Medical Terminology

This is a copy of the handout for the presentation on Medical Terminology.

Medical Terminology Boot Camp

IMIA Conference Sept. 3, 2010 Presented by Marlene V. Obermeyer, MA, RN Carl Lam, PhD

Welcome

Introduction



3 Languages

http://www.cultureadvantage.com//Resources/basicmedicalterm inology/frame.htm

Cardiovascular System

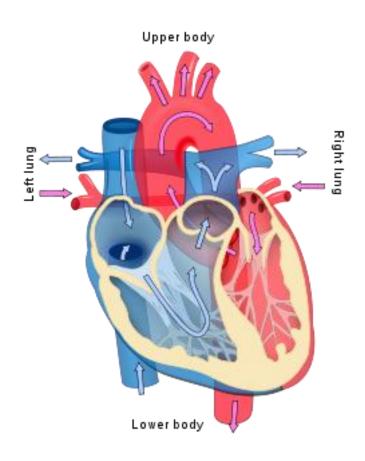
Case Study

Myocardial Infarction

- 1. MI
- 2. EKG
- heart monitor
- 4. vital signs
- blood pressure
- 6. heart rate or pulse
- oxygen saturation
- 8. IV
- 9. nasal cannula

- nitroglycerin pill
- 2. Morphine
- 3. chest pain
- 4. cardiologist
- 5. heart cath or heart catherization
- 6. PTCA or coronary stent
- 7. angiography
- 8. angioplasy
- CAD or coronary artery disease
- 10. arrythmia
- 11. open heart surgery

Anatomy



Diagnostic Procedures

- **EKG**
- Lab tests (troponin, cpk)
- Echocardiogram
- Stress test
- PET cardiac positron emission tomography (PET) nuclear scan
- Coronary angiography
- Heart catheterization

Treatment and medications

- Nitroglycerin
- Morphine
- Oxygen (nasal cannula, facemask)
- Thrombolytics (clot busters)
- Anticoagulants (blood thinners)
- Antiplatelets (ASA)
- Angioplasty
- Stent
- CABG
- Cardioversion/defibrillation

Equipment

- Telemetry
- **EKG**
- Holter monitor
- Sphygmomanometer

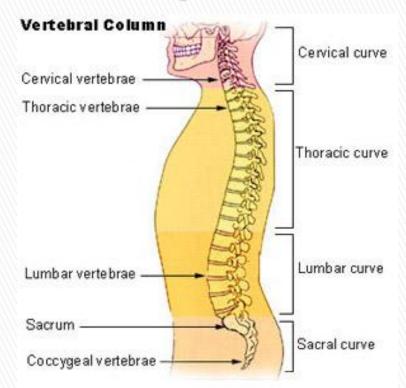
Musculoskeltal System

Case Study

A patient with chronic lower back pain is seen by an orthopedic surgeon. Because of the persistent and severe back problems, the orthopedic surgeon recommends doing a surgical procedure called Spinal Fusion L4–L5. This is major surgery that involves fusing the two bones the L4 and L5.

Where are the L4 and L5 bones located?

Anatomy



- Cervical vertebrae (7)
- Thoracic vertebrae (12)
- Lumbar vertebrae (5)
- Sacrum (1)
- Coccyx (1)

Herniated disc

http://www.nlm.nih.gov/medlineplus/ency/anatomyvideos/000069.htm

Types of fractures

http://www.nlm.nih.gov/medlineplus/ency/im agepages/1096.htm

Spinal Fusion

http://www.nlm.nih.gov/medlineplus/ency/presentations/100121_1.htm

Common terms

- Arthritis
- Osteoarthritis or DJD breaks down the cartilage in your joints.
- Rheumatoid arthritis is a chronic inflammatory disorder that most typically affects the small joints in your hands and feet
- Osteoporosis
- Chondritis inflammation of the cartilage
- Costochondritis
- Tendinitis. Tendons are the tough cords of tissue that attach muscles to bones.

Diagnostic Procedures

- Arthrograms (joint x-ray)
- Bone scans (xray beams)
- Computed tomography (CT) scan, cross sectional images
- Electromyography
- Discography, involves injection of dye
- Magnetic resonance imaging (MRI) scan uses magnetic fields
- X-rays

Treatment and Medications

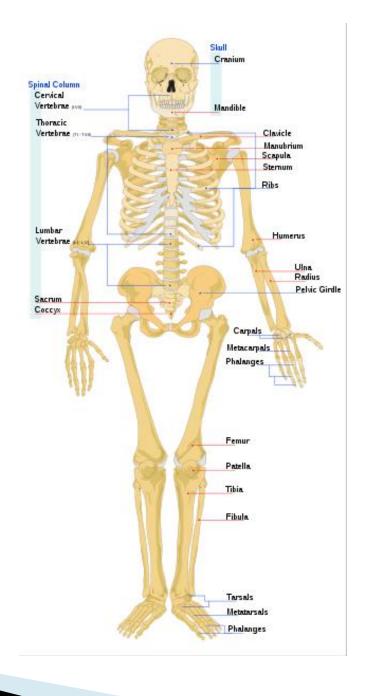
- Arthroplasty
- Total joint replacement
- PKR, partial knee resurfacing (PKR) only damaged portion is replaced
- Prosthesis
- Diskectomy. This involves removal of the herniated portion of a disk to relieve irritation and inflammation of a nerve.
- Laminectomy. This procedure involves the removal of the bone overlying the spinal canal.

Treatments

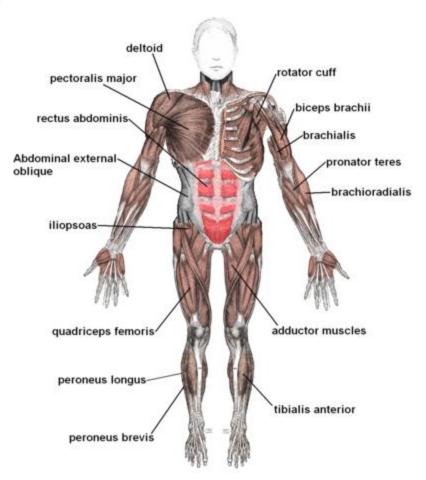
- Fusion. Spinal fusion permanently connects two or more bones in the spine.
- Vertebroplasty. During this procedure, the surgeon injects bone cement into compressed vertebrae
- Artificial disks. Implanted artificial disks are a treatment alternative to spinal fusion
- Transcutaneous electrical nerve stimulation (TENS) a small electronic device to direct mild electric pulses to nerve endings

Medications

- Acetaminophen
- NSAIDs (nonsteroidal anti-inflammatory drugs
- Topical pain-relieving creams, rubs, and sprays - icy hot
- Narcotic painkillers codeine, hydrocodone
- Corticosteroids: injected or oral
- Hyaluronic acid injections



Muscles



Equipment

Crutches



Cast



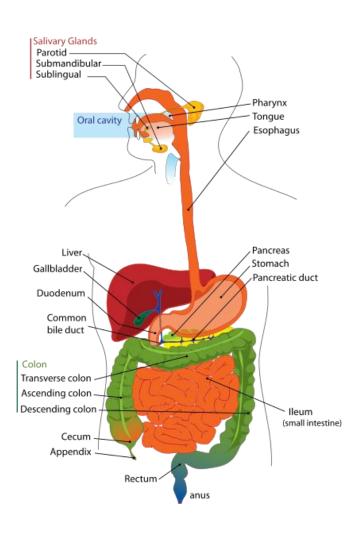
Splint



Gastrointestinal System

- Case study
- 13-year-old boy with abdominal pain.
- Laparoscopic appendectomy

GI Anatomy



Diagnostic procedures

- Endoscopy
- Gastroscopy
- Esophagoscopy
- Upper gastrointestinal endoscopy
- Esophagogastroduodenoscopy
- Sigmoidoscopy
- Colonoscopy
- Laparoscopy
- http://www.nlm.nih.gov/medlineplus/ency/i magepages/8830.htm

Diagnostics

- Cholangiogram
- Oral cholecystogram is an x-ray of the gallbladder
- Percutaneous transhepatic cholangiogram (PTCA) is an x-ray of the bile ducts inside and outside the liver.
- **ERCP**
- Endoscopic retrograde cholangiopancreatography (ERCP)
- http://www.nlm.nih.gov/medlineplus/ency/i magepages/19213.htm

Common terms

- Cholelithiasis chole-bile
- Cirrhosis
- GERD gastroesophageal reflux disease
- Hepatitis, hepato (liver)
- Jaundice
- Appendectomy
- Laparo –abdominal wall
- -centesis-punture paracentesis
- -iasis -condition
- -lith stone
- Cholangitis (infection in common bile duct)

Common terms

- Biliary obstruction or bile duct obstruction
- Choledocholithiasis is the presence of a gallstone in the common bile duct.
- http://www.nlm.nih.gov/medlineplus/ency/i magepages/17038.htm

Surgical Treatment

- Appendectomy
- Cholecystectomy
- Pancreatitis
- Splenectomy
- Colostomy
- Ileostomy

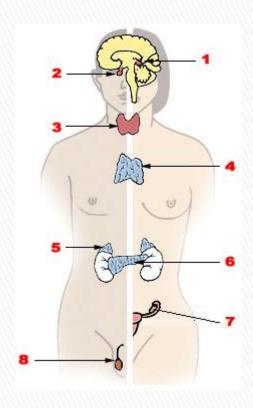
Endocrine System

- made up of the endocrine glands that secrete hormones
- Chemical messengers * Growth and development
- * Metabolism how your body gets energy from the foods you eat
- * Sexual function
- * Reproduction
- * Mood

Endocrine glands

http://www.nlm.nih.gov/medlineplus/ency/a natomyvideos/000048.htm

Endocrine glands



- 1 Pineal gland serotonin
- 2 Pituitary gland growth
- 3 Thyroid gland
- 4 Thymus immune
- 5 Adrenal gland
- 6 Pancreas insulin
- 7 Ovary (female) estrogen
- 8 Testes (male) testosterone

Diabetes

- Diabetes is a disorder of metabolism—the way the body uses digested food for growth and energy.
- Glucose -main source of fuel
- For glucose to get into cells, insulin must be present. Insulin is a hormone produced by the pancreas, a large gland behind the stomach.
- When people eat, the pancreas automatically produces the right amount of insulin to move glucose from blood into the cells.

Type 1

- Type 1 Diabetes
- **▶** 5−10%
- Children, young adults
- Autoimmune
- Must take insulin

- Symptoms:
- Polyuria
- Polyphagia
- Weight loss
- Fatigue
- Blurred vision

Type 2

- 90% of diagnosed diabetes
- Age, obesity, family, inactivity, gestational
- the pancreas is usually producing enough insulin
- Symptoms develop gradually

Gestational

Although this form of diabetes usually disappears after the birth of the baby, women who have had gestational diabetes have a 40 to 60 percent chance of developing type 2 diabetes within 5 to 10 years.

 Maintaining a reasonable body weight and being physically active may help prevent development of type 2 diabetes.

Diagnosis

- Fasting blood sugar over 126 after 8 hours fasting
- OGTT -Oral Glucose
 Tolerance Test over
 200
- Random glucose over 200

Management

TYPE 1

- Diet
- Activity
- Insulin
- Blood glucose monitoring

- TYPE 2
- Diet
- Activity
- Oral medications
- BGM
- Insulin

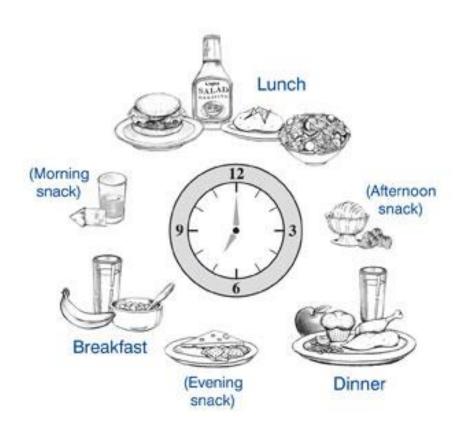
Goal

The goal of diabetes management is to keep levels of blood glucose, blood pressure, and cholesterol as close to the normal range as safely possible.

Target Blood Glucose

- Target Blood Glucose Levels for People with Diabetes:
- Before meals 70 to 130
- 1 to 2 hours after the start of a meal less than 180

Diet



Hypoglycemia

- Low Blood Glucose (Hypoglycemia)
- Low blood glucose can make you feel shaky, weak, confused, irritable, hungry, or tired. You may sweat a lot or get a headache. If you have these symptoms, check your blood glucose.

Hyperglycemia

- High blood sugar can be caused by:
- You ate more than planned or exercised less than planned.
- You have stress from an illness, such as a cold or flu.
- You have other stress, such as family conflicts or school or dating problems.
- Monitor blood sugars.
- Increase activity if NO KETONES.
- Medication as prescribed.

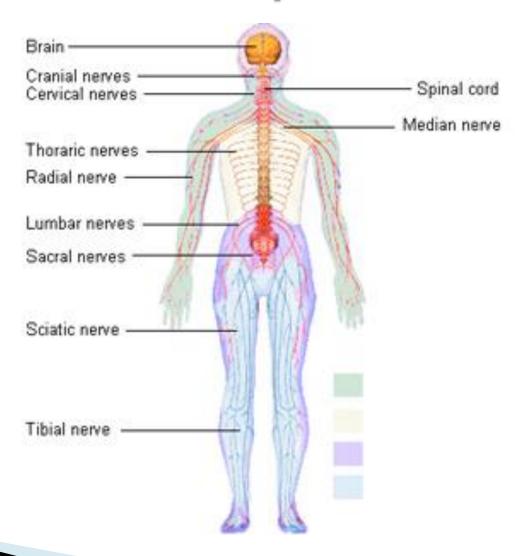
DKA

- Diabetic ketoacidosis -diabetic coma
- Ketoacidosis is life-threatening and needs immediate treatment.
- Symptoms include:
- Shortness of breath
- Breath that smells fruity
- Nausea and vomiting
- Very dry mouth

HBA1C

- HbA1c is a test that measures the amount of glycated hemoglobin in your blood.
- Glycated hemoglobin is a substance in red blood cells that is formed when blood sugar (glucose) attaches tohemoglobin.
- An HbA1c of 6% or less is normal. A HbA1c above 6.5% is a newly recommended criterion for diagnosing diabetes.

Neurovascular System



Stroke

- Elena is a 60 year old woman brought to the emergency department by her family because they found her sitting in the living room and unable to stand or to speak.
- In the emergency room, the family is asked to provide information about Elena's medical history and medications. The physician orders a CT scan of the brain. He informs Elena and her family that Elena is having an ischemic stroke due to a blood clot in her brain.

CVA

The left hemisphere (left side of the brain) controls the functions on the right side of the body, while the right hemisphere (right side of the brain) controls most of functions on the left side of the body.

2 types of stroke

- There are two kinds of stroke. The most common kind of stroke, called ischemic stroke, is caused by a blood clot that blocks or plugs a blood vessel in the brain.
- The other kind of stroke, called hemorrhagic stroke, is caused by a blood vessel that breaks and bleeds into the
- brain.

Symptoms: National Stroke Association

- Act F.A.S.T.
- FACE
- Ask the person to smile.

Does one side of the face droop? ARMS

Ask the person to raise both arms.

Does one arm drift downward? **SPEECH**

Ask the person to repeat a simple sentence.

Are the words slurred? Can he/she repeat the sentence correctly? TIME

If the person shows any of these symptoms, time is important.

Call 911 or get to the hospital fast. Brain cells are dying.

Symptoms

- Stroke Symptoms include:
- SUDDEN numbness or weakness of face, arm or leg especially on one side of the body.
- SUDDEN confusion, trouble speaking or understanding.
- SUDDEN trouble seeing in one or both eyes.
- SUDDEN trouble walking, dizziness, loss of balance or coordination.
- SUDDEN severe headache with no known cause.

Common terms

- Aphasia
- Dysphagia
- Hemiplegia
- Incontinence
- aneurysm a weak spot in the artery wall that balloons out
- aneurysm clipping a surgical procedure for treatment of brain aneurysms, involving clamping an aneurysm from a blood vessel

Common terms

- apoplexy an old Latin term for stroke
- aspiration the act of inhaling solid or liquid materials into the lungs
- atrial fibrillation irregular beating of the left atrium, or left upper chamber, of the heart
- bilateral both sides of the body
- carotid artery an artery, located on either side of the neck, that carries blood to the brain
- carotid endarterectomy the operation to remove atheroma from the narrowed carotid artery (usually the internal carotid artery)

Common tersm

- carotid stenosis narrowing of the carotid artery
- catheter a medical device (tube) used to control urinary incontinence using a receptacle bag
- cognitive impairment a deficiency in a person's short or long term memory, orientation as to place, person and time, thinking and judgment
- coma a state of deep unconsciousness when the person is not responsive or able to be aroused

Common terms

- electroencephalogram (EEG) a test used to record electrical activity in the brain by placing electrodes on the scalp
- embolic stroke a stroke caused by an embolus
- embolism blockage of a blood vessel by an embolus
- embolus a clot of the blood that travels in the bloodstream
- TIA-mini stroke

Procedures

- Stroke scale
- CT Scan
- MRI
- **EKG**
- Carotid doppler
- Cerebral arteriogram
- Electroencephalogram (EEG)
- Lumbar puncture (LP, spinal tap)

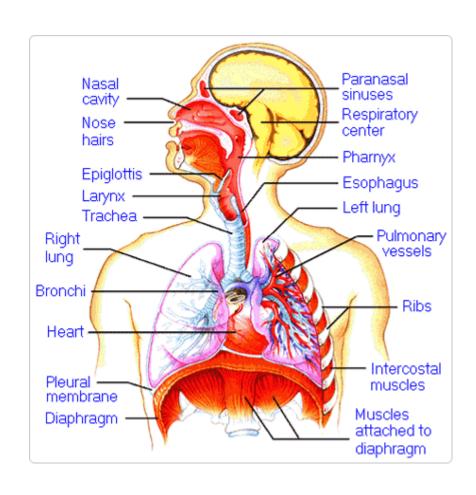
CEA

A carotid endarterectomy is a surgical procedure in which a doctor removes fatty deposits from one of the carotid arteries, two main arteries in the neck supplying blood to the brain.

Anticoagulant

- "blood thinner"
- Warfarin (Coumadin® and others)
- Warfarin is an anticoagulant drug ("blood thinner") which is taken by mouth.

Respiratory System



Tuberculosis

- bacterial infection caused by a germ called Mycobacterium tuberculosis.
- The bacteria usually attack the lungs, but they can also damage other parts of the body. TB spreads through the air when a person with TB of the lungs or throat coughs, sneezes or talks.

Symptoms

- A bad cough that lasts 3 weeks or longer
- Weight loss
- Coughing up blood or mucus (hemoptysis)
- Weakness or fatigue
- Fever and chills
- Night sweats

AFB Sputum

The acid-fast bacillus stain is a laboratory test that determines if a sample of tissue, blood, or other body substance is infected with the bacteria that causes tuberculosis and other illnesses

Mediastinoscopy

Mediastinoscopy with biopsy is a procedure in which a lighted instrument (mediastinoscope) is inserted in the space in the chest between the lungs (mediastinum), and tissue is taken (biopsy) from any unusual growth or lymph nodes.

Pneumonia

Pneumonia is an inflammation of the lung, usually caused by an infection. Three common causes are bacteria, viruses and fungi. You can also get pneumonia by accidentally inhaling a liquid or chemical.

Procedures

- Chest xray
- ABG arterial blood gas test.
- Sputum evaluation
- Thoracentesis
- is a procedure to remove excess fluid in the space between the lungs and the chest wall. This space is called the pleural space.
- PFT pulmonary lung function test
- Spirometry -measures how much air you breathe out. It also measures how fast you can blow air out.

COPD

COPD, or chronic obstructive pulmonary disease, is a progressive disease that makes it hard to breathe. "Progressive" means the disease gets worse over time.

Treatments

- Bronchodilators relax the muscles around your airways. This helps open your airways and makes breathing easier.
- Inhaled Glucocorticosteroids (Steroids)
- Flu Shots
- Pneumococcal Vaccine
- Pulmonary Rehabilitation
- Oxygen Therapy
- Lung Transplant

Respiratory Failure

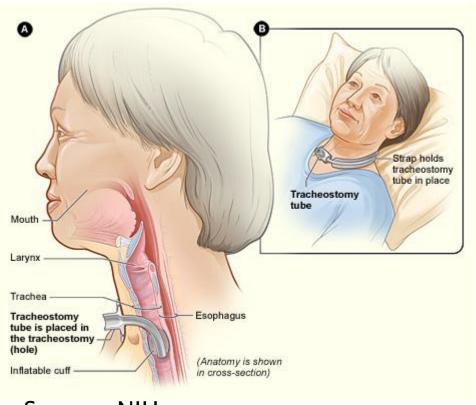
Respiratory failure is a condition in which not enough oxygen passes from your lungs into your blood.

Oxygen therapy



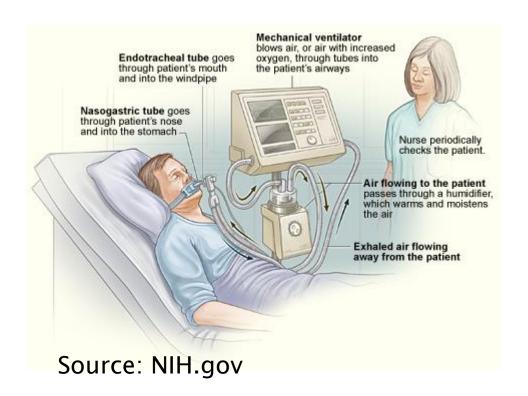
Source: NIH.gov

Tracheostomy

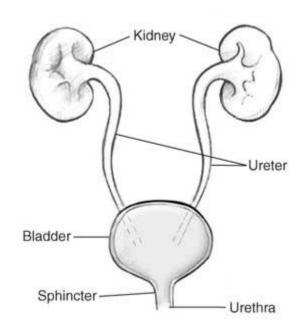


Source: NIH.gov

Ventilator



Renal or Urinary System

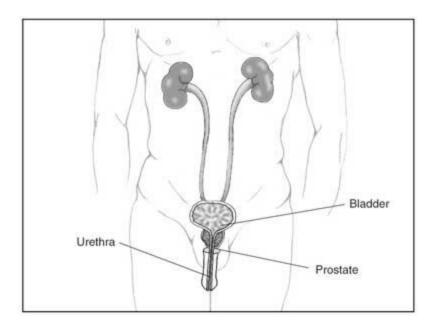


Source: NIH.gov

Prostate

The prostate is part of a man's sex organs. It's about the size of a walnut and surrounds the tube called the urethra, located just below

the bladder.



Source: NIH.gov

Common Terms

- Prostatitis
- BPH Benign Prostatic Hypertrophy

Procedures/Treatments

- TUNA (transurethral needle ablation) destroys excess prostate tissue with electromagnetically generated heated needle
- TURP removal by cutting away pieces of the urethra
- Prostatectomy

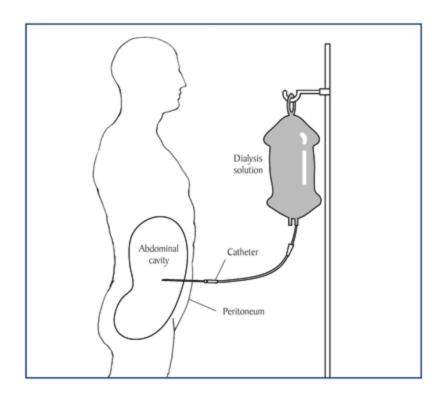
Cystoscopy

- cystoscopy is an examination of the inside of the bladder and urethra
- Cystoscopy and ureteroscopy are procedures used to view the inside of the bladder, urethra, and possibly the ureters.
- A cystoscope is an instrument used to examine the urethra and bladder.
- A ureteroscope is an instrument used to examine the ureters.

Kidney disease

- They remove waste products and extra water, which become urine. The urine flows through tubes called ureters to your bladder, which stores the urine until you go to the bathroom.
- If your kidneys fail completely, a kidney transplant or dialysis can replace the work your kidneys normally do.

Peritoneal dialysis



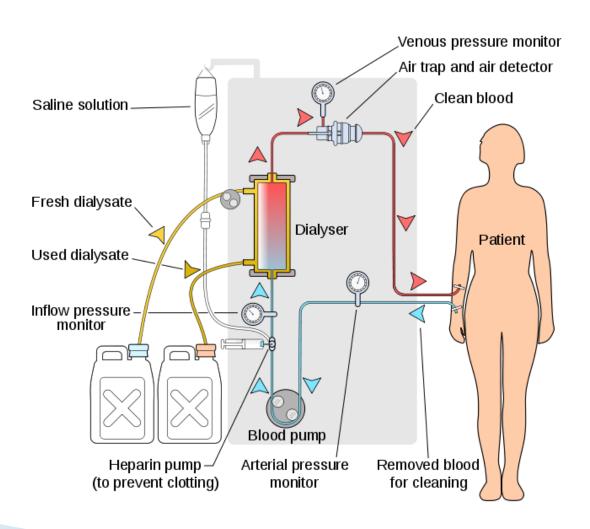
PD or peritoneal dialysis

In PD, a soft tube called a catheter is used to fill your abdomen with a cleansing liquid called dialysis solution

Hemodialysis

In hemodialysis, your blood is allowed to flow, a few ounces at a time, through a special filter that removes wastes and extra fluids. The clean blood is then returned to your body

Hemodialysis



Cysto - bladder Vesico- bladder Nephro -kidney Reno -kidney Uretero -ureter Urethro -urethra Dysuria - painful urination **Nephrolithiasis** Anuria

Common terms

- ESWL extracorporeal shock wave lithotripsy
- Urinary catheterization catheter is passed through urethra into the bladder to drain the urine.
- IVP intravenous pyelogram contrast is injected and xrays are taken of the urinary tract

Pregnancy and Delivery

- Pregnancy lasts about 40 weeks, counting from the first day of your last normal period. The weeks are grouped into three trimesters.
- First trimester: week 1-week 12
- Second trimester: week 13-week 28
- Third trimester week 29-week 40

- Meconium
- Lanugo
- Colustrum
- Preeclampsia PIH -starts around 20th week, htn, proteunuria, pregnancy induced hypertension
- false labor contractions or Braxton Hicks contractions
- Effacement shortening and thinning of the cervix

- Parturition childbirth
- the shortening and dilation of the cervix, descent and birth of the infant, and birth of the placenta

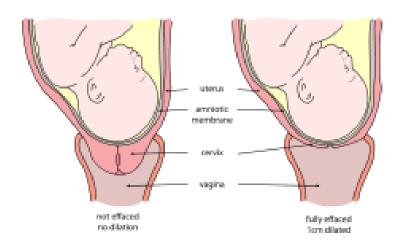
Signs of labor

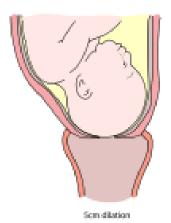
- Lightening
- Passing of the mucus plug
- Contractions
- Water breaking
- Effacement and dilation of the cervix Effacement is measured in percentages from 0% to 100%

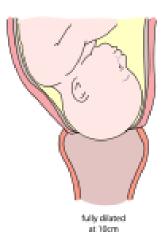
Stages of labor

- the shortening and dilation of the cervix,
- descent and birth of the infant,
- birth of the placenta
- Postnatal –puerperium

Cervix dilation







More terms

- Abruptio Placenta (Placental Abruption): The placenta has started to separate from the uterine wall before the baby is born
- Amniotic Fluid: This protective liquid, consisting mostly of fetal urine and water, fills the sac surrounding the fetus.
- Amniocentesis
- The ratings, APGAR, are based on Appearance (color), Pulse (heartbeat), Grimace (reflex), Activity (muscle tone), and Respiration (breathing). The scores, which are taken at 1 and 5 minutes following birth, range from 10 to 1, with 10 being the highest and 1 being the lowest.

More terms

- Breech: When the fetus is positioned head up to be born buttocks first or with one or both feet first.
- Cephalopelvic Disproportion(CPD): The baby is too large to safely pass through the mother's pelvis.
- Cesarean or C section
- Crowned/Crowning:When the baby's head has passed through the birth canal and the top or "crown" stays visible

- Engaged: The baby's presenting part (usually the head) has settled into the pelvic cavity, which usually happens during the last month of pregnancy.
- Epidural: A common method of anesthesia used during labor. It is inserted through a catheter which is threaded through a needle, into the dura space near the spinal cord.
- Episiotomy: An incision made to the perineum to widen the vaginal opening for delivery.

- Fontanelle: Soft spots between the unfused sections of the baby's skull.
- Forceps: Tong shaped instrument that may be used to help guide the baby's head out of the birth canal during delivery.
- Induced Labor: Labor is started or accelerated through intervention, such as placing prostaglandin gel on the cervix, using an IV drip of the hormone oxytocin (Pitocin), or by rupturing the membranes.

- Neonatologist: A specialist who cares for newborns.
- NICU: Acronym standing for Neonatal Intensive Care Unit.
- Oxytocin: Hormone secreted by the pituitary gland that stimulates contractions and the milk-eject reflex.
 Pitocin is the synthetic form of this hormone.
- Placenta: The tissue that connects the mother and fetus to transport nourishment and take away waste.
- Placenta Previa: When the placenta partially or completely covers the cervix.
- Ectopic pregnancy occurs when the fertilized egg attaches itself in a place other than inside the uterus

Spontaneous abortion (SAB), or miscarriage, is the term used for a pregnancy that ends on it's own, within the first 20 weeks of gestation.

Oncology

- Biopsy
- Haematology or hematology
- Benign
- Malignant
- Localised A tumor restricted to a single site
- Invasive, metastasize
- Staging
- Prognosis
- is the expected outcome of a disease

Oncology

- Remission
- is where the symptoms of cancer are no longer present.
- Relapse
- This is when the disease reoccurs after a period in remission.
- Curative treatment treatment to destroy the cancer.
- Palliative treatment treatment which relieves the symptoms and pain.

Treatment

- Pre-operative chemotherapy
- Resection
- Prosthesis, endoprosthesis
- Radiotherapy radiation
- External
- Internal
- TBI total body

Chemotherapy

- Cytotoxic cytotoxic drugs kill or damage cells
- Central line
- Bone Marrow Transplantation (BMT)
- Acute new onset
- Chronic long lasting

HIV AIDS

- AIDS (Acquired Immunodeficiency Syndrome):
- AIDS-Related Complex: (ARC)
- Amphotericin B:
- Antibiotic:
- Antibody:
- Antigen:
- Antiviral:
- Asymptomatic:
- Bacteria:

HIV AIDS

- Candidiasis:
- CD4 (T4): A protein receptor embedded in the cell surface of T-lymphocytes,
- Centers for Disease Control:
- Cytomegalovirus (CMV):
- ELISA (Enzyme-Linked Immunosorbent Assay): A blood test used to detect the presence of antibodies to HIV;
- ▶ T4 Cell: A type of T-lymphocyte. The T4 cell enhances the immune response

HIV AIDS

- Encephalitis:
- Factor VIII:
- Fungus:
- Ganciclovir (DHPG):
- Herpes Virus: herpes simples, herpes zoster
- Immunocompromised: A state when the body's immune system defenses are lowered and the body is less able to resist infections and tumors.

Infectious Diseases

- There are four main kinds of germs:
- * Bacteria one-celled germs that multiply quickly and may release chemicals which can make you sick
- * Viruses capsules that contain genetic material, and use your own cells to multiply
- * Fungi primitive vegetables, like mushrooms or mildew
- * Protozoa one-celled animals that us

Parasitic diseases

http://www.cdc.gov/ncidod/dpd/parasites/

Standard precautions sample:

http://www.dhs.wisconsin.gov/communicable/ e/InfectionControl/Transmission.htm

Resources

- Resources:
- Medical Encyclopedia: http://www.nlm.nih.gov/medlineplus/encyclopedia.html
- Medline Medical Encyclopedia: http://www.nlm.nih.gov/medlineplus/encyclopedia.html Medline Plus in Spanish: http://www.nlm.nih.gov/medlineplus/spanish/medlineplus.html Medical Dictionary:
 - http://www.nlm.nih.gov/medlineplus/mplusdictionary.html
- Online Medical Terminology and Anatomy Reference: http://www.free-ed.net/sweethaven/MedTech/MedTerm/
- Word Parts:
 http://www.nlm.nih.gov/medlineplus/appendixa.html
 /, http://training.seer.cancer.gov/anatomy/nervous/

Resources

- Wikipedia Root Words, Prefixes: http://en.wikipedia.org/wiki/List_of_medical_roots Health Information in Multiple Languages: http://www.nlm.nih.gov/medlineplus/languages/languages.html
- Nervous System Information: http://faculty.washington.edu/chudler/auto.html
- Respiratory System: http://hes.ucfsd.org/gclaypo/repiratorysys.html#Trachea
- How a person breathes: http://www.youtube.com/watch?v=gYSIWceGMxY&feature=relat-ed
- Alzheimer's disease: http://www.nia.nih.gov/Alzheimers/Publications/adfact.htm
- Cancer disease: http://training.seer.cancer.gov/anatomy/nervous/organization

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