

Binocular Vision

Accommodation tests

Accommodative anomalies are often associated with binocular vision problems, and so is a useful measurement in pre-presbyopic patients. Because it is measured from the far point, the measurement needs to be taken with the distance correction in place. It is therefore assessed after refraction. The amplitude of accommodation is measured by moving a detailed target towards the nose closer until blur is first noticed and then moved back until it clears. The midpoint between the first blur and first clear position is the near point.

Other tests that may be used in addition to the amplitude of accommodation to more completely investigate accommodation include accommodative facility (or rate of change of accommodation) using flippers that alternately present positive and negative lenses, and an assessment of accommodative accuracy using retinoscopy to measure the accommodative lag.

Tips for measuring the amplitude of accommodation

- Test should be done wearing any distance refraction
- Simple words in a random order is preferable to text that forms a story
- Start relatively quickly and slow down movement as the nose is approached
- Result is usually recorded in Dioptres.
- Test should be done for each eye monocularly and then with both eyes open.
- Poor accommodation can be a sign of latent hypermetropia
- Reduced amplitude of accommodation is an indication for a cycloplegic refraction
- Accommodative insufficiency and convergence insufficiency often coexist.

Age (years)	Minimum (D)
4	14
6	13.5
8	13
10	12.5
12	12
14	11.5
20	10
30	7.5
40	5
50	2.5

Expected minimum amplitude of accommodation