

used to evaluate the refractive error of each eye.

Nursing Alert

If visual fixation and following are not present by 3 to 4 months old, further ophthalmologic evaluation is necessary.

Peripheral Vision

In children who are old enough to cooperate, estimate **peripheral vision**, or the visual field of each eye, by having the children fixate on a specific point directly in front of them while an object, such as a finger or a pencil, is moved from beyond the field of vision into the range of peripheral vision. As soon as children see the object, have them say “Stop.” At that point, measure the angle from the anteroposterior axis of the eye (straight line of vision) to the peripheral axis (point at which the object is first seen). Check each eye separately and for each quadrant of vision. Normally children see about 50 degrees upward, 70 degrees downward, 60 degrees nasalward, and 90 degrees temporally. Limitations in peripheral vision may indicate blindness from damage to structures within the eye or to any of the visual pathways.

Color Vision

The tests available for color vision include the Ishihara test and the Hardy-Rand-Rittler test. Each consists of a series of cards (pseudoisochromatic) containing a color field composed of spots of a certain “confusion” color. Against the field is a number or symbol similarly printed in dots but of a color likely to be confused with the field color by a person with a **color vision deficit**. As a result, the figure or letter is invisible to an affected individual but is clearly seen by a person with normal vision.

Ears

Inspection of External Structures

The entire external ear is called the **pinna**, or **auricle**; one is located on each side of the head. Measure the height alignment of the pinna by drawing an imaginary line from the outer orbit of the eye to the occiput, or most prominent protuberance of the skull. The top of the