

MAGNIFY YOUR FUTURE INTERNATIONAL VISION EXPO CASE STUDY WORKSHOP SUMMARY

CASE STUDY # 1

Treatment plan prepared by: Dr. Michael Politzer

PATIENT: 33yoBM

CHIEF COMPLAINT: Blurred vision with difficulty traveling independently. Unable to keep up with job requirements and school assignments.

HISTORY:

VISUAL: Vision condition is remaining stable with no surgical intervention. No itching, burning, tearing or pain. Negative for diplopia with moderate photophobia.

SOCIAL: Attentive, personable and well adjusted. Orientated to time, place and space. No alcohol or tobacco usage.

FAMILIAL: Sister has same condition and mother is hypertensive. No evidence of diabetes or glaucoma.

ECONOMIC: Working full time as a custodian and going to school at night.

GOALS: Advance into management on the job, complete his college studies, contact lenses or thinner glasses prescription and gain driving privileges.

DIAGNOSIS: Ocular Albinism, Nystagmus and myopia

CLINICAL FINDINGS:

VISUAL ACUITY: Dsc O.D. 10/100 O.S. 10/100 O.U. 10/50
Dcc O.D. 10/50 O.S. 10/80 O.U. 10/50

Nsc O.D. 20/40 O.S. 20/40 O.U. 20/40 @ 10"

Ncc O.D. 20/25 O.S. 20/25 O.U. 20/25 @ 10"

EXTERNAL EYE HEALTH: Open angles with IOP 12 mmhg O.U. All pupillary responses are intact with clear corneas, lids and a patent lacrimal system.

INTERNAL EYE HEALTH: Albinitic fundus with myopic stretch and a bright foveal reflex. Vitreous and crystalline lenses are clear with 1:2 A/V and .3 C/D ratios.

MOTILITY: Nystagmus with the same velocity in all gaze positions. EOM function intact with an alternate 20 pd esotropia.

VISUAL FIELDS: Automated Humphrey 30-2 and Binocular Estermann revealed full visual fields to 80 degrees with no central or peri-central scotomas.

REFRACTION: O.D. -10.00 -1.00 X 180 10/50+
O.S. -10.00 -1.00 X 180 10/50+
ADD +4.00 20/25

TREATMENT RECOMMENDATIONS with JUSTIFICATION:

- 1.** Gas permeable contact lenses with updated prescription. This patient is a good candidate for contact lenses due to his high myopia and RGP's in particular because this lens design will have a tendency to slow down the nystagmus. Meets the goal of contact lenses and better vision, which translates, to better job performance.
- 2.** Reading glasses prescription to be used in combination with contact lenses. The patient demonstrated that with a spectacle add his near VA improved. With contact lenses the demand on accommodation is greater than with spectacles. Therefore, there is a double benefit to the patient to use the reading glasses for all near centered tasks. Meets the goals of seeing reading material and the computer better so as to complete college studies.
- 3.** Updated bifocal Rx in hi-index material and transition 5 lenses for use prn. It is always a good idea for patients to have a backup prescription when contact lenses cannot be worn. This is especially critical for this patient due to his high myopia. Meets the goal of thinner glasses.
- 4.** 4X bioptic telescopic lens system and vision rehabilitation driving program. With the telescopic system the patient's best-corrected acuity improves to 20/30 with meets vision requirements for bioptic driving. The training program will teach him the skills necessary to use the system in many and varied applications. Meets the goals of better vision on the job and in the classroom as well as achieving driving privileges.
- 5.** Wrap around NOiR sun filters to be used with the bioptic telescope, bifocal glasses or contact lenses on an as needed basis.

CASE STUDY #2

Treatment plan prepared by: Dr. Stanley Woo

PATIENT: 84-year-old white female

CHIEF COMPLAINT: "I can't see"

HISTORY:

VISUAL:

- Diagnosed with dry macular degeneration OU, onset 2 years ago.
- Last eye exam with ophthalmologist 2 weeks earlier; annual follow-up
- Cataract surgery OU in "the 80's", has had laser surgery for cataracts
- Current Rx is three years old. Has never had a low vision exam.

SOCIAL: lives alone

FAMILIAL: Sister has macular degeneration but leaves out of state.

ECONOMIC:

Review of Functional Losses:

Traveling / Distance Viewing: Drives locally about once per week but is increasingly uncomfortable driving, can't see peoples' faces.

Daily Living Activities: Difficulty reading recipes, seeing stove dials. Handles own finances, reads mail and writes checks with help of "cleaning girl," but would prefer to do it on her own.

Near Tasks: Has difficulty reading price tags and grocery items in stores and menus in restaurants. Likes to read novels and newspapers, but hasn't been able to for at least 6 months. Does not use any low vision devices.

Lighting Problems: Bothered by bright sunlight, and sunglasses don't help. Reads at kitchen table with 100W bulb in ceiling.

GOALS:

- Reading newspaper, magazines, mail and bills
- Watching television
- Driving - has restricted to immediate neighborhood

- Maintaining independence

DIAGNOSIS: AMD non-exudative (362.51)

CLINICAL FINDINGS:

VISUAL ACUITY:

Distance: 20/50 OD, 20/80 OS

Near: 0.3m/1.0M OD, 0.3m/2.0M OS with Flat-top +2.50D add

Reads more fluidly with OS occluded to reduce binocular rivalry

EXTERNAL EYE HEALTH: unremarkable

INTERNAL EYE HEALTH: amd, all else WNL

MOTILITY: full and unrestricted

VISUAL FIELDS: full to confrontation

REFRACTION: -1.00 +1.00 x 180 OD

-2.00 +0.75 x 165 OS

TREATMENT RECOMMENDATIONS with JUSTIFICATION:

1. Reading newspaper

Single vision readers with tentative add of +6.75D if patient is able to accept closer working distance of 15 cm with a goal of 0.5M for acuity reserve.

0.3m/1.0M = EVD/0.5M; EVD=15cm, EVP=+6.67D

If binocular, need BI prism to compensate for convergence demand

If monocular to decrease rivalry not necessary

Determine response to magnification and working distance.

2. Reading restaurant menus and price labels, mail and bills

a. 3.5x LED hand-held magnifier (+14D EVP, EVD=7cm)

0.3/1.0M = 0.07m/ x M; 0.23 M print size

large diameter, good field of view, illumination for contrast, stronger than OTC

b. 3 or 4x illuminated stand magnifier with bifocal

transformer or battery handle depending on portability

increased working distance relative to spectacles

big field of view and stable since it rests on material

c. 4x dome magnifier - different diameters and weights depending on patient preference. Good if illumination not the critical factor or plenty of ambient light handy.

3. Watching television

a. sit closer especially if greater than 10 feet away

b. full diameter telescope - 2.2x will take them from 20/50 to 20/25+. Larger the objective diameter the larger the field of view. Watch out for weight

c. bioptic telescopic spectacle - may do double duty also for driving

4. Driving

a. Bioptic telescopic spectacle - may or may not be needed or allowed, consult individual DPS or DMV guidelines for your state

b. lots of options including 2.2x Type I, 3x Mini VES, etc.

5. Glare

a. wrap around filters

b. photochromic lenses

6. Independence

a. non-optical devices such as check writing guides, lined ruled paper, typoscopes, puff paint to label dials, etc.

CASE STUDY # 3

Treatment plan prepared by: Dr. Thomas Porter

PATIENT: O.C. 47 YO Serbian Female

CHIEF COMPLAINT: Blurred vision near and far accompanied by glare problems. Reduced vision is impacting both her job and general level of independence

HISTORY:

VISUAL: Patient has a 25 year + Hx of insulin dependent DM with both ocular and systemic complications. Her medical history is remarkable for DM as well as HTN. She takes multiple oral medications in addition to her insulin injections. She describes herself as a “fragile” diabetic. OC has also developed peripheral neuropathy and minor foot problems.

SOCIAL: OC denies smoking or use of ETOH

FAMILIAL: OC is married and has 4 children ranging in age from 12 to 20 years of age. She also has both her father and mother-in-laws living in her home.

ECONOMIC: OC is employed full time as a kindergarten teacher. She stressed that she must continue to be fully employed for economic reasons.

GOALS: Continue full employment and independence. Improve distance and near vision if possible and offer additional suggestions for LV aids that might help.

ADDITIONAL QUESTIONS YOU WOULD ASK?

What specific job related tasks have become difficult? Is it record keeping or work with the children? Are you able to independently monitor your blood sugar level and insulin? Is driving an issue at this time? How have you modified or limited your activities related to your job, family, and social life?

DIAGNOSIS: Proliferative diabetic retinopathy OU. Multiple PDR tx OU (2x OD and 1x OS)

CLINICAL FINDINGS:

VISUAL ACUITY: Entrance VA with habitual was 20/150 OD and 20/100 OS (Fienbloom @ 10 feet) Near VA through habitual was 3M OD and 2.5M OS (Her current Rx had a +3.00 add OU and she held the reading material at about 12” to 13” when tested.)

EXTERNAL EYE HEALTH: Unremarkable OU

INTERNAL EYE HEALTH: Multiple laser burns from PRP OU. Central scarring OU from PRP with the right larger than the left.

MOTILITY: Full and unrestricted OU

VISUAL FIELDS: Full to confrontation OU. Amsler grid was remarkable for scattered relative and absolute glaucoma

REFRACTION: Unchanged from habitual.
OD +2.75-1.00x105
OS +3.00-1.25x75

ADDITIONAL TESTS YOU WOULD DO?

Some type of central visual field to determine scotomas and metamorphopsia. Contrast test. Eye dominance and binocularity.

TREATMENT RECOMMENDATIONS with JUSTIFICATION:

1. Portable CCTV with distance viewing option. She carries it to and from work as well as around the school. She uses it in conjunction with her glucometer and insulin syringe. OC uses this device to carefully monitor her peripheral extremities. This is the primary tool she uses for recording grades and other clerical work.
2. OC carries a small folding pocket magnifier for very short duration reading tasks when away from home. She was satisfied with a non-illuminated version for portability sake.

3. She felt an illuminated stand magnifier would be helpful in the kitchen for food recipes and sorting mail.
4. Contrast enhancing lens filters in the 511nm range proved to give the proper balance between contrast loss and glare control. This is to improve safety when walking and with restrictions she also drives with them.
5. Prismatic readers used in conjunction with a brightfield stand magnifier were also a helpful tool for such tasks as writing checks. The brightfield provided magnification for fine print while the prisms allowed enough enlargement for writing the checks.