

# How to teach an old dog new tricks?

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# Facts or fiction:

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- What is true reasoning behind 20/20
- Why do we need orthophoria
- Strabismic: findings as an adaptation????
- Why esotropes have cyl x180
- Why exotropes love – lenses

# Strabismus

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- Esotropia is usually accommodative in origin
- Exotropia is usually environmentally induced

# Esotropia

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- Usually accompanied with cylinder rx along 90 meridian
  - Due to focusing inwards and observer scopes nonfoveal eccentric point on back of fundus
  - Usually like + rx due to the visually line being moved and acts like hyperope
- So patients end up with a + lens with lots cyl x180 thus embedding this lens

# Exotropia

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- Usually found with use/misuse and environmentally induced
  - Nearpoint stress induced issue that says against motion add – lens
  - Minus actually causes accommodation so eye turns in and picks up fixation
- So patient ends up with a – lens that is embedded and will increase over time

# What do you do?

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- Depends on your training
  - Give full rx so you embed all of it
  - Give partial rx so that you feel better that you only embedded part of it
- What I do: **NOTHING**
  - **NO RX**
  - **TRAIN IT OUT**

# Pediatric rx

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- First prescription for compensating lenses
  - Be very cautious :
    - Remove :  $+1.50-1.50 \times 180$  from rx in child under 2
    - Remove:  $+1.00-1.00 \times 180$  from rx in child under 4
    - If still left with an rx:
      - Remember this child is not driving only prescribe rx that is  $>1.00$  in any direction
      - Consider what is your goal for this child years later
- HINT: Always have in mind your target rx

# Juvenile Nystagmus

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- Most have a null point where the nystagmus dampens
  - Allow the patient to be scoped at that null point and compare to the scoped area that presents with an oblique cyl
  - Decide between null point rx and scoped rx

Keep in mind the goal rx and what you are aiming for as a result

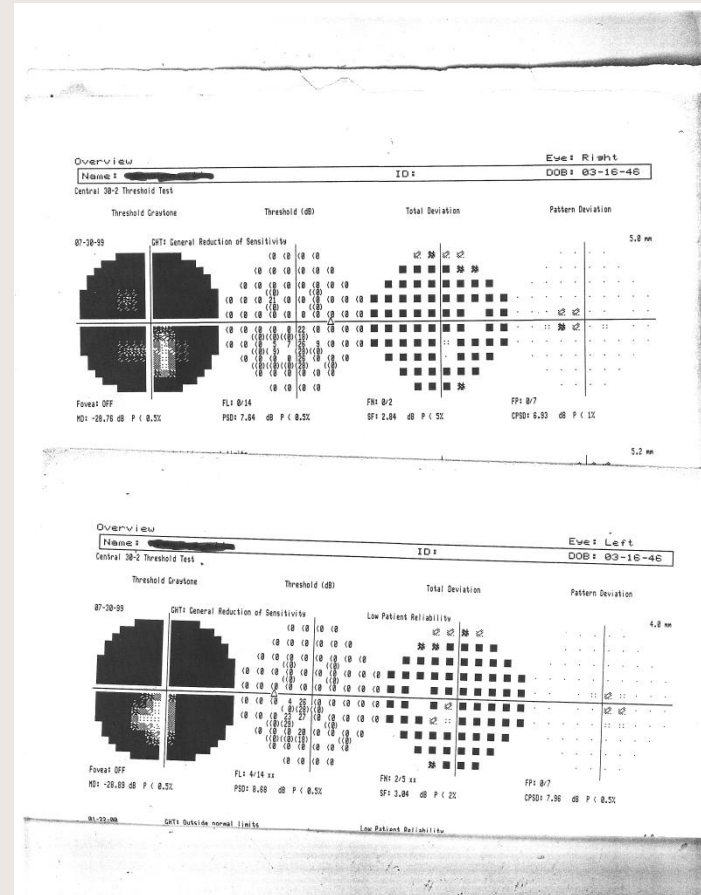
# Adaptations

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- Head trauma or stroke usually accompanied with hemifield loss
  - Sometimes occurs as PTSD or restricted tunnel field loss
  - Hemifield appears to not respect vertical raphe
- Patients suffer from various forms of aphasia as well VF loss

# Patient RF

- Ptsd fields resemble tunnel vision and constricted lower fields

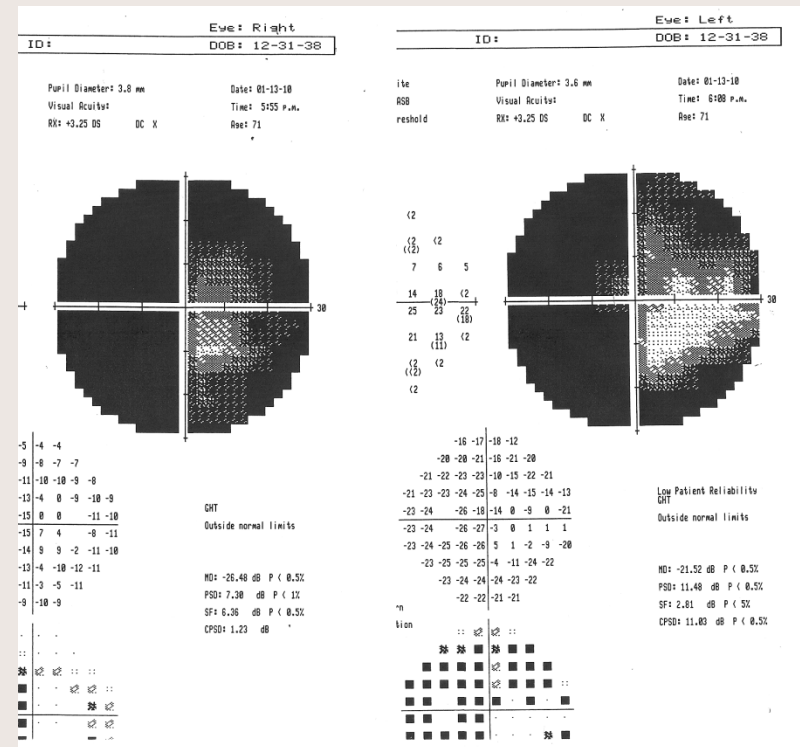




# Patient rd

- Suffered stroke
- Determine if ptsd
  - Gait good
  - Usable vision included seeing docs face and usable vf testing

Goal to increase testable VF to increase usable vision



# Retinal correspondence

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- Adaptations of the mind to avoid diplopia
  - Harmonious ARC : just means that mind took over and is falsely creating a single world that mimics reality
    - Usually breakable by training correctly and that is why therapy gets worse before they get better in any case
  - Unharmonious ARC: mind took over and created a world that does not mimic true reality
    - Usually unwilling to change and symptomatic during entire process to readapt
- Therapy is teaching them to readapt to their environment

# Vertical adaptations

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- Hypertropias
  - Usually align when build vergence ranges horizontally
- Overactions from infantile esotropia
  - Just treat esotropia it will disipate to extreme gaze
- Oblique palsies or pareses
  - Usually come in with head tilt and trauma history
  - Usually should treat as hypertropias with a bonus; follow above then treat resulting horizontal if any left
  - Can use prism if patient can not do inoffice tx (optimal note use minimal amount to allow fusion)

# Other vertical adaptations

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Hypertropias tend to align after training horizontally

- including those that are oblique palsies or pareses
- most are not complete palsies so can align or form a re-adaptation

That is the goal the re-adaptation process

# Strabismic adaptations

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- We reviewed adaptations in:
  - Esotropia; incl downs and cp
  - Exotropia
  - Hypertropia; incl oblique palsies
  - Nystagmus
  - Rehab from head trauma and field loss
- Consider what is your goal with every patient you decide to treat

# Review of facts/fiction

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- Strabismus is an adaptation to alleviate stress on the system its easier to allow for this eye deviation than the mind to train and overcome the input it receives from the brain
- Thus creating +/- lens compensations for the eye to obtain optimal acuity
- Thus also creating cyl in one direction for the oblique movements of the eye
- Thus creating overactions and underactions of the ocular muscles

# Goals in optometry

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- Why 20/20?
  - To allow acuity to be maximal at 20 feet or optical infinity???
  - Not true infinity!
    - Pilot research shows they all have slight hyperopia and cyl findings in 20 foot room
- Why orthophoria?
  - To allow eye to maintain alignment at 20 feet
    - Most have slight esophoric findings at distance and 3-6 exophoric findings at near from study
- Is true optometric goals flawed?

# Why am I speaking about adaptations?

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- All we do is dealing with how the mind created all these adaptations in the brains and eyes of these individuals. These adaptations affect their view of the world or their vision. Their sight is affected and not their acuity.
- This includes all responses that they made with their eye deviations and how that affects their minds eye or their sight.
- Their vision is then in turn affected.

# Goals of behavioral optometrist

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- Minimal optical compensatory lens
- Alleviate eye turns or deviations with therapy
- Alleviate any asthenopia with therapy including any difficulties with learning related visual difficulties

# My goals

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- Allow for re-adaptations that will aid the mind to de-stress the body
- Thus not allowing for any new compensations or adaptations to form

# Discussion

