

**Figure 7-1** The monocular cover-uncover test.

The *alternate cover test* (Fig 7-2A; Video 7-2) detects both latent (heterophoria) and manifest (heterotropia) deviations. As the patient views the target, the examiner moves the occluder from one eye to the other, observing the direction of movement of each eye when it is uncovered. Because this test disrupts binocular fusion, dissociating the eyes, it does not distinguish between latent and manifest components. Testing should be performed at both distance and near fixation.

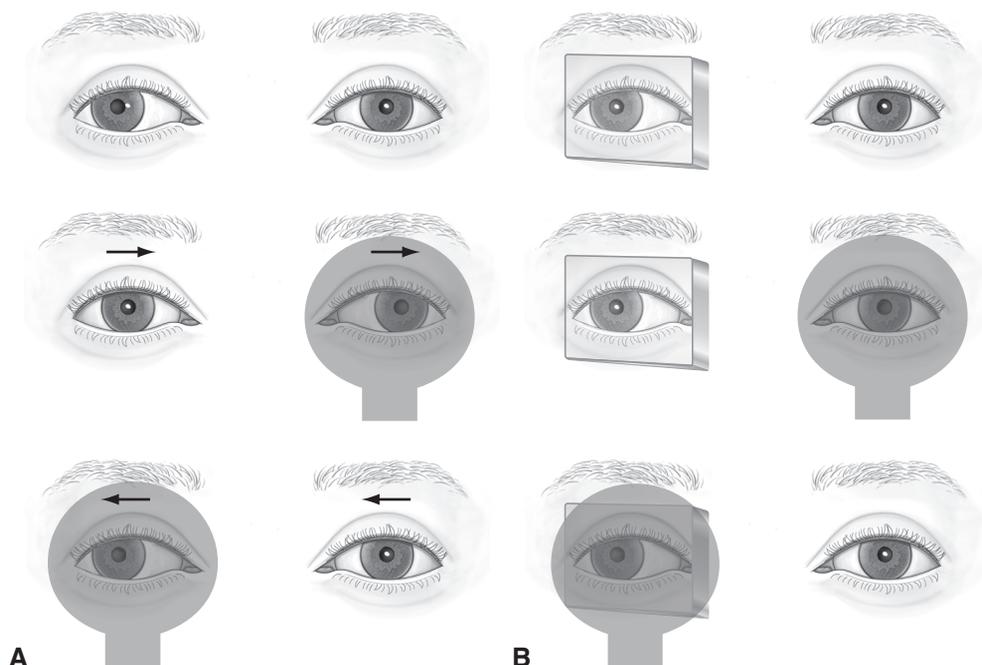


**VIDEO 7-2** The alternate cover test.

Animation developed by Steven M. Archer, MD, and Kristina Tarczy-Hornoch, MD, DPhil.



In the *prism alternate cover test*, prisms of varying amount are held over one eye or both eyes during alternate cover testing; the amount of prism that neutralizes the



**Figure 7-2** **A**, The alternate cover test. *Top*: Exotropia, left eye fixating. *Middle and bottom*: Both eyes move each time the cover alternates from one eye to the other. **B**, The prism alternate cover test. *Top*: The exotropia is neutralized with a prism of the correct power. *Middle and bottom*: The eyes do not move as the cover alternates from one eye to the other. (Illustration developed by Steven M. Archer, MD; original illustration by Mark Miller.)

deviation, such that eye movement is no longer seen as the occluder is moved from one eye to the other, represents the magnitude of the deviation (Fig 7-2B; Video 7-3). It may be necessary to use both horizontal and vertical prisms. This test measures the total deviation (heterotropia plus heterophoria).



**VIDEO 7-3** The prism alternate cover test. Animation developed by Steven M. Archer, MD, and Kristina Tarczy-Hornoch, MD, DPhil.



Two horizontal or 2 vertical prisms should not be stacked; such stacking can induce significant measurement errors. Deviations larger than the largest-available single prism are best measured by placing 1 prism in front of each eye, although this is not perfectly additive either. A horizontal prism and a vertical prism may be stacked over the same eye, however. Plastic prisms should always be held with the back surface (closest to the patient) in the patient’s frontal plane. If the head is tilted, the prisms must be tilted accordingly. With incomitant (parietic or restrictive) strabismus, the primary and secondary deviations are measured by holding the prism over the parietic or restricted eye and the sound eye, respectively.

The *simultaneous prism and cover test* (Video 7-4) measures the manifest deviation during binocular viewing (only the heterotropia). The test is performed by placing a prism in front of the deviating eye and covering the fixating eye at the same time. The test is