

STANDARDS OF PRACTICE

CYCLOPLEGIC REFRACTION

Name:	Cycloplegic Refraction
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Objective and subjective refraction done under cycloplegia can provide useful information in situations where sustained accommodative effort is suspected in contributing to vision symptoms.

Cycloplegic refraction is indicated in children and adults with:

- Suspected clinically significant latent hyperopia
- Unexplained reduced visual acuity
- Esotropia
- Asymmetric refractive error
- Subnormal amplitude of accommodation for their age

When using cycloplegic agents the optometrist should:

- Counsel patients regarding the expected effects and anticipated duration of action of the cycloplegic drug
- Consider contraindications prior to the instillation of the cycloplegic agent, including narrow anterior chambers, past history of angle closure or hypersensitivities to similar drugs

The cycloplegic agent should be selected with the goal of providing adequately deep suppression of accommodation with the minimum time of recovery. Dosages are affected by age and the degree of iris pigmentation.

Cyclopentolate hydrochloride (0.5% and 1% drops) is the most widely used cycloplegic agent available at this time. One or two drops with the 1% solution usually produces adequate cycloplegia within 30 minutes of instillation and lasts 3-24 hours in most cases.

Atropine (0.5% and 1%) ophthalmic drops or ointment produce maximal cycloplegia but usually require administration of the drug three days prior to examination and the effects are long lasting.

Tropicamide (0.5% or 1% drops) may also be used for adults. This choice offers rapid onset of action (20-30 minutes) and short duration (1 to 4 hours). Tropicamide may not provide a reliable degree of consistency of cycloplegia.

Optometrists should exercise clinical judgment in interpreting the refractive findings obtained with cycloplegia when prescribing an appropriate refractive correction. The correction will depend on:

- The patient's age
- The patient's symptoms
- The degree of hyperopia and/or esophoria
- The presence or absence of strabismus