Medical Terminology

Unit 10
Surgery, Diabetes, Immunology, Lesions, and Prefixes of Numbers and Direction

Lapar/o = Abdominal Wall
- Lapar/o/tomy: An incision into the abdominal wall
- Lapar/o/rhaphy: A suturing of the abdominal wall
- Lapar/o/hepat/o/my: Incision into the liver through the abdomen
- Lapar/o/col/ostomy: New opening in the colon through the abdomen
- Lapar/o/gastr/o/my: Incision into the stomach through the abdomen

Lapar/o = Abdominal Wall
- Lapar/o/ectomy: An excision of part of the abdominal wall
- Lapar/o/scopy: The process of examining the abdominal cavity with a scope
- Lapar/o/scope: An instrument that allows a physician to view the inside of the abdominal cavity and its organs
- Lapar/o/scopic (adj.): Pertaining to laparoscope or laparoscopy
  - Lapar/o/scop/ically assisted vaginal hyster/o/my (LAVH)
  - Lapar/o/sopic cholecyst/o/my

Pyr/o = Heat, Fever, Fire
- Pyr/o/maniac: One who has a madness (excessive preoccupation) for starting or seeing fires
- Pyr/exia: Fever
- Pyr/osis: A condition of heat (heartburn)
- Hyper/pyr/exia: A condition of high fever (over 102 degree F)

Pyr/o = Heat, Fever, Fire
- Pyr/o/meter: Instrument for measuring heat (thermometer)
- Pyr/o/lysis: Destruction by fever
- Pyr/o/phobia: Abnormal fear of fire
- Pyr/o/mania: Madness (obsession) for setting fires
- Pyr/o/toxin: A toxin (poison) produced by fever or high body temperature

Laparohysterosalpingo-oophorectomy
Means...
Excision of uterus, fallopian tubes, and ovaries through abdominal incision. (p.342 of textbook is incorrect)
Hydro- & Hidro-

- Hydro- = Water, Fluid
- Hidro- = Sweat
  - *hidros* = sweat

Hidro- = Sweat

- Hidro/cyst/aden/oma: Cystic tumor of a sweat gland
- Hidro/aden/itis: Inflammation of sweat glands
- Hidro/osis: Condition of sweating
- Hyper/hidro/osis: Profuse sweating
- Hidro/o/rrhea: Flow of sweat
- An/hidro/osis: Absence of sweat

Glyc/o, Gluc/o = Sweet, Sugar

- Glyc/o (glycos), Gluc/o (gluos)
- Glyc/o/genesis, Gluc/o/genesis: Formation of sugar
- Glyc/o/protein, Gluc/o/protein: Substance made of sugar and protein
- Glycos/uria, Glucos/uria: Sugar in the urine
- Glyc/o/hem/o/globin: Sugar and hemoglobin (sugar attached to hemoglobin. Used to evaluate sugar level control in diabetic patients.)
  - Hemoglobin A1c, Hb A1c, Hgb A1c
  - Glyc/ated hem/o/globin, GHB

Glyc/o, Gluc/o = Sweet, Sugar

- Glyc/o/gen: Animal starch formed from simple sugars and stored as reserve fuel. To use its reserve fuel supply, body must convert it to its simple form, “glucose”
- Gluc/o/genesis: The formation of glucose from glycogen stores
- Glyc/o/genesis: The formation of glycogen from glucose
  - (p.344 in textbook is not accurate)

Glyc/o, Gluc/o = Sweet, Sugar

- Glyc/o/lysis: The breakdown (destruction) of sugar
- Glyc/o/rrhea: The discharge (flow) of sugar from the body
- Glyc/o/lipid: Sugar and fat

Glyc/emia = Sugar in blood

- Hyper/glyc/emia
  - High blood sugar in blood
- Hypo/glyc/emia
  - Low blood sugar in blood
Diabetes Mellitus
- Characterized by hyperglycemia and other metabolic disturbances
  - **Type I** (insulin-dependent diabetes mellitus, [IDDM])
    - Childhood onset. Cannot produce insulin, so insulin dependent, and can develop ketoacidosis
  - **Type II** (Non-insulin-dependent diabetes mellitus, [NIDDM])
    - Adult onset. Makes insulin but body is resistant to insulin. Associated with obesity. Responds to diet modification and oral hypoglycemic agents
  - **Gestational diabetes mellitus (GDM)**
    - Hyperglycemia developed during pregnancy.

Immun/o = Immune
- Immun/ity: One of the body's protections from diseases
- Immun/o/logy: The study of the function of the immune system
- Immun/o/logist: The one who specializes in immune system
- Immun/o/therapy: Treatment through stimulation or suppression of immune response
- Immun/ization: Protection of an individual from diseases by vaccination or injection

Immun/o = Immune
- Immun/o/deficiency: Decreased ability to respond with appropriate immune response
  - HIV (Human immunodeficiency virus)
  - AIDS (Acquired immunodeficiency syndrome)
- Immune response: Body's response to antigen (foreign protein) by producing antibodies to disable the invader.

Vaccin/e = Vaccine
- Vaccines (immunization) are given by injection (or ingestion for older vaccines) to stimulate the body's natural immune response. This allows us to resist an infection when exposed to that specific organism in the future.
  - *Vacca* = Cow (cow pox was used for the first vaccine against small pox.)

**Typical vaccines**
- **DTaP**
- **IPV**
- **HBV, Hep B**
- **MMR**
- **Hib**
- **Td**
- **Var**
- **PCV**
- **Hep A**
- **Flu**

- Diphtheria, tetanus, acellular pertussis
- Injectable Polio Vaccine
- Hepatitis B Virus
- Measles, Mumps, Rubella
- *Haemophilus influenzae b*
- Tetanus, diphtheria (adult booster)
- Varicella (chicken pox)
- Pneumococcal
- Hepatitis A
- Influenza

Aut/o = Self
- Aut/o/mobile: Self-propelled vehicle
- Aut/o/bi/o/graphy: Self-biography
- Aut/o/di/a/gnos/is: Diagnosing one's own disease
- Aut/o/derm/ic: Pertaining to one's own skin
- Aut/o/nom/ic: Self-controlling
- Aut/o/lys/is: Self-destroying
**Aut/o = Self**
- Aut/o/immunity: Reaction of immune response to one’s own tissues
- Aut/o/phobia: Abnormal fear of being alone
- Aut/o/phagia: Biting one’s self
- Aut/o/hem/o/therapy: Therapy with one’s own blood
- Aut/o/plasty: Surgery using grafts from one’s own body

**Aut/o = Self**
- Aut/o/logous: (adj.) Originating in itself. Coming from one’s own body.
  - Autologous blood transfusion
- Aut/o/graft: Graft of tissue from one’s own body
- Aut/o/gen/ous: Made by or from one’s own body
  - i.e. vaccines made from a culture of the patient’s own bacteria

**Numerical Prefixes**

<table>
<thead>
<tr>
<th>GREEK</th>
<th>LATIN</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>hemi-</td>
<td>semi-</td>
<td>Half</td>
</tr>
<tr>
<td>mono-</td>
<td>uni-</td>
<td>One</td>
</tr>
<tr>
<td>prot-</td>
<td>prim-</td>
<td>First</td>
</tr>
<tr>
<td>di(plo)-</td>
<td>bi-</td>
<td>Two</td>
</tr>
<tr>
<td>tri-</td>
<td>tri-</td>
<td>Three</td>
</tr>
<tr>
<td>tetra-</td>
<td>quadr-</td>
<td>Four</td>
</tr>
<tr>
<td>penta-</td>
<td>quint-</td>
<td>Five</td>
</tr>
</tbody>
</table>

**Mon/o- = One, Single**
- Monorail, Monopoly, Monogamy
- Mon/o/graph: Deals with a single subject
- Mon/o/nucle/ar: Has one nucleus
- Mon/o/mania: Abnormal preoccupation with one subject only
- Mon/o/lyte: One cell (a type of leukocyte)
- Mon/o/ma: One tumor

**Mon/o- = One, Single**
- Mon/o/my/o/plegia: Paralysis of one muscle
- Mon/o/neur/al: Pertaining to one nerve
- Mon/o/cyt/o sis: Condition of increase in number of monocytes
- Mon/o/nucle/o/sis: Viral infection causing monocytosis
  - “Mono”
**Multi-** = Many, More than one
- Multiply, Multitude, Multiple
- Multi/capsular: Many capsules
- Multi/glandular: (adj.) Many glands
- Multi/cellular: (adj.) Many cells
- Multi/nuclear: (adj.) Many nuclei

**Multi-** = Many, More than one
- Multi/para: Having many live births
  - Par = to bear
  - Refers to the mother
- Multi/parous: (adj.) Having borne more than one child
  - Refers to the mother or may mean multiple births (twins or triplets)

**Nulli-** = None
- Nullify = to bring it to nothing
- Nulli/para: A woman who has never borne a child
- Nulli/parous: (adj.) Pertaining to no live births

**Primi-** = First
- Primi/para: A woman who is having her first child. First live birth
- Primi/gravida: A woman experiencing her first pregnancy
  - Gravida = heavy or weighted down, pregnant

**deca-** = Ten, **deci-** = One tenth
- Deca- = 10
- Deca/liter (dal) = 10 liter
- Deca/gram (dag) = 10 gram
- Deci- = 1/10, 0.1
- Deci/liter (dl) = 1/10 of a liter
- Deci/gram (dg) = 1/10 of a gram

**Kilo-**
- = One thousand
- = 1000
- Kilo/meter (km) = 1000 meter
- Kilo/gram (kg) = 1000 gram

**Milli-**
- = One thousandth
- = 1/1000
- Milli/meter (mm) = 1/1000 meter
- Milli/gram (mg) = 1/1000 gram
Cubic Centimeter
- Cubic Centimeter (cc) = cm³
  = 1 cm x 1 cm x 1 cm
- Unit for measuring a volume
- In fluid such as water, 1 cc = 1 ml

Practice...
- One Hundred meters
- One hundredth of a meter
- One hundred grams
- One hundredth of a gram
  - Hecto/meter (hm)
  - Centi/meter (cm)
  - Hecto/gram (hg)
  - Centi/gram (cg)

Prefixes
<table>
<thead>
<tr>
<th>Prefix</th>
<th>Meaning</th>
<th>Sense of meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ab-</td>
<td>From</td>
<td>away from</td>
</tr>
<tr>
<td>de-</td>
<td>From</td>
<td>down from or from – resulting in less than</td>
</tr>
<tr>
<td>ex-</td>
<td>From</td>
<td>out from</td>
</tr>
</tbody>
</table>

Ab- = From, Away from
- Ab/duct/ion: Moving away from the midline
- Ab/norm/al: Going away from normal
- Ab/or/al: Away from the mouth
- Ab/errant: Wandering away from the normal course
- Ab/irritant: Something that takes irritation away from the patient

Ab- = From, Away from
- Ab/lact/ation: Taking the baby away from the breast feeding. Cessation of milk secretion
- Ab/ort, Ab/ort/ion, Ab/ort/ed: Termination of pregnancy. “Away from being born”
  - Oriri = to be born
- Ab/rade, ab/rasion: To scrape some of the skin away from the surface of the body
- Ab/lation: Surgically destroys (takes away)
  - End/o/met/ial ab/lation = Surgical procedure that destroys the uterine lining

Skin Wound Types
- Bruise: Contusion
- Abrasion: Scrape, Rug burn
- Laceration: Cut, Incision
- Avulsion: Tearing away
- Puncture: Pierced by sharp object

(See Textbook page 357)
**De- = From, Down from**
- De/scends, De/scend/ing: Comes down from a higher level
- De/cid/uous: Falls from
  - Deciduous teeth = Children’s primary teeth
- De/hyd/ration, de/hydr/ated: Takes water from a substance
- De/calci/fication: Removal of calcium
  - Due to not enough calcium or vitamin D intake
  - Causes osteoporosis

**Ex- = From, Out from**
- Ex/cise: To cut out and remove a part
- Ex/hale, Ex/pire: To breathe out waste matter from the body
- Ex/cretion: Process of ex/pelling (or getting out from the body) a substance
  - Urinary excretion
  - Respiratory excretion
  - Dermal excretion
  - Menstrual excretion
  - Gastrointestinal excretion
- Ex/tract/ion: A procedure in which something is pulled out
  - Full-mouth extraction = all teeth pulled out
- Ex/tends: Straighten or lengthen
  - Opposite of flexion, bending, shortening
  - Caused by relaxing the muscles

**Ex- = From, Out from**
- Excretions
  - Usually waste substances
  - "exit — out"
- Secretions
  - Useful substances like Hormones
  - "keep the secret — in"

**Iso- = Equal, Same**
- Iso/met/ric: Of equal dimensions
- Iso/cellular: Composed of cells of equal size
- Iso/ton/ic: Has the same osmotic pressure
  - Example: normal saline, IV glucose
  - Isotonic solution will not destroy cells of equal osmotic pressure
- Hyper/tonic: Higher osmotic pressure. Hypertonic solution moves water out of the cell.
- Hypo/tonic: Lower osmotic pressure. Hypotonic solution moves water into the cell.
  - Fluids and substances move in and out of the cells and bloodstream through diffusion, osmosis, and filtration.

**Iso- = Equal, Same**
- Iso/dactyl/ism: Fingers or toes of equal length
- Iso/therm/al (ic): Pertaining to equal temperature
- An/is/o: Without equal, unequal
- An/is/o/mastia: unequal breast size
- An/is/o/cyt/osis: Condition of inequality in cell size
**Mast/o = Breast**

- *Mastos* (or mazos) = breast
- Mast/itis: Inflammation of the breast
- Mast/ectomy: Surgical excision of part or all of the breast
- Mast/o/carcin/oma: Cancerous tumor of the breast

**Prefixes**

**Through**

- Dia-
  - Used with the combining forms for medical terminology

**Around**

- Peri-
  - Used with the combining forms for medical terminology
  - Used more often in ordinary English
  - Peri-
  - Used more often in ordinary English

**Peri- = Around**

- Peri/articular: Around articulation or joints
- Peri/tonsill/ar: Around the tonsil
- Peri/col/ic: Pertaining to around the colon
- Peri/odont/al: Pertaining to diseases of the support structures around the teeth
- Peri/chondr/al: Around a cartilage

**Para- vs. Peri-**

- Para- is used more often for conditions with -ia, -osis, -itis, and -oma suffixes
  - Paranoia, para-appendicitis
- Para- is also used as a chemical name prefix
  - para-aminobenzoic acid
- Peri- is a common anatomic term prefix
  - Peri/cardium
  - Peri/toneum
  - Peri/osteum

**Circum- = Around**

- Circum/ocular: Around the eyes
- Circum/or/al: Around the mouth
- Circum/scribed: Limited in space (as though a line were drawn around it)
- Circum/duction: Moving around (circular motion)
- Circum/cision: To cut around (a surgical procedure for removing the foreskin of the penis)
Dia- = Through

- Dia/gnosis: Knowing through
- Dia/thermy: Heating through
- Dia/rrhea: Flowing through
- Dia/therm/al, /ic: Pertaining to heating through
- Dia/phor/esis: Action of profuse sweating. Diaphoretic (adj.)

-esis = Action or Process

- Dia/phor/esis: Action of profuse sweating
- Arthr/o/desis: Action of immobilizing (binding) a joint
- Di/ur/esis: The process of causing urine to flow through more rapidly
  - Di/ur/etic: A substance that causes increase in urine output
- Noct/urnal en/ur/esis: Nighttime bed wetting

Per- = Through

- Per/for/ation: (n.) Puncturing through
- Per/for/ate, Per/for/ated: (v.) To punctate or make a hole
- Per/cussion: Striking through
- Per/fusion: Supplying tissues with oxygen and nutrients through the blood supply or other tissue fluid

Per- = Through

- Per/cutaneous trans/luminal angi/o/plasty (PTA)
  - Through the skin
  - Across the lumen
  - Vessel repair

Surface lesions (p. 366)

- Papule
- Wheal
- Boil (Furuncle)
- pustule
- Macule
- Crust
- Buliae
- Cyst

Necr/o = Death

- Necr/o = Corpse
- Necr/o/cyt/osis: Cellular death
- Necr/o/parasite: One that lives on dead organic matter
- Necr/osis: A condition in which dead tissue is surrounded by healthy tissue
- Necr/ectomy: Excision of necrotic tissue
- Necr/o/tomy: Incision into a dead body
- Necr/o/phobia: Abnormal fear of death
Necr/o = Death
- Postmortem (after death) examination
  - Necr/o/psy
  - Aut/o/psy
  - Necr/o/scopy
- Necr/o/tic: (adj. Of necrosis)
- De/bride/ment: Removal of foreign material and dead or damaged tissue

-phia and -phobia
- Necr/o/philia: Abnormal attraction to dead bodies
- Hydr/o/philia: Strong attraction to water
- Hemat/o/philia ↔
- Pyr/o/philia ↔
- Aer/o/philia ↔
- Aut/o/philia ↔
- Necr/o/phobia: An abnormal fear of dead bodies
- Hydr/o/phobia: morbid fear of water
- Hemat/o/phobia
- Pyr/o/phobia
- Aer/o/phobia
- Aut/o/phobia

Phil/o = Attractions to
- = Attractions to, liking, loving
- Nonmedical words:
  - Phil/o/sopher
  - Phil/o/sophy: love of pursuit of knowledge
  - Philadelphia

Abbreviation
- AIDS
- Bid
- Ca
- cc
- cm
- CST
- D/W
- DPT, DTP, DTaP
- Exc
- FBS
- Acquired immunodeficiency syndrome
- Bis in die, twice a day
- Calcium
- Cubic centimeter(s)
- centimeter
- Certified surgical technologist
- Dextrose in water
- Diphtheria, pertussis, tetanus (vaccine)
- Excision
- Fasting blood sugar
- FME
- grav 1,2,3
  - G6, G6
- GHB
- GTT
- Hb A1c, Hgb A1c
- HepB
- Hib
- HIV
- Hs
- IPV
- Full mouth extraction
- Number of pregnancies
- Glycated hemoglobin
- Glucose tolerance test (3h, 5h)
- Hemoglobin A1c (test)
- Hepatitis B vaccine
- Haemophilus influenza vaccine
- Human immunodeficiency virus
- Hour of sleep, bed time
- Inactivated poliovirus vaccine (injectable)
### Abbreviation

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>kg</td>
<td>Kilogram</td>
</tr>
<tr>
<td>LAVH</td>
<td>Laparoscopically assisted vaginal hysterectomy</td>
</tr>
<tr>
<td>mcg, µg</td>
<td>microgram</td>
</tr>
<tr>
<td>mg</td>
<td>milligram</td>
</tr>
<tr>
<td>mg/dl</td>
<td>Milligrams per deciliter</td>
</tr>
<tr>
<td>ml</td>
<td>Milliliter</td>
</tr>
<tr>
<td>mm</td>
<td>millimeter</td>
</tr>
<tr>
<td>MMR</td>
<td>Measles, mumps, rubella (vaccine)</td>
</tr>
<tr>
<td>Mono</td>
<td>Mononucleosis</td>
</tr>
<tr>
<td>NS</td>
<td>Normal saline (isotonic saline)</td>
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### Abbreviation

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>para 1,2,3</td>
<td>Number of live births (total numbers, not just last 20 mos)</td>
</tr>
<tr>
<td>$P_1$, $P_2$</td>
<td>Pneumococcal vaccine</td>
</tr>
<tr>
<td>PCV</td>
<td>Percutaneous transluminal coronary angioplasty</td>
</tr>
<tr>
<td>PTCA</td>
<td>Quaque 2 hora, every 2 hours</td>
</tr>
<tr>
<td>q 2 h, q2 hr, q 2h</td>
<td>Quarter in die, four times day</td>
</tr>
<tr>
<td>qid</td>
<td>Sugar and acetone</td>
</tr>
<tr>
<td>S/A, S&amp;A</td>
<td>Tetanus (&amp; diphtheria) toxoid vaccine</td>
</tr>
<tr>
<td>Td</td>
<td>Ter in die, three times a day</td>
</tr>
<tr>
<td>tid</td>
<td>Chicken pox vaccine (Varicella zoster)</td>
</tr>
</tbody>
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*"I'll run some tests to make sure, but it appears to be Saturday Night Fever.*