

The Eye Examination¹

Objectives

In order to evaluate the visual system you should be able to recognize the significant external and internal ocular structures of the normal eye and to perform a basic eye examination.

To achieve these objectives, you should learn

- The essentials of ocular anatomy
- To measure and record visual acuity
- To assess pupillary reflexes
- To evaluate ocular motility
- To use the direct ophthalmoscope for a systematic fundus examination and assessment of the red reflex
- To dilate the pupils as an adjunct to ophthalmoscopy
- To perform tonometry
- To evaluate visual fields by confrontation

Relevance

The proper performance of a basic eye examination is a crucial skill. Systematic examination of the eye enables the examiner to evaluate ocular complaints and provide either definitive treatment or appropriate referral to an ophthalmologist. Furthermore, many eye diseases are "silent," or asymptomatic, while serious ocular damage is occurring. Performing a basic eye examination can reveal such conditions and ensure that patients receive the timely care they need. A basic eye examination may provide early warning signs of any of the following conditions:

Blinding eye disease that are potentially treatable if discovered early include cataract, glaucoma, diabetic retinopathy, macular degeneration, and, in young children, amblyopia.

Systemic disease that may involve the eye include diabetes, hypertension, temporal arteritis, and an embolism from the carotid artery or the heart.

Tumor or other disorders of the brain include meningioma, aneurysms, and multiple sclerosis.

Anatomy

Eyelids The outer structures that protect the eyeball and lubricate the ocular surface. Within each lid is a tarsal plate containing meibomian glands. The lids come together at the medial and lateral canthi. The space between the two open lids is called the *palpebral fissure*.

Sclera The thick outer coat of the eye, normally white and opaque.

Limbus The junction between the cornea and the sclera.

Iris The colored part of the eye that screens out light, primarily via the pigment epithelium, which lines its posterior surface.

Pupil The circular opening in the center of the iris that adjusts the amount of light entering the eye. Its size is determined by the parasympathetic and sympathetic innervation of the iris.

Conjunctiva The thin, vascular tissue covering the inner aspect of the eyelids (palpebral conjunctiva) and sclera (bulbar conjunctiva).

Cornea The transparent front "window" of the eye that serves as the major refractive surface.

Extraocular muscles The six muscles that move the globe medially (medial rectus), laterally (lateral rectus), upward (superior rectus and inferior oblique), downward (inferior rectus and superior oblique), and torsionally (superior and inferior obliques). These muscles are supplied by three cranial nerves: cranial nerve IV, which innervates the superior oblique; cranial nerve VI, which innervates the lateral rectus; and cranial nerve III, which controls the remainder of the extraocular muscles as well as the levator and the iris sphincter.

Anterior chamber The space that lies between the cornea anteriorly and the iris posteriorly. The chamber contains a watery fluid called *aqueous humor*.

Lens The transparent, biconvex body suspended by the zonules behind the pupil and iris; part of the refracting mechanism of the eye.

Ciliary body The structure that produces aqueous humor. Contraction of the ciliary muscle changes tension on the zonular fibers that suspend the lens and allows the eye to focus from distant to near objects (accommodation).

Posterior chamber The small space filled with aqueous humor behind the iris and in front of the vitreous.

Vitreous cavity The relatively large space (4.5 cc) behind the lens that extends to the retina. The cavity is filled with a transparent jelly-like material called *vitreous humor*.

Retina The neural tissue lining the vitreous cavity posteriorly. Essentially transparent except for the blood vessels on its inner surface, the retina sends the initial visual signals to the brain via the optic nerve.

Macula The area of the retina at the posterior pole of the eye responsible for fine, central vision. The oval depression in the center of the macula is called the *fovea*.

Choroid The vascular, pigmented tissue layer between the sclera and the retina. The choroid provides the blood supply for the outer retinal layers.

Optic disc The portion of the optic nerve visible within the eye. It is comprised of axons whose cell bodies are located in the ganglion cell layer of the retina.

Optics

¹ Modified from Berson FG. *Basic Ophthalmology for Medical Students and Primary Care Residents*. American Academy of Ophthalmology, 1993

The cornea and the lens make up the refractive surfaces of the eye. The cornea provides approximately two thirds of the refractive power of the eye, and the lens approximately one third to form an image on the retina. Reduced visual acuity will result if the axial length of the eye is either too short (ie, *hyperopia*; also called *hypermetropia*) or too long (ie, *myopia*) for the refracting power of the cornea and lens. Visual acuity also is reduced if the refracting power of the cornea and lens is different in one meridian than in another (ie, *astigmatism*). These optical defects can be corrected by the use of either eyeglass lenses or contact lenses. A pinhole placed directly in front of the eye will narrow the effective pupillary aperture and thereby minimize the blurring induced by a refractive error.

The ability of the ciliary muscle to contract and the lens to become more convex is called *accommodation*. With increasing age, the lens of every eye undergoes a progressive hardening, with loss of ability to change its shape. Loss of accommodation is manifested by a decreased ability to focus on near objects (ie, *presbyopia*), while corrected distance visual acuity remains normal. Presbyopia develops progressively with age but becomes clinically manifest in the early to mid 40s, when the ability to accommodate at reading distance (35 to 40 cm) is lost. Presbyopia is corrected by eyeglass lenses, either as reading glasses or as the lower segment of bifocal lenses, the upper segment of which can contain a correction for distance visual acuity if needed. Some myopic patients with presbyopia simply remove their distance glasses to read, because they do not need to accommodate in an uncorrected state.

When to Examine

All patients should have an eye examination as part of a general physical examination by the primary care physician. Visual acuity, pupillary reactions, extraocular movements, and direct ophthalmoscopy through undilated pupils constitute a minimal examination. Pupillary dilation for ophthalmoscopy is required in cases of unexplained visual loss or when fundus pathology is suspected (eg, diabetes mellitus).

Distance visual acuity measurement should be performed in all children as soon as possible after age 3 because of the importance of detecting amblyopia early. The tumbling E chart is used in place of the standard Snellen eye chart. Depending on what the examination reveals and on the patient's history, additional tests may be indicated (listed below).

History

An ophthalmic history is no different than any medical history. Symptoms such as transient and persistent vision loss, blur, flashing lights, diplopia, tearing, redness, visual distortion, field loss should be defined in terms of its onset, course, character, exacerbating or ameliorating factors, treatment thus far, and associated symptoms. The tempo of the appearance of a symptom is one of the most important factors detecting the urgency for further evaluation by an ophthalmologist. The sudden, recent onset of any eye symptom, such as visual loss, periorbital swelling, or severe eye pain may all represent ophthalmic emergencies and so should be referred to an ophthalmologist as soon as the preliminary evaluation is complete. A history of past eye problems and other medical problems should be elicited after the present symptoms are defined.

Physical Exam

Please see the appended "Hieroglyphics of the Eye Exam" for conventions and abbreviations used in documenting the eye exam.

Visual Acuity

Visual acuity is a measurement of the smallest object a person can identify at a given distance from the eye. The following are common abbreviations used to discuss visual acuity:

OD (oculus dexter) right eye
OS (oculus sinister) left eye
OU (oculus uterque) both eyes

Distance visual acuity is usually recorded as a ratio or fraction comparing patient performance with an agreed-upon standard. In this notation, the first number represents the distance between the patient and the eye chart (usually the Snellen eye chart); the second number represents the distance at which the letters can be read by a person with normal acuity. Visual acuity of 20 / 80 thus indicates that the patient can recognize at 20 feet a symbol that can be recognized by a person with normal acuity at 80 feet.

Visual acuity of 20/20 represents normal visual acuity. Many "normal" individuals actually see better than 20/20, for example, 20/15 or even 20/12. If this is the case, you should record it as such. Alternative notations are the decimal notation (eg, 20/20 = 1.0; 20/40 = 0.5; 20/200 =

0.1) and the metric notation (eg, 20/20 = 6/6, 20/100 = 6/30).

Visual acuity is tested most often at a distance of 20 feet, or 6 meters. Greater distances are cumbersome and impractical; at shorter distances, variations in the test distance assume greater proportional significance. For practical purposes, a distance of 20 feet may be equated with optical infinity.

To test distance visual acuity with the conventional Snellen eye chart, follow these steps:

1. Place the patient at the designated distance, usually 20 feet (6 meters'), from a well-illuminated Snellen chart. If glasses are normally worn for distance vision, the patient should wear them.
 2. By convention, the right eye is tested and recorded first. Completely occlude the left eye using an opaque occluder or the palm of your hand; alternatively, have the patient cover the eye.
 3. Ask the patient to read the smallest line in which he can distinguish more than one half of the letters. (If the E chart is being used, have the patient designate the direction in which the strokes of the E point.)
 4. Record the acuity measurement as a notation (eg, 20/20) in which the first number represents the distance at which the test is performed and the second number represents the numeric designation for the line read.
 5. Repeat the procedure for the other eye.
 6. If visual acuity is 20/40 or less in one or both eyes, repeat the test with the subject viewing the test chart through a pinhole occluder and record these results. The pinhole occluder may be used over the subject's glasses.
- If a patient cannot see the largest Snellen letters, proceed

as follows:

1. Reduce the distance between the patient and the chart. Record the new distance as the numerator of the acuity designation (eg, 5/70).
2. If the patient is unable to see the largest Snellen letter at 3 feet, hold up one hand, extend two or more fingers, and ask the patient to count the number of fingers. Record the distance at which counting fingers is done accurately (eg, CF 1 ft).
3. If the patient cannot count fingers, determine whether or not he can detect the movement of your hand. Record a positive response as hand motion (eg, HM 2 ft).
4. If the patient cannot detect hand motion, use a penlight to determine whether he can detect the presence or direction of light. Record the patient's response as LP (light perception), LP with projection (light perception with direction), or NLP (no light perception).

It is helpful to encourage the patient to read the chart. Most patients actually see better than they think. The goal in testing is to establish the best corrected visual acuity. If the vision is not correctable to 20/20 then it is your responsibility to find out why either by more detailed testing or referral to an ophthalmologist.

Near Visual Acuity Testing

Near visual acuity testing may be performed if the patient has a complaint about near vision. Otherwise, testing "at near" is performed only if distance testing is difficult or impossible-at the patient's bedside, for instance. In such situations, testing with a near card may be the only feasible way to determine visual acuity

If the patient normally wears glasses for reading, he should wear them during testing. This holds true for the presbyopic patient in particular. The patient holds the test card-for example, a Rosenbaum pocket vision screener at the distance specified on the card. This distance is usually 14 inches or 35 centimeters. While the examiner occludes one of the patient's eyes, the patient reads the smallest characters legible on the card. The test is then repeated for the other eye.

Letter size designations and test distances vary. To avoid ambiguity, both should be recorded (eg, J5 at 14 in, 6 point at 40 cm). Some near cards carry distance-equivalent values. These are valid only if the test is done at the recommended distance. If a standard near vision card is not available, any printed matter such as a telephone book or a newspaper may be substituted. Both



the approximate type size read and the distance at which the material was held are recorded.

Visual Acuity Estimation in an Uncooperative Patient

Occasionally, you will encounter a patient who is unwilling or unable to cooperate with standard visual acuity testing or who may be suspected of faking blindness. Because the typical visual acuity test will not work for such a patient, you will need to be alert to other signs. Withdrawal or a change in facial expression in response to light or sudden movement indicates the presence of vision. A brisk pupillary response to light also suggests the presence of vision. The exception to this is the patient with cortical blindness, which is due to bilateral widespread destruction of the visual cortex. If there is any doubt, referral to an ophthalmologist is recommended.

Chapter 6 discusses visual testing of infants and toddlers.

Color Vision Testing

The normal retina contains three color-sensitive pigments: red-sensitive, green-sensitive, and blue-sensitive. A developmental deficiency in either the concentration or the function of one or more of these pigments causes various combinations and degrees of congenital color vision defects. Most such defects occur in males through an X-linked inheritance pattern. Color vision abnormalities also may be acquired in individuals with retinal or optic nerve disorders.

Color vision testing is performed with the use of pseudoisochromatic plates (eg, Ishihara plates), which present numbers or figures against a background of colored dots. The person with abnormal color discrimination will be confused by the pseudoisochromatic plates, which force a choice based on hue discrimination alone while concealing other clues such as brightness, saturation, and contours.

The patient should wear glasses during color vision testing if they are normally worn for near vision. The color plates are presented consecutively under good illumination, preferably natural light. Results are recorded according to the detailed instructions provided with the plates. Usually, a fraction is specified, with the numerator equivalent to the number of correct responses and the denominator the total plates presented. The type of color defect can be determined by recording the specific errors and using the instructions provided with the plates.

External Inspection

With adequate room light, the examiner can inspect the lids, surrounding tissues, and palpebral fissure. Palpation

of the orbital rim and lids may be indicated, depending on the history and symptoms. Inspection of the conjunctiva and sclera is facilitated by using a penlight and having the patient look up while the examiner retracts the lower lid or look down while the examiner raises the upper lid. The penlight also aids in the inspection of both the cornea and the iris.

Upper Lid Eversion

Upper lid eversion is sometimes required to search for conjunctival foreign bodies or other conjunctival signs. The patient is asked to look down and the examiner grasps the eyelashes of the upper lid between the thumb and the index finger. A cotton-tipped applicator is used to press gently downward over the superior aspect of the tarsal plate as the lid margin is pulled upward by the lashes. Pressure is maintained on the everted upper lid while the patient is encouraged to keep looking down. The examiner should have a penlight within reach to inspect the exposed conjunctival surface of the upper lid for a foreign body or other abnormality. To return the lid to its normal position, the examiner releases the lid margin and the patient is instructed to look up.

Fluorescein Staining of Cornea

Corneal staining with fluorescein (a yellow-green dye) is useful in diagnosing defects of the corneal epithelium. Fluorescein is applied in the form of a sterile filter-paper strip, which is moistened with a drop of sterile water or saline and then touched to the palpebral conjunctiva. A few blinks spread the fluorescein over the cornea. Areas of bright-green staining denote absent or diseased epithelium. Viewing the eye under cobalt-blue light enhances the visibility of the fluorescence.

Two precautions to keep in mind when using fluorescein are

1. Use fluorescein-impregnated strips instead of stock solutions of fluorescein because such solutions are susceptible to contamination with *Pseudomonas species*.
2. Have the patient remove soft contact lenses prior to application to avoid discoloration of the lenses.

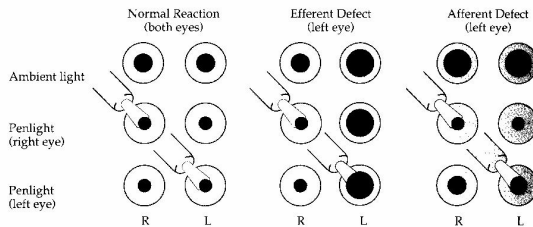
Pupillary Reaction Testing

Inspection of the pupils should be part of the physical examination. Inspection should include testing the patient's direct and consensual pupillary reactions to light with the patient looking at a distant object.

Pupils should be inspected while the patient is looking at distance to avoid the pupillary constriction that occurs

with a near target. Inspection of pupils in patients with dark-brown irides can be facilitated with a tangentially applied light. The pupils should be round and equal in diameter, although less than 1 millimeter of inequality may be a normal variation. Poor pupillary dilation in dim light may indicate dysfunction of the sympathetic nervous system, and poor pupillary constriction to bright light may indicate parasympathetic dysfunction.

The swinging-flashlight test is the most valuable clinical test for optic nerve dysfunction currently available to the general physician. The abnormality detected with this test is the afferent pupillary defect, also known as the Marcus Gunn pupil. To perform this test, dim room illumination and a bright light are helpful. The patient maintains fixation on an object 15 feet or more away. The bright light is held directly in front of one eye for 3 to 5 seconds, moved rapidly across the bridge of the nose to the front of the other eye for 3 to 5 seconds, and then shifted back to the first eye. This procedure should be repeated several times until the examiner is certain of the responses. The critical observation to be made is the behavior of the pupil when it is first illuminated. A normal response is initial pupillary constriction followed by variable amounts of redilation. An abnormal response is slow dilation without initial constriction. The relative afferent pupillary defect almost always indicates a lesion in the optic nerve on the affected side, although rarely a large retinal lesion may produce this defect.



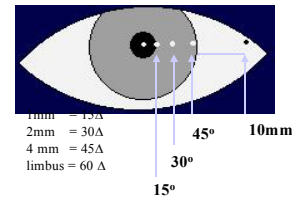
Ocular Motility

Evaluation of ocular motility includes an assessment of static eye position (or alignment) in primary gaze and conjugate eye movements (or gaze) in each of the cardinal positions (up, down, left and right). Spontaneous eye movements such as seen in patients with nystagmus should also be evaluated for frequency, direction and amplitude.

A useful method of assessing alignment and gaze employs corneal reflection from a penlight i.e. Hirschberg reflex. When the eyes are perfectly aligned and viewing a fixation target, the corneal reflex falls on the center of the pupillary axis. Displacement of the corneal reflex from the

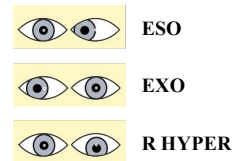
axis allows the examiner to estimate of the degree of misalignment as shown in the diagram below.

Corneal Reflex Measurements
Eye Position (Hirschberg)



Esotropia is a manifest ocular deviation in which the eyes are relatively crossed. Temporal or outward deviation is called an exotropia and hypertropias refer to vertical misalignments. Latent deviations are known as phorias (esophoria, exophoria etc.)

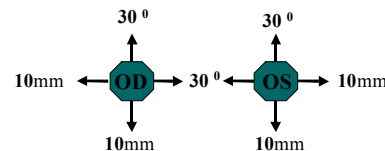
Eye Position Terms



Ductions represent the movement of one eye (e.g. supraduction, infraduction, abduction, adduction).

Versions or gaze can also be assessed using a small penlight as the patient looks up, down, left and right. Start by having the patient look directly at your fixation flashlight. Ask the patient to look up. In upgaze the reflection should fall at or near the corneal limbus about 30 - 40 degrees as shown below. In downgaze the light

Normal Ductions by Corneal Reflex



reflex will fall about 7-10 mm from the limbus.

Ophthalmoscopy

When examining the patient's right eye, hold the direct ophthalmoscope in the right hand and use your right eye to view the patient's eye. Use your left hand and left eye to examine the patient's left eye. The patient's eyeglasses are removed, and, barring large astigmatic refractive errors, most examiners prefer to remove their own glasses as well. Contact lenses worn by either patient or examiner may be left in place.

Pupillary Dilation

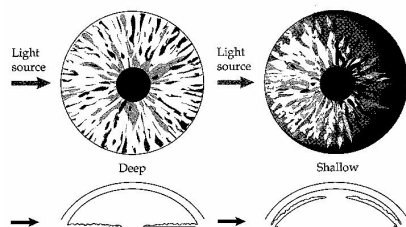
Pharmacologic dilation of the patient's pupils greatly facilitates ophthalmoscopy. Recommended include phenylephrine hydrochloride 2.5% . Dilation of the pupil should include the following precautions:

1. Be sure to record a visual acuity and pupillary exam before instillation of any eye drop
2. Exclude allergies or contraindications to topical agents
3. Obtain consent from the patient
4. Do not dilate any patient where neurological monitoring for herniation is an issue.
5. Do not dilate patients with shallow anterior chamber who is at risk for pupil block glaucoma (see below).

Anterior Chamber Depth Assessment

When the anterior chamber is shallow, the iris becomes convex as it is bowed forward over the lens. Under these conditions, the nasal iris is seen in shadow when a light is directed from the opposite side (Illustration 1-5). As the shallowness of the anterior chamber increases, so do the convexity of the iris and the shaded view of the nasal iris. A shallow anterior chamber may indicate narrow-angle glaucoma (also called *angle-closure glaucoma*) or a narrow angle that could close with pupillary dilation. To assess anterior chamber depth, follow these steps:

1. Shine a light from the temporal side of the head across the front of the eye parallel to the plane of the iris.
2. Look at the nasal aspect of the iris. If two thirds or more of the nasal iris is in shadow, the chamber is probably shallow and the angle narrow.



Direct Ophthalmoscopy

To perform direct ophthalmoscopy, follow these steps:

1. Have the patient comfortably seated. Instruct the patient to look at a point on the wall straight ahead, trying not to move the eyes.
2. Set the focusing wheel at about +8. Set the aperture wheel to select the large, round, white light.
3. Begin to look at the right eye about 1 foot from the patient. Use your right eye with the ophthalmoscope in your right hand. When you look straight down the patient's line of sight at the pupil, you will see the red reflex .
4. Place your free hand on the patient's forehead or shoulder to aid your proprioception and to keep yourself steady.
5. Slowly come close to the patient at an angle of about 15 degrees temporal to the patient's line of sight. Try to keep the pupil in view. Turn the focusing wheel to bring the patient's retina into focus.
6. When a retinal vessel comes into view, follow it as it widens to the optic disc, which lies nasal to the center of the retina.
7. Examine the optic disc, retinal blood vessels, retinal background, and macula in that order (see below).

Red Reflex

Light reflected off the fundus of the patient produces a red reflex when viewed through the ophthalmoscope at a distance of 1 foot. A normal red reflex is evenly colored and is not interrupted by shadows. Opacities in the media appear as black silhouettes and can be best appreciated when the pupil has been dilated

Optic Disc

In most cases, when viewed through the ophthalmoscope, the normal optic disc is slightly oval in the vertical meridian and has a pink color. A central depression in the surface of the disc is called the *physiologic* cup. The optic disc can be thought of as the yardstick of the ocular fundus. Lesions seen with the ophthalmoscope are measured in disc diameters (1 disc diameter equals approximately 1.5 mm).

A great deal of normal variation exists in the appearance of the optic disc. The size of the physiologic cup varies among individuals. Normal cup:disc diameter ratio is .3 to .6 . Larger C/D ratios may be a sign of glaucoma. The pigmented coats of the eye—the retinal pigment epithelium and the choroid—frequently fail to reach the margin of the optic disc, producing a hypopigmented crescent. Such

crescents are especially common in myopic eyes on the temporal side of the optic disc. Conversely, an excess of pigment may be seen in some eyes, producing a heavily pigmented margin along the optic disc. The disc should be examined for color which is normally pink in color. Pallor of the nerve may be a sign of optic atrophy. The disc may be swollen usually manifested by elevation, blurring of the margins, vascular engorgement, obliteration of the physiologic cup, hemorrhages and exudates. Optic disc edema is a sign of papilledema, papillitis or ischemic optic neuropathy.

Retinal Circulation

The retinal circulation is composed of arteries and veins, visible with the ophthalmoscope. The central retinal artery branches at or on the optic disc into divisions that supply the four quadrants of the inner retinal layers; these divisions lie superficially in the nerve fiber layer. A similarly arranged system of retinal veins collects at the optic disc, where spontaneous pulsation (with collapse during systole) may be observed in 80% of normal eyes. The ratio of normal vein-to artery diameter is 3:2. Arteries are usually lighter in color than veins and typically have a more prominent light reflex from their surfaces than do veins. The examiner should follow arteries from the disc and veins back to the disc in each quadrant, noting in particular the arteriovenous (AV) crossing patterns.

Retinal Background

The normal retinal background is a uniform red-orange color due primarily to the pigmentation of the retinal pigment epithelium. The blood and pigment of the choroid also contribute to the appearance of the retinal background. For example, in heavily pigmented eyes, the fundus may have a darker color due to increased choroidal pigment content.

Macula

The normal macula, located directly temporal to the optic disc, usually appears darker than the surrounding retina because the specialized retinal pigment epithelial *cells* of the macula are taller and more heavily pigmented. In some eyes, the macula may appear slightly yellow due to the xanthophyll pigment in the retina. The central depression of the fovea may act as a concave mirror during ophthalmoscopy and produce a light reflection known as *the foveal reflex*. Examination of the macular and retinal background should be directed at detecting hemorrhages, exudates, or white/yellow deposits.

Intraocular Pressure Measurement

Intraocular pressure (IOP) is determined largely by the outflow of aqueous humor from the eye. The greater the resistance to outflow, the higher the intraocular pressure. Alterations in the actual production of aqueous humor also have an effect on the intraocular pressure. Intraocular pressure varies among individuals. An IOP of 15 millimeters of mercury (mm Hg) represents the mean in a "normal" population.

However, an IOP in the range from 10 to 21.5 mm Hg is acceptable, and falls within 2 standard deviations of the mean.

Measurement of IOP is an essential part of a glaucoma screening examination, along with ophthalmoscopic assessment of the optic cup. IOP determination is especially helpful for diagnosing patients in the early stages of chronic open-angle glaucoma, when pressure is elevated but pathologic cupping has not yet developed. IOP determination is also useful when the diagnosis of acute angle-closure glaucoma is being considered.

Intraocular pressure is measured by tonometry. A number of instruments are available for measuring IOP. Goldmann applanation tonometry, an accurate method of determining IOP, requires special equipment and is used primarily by ophthalmologists. Other methods of measuring IOP include the noncontact air-puff tonometer, electronic tonometer, hand-held applanation tonometer, and gas pneumotonometer.

One relatively simple method of measuring IOP is Schiotz, or indentation, tonometry. The Schiotz tonometer is inexpensive and widely available but has largely been replaced by the Tonopen, a handheld electronic tonometer.

Confrontation Field Testing

The examiner takes a position in front of the patient. The patient is asked to cover the left eye with the palm of the left hand; the examiner closes the right eye. Thus, the field of the examiner's left eye is used as a reference in assessing the field of the patient's right eye. The patient is asked to fixate on the examiner's left eye and then count the fingers of the examiner in each of the four quadrants of the visual field. Wiggling the fingers as a visual stimulus is not desirable. After the patient's right eye is tested, the procedure is repeated for the left eye, with the patient covering the right eye with the palm of the right hand, and the examiner dosing the left eye.

Summary of Steps in Eye Examination

- Measure the visual acuity for each eye.
- Test the pupils for direct and consensual responses.
- Test the extraocular movements.
- Inspect the lids and the surrounding tissues.
- Inspect in order : conjunctiva, sclera, cornea and iris.
- Assess the anterior chamber for depth and clarity.
- Assess the lens for clarity through direct ophthalmoscopy
- Use the ophthalmoscope to study the fundus, including the disc, vessels, and macula.
- Perform a confrontation field test for each eye.
- Perform tonometry when indicated.