

# Non-tolerance: How to minimise them & turn defeat into victory! What can Epictetus tell us?



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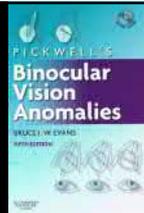
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## DISCLOSURE

- Paid lectures, KOL/product feedback, research funding:
  - Alcon, American Academy of Optometry (UK), Association of Optometrists, Birmingham Focus on Blindness, Black & Lizards, British Contact Lens Association, Central (LOC) Fund, Cerium Visual Technologies, College of Optometrists, Coopvision, ESRC, General Optical Council (Hoya), Institute of Optometry, Iris Fund for Prevention of Blindness, Johnson & Johnson, Leightons, MRC, Norville, Optos, Paul Hamlyn Trust, Perceptive, Scrivens, Specsavers, Thomas Pocklington Trust.
  - Lecture content always my own
- Author of Pickwell's Binocular Vision Anomalies, editions 3-5
- Community optometric practice in Brentwood, Essex




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CONCLUSIONS

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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”

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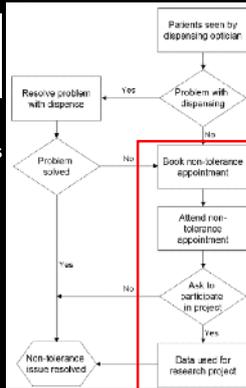
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## Prevalence of prescription non-tols (Freeman & Evans, 2010; Evans, 2012)

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

Callister C. Freeman<sup>1</sup> and Bruce J. W. Evans<sup>2</sup>

- Non-tols occur in 1.8% of eye exams
  - Range (7 optoms) 1.3% to 3.3%
- This has been estimated to be 2.8% of those who are prescribed spectacles (Howell-Duffy et al. (2010))
- But, 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

Callister C. Freeman<sup>1</sup> and Bruce J. W. Evans<sup>2</sup>

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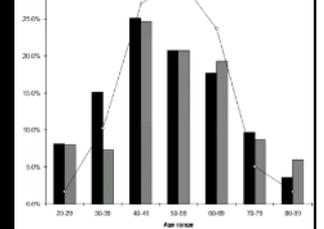
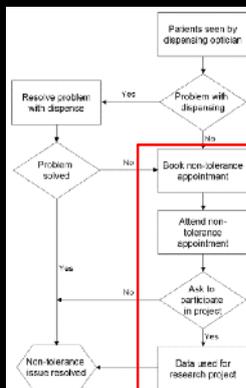


Figure 2. Age profile of patients attending a routine eye examination (black bars) compared with the control group of patients collecting spectacles (grey bars) and patients receiving a non-tolerance examination (line).

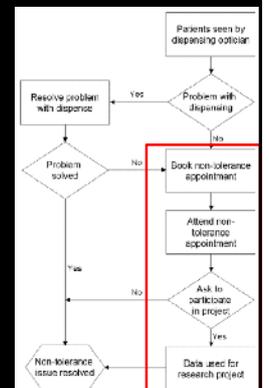
## Reasons for non-tol examinations (Freeman & Evans, 2010)

- 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)

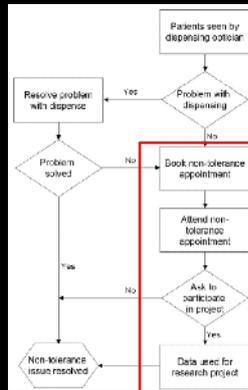
- Error measuring the sphere
  - 20% of all non-tols
  - Half plus – all over-plussed
  - Half minus – most under-minussed
- Error with NV/IV addition
  - 17% of all non-tols
  - 2/3 of these over-plussed
- Errors with cyl
  - 10% of all non-tols
- Errors with sphere & cyl (3%)
- Errors relating to adaptation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



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

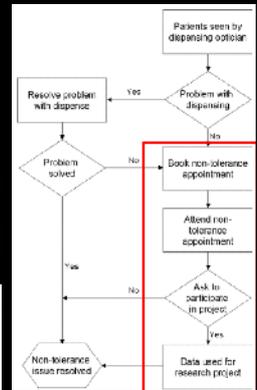
1. PAL adaptation
2. PAL heights
3. SV lens type
4. Frame adjustment
5. PAL prism thinning

- 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%)



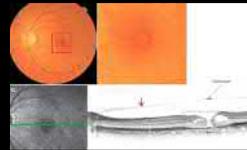
## Pathology related non-tols (8.5%) (Freeman & Evans, 2010)

- 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



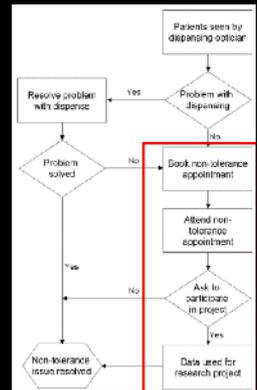
## Could the non-tol be from pathology?

- 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)

- 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
  - Freeman used electronic records
- Arumugam et al. (2018)
  - Paper records associated with more data entry errors (11%)



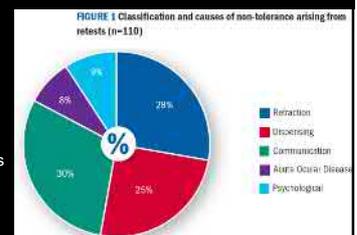
## Binocular vision anomalies (2%)

- Beware of convergence insufficiency associated with ageing  
Freeman & Evans (2010)
- Don't prescribe multifocals to patients with superior oblique palsy Evans (2007)
- Check for prisms in old glasses
- Prescribe prisms when required
  - E.g., Mallett unit, EyeGenius



## 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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## Avoidance – dispensing

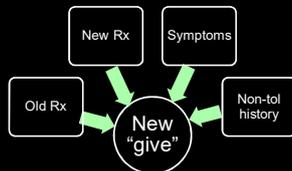
Bates, Optometry Today, Jan 2016

- 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
  - Liaise with optometrist
- Off-axis blur in larger frames: consider
  - Frame tilt
  - Face form angle (bow)
  - Vertical lens centration
  - Base curves



## 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
- Consider vocational/accomm support lenses (e.g., Sync III)
- 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
  - Epictetus: "only the educated are free"
  - Explain what you can and can't do



## Other considerations

- Beware of large changes
  - Cummings et al (2007) found increased risk of falls when Rx changed
  - Many of the changes in this study were  $>0.75D$
- 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"



## 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
  - Explore their working distances
- 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



## Dr Optometry

- In 2008 the Institute of Optometry launched a Doctor of Optometry degree in collaboration with London South Bank University
- 5 year part time professional doctorate
  - Year 1 has 13 taught days & 2 assignments
  - Year 2 has 8 taught days & 2 assignments
  - Years 3-5 are supervised doctoral research
    - Research most likely to be clinical, in practice
- "the ultimate HQ for UK optometrists"



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