Medical Terminology
Unit 15
Ophthalmology, Endocrinology, and Medical Specialties

Ophthalm/o = Eye
- Ophthalm/o/itis: Inflammation of the eye
- Ophthalm/o/ic: Pertaining to the eye
- Ophthalm/o/algia, Ophthalm/o/o/dynia: Pain in the eye
- Ophthalm/o/o/meter: Instrument for measuring the eye (curvature of the cornea)
- Ophthalm/o/o/psis, Exophthalmos: Herniation of an eye (abnormal protrusion)
- Ocul/o/ar: Pertaining to the eye

Ophthalm/o = Eye
- Any ocular disease
- Plastic surgery of the eye
- Paralysis of the eye (muscles)
- Ophthalm/o/pathy
- Ophthalm/o/plasty
- Ophthalm/o/plegia

Oph/o/talm/o = Vision
- Oph/o/talm/o/ogy: the medical specialty studying eye disease and surgery of the eye
- Oph/o/talm/o/logist: Physician who practices in ophthalmology specialty
- Oph/o/talm/o/o/scopy: The examination of the interior of the eye using an instrument
- Oph/o/talm/o/o/scope: The instrument used for eye examination

Op/o/ia
- Suffix for vision

Op/o/ic
- Adjective- Pertaining to vision

Op/o
- Combining form for vision

Oph/o/thalm/o
- Combining form for eye

Oph/o/thalm/o/ic
- Adjective- Pertaining to eye

Opt/o = Vision
- Opt/o/metrist: One who measures visual acuity
- Opt/ic: The cranial nerve for vision (adj.)
- Opt/o/o/metry: The measurement of vision (Practice assessing vision disorders)
Ophthalmologist
- Physician (MD or DO) specialist in treating diseases of the eye and performing surgery
- Degree from medical school
Certified Ophthalmic Technician (COT)
- Technician that assists ophthalmologists with eye exams and helps fit corrective lenses

Optometrist
- Licensed practitioner (OD) limited to eye examinations and prescribing corrective lenses
- Degree from optometry school

-opia = Vision
- Cyan/opia: Defect in vision that causes objects to appear blue
- Xanth/opia: Yellow vision
- Chlor/opia: Green vision
- Erythr/opia: Red vision

-opia = Vision
- My/opia
- Hyper/opia
- Presby/opia
- Dipl/opia
  - Nearsightedness
  - Farsightedness
  - Loss of accommodation, "old vision"
  - Double vision

Diplo- = Double
- Diplo/cardia: Having a double heart
- Diplo/genesis: Production of double parts or double substances
- Diplo/coccus: Coccus that grows in pairs
- Diplo/bacillus: Bacillus that occurs in pairs

Ambi- = Both, Both sides
- Ambi/later/al: Pertaining to both sides
- Ambi/dextr/ous: Can work well with both hands
- Ambi/opia: Both eyes (ou) form separate images (vision)
- Ambi/valence (n.): Unable to decide, Wavering on both sides
  - Ambi/valent (adj.)

-opter = Visible
- Optos = that which sees
- Di/opter: A unit of measurement of refraction in the eye
  - OS+1D = left eye 1 diopter
- Dia/scope: An instrument for examining through
**Tropia = Turning**

- **Trope = Turning**
- When the eyes appear to be turned in an abnormal position, it is called strabismus or squint.

**Phor(ia) = To carry, Bear**

- Dys/phoria: A feeling of depression. Carry an ill feeling.
- Eu/phoria: Feeling of well being.
- Phor/opt/er: An instrument used to determine the prescription strength needed for corrective lenses.
- Phor/o/meter: The instrument that measures the tone and pull of the eye-moving (bearing) muscle.

**Blephar/o = Eyelid**

- Blephar/o/ptosis: Prolapse of an eyelid
- Blephar/edema: Swelling of the eyelid
- Oidei = to become swollen
- Blephar/itis: Inflammation of an eyelid
- Blephar/otomy: Incision of an eyelid

**Conjunctiv/o = Conjunctiva**

- Conjunctiva is the membrane that:
  - lines the eyelids → palpebral conjunctiva
  - Line the sclera → ocular conjunctiva
- Conjunctiv/itis: Inflammation of conjunctiva
**Phac/o = Crystalline lens**
- Phac/o/cele: Dislocation of the lens
  - Phacos = lentil
  - Lentils have a biconvex shape just like the crystalline lens of the eye
- Phac/o/emulsification: Ultrasonic treatment to emulsify the lens and to remove the cataract
  - Cataracts are opacities of the lens of the eye

**Scler/o = Sclera**
- Scleras = hard
- Sclera: White, "hard" outer coat of the eye
- Scler/o/sis: Condition of hardness

**Scler/o = Sclera**
- Pertaining to the sclera (adj.)
- Excision of the sclera (or part)
- Formation of an opening into the sclera
- Inflammation of the sclera
  - Scler/al
  - Scler/ectomy
  - Scler/o/stomy
  - Scler/itis

**Ir/o, Irid/o = Iris**
- Colored part of the eye
- Ir/itis: Inflammation of the iris
- Corne/o/ir/itis: Inflammation of the cornea and iris
- Scler/o/ir/itis: Inflammation of the sclera and iris
- Ir/ides (Plural)

**Ir/o, Irid/o = Iris**
- Ir/o/cele: Protrusion of the iris (dislocation)
- Irid/algia: Pain in the iris
- Irid/ectomy: Excision of part or all of the iris

**Ir/o, Irid/o = Iris**
- Prolapse of the iris
- Softening of the iris
- Rupture of the iris
- Paralysis of the iris
  - Irid/o/ptosis
  - Irid/o/malacia
  - Irid/o/rhexis
  - Irid/o/plegia
  - Irid/o/paralysis
Retin/o = Retina
- Retin/al: Pertaining to the retina
- Retin/itis: Inflammation of the retina
- Retin/o/pexy: Fixation of a detached retina
- Retin/o/plasty: Surgical repair of retina
- Retin/o/scope: Instrument used to examine the refractive error of the eye (retina)
- Retin/o/scopy: The process of using a retinoscope. Also known as "Skiascopy".

Glauc/o/ma
- A disease of the eye in which the intraocular pressure is increased.
  - Open angle glaucoma
  - Angle closure glaucoma
  - Congenital

Cor/e, Core/o = Pupil
- Cor/e/ctopia: Pupil out of place
- Cor/e/lysis: Destruction of the pupil
- Cor/e/ctasia (is): Dilatation (stretching) of the pupil
- Anis/o/coria: Unequal pupil size
- Core/o/meter, Pupil/o/meter: Instrument for measuring the pupil
- Core/o/metry, Pupil/o/metry: Measurement of the pupil
- Core/o/plasty: Plastic surgery of the pupil

Corne/o = Cornea
- Corne/al: (adj.) Pertaining to cornea
- Corne/o/ir/itis: Inflammation of cornea and iris
- Corne/o/scler/al: Pertaining to cornea and sclera

Kerat/o = Cornea
- Kerat/e/ctasia (is): Forward bulging (dilatation) of the cornea
- Kerat/o/cele: Herniation of the cornea (protrusion of the cornea)
- Kerat/o/plasty: Plastic operation of the cornea (corneal transplant)
- Kerat/o/tomy: Incision of the cornea
  - Radial keratotomy = Making small incision into the cornea to improve vision in myopia
- Kerat/o/rhexis: Corneal rupture
- Kerat/o/scler/itis: Inflammation of cornea and sclera

Cycl/o = Ciliary body
- Cyclos = Circle
- Ciliary body encircles the inside of the iris and controls the iris shape/size
- Cycl/o/plegia (n.): Paralysis of the ciliary body
  - Cycl/o/plegic (adj.)
- Cycl/o/kerat/itis: Ciliary body and cornea inflammation
Lacrim/o = Tears

- Lacrim/al: Pertaining to tears
- Lacrimal gland secretes tears
- Lacrimal sac collects lacrimal fluids (tears)
- Lacrim/ation: Tearing, Crying
- Nas/o/lacrim/al: Pertaining to the nasal passages and the tear ducts
  - Nasolacrimal duct drains away the tears
- Lacrimal fluid keeps the surface of the eye moistened

Dacry/o = Tears

- Excessive flow of tears
- Prolapse of the tear sac
- An instrument for cutting (incising) the tear sac

Onych/o = Nails

- Resembling a nail
- Tumor of the nail (or nail bed)
- Any nail condition

Trich/o = Hair

- Trich/o/genous: Promoting hair growth
- Trich/asis: Formation of hair (in the wrong places)
- Trich/o/glossia (n.): Hairy tongue
- Trich/oid: Resembling hair
- Trich/o/phagia: Abnormal fear of hair
- Trich/o/pathy: Air hair disease
Cyt/o = Cell
- Cyt/o/meter: An instrument for measuring (counting) cells
- Cyt/o/metry: The process of measuring (counting) cells
- Cyt/o/stasis: Stopping or controlling cells
- Cyt/o/scopy: Examination of cells

Phag/o = Eat, Swallow
- Phag/ia: Condition of eating or swallowing
- Phag/o/ocyte: A cell that eats microorganisms
- Phag/o/cyt/osis: The process of the cells eating microorganisms
- Cyt/o/phagy = Phag/o/cyt/osis
- Macr/o/phage: A large phagocyte
- Micr/o/phage: A small phagocyte

Phag/o = Eat, Swallow
- Nail biting
- Hair swallowing
- Air swallowing
  - Onych/o/phagy (ia)
  - Trich/o/phagy (ia)
  - Aer/o/phagy (ia)

Endo- = Inside
- Endo/crine: To secrete inside. Glands that secrete hormones
- Endo/crin/ology: The medical specialty studying the endocrine system
- Endo/crin/ologist: The specialist (physician) in the study of endocrine system

Combining Form Meaning
- Thyroid/o, thyr/o: Thyroid gland
- Thym/o: Thymus gland
- Adren/o: Adrenal gland
- Pancreat/o: Pancreas
- Oophor/o: Ovary
- Testic/, Orchid/o, Orchi/o: Testis

Hormones Glands that produce
- Adren/o/corticoid (cortisone)
- Thy/o/xine, Thy/o/xin
- Test/o/sterone
- Adrenal gland (adrenal cortex)
- Thyroid gland
- Testes
Thyroid

- Hyper/thyroid/ism: Overactive thyroid
- Hypo/thyroid/ism: Underactive thyroid

Adren/o = Adrenal gland

- Adren/o/pathy: Any disease condition of the adrenal glands
- Adren/o/megaly: Enlargement of the adrenal glands
- Adren/o/lysis: Destruction of adrenal tissue
- Adrenal glands are also called Supra/renal glands because they are above the kidneys.
- Supra/renal glands produce epi/nephr/ine.

Pituitary Gland

- Pituitary gland (hypophysis) is an endocrine gland secreting a number of hormones that regulate many bodily processes including growth, reproduction, and various metabolic activities.
  - Anterior lobe
  - Posterior lobe

-emia = Blood condition

- Isch/emia: A condition in which blood flow is interrupted
  - Transient ischemic attack (TIA) = temporary interruption of blood flow in brain
- Leuk/emia: Blood cancer with abnormally increased leukocyte count

-emia = Blood condition

- Reduction in red blood cells
- An/emia
- Too much blood (in one part)
- Hyper/emia
- Urine constituents in the blood
- Ur/emia
- Blood in the urine
- Hemat/uria
**Traumat/o = Trauma**
- Trauma = Wound or injury
- Traumat/ology: The study of caring for wounds
- Traumat/ic: Pertaining to wounds

**Various injury types**
- Abrasion
- Contusion
- Evulsion
- Puncture
- Fracture
- Laceration
  - Scraper
  - Bruise
  - Make a hole
  - Break
  - A cut

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Specialist</th>
<th>Limits of Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathology</td>
<td>Pathologist</td>
<td>Diseases-nature &amp; causes</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Dermatologist</td>
<td>Skin</td>
</tr>
<tr>
<td>Neurology</td>
<td>Neurologist</td>
<td>Nervous system diseases</td>
</tr>
<tr>
<td>Gynecology</td>
<td>Gynecologist</td>
<td>Female diseases</td>
</tr>
<tr>
<td>Urology</td>
<td>Urologist</td>
<td>Male &amp; urinary diseases</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>Endocrinologist</td>
<td>Glands of internal secretion</td>
</tr>
<tr>
<td>Oncology</td>
<td>Oncologist</td>
<td>Neoplasms (New growths)</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Cardiologist</td>
<td>Heart</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Ophthalmologist</td>
<td>Eye</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Specialist</th>
<th>Limits of Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Otorhinolaryngology</td>
<td>Otorhinolaryngologist</td>
<td>Ear-Nose-Throat</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Obstetrician</td>
<td>Pregnancy, Childbirth</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>Geriatrician</td>
<td>Old age</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>Pediatrician</td>
<td>Children</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>Orthopedist</td>
<td>Bones and muscles</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>Psychiatrist</td>
<td>Mental disorders</td>
</tr>
<tr>
<td>Audiology</td>
<td>Audiologist</td>
<td>Hearing function</td>
</tr>
<tr>
<td>Radiology</td>
<td>Radiologist</td>
<td>Diagnostic imaging</td>
</tr>
<tr>
<td>Chiropractic</td>
<td>Chiropractor</td>
<td>Manipulation therapy</td>
</tr>
<tr>
<td>Podiatry</td>
<td>Podiatrist</td>
<td>Diseases of the foot</td>
</tr>
</tbody>
</table>

**Abbreviation**
- ACTH: Adrenocorticotropic hormone
- AOA: American Optometric Association
- COA: Certified Ophthalmic Assistant
- COMT: Certified Ophthalmic Medical Technologist
- COT: Certified Ophthalmic Technician
- D: Dioptr
- EMT: Emergency medical technician
- EMT-P: EMT-paramedic
- ENT: Ear, nose, throat specialist
- EOMI: Extraocular movement intact

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSH</td>
<td>Follicle-stimulating hormone</td>
</tr>
<tr>
<td>Fr</td>
<td>Fracture</td>
</tr>
<tr>
<td>HCG</td>
<td>Human chorionic gonadotropin</td>
</tr>
<tr>
<td>L&amp;A</td>
<td>Light and accommodation</td>
</tr>
<tr>
<td>Laser</td>
<td>Light amplification by stimulated emission of radiation</td>
</tr>
<tr>
<td>mg</td>
<td>Milligram (0.001 gram)</td>
</tr>
<tr>
<td>Mm</td>
<td>Millimeter (0.001 meter)</td>
</tr>
<tr>
<td>OAG</td>
<td>Open-angle glaucoma</td>
</tr>
<tr>
<td>OB</td>
<td>Obstetrician, Obstetrics</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>od</td>
<td>Right eye (culus dexter)</td>
</tr>
<tr>
<td>OD</td>
<td>Doctor of optometry</td>
</tr>
<tr>
<td>os</td>
<td>Left eye (culus sinister)</td>
</tr>
<tr>
<td>ou</td>
<td>Both eyes (culus uterque)</td>
</tr>
<tr>
<td>PERRLA</td>
<td>Pupils equal, round, reactive to light and accommodation</td>
</tr>
<tr>
<td>T₃, T₄</td>
<td>Triiodothyronine, tetraiodothyronine (thyroid function tests)</td>
</tr>
<tr>
<td>TIA</td>
<td>Transient ischemic attack</td>
</tr>
<tr>
<td>TSH</td>
<td>Thyroid-stimulating hormone</td>
</tr>
</tbody>
</table>