**Medical Terminology**

Unit 9
Surgery, Diabetes, Prefixes of Place, Immunology, and Numbers

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**Lapar/o = Abdominal Wall**

- Lapar/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/scop/ic (adj.): Pertaining to laparoscope or laparoscopy
  - Lapar/o/scop/ically assisted vaginal hyst/erecotomy (LAVH)
  - Lapar/o/scopic cholecystectomy

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**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)

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**Laparohysterosalpingo-oophorectomy**

Means...
Excision of uterus, fallopian tubes, and ovaries through abdominal incision.
(p.292 of textbook is incorrect)

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**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 fever
- Pyr/o/mania: Madness (obsession) for setting fires
- Pyr/o/toxin: A toxin (poison) produced by fever or high body temperature
Hydro- & Hidro-
- Hydro- = Water, Fluid
- Hidro- = Sweat
  - hidros = sweat

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

Glyc/o, Gluc/o = Sweet, Sugar
- Glyc/o (glycos), Gluc/o (glucos)
- 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, 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

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/o/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.

Symptoms of Diabetes

- Poly/ur/ia  
  - Excessive urination
- Poly/dips/ia  
  - Excessive thirst
- Poly/phag/ia  
  - Excessive hunger

New Prefixes

- **Ecto-, Exo-**
  - Outer- outside
  - Inner-inside
  - Middle
  - Backward-behind
  - Near
- **Endo-**
- **Meso-**
- **Retro-**
- **Para-**

**Blast/o/derm:** an embryonic disk of cells that gives rise to the 3 main layers of tissue

- **Inner germ layer**
  - Organs inside the body: stomach, intestine
- **Middle germ layer**
  - Muscle
- **Outer germ layer**
  - Skin, nerve, glands, sense organs

**Ecto-, Exo- = Outside**

- Ecto/genous, Exo/genous: Something produced outside an organism

Opposite of

- Endo/genous: Something produced within an organism

**Ecto-, Exo- = Outside**

- Ecto/cyt/ic: Outside a cell
- Ecto/plasm: Protoplasm that forms outer membrane of the cell
Endo- = Inside

- **Endo/cyst/ic:** Inside a bladder
- **Endo/plasm, Cyt/o/plasm:** Protoplasm within a cell
- **Endo/cran/i/al:** Within the cranium
- **Endo/chondr/al:** Within cartilage
- **Endo/enter/itis:** Inflammation of the lining of the small intestine
- **Endo/card/i/al, Endo/card/i/ac:** Pertaining to the lining of the heart
- **Endo/col/i/tis:** Inflammation of the lining of a colon

Endo- = Inside

- **Endo/scope:** An instrument used to look into a hollow organ or cavity of the body
- **Endo/scopy, Gastr/o/scopy:** The process of viewing the stomach through an instrument
  - Esophag/o/gastr/o/duoden/o/scopy (EGD)
- **End/arter/ectomy:** Removal of a substance (atheroma) from the inside of an artery

Ectopic

- **Ec/topic:** Out of place
  - **Ect/o = outside**
  - **Top/os = place**
  - **-ic = (adjectival suffix)**

- Ectopic pregnancy is a pregnancy occurring outside of the uterus

Meso- = Middle

- **Mes/entery:** Peritoneum attaching intestine to the abdominal wall. (“middle intestine”)
- **Meso/colon:** Peritoneum attaching large intestine to the abdominal wall. (mesentery of the colon)
- **Meso/dont/ic:** Pertaining to middle-sized teeth

Retro- = Behind

- **Retro/colic:** Behind the colon
- **Retro/mammary:** Behind the mammary gland (breast)
- **Retro/stern/al:** Behind the stern/um
- **Retro/version:** Turning backward
- **Retro/periton/eum:** Space behind the peritoneum
- **Retro/periton/i/tis:** Inflammation of retroperitoneal space
Ante- vs. Retro-
- Ante- = Front, Forward
- Ante/flexion: Bending forward
- Ante/version: Turning forward
- Retro- = Behind, Backward
- Retro/flexion: Bending backward
- Retro/version: Turning backward

ERCP
- Endo/scop/ic Retro/grade Chol/angi/o/pancreat/o/graphy (ERCP)
  - An X-ray procedure in which an endoscope is used to inject a contrast medium into the ducts of the pancreas and gallbladder so that any obstructions can be viewed.

Para- = Near, Beside, Around
- Para/cen/tr/al: Near the center or around the center
- Para/-appendic/itis: Inflammation around the appendix
- Para/cyst/itis: Inflammation around (near) the bladder
- Para/colp/itis: Inflammation of tissues around (near) the vagina
- Para/hepat/itis: Inflammation of tissues around (near) the liver
- Para/nephrit/itis: Inflammation of tissues around (near) the kidney

Immun/o = Immune
- Immunity: 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**
- (DPT), DaPT
- (OPV), IPV
- HBV
- (MMRV) MMR
- Hib
- Td
- Var

- Diphtheria, pertussis, tetanus
- Acellular pertussis used now
- (Oral) or Injectable Polio Vaccine
- Hepatitis B Virus
- Measles, Mumps, Rubella
- Haemophilus influenzae b
- Tetanus, diphtheria (adult booster)
- Varicella (chicken pox)

**Aut/o = Self**
- Aut/o/mobile: Self-propelled vehicle
- Aut/o/bi/o/ography: Self-biography
- Aut/o/di/a/gnos/is: Diagnosing one’s own disease
- Aut/o/dem/i/c: Pertaining to one’s own skin
- Aut/o/nom/i/c: Self-controlling
- Aut/o/lysis: 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

**Numerical Prefixes**
- Greek
  - hem-
  - semi-
  - mono-
  - uni-
  - prot-
  - di(plo)-
  - tri-
  - tetra-
  - penta-
- Latin
  - half
  - one
  - first
  - two
  - three
  - four
  - five
- Greek
  - hexa-
  - hepta-
  - octa-
  - ennea-
  - deca-
  - hecto-
  - kilo-
- Latin
  - septa-
  - octo-
  - nine
  - centi-
  - milli-

- hex-
- hepta-
- oct-
- ennea-
- deca-
- hecto-
- kilo-
- sest-
- sept-
- oct-
- non-
- deci-
- centi-
- milli-

- Six
- Seven
- Eight
- Nine
- Ten, tenth
- One hundred, One hundredth
- One thousand, One thousandth
<table>
<thead>
<tr>
<th><strong>Mono-</strong> = One, Single</th>
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</thead>
<tbody>
<tr>
<td>Monorail, Monopoly, Monogamy</td>
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<tr>
<td>Mono/graph: Deals with a single subject</td>
</tr>
<tr>
<td>Mono/nucle/ar: Has one nucleus</td>
</tr>
<tr>
<td>Mono/mania: Abnormal preoccupation with one subject only</td>
</tr>
<tr>
<td>Mono/cyte: One cell (a type of leukocyte)</td>
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<tr>
<td>Mon/oma: One tumor</td>
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<tr>
<th><strong>Mono-</strong> = One, Single</th>
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<tbody>
<tr>
<td>Mono/my/o/plegia: Paralysis of one muscle</td>
</tr>
<tr>
<td>Mono/neur/al: Pertaining to one nerve</td>
</tr>
<tr>
<td>Mono/cyt/osis: Condition of increase in number of monocytes</td>
</tr>
<tr>
<td>Mono/nucle/osis: Viral infection causing monocytosis</td>
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<tr>
<td>&quot;Mono&quot;</td>
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<table>
<thead>
<tr>
<th><strong>Multi-</strong> = Many, More than one</th>
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<tbody>
<tr>
<td>Multiply, Multitude, Multiple</td>
</tr>
<tr>
<td>Multi/capsular: Many capsules</td>
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<tr>
<td>Multi/glandular: (adj.) Many glands</td>
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<tr>
<td>Multi/cellular: (adj.) Many cells</td>
</tr>
<tr>
<td>Multi/nuclear: (adj.) Many nuclei</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Multi-</strong> = Many, More than one</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi/para: Having many live births</td>
</tr>
<tr>
<td>Par = to bear</td>
</tr>
<tr>
<td>Refers to the mother</td>
</tr>
<tr>
<td>Multi/parous: (adj.) Having borne more than one child</td>
</tr>
<tr>
<td>Refers to the mother or may mean multiple births (twins or triplets)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Nulli-</strong> = None</th>
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</thead>
<tbody>
<tr>
<td>Nullify = to bring it to nothing</td>
</tr>
<tr>
<td>Null/para: A woman who has never borne a child</td>
</tr>
<tr>
<td>Null/par/ous: (adj.) Pertaining to no live births</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Primi-</strong> = First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primi/para: A woman who is having her first child. First live birth</td>
</tr>
<tr>
<td>Primi/gravida: A woman experiencing her first pregnancy</td>
</tr>
<tr>
<td>Gravida = heavy or weighted down, pregnant</td>
</tr>
</tbody>
</table>
**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
- Millimeter (mm) = 1/1000 meter
- Milli/gram (mg) = 1/1000 gram

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**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)

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**Abbreviation**

- 2 h pc, 2º pc
- 2 h pp, 2º pp
- 2 h pg, 2º pg
- C₆H₁₂O₆
- ab (I, II, III)
- Sab2, Tab3
- 2 hours postcibal (after meal)
- 2 hours postprandial (after meal)
- 2 hours post-glucose test (after drinking glucose)
- Glucose
- Abortion (spontaneous or induced) number

**Abbreviation**

- AIDS
- ARC
- CST
- DPT or DTP
- EGD
- ERCP
- Acquired immunodeficiency syndrome
- AIDS-related complex
- Certified surgical technologist
- Diphtheria, pertussis, tetanus
- Esophagogastroduodenoscopy
- Endoscopic retrograde cholangiopancreatography
### Abbreviation

- **FBS**
- **grav (I, II, III)**
  - **G₁, G₂**
- **GTT**
- **HB**
- **hBv**
- **Hib**
- **HIV**

- **Fasting blood sugar**
- **Number of pregnancies**
- **Glucose tolerance test (3h, 5h)**
- **Hepatitis virus**
- **Hepatitis B vaccine**
- **Haemophilus influenza vaccine**
- **Human immunodeficiency virus**

### Abbreviation

- **IDDM (type I diabetes)**
- **LAVH**
- **mg/dl**
- **MMRV**
- **mono**
- **NIDDM (type II diabetes)**

- **Insulin-dependent diabetes mellitus**
- **Laparoscopically assisted vaginal hysterectomy**
- **Milligrams per deciliter**
- **Measles, mumps, rubella (vaccine)**
- **Mononucleosis**
- **Noninsulin-dependent diabetes mellitus**

### Abbreviation

- **OPV**
- **para (I, II, III)**
  - **P₁, P₂**
- **S/A, S&A**
- **Td**
- **Var**

- **Oral poliovirus vaccine**
- **Number of live births**
- **Sugar and acetone**
- **Tetanus (and diphtheria)**
- **Chicken pox vaccine**
  - (Varicella zoster)