2.00 X 165 20/100-

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient uses a support cane and travels independently. He was provided with writing guides, a double spatula, a kitchen timer, talking clock, contrasting sides current board, and bold lined paper with a felt tip pen so that he can write and read back his writing. He was also provided with a large print calendar. His microwave was marked with combinations of bump dots and Velcro for easier use.

I provided a low vision exam on 10/24/19. R, was present during the exam. The following were the patient's relevant corrected acuities with his current one-month-old flat-top bifocals:

Relevant focused acuities		
Spectacle only		**c(Distance mag)**

DIST	Subjective DS/DC Rx	BVAcc		BVAcc c2.8X	BVAcc c4X
OD	**+4.25 -3.75X011**	**10/80**			
OS	**+4.50-1.75X165**	**10/60**		**10/40**	**10/25**
OU		**10/40**			
NEAR (cDC)	**6X ILA LED Stand c+3add**	**BVAcc c+3add**			
OD	**0.8Mct**				
OS					
OU		**2.5Mct**			

Various colors of sun-wear were demonstrated outdoors in bright sunlight, and the patient preferred medium-amber, which he found to be dark enough. I therefore dispensed NoIR 440-39 from stock. I demonstrated various lighted handheld magnifiers, and the patient consistently preferred the stand magnifier form for focal length control.

The patient's DBVI case manager, R, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR 440-39 medium-amber sun-wear with top and side-shields, dispensed on 10/24/19
2. ILA 6X LED-lighted stand magnifier
3. 4X Specwell focusable distance monocular

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

41).

To referring ophthalmologist

A, born in 1987, saw you in 2019, with a history of bilateral optic atrophy. At that time, her uncorrected distance acuities were OD 20/400 (PHNI), and OS CF@1ft (PHNI).

R, a DBVI vision rehabilitation teacher, recently provided an in-home functional vision assessment. I provided a low vision exam on 2/13/19. R was present during the exam. The patient's uncorrected distance acuities were OD 10/180-1, and OS 3/700EF. A 6X “Specwell” focusable distance monocular provided OD 10/40+2. The patient has tried a different monocular in the past, and did not find it useful. She was not interested in this device at this time. Colored tints did not improve objective or subjective vision. The patient’s right visual field was approximately 40° using hand motion.

The patient's uncorrected near continuous text acuity was 4M. The patient previously had a lighted stand magnifier. She disliked the light which she found not useful, so she disconnected the battery handle and has been using the stand magnifier head as if it were a non-lighted stand magnifier. The patient stated that this device, currently at her house, is no longer strong enough to achieve her near goal of 1M (newsprint) continuous text acuity. An 8X “Agfa” non-lighted stand magnifier allowed her to meet this goal. The patient uses a portable CCTV for long periods of reading text. She complains that it is bulky and heavy, and her reduced manual dexterity is not sufficient for her to use it comfortably over a long period of time. I demonstrated a “Smartlux” portable CCTV, and the patient felt that it would be better since it is more lightweight.

The patient's DBVI case manager, R, will provide the following low vision aids, and will provide the required training:

1. 8X Agfa loupe, dispensed from stock 2/13/20
2. Portable CCTV, light enough for easy handling

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

42).

To referring ophthalmologist

J, born in 2001, saw you in 2019, with ocular albinism and nystagmus. At that time, his corrected distance acuities were:

OD +3.00 -7.75 X 180	20/400
OS +6.00 -7.75 X 003	20/200

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient uses a paperweight magnifier held at the spectacle plane, and a distance monocular. He has not needed ZoomText.

I provided a low vision exam on 2/27/20. C and the patient’s mother were present during the exam. The patient's uncorrected distance acuities were OD 10/180, and OS 10/120. His trial frame refraction results matched yours. They did not improve distance acuity, objectively or subjectively. Since he is past the age when visual development depends on distance correction, it is reasonable for him to elect not to wear his distance correction. Various shades and colors of sun-wear were demonstrated in sun and shade, and the patient preferred gray. A pair of OS 7X 30 degree “Beecher” bioptics provided 20/40. Although his nystagmus, (not worse bilaterally), made visual field measurements using finger counting difficult, his binocular fields appeared to be less than 90 degrees.

The patient's uncorrected near continuous text acuity was 1.25M without extra lighting, and 0.8M with extra lighting. A 4X OS “Clearview” reader provided 0.6M continuous text acuity at 10cm. This provided the acuity and ease of reading he had come to enjoy when using a paperweight magnifier at the spectacle plane. A 4X “Eschenbach” tele-binocular provided 1M newsprint continuous text acuity at 40cm.

The patient's DBVI case manager, C, dispensed the following sun-wear and low vision aids on 2/27/20. He will provide the required training.

1. NoIR 423-39 dark-gray sun-wear with top and side-shields
2. NoIR 422-39 medium-gray sun-wear with top and side-shields
3. OS 7X 30 degree “Beecher” bioptics
4. 4X “Eschenbach” tele-binoculars
5. 4X OS “Clearview” readers

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

43).

To referring ophthalmologist

E, born in 1967, saw you in 2019, with a history of severe dry eye syndrome. You also noted that she is a glaucoma suspect, and requested a six month follow-up. Her uncorrected distance acuities were OD 20/25, and OS 20/25. Her corrected distance acuities were:

OD -0.25 +0.75 X 010 20/20
OS -0.25 +0.50 X 005 20/20

F, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient’s primary goal is to keep her job as an outpatient medical coding specialist. She has ZoomText and Fusion on her computer, but will need training with this software. F has referred the patient for agency assistive technology training. The patient also has a CCTV for paperwork. She travels without a cane. She is extremely light sensitive, and has even put a sheet over her cubicle to block the overhead office light. She needs help writing and cooking, and will be referred for agency vision rehabilitation training to help with these and other home related tasks.

I provided a low vision exam in 2019. F was present during the exam. The patient's uncorrected distance acuities were OD 10/20, OS 10/20, and OU 10/10. Various light colored lenses were demonstrated, and the patient consistently preferred plum. In bright sunlight, the darkest available NoIR plum sun-wear with top and side-shields was not dark enough. I therefore recommended these for cloudy days, and a DiGi extra-dark visor for sunny days.

The patient's best uncorrected near isolated letter acuity was OU 2.5@10cm. Extra light made it worse. A Coil 5123 non-lighted Stand magnifier provided 0.8M continuous text acuity at her preferred close working distance of 10cm. It is likely that she preferred a close working distance to reduce glare, which was clearly the issue behind much of her functional visual difficulty. The patient disliked a 5X non-lighted hand magnifier, because it required that she maintain the correct focal distance. Her current CCTV and computer should be evaluated by an agency assistive technology specialist, to ensure optimal contrast and minimal glare when using these electronic accommodations. These electronic accommodations will be necessary to provide longer working distances. It is probable that room glare will need to be controlled with light or medium-plum sun-wear, and a wearable visor, as well as with optimized glare-related settings on her electronic accommodations.

The patient's case manager, F, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR N-88 light-plum sun-wear with top and side-shields for indoor glare
2. NoIR N-81 medium-plum sun-wear with top and side-shields for indoor glare, and/or shaded areas
3. NoIR N-80 dark-plum sun-wear with top and side-shields for cloudy days
4. DiGi extra-dark visor for sunny days
5. Coil 5123 non-lighted stand magnifier

The patient understood that I provided a vision exam only, and that you are the professional working to maintain her ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

44).

To referring ophthalmologist

M, born in 1079, saw you in 2019 with an absolute right homonymous hemianopsia. His corrected distance acuities were OD 20/20, and OS 20/20. You mentioned the need for orientation and mobility services. You noted the patient's significant difficulty when reading left to right into his blind field. You demonstrated and recommended the "OrCam" wearable reading machine for accessing printed information. We also have a record of his 7/26/18 visit with you. At that time, you noted that his corrected distance acuities were:

OD	-4.00 -1.50 X 106	20/20
OS	-3.75 -1.25 X 058	20/20

You noted that the patient had full color vision, good stereopsis, and fusion at distance and near with the “Worth 4 Dot” test.

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. C reported that the patient had had a severe TBI on 4/11/97 resulting from an MVA, and that he had been in a coma for three months. The patient reported lingering memory difficulty and mild symptoms of neglect involving his right side. He reported having significant difficulty with orientation and mobility, and was appreciative of your referral for orientation and mobility training through the agency. He is currently learning to travel using a long white cane, and has expressed interest in using a guide dog at some point in his future, after he has mastered cane travel. C referred the patient to me because although the patient was excited about the OrCam, which met his need for efficiently accessing printed information, C wondered if any additional low tech solutions might be helpful.

I examined the patient in 2019. C and the patient’s mother were present during the exam. The patient's distance acuities with the above correction were OD 10/10, OS 10/10, and OU 10/10. The patient discussed his difficulty reading continuous text efficiently and comfortably, and complained of fatigue after short periods of reading. I spent over an hour with the patient and his mother. I began by discussing the anatomical basis of right homonymous hemianopsia, and discussed the implications of damage in the left visual cortex, as well as possible damage in adjoining areas that might help explain his mild symptoms of right-side neglect. Both he and his mother understood. I also discussed the functional reading difficulty created by the necessity of reading “into his blind area,” and demonstrated his greatly improved reading

speed and comfort when the reading material was turned sideways, so that he read top-to-bottom, (vertically). The difference was immediately obvious, significant, and actually quite dramatic. Both he and his mother were surprised by the effectiveness of the technique, and excited by it. C reminded me that the patient's job required him to read labels at arm's length, and that the labels were affixed to shelves that could not be rotated 90 degrees. I demonstrated the camera function of a portable CCTV, which addressed that problem, and would certainly also provide any task-specific magnification needed.

When reading vertically, the patient's near continuous text acuity with the above glasses was a fast 1.6M, and a slower 1M, at 40cm. The reduced vertical reading speed corresponding to the reduction of font from 1.6M to 1M was similar in nature, and consistent with, that commonly found when near magnification is beneficial. However, the reduction in reading speed when text was turned horizontally was of a "stop-and-go" nature, was more pronounced, and was equal with both the 1.6M and 1M continuous text font. Therefore, testing indicated that a vertical text orientation, and a low level of magnification, might well address his reading difficulty. It will remain to be seen if it will address his reading fatigue. I recommended he use the camera function of a portable CCTV to rotate images of fixed horizontal labels at work, and try vertical reading with a bar magnifier. C will dispense long and short, as well as low and medium-powered bar magnifiers for trial. I of course also recommended he try the OrCam (on a trial basis) for at least a month. I will recommend that he use whichever combination of devices best address his symptoms and functional needs. The patient understood that I provided a vision exam only, and that you and your colleagues are the professionals working to maintain his ocular health.

45).

To referring ophthalmologist

R, born in 1992, saw you in 2019, with a history of cerebral palsy, and the following bilateral conditions: retinitis pigmentosa, worsening cystoid macular edema, new polar posterior sub-capsular cataracts, stable astrocytic hamartomas of the retina, and stable optic disc drusen. You also noted a stable left epiretinal membrane. At that time, his corrected distance acuities were OD 20/60-1, and OS 20/200. You noted a superior and nasal visual field construction in each eye, worse in the right eye, and requested a six month follow-up visit.

C, a DBVI vocational rehabilitation counselor, recently provided a functional vision assessment. The patient finished law school recently, and is now studying for the bar. He is interested in low vision aids that might be useful with paper reference material. The patient has been referred for an agency assistive technology evaluation.

I provided a low vision exam on 9/26/19 at 10:00am. C was present during the exam. Outdoors in bright sunlight, the patient preferred dark-amber sun-wear. Indoors and in shade, he preferred medium-topaz. The patient was wearing his soft daily wear contact lenses in both eyes. These lenses were fit within the last three months. The patient's distance acuities, corrected with these contact lenses, were OD 10/40, OS 10/100+1, and OU 10/40. A 2.8X focusable distance monocular provided OD 10/30. A 4X focusable distance monocular provided OD 10/20-1. A pair of 2X "Max TV" wearable focusable binoculars provided 10/20.

The patient's uncorrected near continuous text acuity was 1.6M. A "6X Reizen" non-lighted stand magnifier provided 0.8M continuous text. The patient already has one of these and likes it. I demonstrated a 4.7X LED-lighted stand magnifier, which provided 0.8M continuous text acuity. The patient expressed an interest in trying this. He disliked the 3.5X LED-lighted hand

magnifier, because it did not control the focal distance. A pair of 2X “MaxDetails” wearable focusable tele-binoculars provided 0.8M hands-free continuous text acuity at 40cm.

The patient's DBVI case manager, C, will provide for the following sun-wear and low vision aids, and will provide the required training:

1. NoIR #KM 43 dark-amber sun-wear with top and side-shields for sunny days
2. NoIR #KM 47 medium-topaz sun-wear with top and side-shields for cloudy days and indoor glare
3. 2X “Max TV” wearable focusable binoculars, dispensed from stock on 9/26/19
4. 4.7X LED-lighted stand magnifier
5. 2X “MaxDetails” wearable focusable tele-binoculars

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.

46).

To referring ophthalmologist

E, born in 1963, saw you in 2019, with a history of bilateral congenital cataracts, current bilateral aphakia, left retinal detachment, left phthisis bulbi, right micro-cornea and right POAG. You noted nystagmus. His corrected distance acuities were:

OD +4.50 +3.00 X 015	20/400
OS balance	HM

R, a DBV vision rehabilitation teacher, recently provided an in-home functional vision assessment. The patient currently uses a 5X non-lighted hand magnifier, and a 10X lighted magnifier. He also uses a portable CCTV, as well as a desktop CCTV for larger items. He finds these low vision aids satisfactory. However, he expressed dissatisfaction with the following new pair of glasses, measured with lensometry on 9/26/19 as:

OD +7.50 -3.00 X 105
OS balance
OU +8.00 flat-top bifocal

and prescribed by Dr. W in 2019. The visual distraction produced from the glare off the +8.00 flat-top bifocal ledge was significant. He preferred the following older pair of glasses, measured with lensometry on 9/26/19 as:

OD +7.00
OS +7.00
OU +6.00 22mm round bifocal segment, in a polycarbonate aspheric lenticular carrier lens

and prescribed by Dr. M in 2016.

I performed a trial frame refraction on 9/26/19. R was present during the exam. The patient’s older glasses produced OD 10/160. His new ones provided only OD 10/160+1, but with

significant distortions. I therefore recommended and re-wrote his older prescription with a PD measured of 58mm.

The patient understood that I provided a vision exam only, and that you are the professional working to maintain his ocular health. The patient therefore agreed to follow your instructions and keep follow-up appointments with you.