

# Non-tolerance: What can Epictetus tell us?



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## Classification of spectacle non-tolerance

- Two main types (Priest, 1979)
  - Dispensing non-tolerance – main causes (Farrell, 2005):
    - Incorrect frame fitting
    - Optical centration problems
    - Spectacle magnification problems
    - Cosmetic reasons
    - Mis-communication
  - Prescription non-tolerance
    - “a prescription that the patient finds so hard to tolerate that they return to the prescriber” (Freeman & Evans 2010)

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## Goal of subjective refraction (Duke-Elder & Abrams, 1970)

- “to provide the patient with the optical correction nearest to the optical ideal with which he sees best and is most **comfortable**”
- Non-tols are really an “adverse effect of an optical prescription”

## Adverse effects of optical Rx's (Ball, 1977)

Symptom-type	Adverse effects or presenting symptom	Examples of possible aetiology
Sympathetic or reflex	Headaches, ocular discomfort, reflexes, eye irritation, Mild vertigo or dizziness	High presbyopic additions Faulty lens centration Incompensated astigmatism New prismatic corrections Relative astigmatic effects
Disorders of visual perception and binocular vision	Myopia Hyperopia General spatial distortions	Recently corrected myopia Case out prism Recent presbyopic additions Base in prism Change in astigmatism Change of lens form Uncompensated cylinders
Peripheral spatial distortion Distorted vision	Peripheral spatial distortion Distorted vision	Some multifocals Incorrect effective power Incorrect positioning of bifocals/multifocals Off-axis blur from high index lenses Inappropriate vocational use Residual uncorrected errors Faulty lens centration
Others	Diplopia Chromatopsia Photophobia Ghost images	High additions in screen used bifocals Orientation of previously worn units Reflection from lens or other surfaces

## Are some non-tols inevitable? (Evans, 2012)

- 95% limits of repeatability of subjective refraction are circa  $\pm 0.50D$  to  $0.75D$  (MacKenzie (2008); Shah et al. (2009))
- in spectacle non-tols the final Rx is within  $\pm 0.50D$  of the not tolerated one in 84% of cases (Freeman & Evans (2010))
- a significant number of wearers notice errors in distance vision, as small as  $+0.25D$  in sphere and cylinder (Miller et al. (1997))
- So, some non-tols are inevitable
- Epictetus (AD 55-135):
  - It is not death or pain that is to be feared, but the fear of pain or death
  - Any person capable of angering you becomes your master; he can anger you only when you permit yourself to be disturbed by him
  - It is impossible for a man to learn what he thinks he already knows

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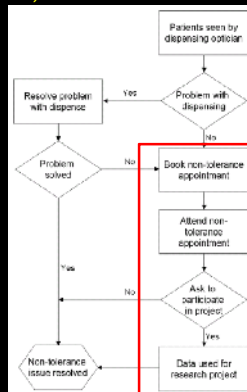
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## Prevalence of prescription non-tols (Freeman & Evans, 2010; Evans, 2012)

- Non-tols occur in 1.8% of eye exams
  - Range (7 optoms) 1.3% to 3.3% (Freeman & Evans (2010))
- This has been estimated to be 2.8% of those who are prescribed spectacles (Howell-Duffy et al. (2010))
- But, this research excluded cases that had been dealt with by a dispensing optician (Freeman & Evans (2010))



## Demographics of prescription non-tols (Freeman & Evans, 2010)

- 3091 eye exams in 6/12
  - Large independent optometric practice, 11 optoms in 5 consulting rooms
  - 62 non-tols; 59 included
- Most common in 50-59y
- 88% of non-tols presbyopes
- Male = female
- None were neophytes (not significantly different to control group)
- All could be resolved with an adjustment of 1.00D
  - 84% with 0.50D adjustment

### Investigation of the causes of non-tolerance to optometric prescriptions for spectacles

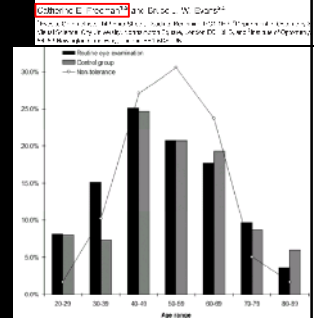
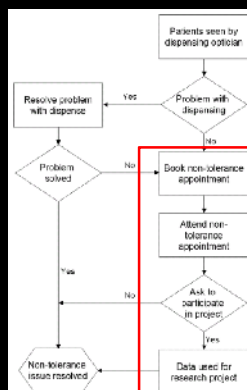


Figure 2. Age profile of patients attending a routine eye examination (black bars) compared with the control group of patients collecting spectacles (grey bars) and patients receiving a non-tolerant examination (line).

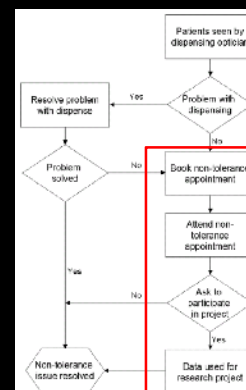
## Reasons for non-tol examinations (Freeman & Evans, 2010)

- Prescription related 61%
- Dispensing related 22%
- Pathology 8.5%
- Data entry error 6.8%
- Binocular vision 1.7%



## Prescription related non-tols (61%) (Freeman & Evans, 2010)

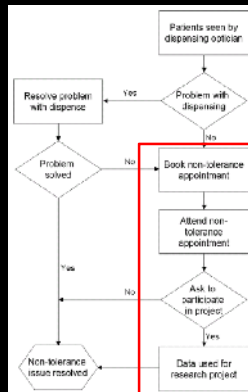
- Error measuring the sphere
  - 20% of all non-tols
  - Half plus – all over-plussed
  - Half minus – most under-minussed
- Error with NV/IV addition
  - 17% of all non-tols
  - 2/3 of these over-plussed
- Errors with cyl
  - 10% of all non-tols
- Errors with sphere & cyl (3%)
- Errors relating to adaptation
  - 10% of all non-tols
  - For 1/3 returned to old Rx



## Dispensing related non-tols (22%) (Freeman & Evans, 2010)

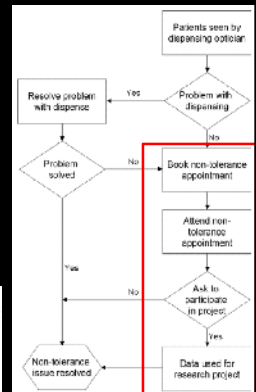
1. PAL adaptation
2. PAL heights
3. SV lens type
4. Frame adjustment
5. PAL prism thinning

- A total of 1938 lenses were dispensed during the 6 month period.
- In this study, the lenses that were most often not tolerated were
  - PALs (7.4%)
  - Vocational lenses (4.8%)
  - Single vision lenses (2.0%)
  - Bifocal lenses (0.8%)



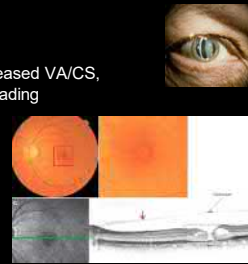
## Pathology related non-tols (8.5%) (Freeman & Evans, 2010)

- Cataract in nearly all cases
  - Typically, large Rx change from nuclear sclerosis that caused non-tol when full Rx prescribed
- One case of dry eye



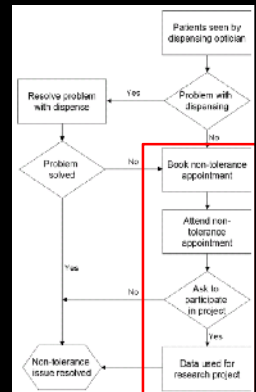
## Could the non-tol be from pathology?

- Look for lens clouding
  - May explain unexpected Rx change
  - Warn of likely effects on vision: decreased VA/CS, glare/flare, needs more light when reading
- Is the VA as expected? If not:
  - Are there any macular changes?
  - Is the visual field normal?
  - Are there any corneal dystrophies?
- Are there any symptoms suggestive of peripheral retinal problems?
  - A central floater can cause variable VA & Rx
  - Dilated fundoscopy
- GH changes (e.g., diabetes)



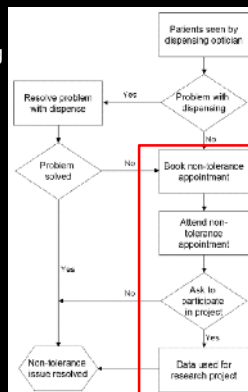
## Data entry non-tols (7%) (Freeman & Evans, 2010)

- Entering incorrect reading addition
- Entering incorrect spherical Rx
- Using intermediate prescription instead of a distance prescription,
- Making up near vision glasses instead of bifocals



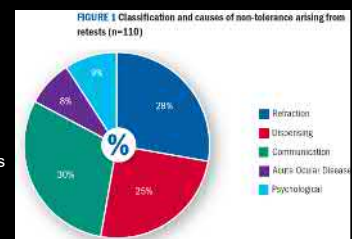
## Binocular vision anomalies (2%)

- Beware of convergence insufficiency associated with ageing  
*Freeman & Evans (2010)*
- Don't prescribe multifocals to patients with a superior oblique paresis  
*Evans (2007)*
- Don't prescribe monovision to patients with marked incomitancy  
*Evans (2007)*



## Causes of non-tolerance (Farrell, Optician, 2016)

- 1 practice, survey of 110 patients returning for retest
- Retests 5.2% of eye exams
- Check the OCs of old glasses before prescribing new
- Beware anisometropia
- Establish patient's visual requirements
- Give patients realistic expectations
- Prevention is better than cure
- Epictetus: Caretake this moment. Immerse yourself in its particulars. Respond to this person, this challenge, this deed



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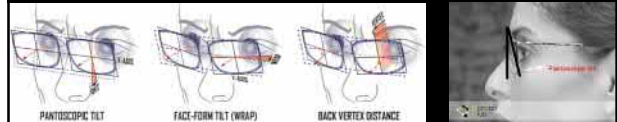
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## Avoidance – dispensing

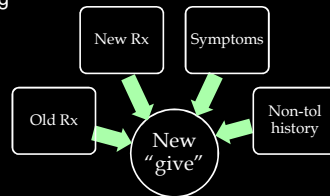
- Wrong product dispensed correctly or right product dispensed incorrectly?
- Many PAL issues can be corrected by frame adjustment
- Warn new aspheric wearers that need to adapt
- Be alert to issues relating to aniseikonia from anisometropia
- Off-axis blur in larger frames: consider
  - Frame tilt
  - Face form angle (bow)
  - Vertical lens centration

Bates, Optometry Today, Jan 2016



## Avoidance – prescribing

- Epictetus: "events do not just happen, but arrive by appointment"
- Applying "If it ain't broke don't fix it" rule would prevent 1/4 of non-tols (Elliott & Howell-Duffy, 2015)
- Measure working distance & don't over-plus
- Experienced practitioners modify their Rx to reduce risk of non-tol – partial prescribing



## Avoidance – modifying (partial prescribing)

- Howell-Duffy et al. (2011):
- The likelihood of partial prescribing increased by 34% for every 10y of experience
  - After a 40y career, practitioners would be 3x more likely to modify
- Practitioners underestimate problems from cyl axis, especially if oblique
- Examples of partial prescribing
  - If find less myopia than current glasses, don't prescribe full reduction
  - If large cyl axis change, partially prescribe
  - First time hyperopic prescription, partially prescribe
  - Partially prescribe large changes in sphere or cyl

## Avoidance – communicate

- Warn patients that the average time to adjust to spectacles is 1 week (Strang et al. (1998))
- Adaptation can take 1-2 weeks for large changes, especially in astigmatism (Elliott & Howell-Duffy (2015))
- Give extra warning if problems more likely
  - E.g., first pair of PAL lenses
- Discourage patient from alternating between old & new glasses (Elliott & Howell-Duffy (2015))

## Psychological approach to a non-tol

- Set the scene
  - Greet as warmly as usual
  - "I'm sorry that you are having problems. The purpose of today is for me to find out what's going on and to come up with a solution."
  - "Thou shalt not blame or flatter any" (Epictetus, 55-135AD)
- Interpretation:
  - Rare for there to be smoke without fire
- Strategies
  - Be extra thorough – Epictetus: "no thing great is created suddenly"
  - Make sure that you have solved the problem
  - Explain what you can and can't do
  - Epictetus: "only the educated are free"



## Other considerations

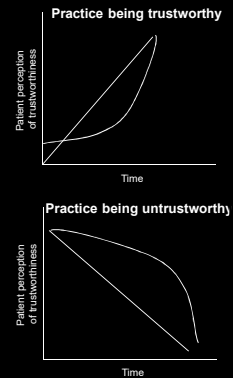
- One study found increased risk of falls when Rx changed
  - Many of the changes in this study were  $>0.75D$ 

Cummings et al. (2007)
- Look upon a re-check as an opportunity (see next slide)
  - Epictetus: "With every accident, ask yourself what abilities you have for making a proper use of it"



## Are you a trusted source?

- What is a trusted source?
- Why you should want to be a trusted source?
  - Patients follow recommendations
  - Attract new referrals
  - Longevity of relationship
- Personal view
  - Gaining trust is non-linear
  - Losing trust is non-linear



## Service excellence via non-tols

- Johnston (2004): the "recovery paradox"
  - The creation of more delight through good recovery than normal service
  - "What makes excellent service "excellent" and poor service "poor" is very much about how the organisations dealt with problems and queries."
  - Epictetus: "It is difficulties that show what we are"
- Non-tols are a culture-defining moment
  - Give them more time
  - Most thorough exam
  - Listen more carefully
  - Epictetus: "We have two ears and one mouth so that we can listen twice as much as we speak"
  - Start with:
    - Listen – repeat – listen
  - End with:
    - Explain – listen – explain
    - Epictetus: "only the educated are free"



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## Conclusions

- Over 80% of non-tols are presbyopes
- Don't over-plus or under-minus
- The accuracy of refraction ( $\pm 0.75$ ) is worse than the mean adjustment needed to correct a non-tol ( $\pm 0.50$ )
  - Discourage patients separating prescribing/supply
- Partially prescribe
- Demonstrate the change
- Warn about adaptation
- Consider non-tols as an opportunity by excelling at dealing with these challenging patients



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