

AC/A Ratio

Accommodative Convergence to Accommodation Ratio

Gradient Method

- Ratio = Change in deviation / change in accommodation
- Fixation distance is fixed.
- Measure deviation with and without a modifying lens
- The lens is changing the amount of accommodation
- **Stimulate Accommodation**
 - Measure alignment fixating at 6 meters * Remeasure with a -1.00 lens before both eyes
 - Calculate the difference between the two alignment measures to get the AC/A ratio
- **Relax Accommodation**
 - Measure alignment fixating at 0.33 meters
 - Remeasure with a +3.00 lens over both eyes
 - Divide the difference in the two alignment measures by 3 to get the AC/A ratio
- Results
 - Average: 3.7
 - Range: 0.9 - 9.8
 - Low: 0 - 2.0
 - Normal: 2.5 - 5.0
 - High: > 5.0

Heterophoric Method

- Assumes that convergence is wholly due to accommodation and ignores tonic convergence or proximal convergence (fusion) mechanisms
 - $AC/A = \text{Pupil Distance} + (D_n - D_0 / D)$
 - D_n = alignment measurement at near
 - D_0 = alignment measurement at distance
 - D = diopters of accommodation
- Results
 - Average: 4.4
 - Range 2.7 - 7.7

Slope Gradient Method

- Measure the alignment at a set distance with the following lenses: +3.00, +1.00, -1.00, -3.00
- Graph values and determine slope

Factors that Affect the AC/A ratio

- Glasses/Bifocals
- Anticholinesterases
- Surgery
- Time
- Orthoptics

[convergence](#)

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