SALUS UNIVERSITY
The Eye Institute

Pennsylvania College of Optometry
The Focal Point
March 2023 Edition

Faisal Ahmed
Traditional Class of 2023

Hometown: Columbus, Ohio
Undergrad: The Ohio State University
Major: Microbiology
Favorite Subject: Management of the Glaucomas
Optometry Goal: To understand why OMDs still use plus cylinder
Favorite food: Sushi
Hobby: Playing video games
Last Show I binged: The Peripheral

Chad Killen
Class of 2019, Pennsylvania College of Optometry

Hometown: Camden, DE
Undergrad: Gettysburg College
Major: Health Science; Biology & Chemistry Minors
Favorite Diagnostic Instrument: FAF
Hates: global warming, scary movies, and tardiness
Hobby: tennis, hiking, and spending time with my nephew and niece

Case Title: Reduced Vision Not Ability

Demographics

19yo white male, currently an 11th-grade student; presenting with an American Sign Language (ASL) translator

Chief complaint: Reduced vision, OS>OD, since childhood which has caused difficulty reading, seeing the board in school, watching television, and playing video games

History of present illness

Character/signs/symptoms: Loss of vision at distance and near
Location: OS > OD
Severity: Severe
Nature of onset: Chronic
Duration: Frequency: Longstanding
Exacerbations/remissions: None
Relationship to activity or function: see above
Accompanying signs/symptoms: Glare sensitivity indoors and outdoors

Patient ocular history Optic Atrophy OU, Esotropia OS

Family ocular history

Mother: No relevant history
Father: No relevant history

Patient medical history Shaken Baby Syndrome (occurred at age 3 mo), Sensorineural Hearing Loss, Chronic Static Encephalopathy, ADHD, seasonal allergies, acid reflux; (-) HTN (-) DM

Medications taken by patient Atomoxetine 60 mg QD, Cetirizine 10 mg, Chlorhexidine mouthwash, Cipro HC ear drops, Ibuprofen 600 mg PRN, Omeprazole 40 mg QD

Patient allergy history: NKDA (+) Seasonal Allergies

Family medical history

Mother: (-) DM, (-) HTN
Father: (-) DM, (-)HTN

Review of systems

Constitutional/general health: denies
Ear/nose/throat: (+) sensorineural hearing loss
Cardiovascular: denies
Pulmonary: Endocrine: denies
Dermatological: denies
Gastrointestinal: denies
Genitourinary: denies
Musculoskeletal: denies
Neurologic: denies
Psychiatric: (+) ADHD
Immunologic: denies
Hematologic: denies

Mental status

Orientation: oriented to person, place, and time
Mood/Affect: normal

Clinical findings

BVA:	Distance	Near
OD:	20/200-	0.7/1.6
OS:	20/400	Unable

Pupils: PERRL, (+)APD OS
EOMs: 10% abduction deficit, equally in both eyes, with mild end gaze nystagmus
Confrontation fields: OD: grossly full OS: superior temporal constriction
Hirschberg: Large Magnitude CLXT (not formally measured)

Subjective refraction:	VA Distance	VA Near
OD: -1.50 -1.75 x 165	20/200-	0.7/1.6 OU
OS: -6.00 -1.75 x 003	20/400	unable

Slit lamp:
lids/lashes/adnexa: good lid/globe congruity, clear lids/lashes OU
conjunctiva: pink & quiet palpebral conjunctiva, white & quiet bulbar conjunctiva OU
Cornea: clear epithelium, stroma, and endothelium OU
anterior chamber: deep & quiet OU
Iris: flat and intact OU
Lens: clear OU
Vitreous: quiet to the extent seen undilated OU
IOPs/method: 19/18 mmHg @ 2:38PM measured with iCare
Undilated Fundus OD: ONH: flat with distinct margins, optic atrophy; 3+ diffuse pallor
C/D: difficult to assess due to poor fixation
macula: flat and intact to extent seen
posterior pole: clear to extent seen
Periphery: not assessed
Undilated Fundus OS: ONH: flat with distinct margins, optic atrophy, 4+ diffuse pallor
C/D: 0.95/1.0
macula: diffuse chorioretinal scarring
posterior pole: diffuse chorioretinal scarring
Periphery: not assessed
Blood pressure: not assessed
Pulse: not assessed

Case Management Summary

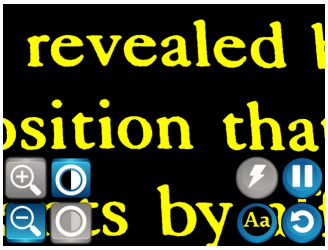
This patient had no prior experience utilizing low vision devices but had managed in school utilizing low vision accommodations and received extra help as he attended a school for the deaf.

We recommended the following to help him succeed educationally and personally

1. Updated DVO glasses - subjective findings were cut OS to minimize aniseikonia
2. Recommended 4x Ocutech Bioptic Telescope for distance magnification (seeing the board in school, TV/video games, etc). With this device the patient achieved 20/60 VA OS.
3. Recommended using Super Vision Mini app on his iPad for near magnification of printed materials. This is a free app on the App Store and can be used on the cell phone too!

With this device and iPad stand he was able to read 1M print, at near, with both eyes!

4. We demonstrated the Topaz Desktop Video-Magnifier for long term reading which the patient loved and was able to sign to his ASL interpreter words of 1M print size. We recommended he return for low vision therapy to finalize the type of video-magnifier. There are various types of video-magnifers that come in different sizes, with different controls, some utilize OCR (optical character recognition) which allow for text-to-voice capabilities, and some are stationary vs portable. In low vision therapy the rehabilitation team can take more time to ensure that we select the appropriate machine for the patient's needs (both visually and based on their needs for function) and then provide training on using the controls, the mobile x-y table that holds the printed material, and maintenance of the machine.
5. A letter was sent to his school with accommodations including preferential seating, preferred font size and font type (Arial because of the uniform stroke width) based on his near acuity, time and a half on tests, and orientation and mobility training.
6. Continue follow up care with ophthalmologist to monitor ocular health and optic atrophy. In cases where a patient has optic atrophy with vision loss there is typically a discussion on prophylactically putting them on IOP lowering drops, even if they do not have chronically elevated IOP. Given they already have fragile nerves from prior damage (which caused the atrophy) the thought it to prevent any further damage or stress to the optic nerve.



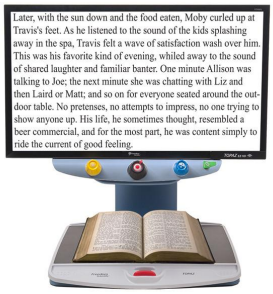


Figure 1: Representative image of an Ocutech bioptic spectacle mounted telescope (not the patient presented here)
Figure 2: Representation of Super Vision Mini app which magnifies and reverses polarity.
Figure 3: Topaz Desktop Video-Magnifier

Case Pearls

- **Consider all of your patient's systemic diagnoses but don't make assumptions!**
  - The patient has hearing loss (requiring an ASL translator), reduced vision, and ADHD which caused him to have to work harder to communicate and could falsely give the impression that he was not cognitively at his age level. In the past this led other practitioners to assume he wouldn't be able to learn how to use low vision devices. But with patience and explaining he did wonderfully!
- **Fully refract each eye - even if you don't release the rx!**
  - It's always good to understand the visual potential of each eye and the

best corrected acuity, even if you don't give them that full prescription.

- **School accommodations are important!**
    - Even if your patient reports they function well in their everyday life, if they are a student they may benefit from accommodations at school. Optometrist can recommend these in a patient's Individualized Educational Program/IEP and can include: preferential seating in the classroom, additional time on tests, additional time to get from class to class, preferred font size or testing modalities. Important to note: scantron testing is hard for someone even with mild visual impairments! These accommodations can help patients overcome obstacles and meet their full potential in the classroom.
- **Training is the key to success!**
    - Even with something like lighting, a high powered ADD, or a phone app it is important that the patient has proper training. Studies have shown that not knowing how to use a device properly is a main reason that a patient will stop using it.