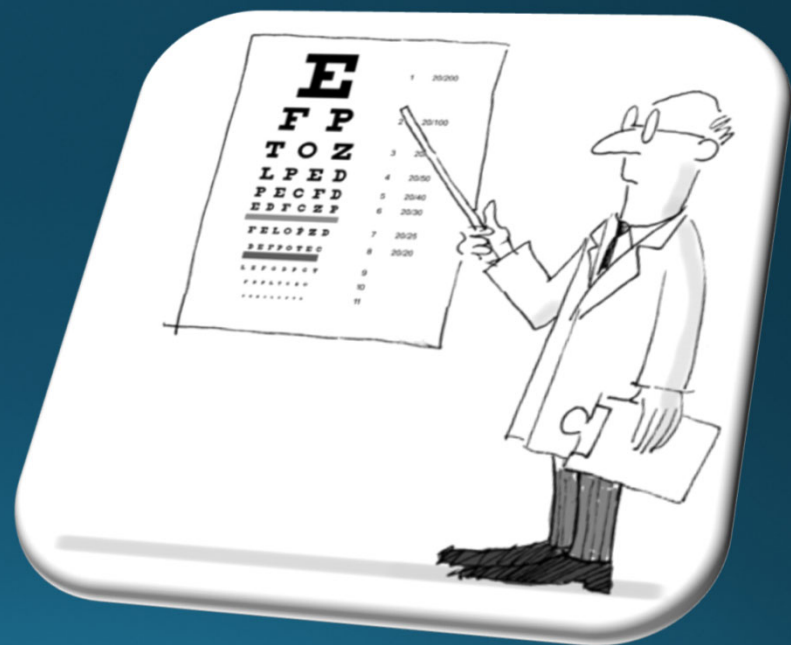


# Clinical Low Vision Exam

What to expect....

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# “All eye exams are not the same!”

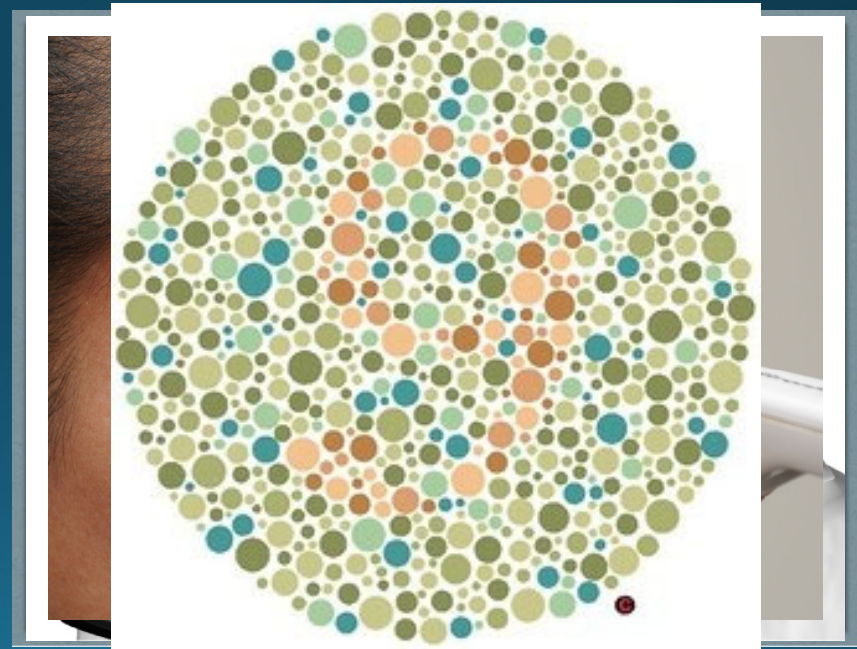
- Most of you should be very familiar with eye exams by now
- However, in the “eye care” business almost all eye exams are referred to as ocular health evaluations or assessments
- The purpose of 99.9% of eye exams are designed to diagnose and treat ocular disease or anatomic anomaly.
- Let’s compare and contrast a “conventional” eye exam and a “low vision exam”

# Let's start with the familiar..... You've all been through this before

- History and review of systems.....
- "Some of those questions are crazy" .....
- "What's the chief complaint?"
- "How long has this been going on?"

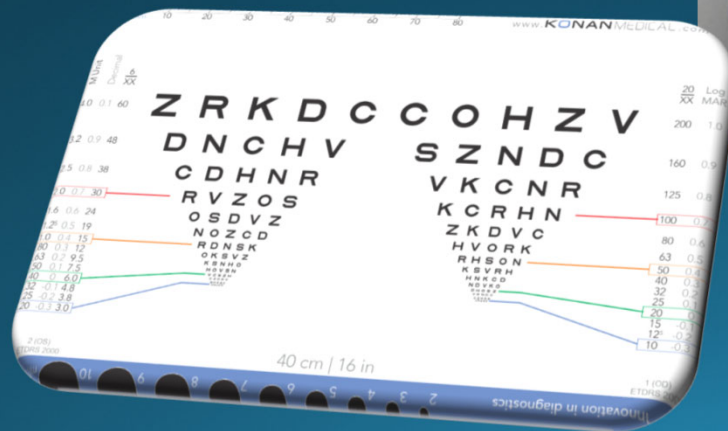
# Let's start with the familiar..... You've all been through this before

- Ocular motility
- Cover test
- Tonometry
- Color vision



# Let's start with the familiar..... You've all been through this before

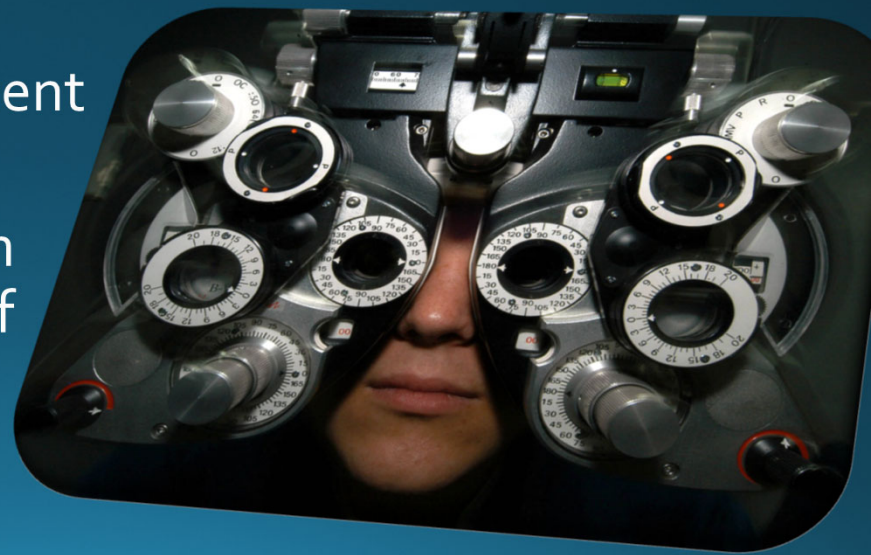
Visual Acuity measures  
Both distance and near  
Most often tested with versions of  
the "Snellen Chart"



# Standard Refraction....

“which is better, one or two?”

- Most refractions are done using a phoropter
- Refraction is influenced by a phenomenon called the “just noticeable difference”
- The poorer the vision the larger that increment must be to get a response
- Phoropters are designed to change lenses in .25 steps which doesn't work well in cases of lowered vision

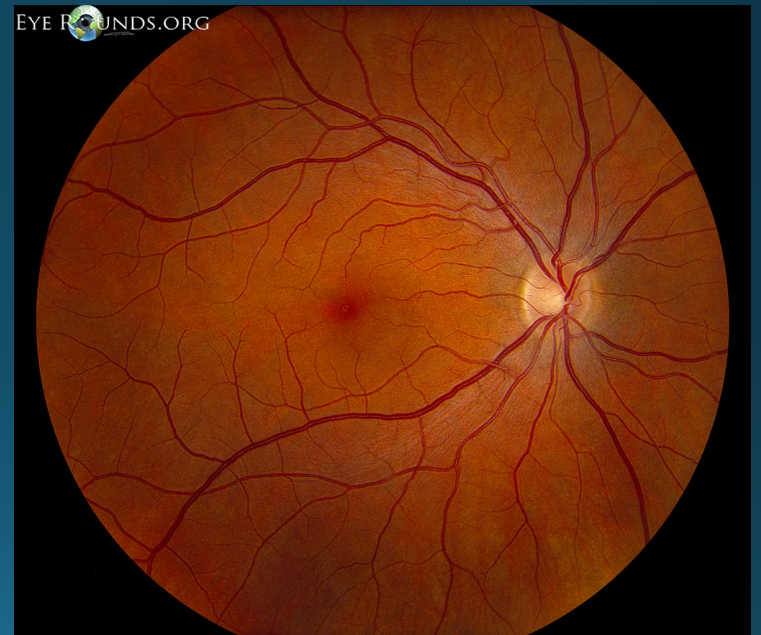
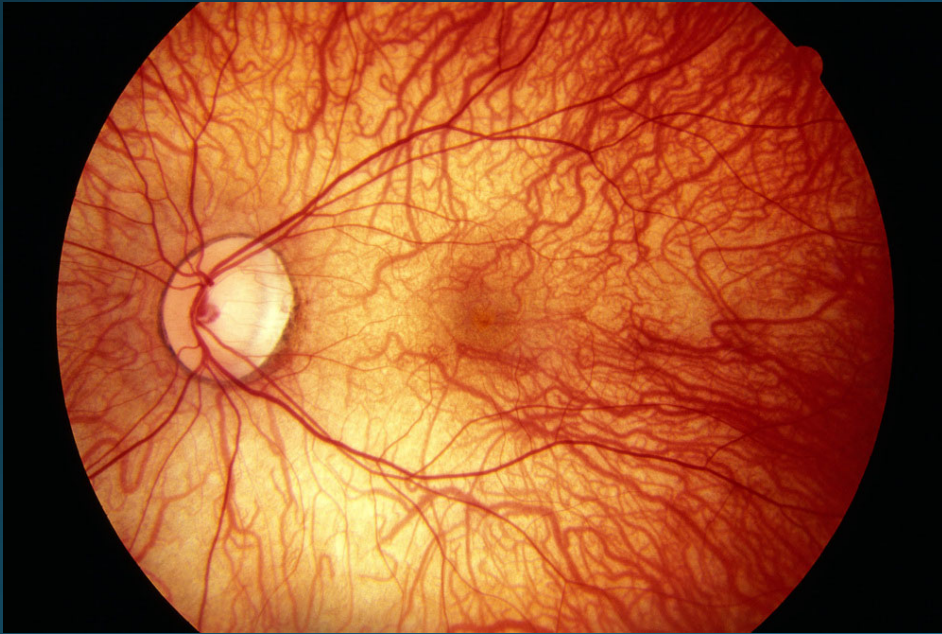


# Now come the drops!

- The purpose of dilating drops is to dilate or “open up” the pupils and temporarily “paralyze” the pupils from constricting so we can view the internal eye
- The ocular health aspect of the exam usually entails one or more specialty instruments.



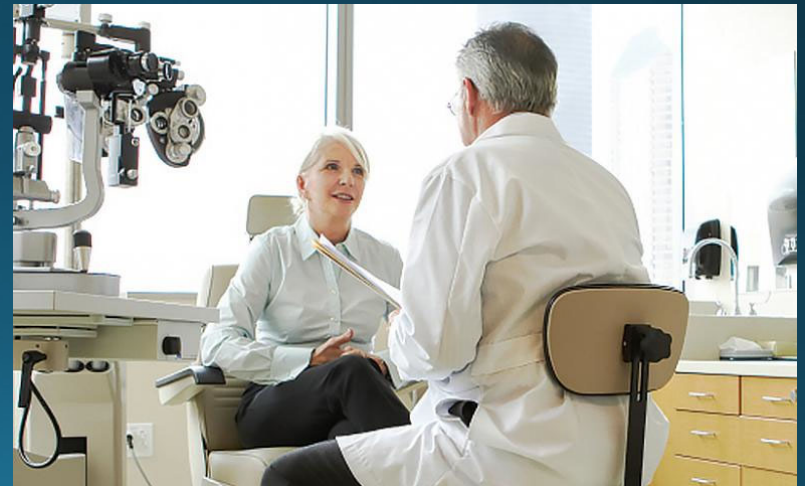
In your case this is what we see.....





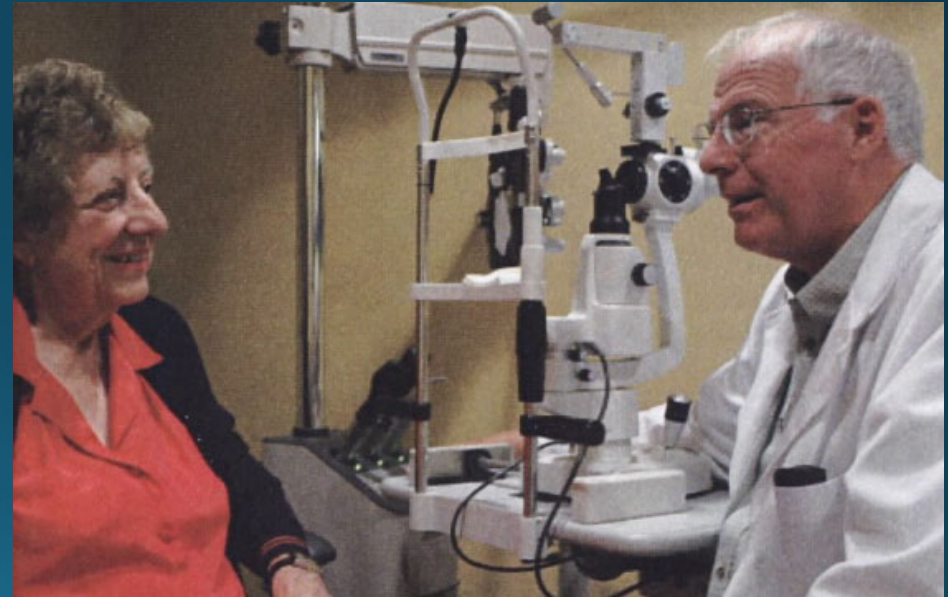
# Consultation and discussion....

- “You’ve got albinism and there isn’t much we can do about it!”
- “This new prescription may help a little bit.”
- “Be sure to get dark sunglasses.”
- Etc, etc, etc
- “Been there???”



# A basic low vision exam.....

- In almost all cases we know the cause of vision loss before we start
- Thus the goal is not really to determine the cause of loss, but rather to improve “function”
- Patient’s are required to establish specific visual goals
- Goals need to be both realistic and “measurable”



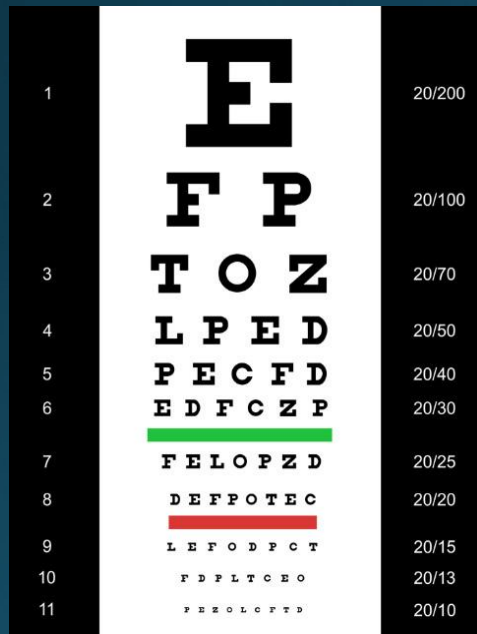
# A basic low vision exam..... “history”

- I’m very interested in what you have tried or done in the past whether it helped or not!
- Not so much the 15 other eye doctors that told that you have albinism
- I want you to bring all your equipment with you whether it helps or not
- Tell me about your social/ work situation



# A basic low vision exam..... “Vision acuity”

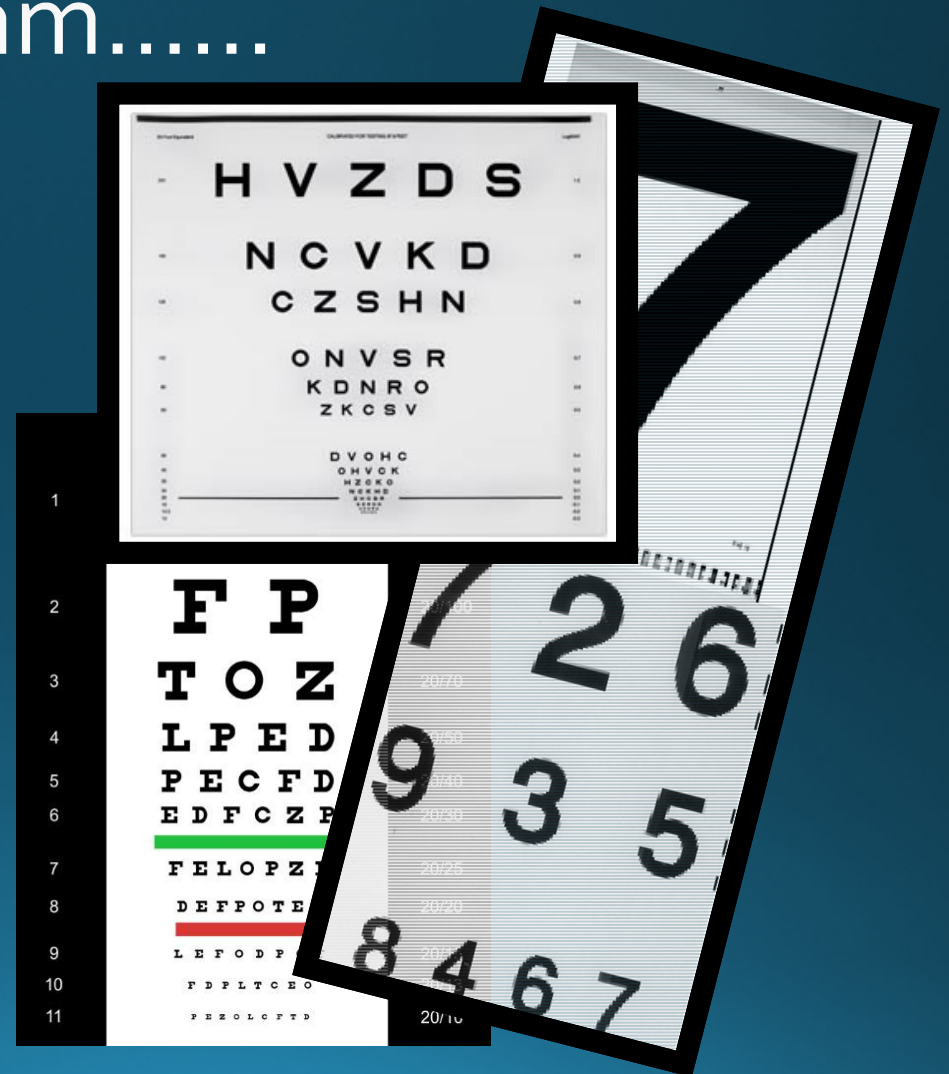
- All charts are not equal!



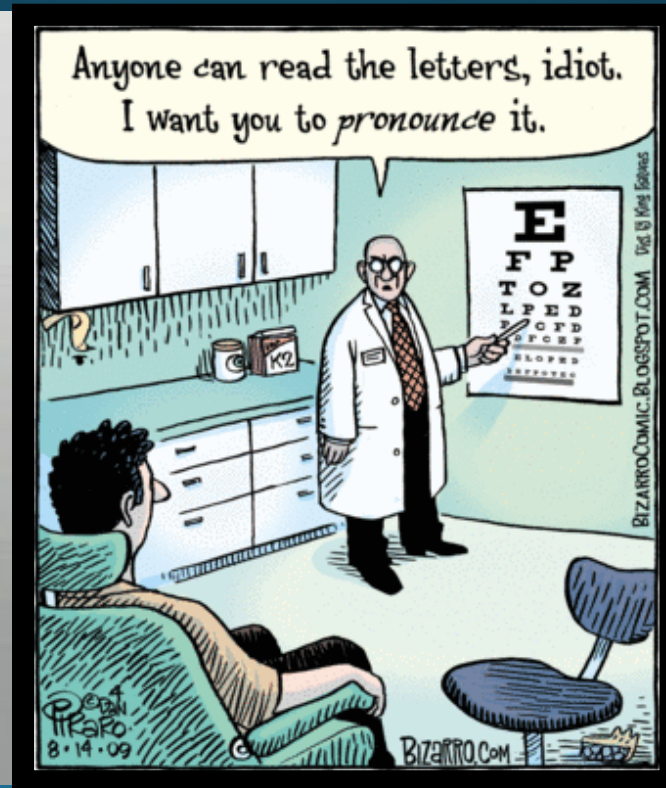
# A basic low vision exam.....

## “Vision acuity”

- How you are asked to read the chart matters too!
- Obviously wear glasses or CLs
- If you have nystagmus use your null point
- Often you will score better acuity when presented with individual letters



# A basic low vision exam..... “Beyond simple visual acuity”

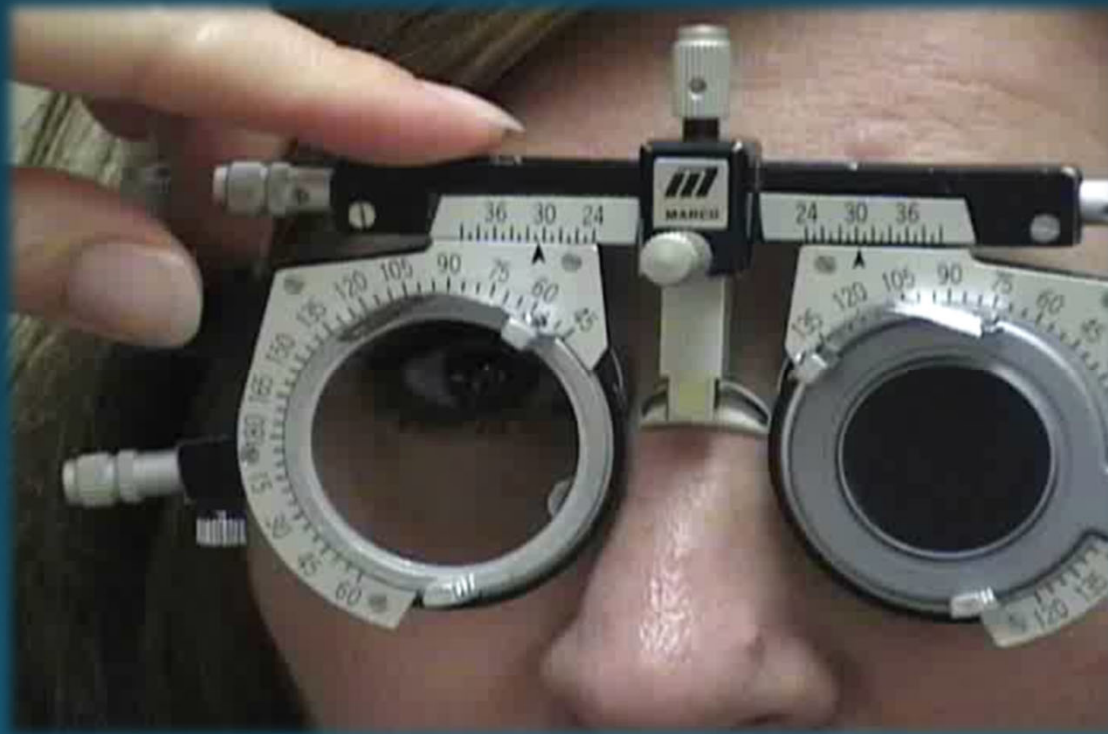


# The Exam....Refraction

- Trial frame refraction is the gold standard
- Full field lenses
- Allows for auxiliary lens
- Allows for access to peripheral vision, “null point” or unusual viewing postures
- Lens change take the JND into consideration



# Refraction example





# Glare vs Contrast Loss

- Glare hurts!
  - There are several types of glare
  - Reflected glare (polarized, can be beneficial)
  - Veiling glare
  - Scattering glare
  - However, contrast loss is a problem
- Gray sunglasses (ugh)

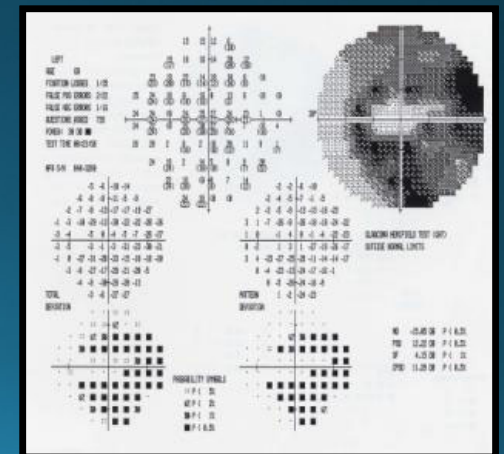


What we are challenged to do in albinism is to balance contrast loss with increased glare sensitivity



# Visual fields

- In a low vision exam the need to test visual fields is really influenced by the cause of vision loss
- Albinism generally results in normal peripheral visual fields so I rarely test this beyond simple “confrontation fields”
- Because a key factor in albinism is “foveal hypoplasia” some LV providers will test central visual fields



# Next step is to determine how much magnification we might need

- You call it magnification..... We call it “enlargement ratio”
- This is simply a ratio of “what you can see”, divided by “what you want or need to see”
- Here’s an example. My patient has 20/200 vision but the task at hand requires 20/50 vision
- The ratio becomes  $\frac{20}{200}$  (visual acuity) divided by (task acuity)  $\frac{20}{50}$  or 4x enlargement
- So, the level of vision and the demand acuity greatly influence the power of any device I must use.

# Case in point.....

- I have patients ( twin brothers) from Illinois who both have albinism
- Their “best corrected” vision is about 20/80 to 20/100 and our goal acuity is 20/40
- For driving bioptics I’m going to be working with telescopes in the 2.0 to 2.5 range to meet my goal
- FYI telescope are not made in “unlimited powers” .... By that I mean 2.0, 2.1. 2.2 etc.....

# Next step is match the “tool with the task”

- All low vision aids are simply tools.....
- What that means is that the patient must learn to use the low vision aid.
- This often requires training and driving telescopes definitely require extensive training!

Magnifying devices  
are only tools.....



# Position A "tool"



- Hand spot
- St
- St
- tasks\*\*\*
- Telescopic aids for distance tasks\*\*\*



# Summary

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- Everyone needs periodic ocular health evaluations
- People with albinism can still have all the other eye health problems that occur with the general population and only that type of exam will provide that service
- However there is a clear difference between determining pathology and improving functional visual skills..... You need both types of exams!



Questions?

