VOTING INSTRUCTIONS FOR PRESENTATION

Polling instructions
- Use your mobile phone browser to visit:

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Peer discussion:

binocular vision cases from practice

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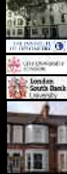

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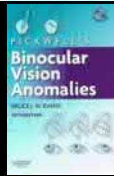
Reference: Pickwell's Binocular Vision Anomalies, 5th Edition, Elsevier, 2007

DISCLOSURE



- Paid lectures & KOL/product feedback programmes:
  - Alcon, American Academy of Optometry (UK), Association of Optometrists, Birmingham Focus on Blindness, Black & Lizars, Central (LOC) Fund, Cerium Visual Technologies, College of Optometrists, Coopervision, 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
- i.O.O. Sales Ltd markets IFS orthoptic exercises, which the speaker designed, and for which he receives a small royalty
- Community optometric practice in Brentwood, Essex

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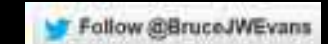

INTRODUCTION

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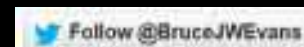

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Case 1: 50y old female in contact lenses with PH of strab since teenager, now worsening (6274)

SYMPTOMS: AHP gradually worse over last year or diplopia

Rx: R+6.00DS 6/6 L+6.25DS 6/6 Add+1.75

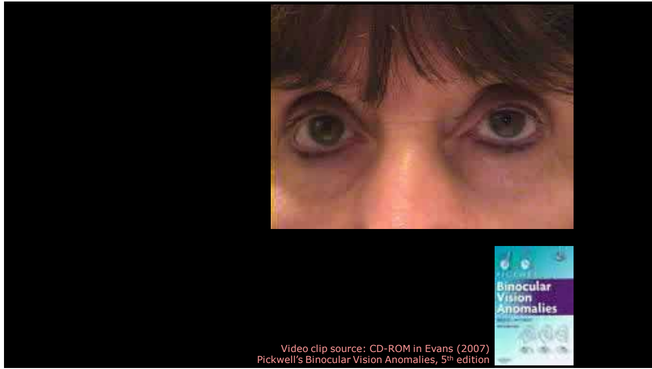
WEARING: RGP R+6.00 L+8.50 (monovision)

COVER TEST: D 10Δ L Hyperphoria → G5 → L hypertropia
N 15Δ L Hyperphoria → G5 → L hypertropia

FUNDUS: fully described; all normal

IOP: R13 L14 mmHg

Grade	Description
1	rapid and smooth
2	slightly slow/jerky
3	definitely slow/jerky but not breaking down
4	slow/jerky and breaks down with repeat covering, or only recovers after a blink
5	breaks down readily after 1-3 covers



Which muscle is palsied?

LIR
RSO
LSO
RSR

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LSO palsy

- In SO palsy, usually:
  - Hyper-deviation of affected eye, worse in down-gaze
  - under-action of affected eye when looking down and in
  - More likely to have symptoms with reading than with distance
- But, may have secondary sequelae

Video clip source: CD-ROM in Evans (2007)
Pickwell's Binocular Vision Anomalies, 5th edition

Why is the palsy decompensating?

contact lenses
presbyopia
monovision
menopause

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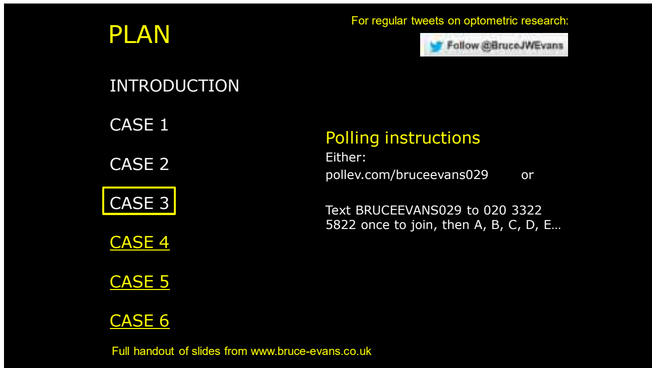
SO palsy

- Usually:
  - Hyper-deviation of affected eye, worse in down-gaze
  - under-action of affected eye when looking down and in
  - More likely to have symptoms with reading than with distance
- But, may have secondary sequelae
- May contraindicate fitting multifocal spectacles or monovision

Video clip source: CD-ROM in Evans (2007)
Pickwell's Binocular Vision Anomalies, 5th edition

What management?

A. Refer urgently ☹
B. Refer routinely ☹
C. SV CL & large readers ☺
D. Alternating vision MF CL ☹
E. Stop CL, MF glasses ☹
F. Stop CL, 2 pairs of glasses (DV & NV) ☺



Case 3: 10y old female, asthenopic young myope (16379)

Symptoms:	D blur, occasional episodes N blur	
V:	R 6/15+	L 6/19
Ret:	R-0.25/-0.50x155	L-0.50/-0.50x175
Sub:	R-0.25/-0.50x155 6/7.5	L-0.50/-0.50x175 6/9
Cover test (s):	D orthophoria	N 3Δ esophoria G1
NPC & AA:	to nose	R 16D L15D
Ocular health:	Pupils, motility, ophthalmoscopy, fields, ret reflex: all normal	

Grade	Description
1	rapid and smooth
2	slightly slow/jerky
3	definitely slow/jerky but not breaking down
4	slow/jerky and breaks down with repeat covering, or only recovers after a blink
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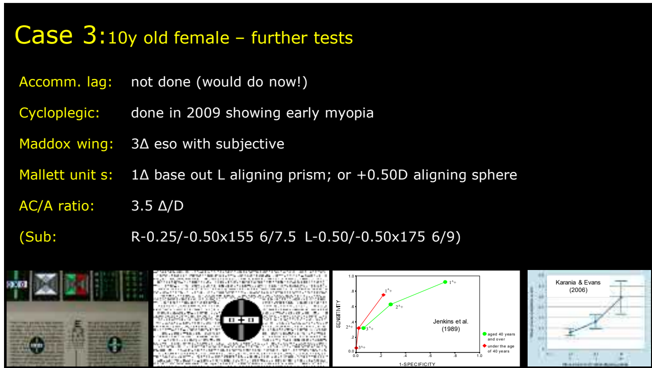
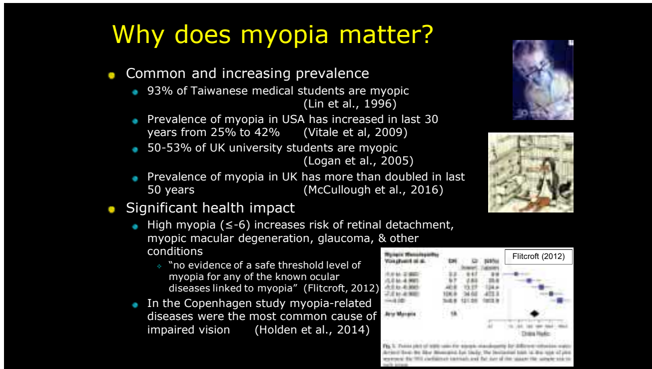
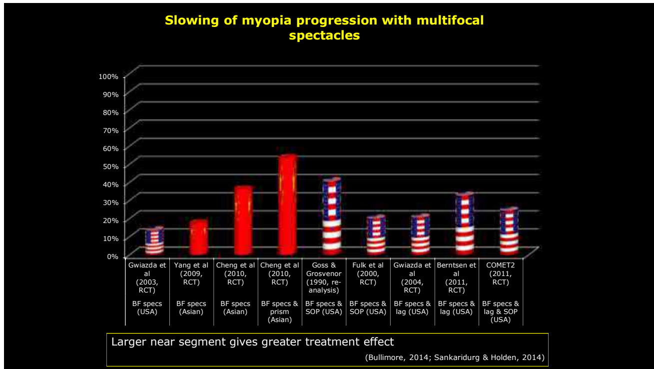
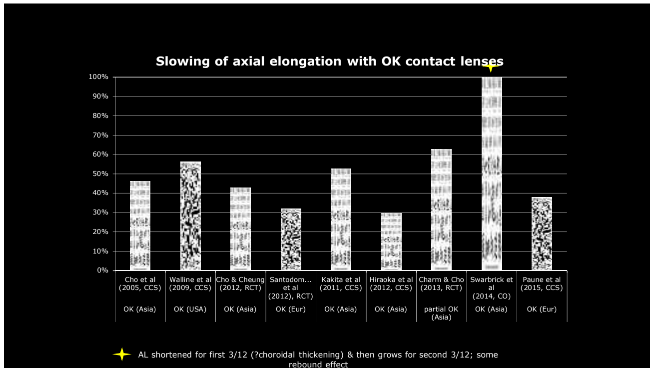


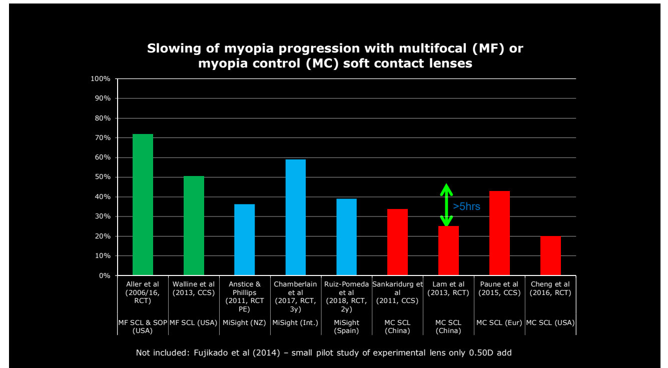
Preferred management?

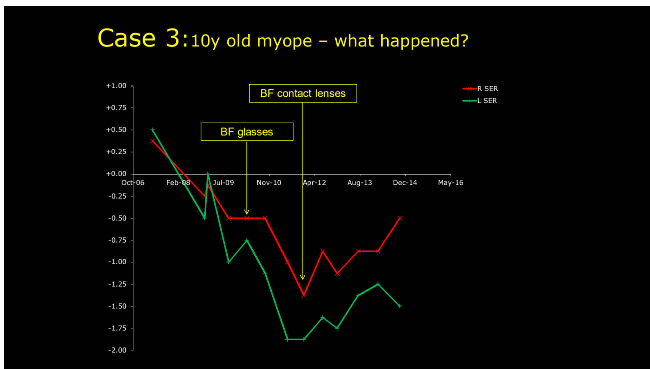
- A. No Rx
- B. Single vision glasses
- C. Multifocal or accommodative support/boost glasses
- D. Single vision contact lenses
- E. Multifocal contact lenses
- F. Orthokeratology











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Case 6:5y old girl, new px, 2nd EE, May 2012 (26529)

Case 6:5y old girl, new px, 2nd EE, May 2012 (26529)

What is the diagnosis?

A. Anisometropic amblyopia

B. Strabismic amblyopia

C. Mixed aniso & strabismic amblyopia

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0%

If not keen on CL, what management would you recommend?

When poll is active, respond at PollEv.com/bruceevans029

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- just continue spectacle wear
- spectacles and part-time occlusion
- spectacles and full-time occlusion
- refer

Who can treat amblyopia?

A. hospital eye clinics

B. community optometrists

C. both

Start the presentation to activate live content

0%

Case 6: some literature on treatment

- Flow chart based on review of recent RCTs in Evans et al. (2011)
- Many cases of amblyopia can be cured by refractive correction alone;
  - 20% don't need occlusion (Gibson, 1955; Pickwell, 1984; Stewart et al., 2004; West & Williams, 2011)
  - Contact lenses are likely to be best (Evans, 2006)
- Many cases never require full-time occlusion
  - If 6/9 to 6/25, 2h occ. ≡ 6h
  - If ≤ 6/30, 6h > 2h
- Avoid full time occlusion for orthotropic anisometropia
- Timings approximate
  - See patients frequently during the treatment of amblyopia, to begin with every 4-6 weeks

Case 6: 2 years later, now 7y old girl (26529)

Case 6: 2 years later, now 7y old girl (26529)

Retinoscopy: R +1.75 / -0.25 × 75; L +5.50 / -0.50 × 170; WD 0

Subjective Rx: R +1.00, V/A 6/6; L +2.50 / -0.50 × 155, V/A 6/12+

Subjective Findings: spx R6/6 L6/9+; CTs D=N=0; NV fus res c: div-/12/10 -/10/8 con sup 25/sup/sup; text c: OK; overlays borderline but more comfy

Rx Given: R +0.25, V/A 6/6; L +3.25 / -0.75 × 150, V/A 6/12+

Motility: Full, smooth, SV

Pupils: PERRLA

NPC: c 5cm

Acc: c R 16D L 15D

Stereopsis: c S-- C100

Cover Test: D 0.00 / 0.00 c; N 0.00 / 0.00 c

Muscle Balance: D 9.00 Out c / 0.00 c; N 0.00 c spx / 0.00 c --

Fixation Disparity: D 0 c / 0 c; N 0 c / 0 c

Colour: Lime-green+yellow, 7

CV Test: pass Ishihara

Fields: 30 thresh R+L MS25 all seen

Other: PGT 1-0 2-0 MEM spx R+0.4 L+1.1 FS 0 AC/A2

Case 6: 2 years later, now 7y old girl (26529)

CONCLUSIONS

- Always be on the lookout for pathology
  - refer if no significant improvement
  - BUT pathology is very rare
- It is possible to treat amblyopia in optometric practice
  - patients will need good instructions & regular checks
- Many comitant ocular motor anomalies are treatable
  - plus for eso, minus for exo, & prisms are under-used treatments
- Vision therapy for convergence insufficiency is evidence-based, but there is a need for more research for other forms of vision therapy

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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