

# ACCOMMODATIVE ESOTROPIA

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# ACCOMMODATIVE ESOTROPIA

- Accommodation-convergence linkage (“AC/A ratio”)
  - Abnormally high
  - Normal but excessive demand (incr hyperopia)

# ACCOMMODATIVE ESOTROPIA

## ■ Hypoaccommodation

- Extra effort (~ increased hyperopia)
- Over-response (~ high AC/A)

# QUESTION 1: TYPICAL AGE OF ONSET OF ACCOMMODATIVE ESOTROPIA

- A. < 1 year
- B. 13-18 months
- C. 2-3 years
- D. 5-6 years

# ACCOMMODATIVE ESOTROPIA: ONSET

<u>Age (Parks)</u>	<u>NI AC/A</u>	<u>High AC/A</u>
- 12 mos	15%	18%
- 36 mos	74%	71%



# QUESTION 1: TYPICAL AGE OF ONSET OF ACCOMMODATIVE ESOTROPIA

- A. < 1 year
- B. 13-18 months
- **C. 2-3 years**
- D. 5-6 years

# ACCOMMODATIVE ESOTROPIA: AC/A

■ <u>AC/A</u>	<u>Parks</u>	<u>Raab</u>
- Normal	43%	50%
- High	57%	50%



## QUESTION 2: THE AC/A RATIO

- A. Decreases with age
- B. Decreases with surgery
- C. Decreases with orthoptics



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- ***A. Decreases with age***
- ***B. Decreases with surgery***
- **C. Decreases with orthoptics**

# ACCOMODATIVE ESOTROPIA: HYPEROPIA

<u>Mean Hyperopia</u>	<u>Parks</u>	<u>Raab</u>
Normal AC/A	+4.75	+3.97
High AC/A	+2.25	+2.78

## QUESTION 3: HYPEROPIA CHANGES IN MOST CASES

- A. Steady decrease from original level
- B. Steady increase from original level
- C. Increase from original level followed by decrease
- D. No change from original level

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# HYPEROPIA CHANGES (Age 1-7 yrs)

	<u>Raab</u>	<u>Brown</u>
Increase	68%	69%
Decrease	24%	24%
Same	8%	7%

# ACCOMMODATIVE ESOTROPIA: Rx

- Initially eliminate *all* accommodative effort
- Taper to small esophoria when securely controlled (usually after age 6 yrs)
- Increase Rx when control unstable

# ANTICHOLINESTERASE MIOTICS

## ■ Advantages

- Infants
- Control at many distances; no bifocal

## ■ Supposed Advantages

- Indeterminate case
- Compliance

BIFOCALS?



# DECOMPENSATION

- Eyes no longer acceptably straightened by discouraging accommodation
- *Surgical* problem
- Goal: restore straight eyes with continuation of accommodation control if necessary

# DECOMPENSATION

- Folk 11%
- Raab 17%
- Manley & Parks 20%
- Baker & Parks 48%

# QUESTION 4: DECOMPENSATION IS MORE COMMON IN

- A. High hyperopia cases
- B. High AC/A ratio cases
- C. Same in both types

# RAAB STUDY

<u>AC/A</u>	<u>Patients</u>	<u>Decompensated</u>
Normal	106	17 (16%)
High	87	15 (17%)
Total	193	32 (17%)

# QUESTION 4: DECOMPENSATION IS MORE COMMON IN

- A. High hyperopia cases
- B. High AC/A ratio cases
- **C. *Same in both types***

# PERSISTENCE (Raab)

- More than half (53%) still present after age 10 yrs
- 29% still present after age 12 yrs
- A few *never* disappear



# RAAB STUDY

- *Can we reduce visits without lowering quality of care?*



# RAAB STUDY: CONCLUSION

- *No decompensation in first year after control*
- 2 of observed 54 at 18 months
- 6 of observed 52 at 2 years



# RAAB STUDY: CONCLUSIONS

- *Most patients do not require stronger treatment in first 2 years after control*
- *Patients requiring stronger control are not more likely to decompensate*
- *Age of onset not a risk factor for decompensation*

# RAAB STUDY: CONCLUSIONS

- *After initial control, next exam at 9-12 months is sufficient and does not compromise quality of care*
- *Exceptions*
  - Amblyopia
  - Co-existing vertical / oblique anomalies
  - Monitoring miotics

# ACCOMMODATIVE ESOTROPIA

- With Brown, Duane, congen nystagmus
- After surgery for infantile esotropia (masked?)
  - Especially if hyperopia (any level) increases
- After surgery for intermittent exotropia
- *Warn parents*



