PLANNING FOR COMPLEX AND REOPERATED STRABISMUS CASES

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AS IN

- Thyroid ophthalmopathy
- After orbital fractures
- RD / glaucoma drainage
- Long standing strabismus
- Reoperations
THE KEYS

SPOT THE BIG PROBLEM

BE CREATIVE
PARAMETERS FOR PLANNING

- Vision
- Number of recti operated
  - How to know?
- Rotations
- Scarring
PARAMETERS FOR PLANNING

- Fissure width
- Lower > upper field
- Potential for diplopia (inf consent)
QUESTION 1: BEST SOURCE OF PRIOR INFORMATION?

- A: Exploration
- B: History
- C: Office records
- D: Op reports
QUESTION 1: BEST SOURCE OF PRIOR INFORMATION?

- A. Exploration; your findings now
- B. History
- C. Office records
- D. Op reports
FULL ROTATIONS

- “Cooper Doctrine”: use unoperated muscles in usual number of mm for that size deviation
FULL ROTATIONS

- Resecting previously resected muscle OK; *but*, check intraoperative forced ductions

**WARNING**: recessing previously recessed muscle unpredictable; risks postoperative limitation.
QUESTION 2

- Infantile ET 70 pr d
  - Recession MROU 6 mm
  - Resection LLR 8 mm
- Age 3 yrs: accom ET
- Age 12yrs; decompensation
  - ET cc = 18
  - ET’cc = 14
- Abd, add, obliques normal
QUESTION 2: PLAN?

- A: Re-recession MROU?
- B: Re-recession / resection OD?
- C: Resection RLR / re-resection LLR?
- D: Resection only RLR?
QUESTION 2: Rx

- Cooper Doctrine
- Resection RLR / re-resection LLR
  - OD 5 mm
  - OS 3 mm
LIMITED ROTATION

- Describe only as “limited” until analyzed.
LIMITED ROTATION: WHERE?

- Version v. duction
TRACTION (FORCED DUCTION) TEST

- Gold standard
- Passive, not forced
- Obliques v. vertical recti
  - Globe forward
  - Globe back
FORCE GENERATION

- Direct: forceps on globe
- Indirect: saccadic velocity
LIMITED ROTATION: *BIG CLUE*

- Straight eyes, big limit = not weakness
LIMITED ROTATION

- For weakness or restriction, explore suspected muscle
- Explore all muscles previously operated you might use before operating any
LIMITED ROTATION

- If restriction, does it improve on lysis of adhesions?
  - Rx: conjunctival recession

- If restriction, does it improve on disinsertion of muscle?
  - Rx: consider adjustable suture
LIMITED ROTATION

- If weakness, explore for intracapsular slippage
  - True loss rare
  - Minor slip: use yoke or antagonist
  - Major slip: advance, resect(?), adjustable on another muscle
QUESTION 3: LIMITED ROTATION

Which of the following does not characterize a weak rotation or a restriction?

- A. Forced duction test
- B. Force generation
- C. Saccadic velocity recording
- D. Primary v. secondary deviation
QUESTION 3: LIMITED ROTATION

Which of the following does not characterize a weak rotation or a restriction?

- A. Forced duction test
- B. Force generation
- C. Primary v. secondary deviation
- D. Saccadic velocity
OTHER CONSIDERATIONS

- Operation on 3rd rectus muscle usually safe; *beware 4th rectus*
- Give priority to primary position and lower field > upper field
OTHER CONSIDERATIONS

- In reoperation on vertical recti, choose alternative (if any) that equalizes fissure widths
- If limited rotation involves better-seeing eye, may have to include
QUESTION 4: CREATIVITY

- LSO palsy
- Recent myectomy LIO, recess & adjust RIR “2 mm; R lower lid attachments divided”
- Vertical diplopia
- Wide fissure OD
- RHT
- Limited depression OD all gazes
QUESTION 4: PREOP
QUESTION 4: PLAN?

- A. Advance RIR
- B. Recess / adjust RSR
- C. Avoid RLL attachments
QUESTION 4: PLAN?

- A. Advance RIR
- B. Recess / adjust RSR
- C. Avoid RLL attachments
BUT

- Found *attenuated RIR*
- What now?

**Rx**

- Advance “RIR”
  - Retain RLL attachments
- Ant transposition RIO
  - Over “RIR”
PATIENT: GC

Pre

Post

18 mo
BAD / NO MUSCLE?

- Use what you can; it often works
MORE CREATIVITY

- Childhood ET
- Surg x1 age 10 yrs
- OD 20/25, OS CF at 10 ft
- XT, XT’ > 100
  - A-pattern
- “Overaction” all obliques
QUESTION 5: PLAN?
(Huge XT, OD only good eye)

- Huge recession LROU
- Huge R/R OD
- Huge R/R OS
- Huge resection MROU
QUESTION 5: PLAN?
(Huge XT, OD only good eye)

- Huge recession LROU
- Huge R/R OD
- Huge R/R OS
- Huge resection MROU
- None of these
QUESTION #3: Rx
RESULT

Preop

Postop
GOALS IN COMPLEX STRABISMUS

- **SPOT THE BIG ISSUE IN EACH CASE**
- Can’t fix everything
- Be ready for tradeoffs
- **BE CREATIVE**