**Review for CCMA**

**1. Injections: Review Injections Power Point**

Sub cutaneous (SQ) 25 gauge 45 degree angle: Insulin and allergies is given S.Q

Intramuscular (IM): 23 gauge 90 degree angle: Influenza is given I.M

Intradermal (ID): 10-15 degree angle: **purified protein derivative (PPD): TB Test**

**2. Medications: Review Power point**

**Oral examples:**

**Nitroglycerin: given sub lingual (under the tongue) for angina (chest pain) quickest route**

**Aspirin: Enteric coated medications: (should not be crushed/manipulated in any way) - Taken whole with water**

**Transdermal: Infuses through skin. Leave old patch on for 30 mins after putting on new one**

**3. Lab Tests**

**Yellow/ Black or glass top tube (sterile)**

Additive: anticoagulant SPS (sodium polyanethol sulfonate) & ACD (acid citrate dextrose)
Common test: blood cultures. The SPS aids in the recovery of microorganisms by slowing down/ stopping the actions of complement, phagocytes, and certain antibiotics. These tubes should be inverted 8 times. Tubes with ACD are for cellular studies, HLA typing, paternity testing.

**Light-Blue top tube**

Additive: anticoagulant sodium citrate (prevents coagulation by binding to calcium in the specimen). Fill tubes completely to maintain the ratio of 9 parts blood to 1 part sodium citrate. Invert tubes 3 - 4 times.

Common tests: Coagulation tests on plasma - PT (Prothrombin Time - evaluates the extrinsic
system of the coagulation cascade & monitors Coumadin therapy); APTT/ PTT (Activated Partial Thromboplastin Time - evaluates the intrinsic system of the coagulation cascade & monitors heparin therapy); FDP (Fibrinogen Degradation Products); TT (Thrombin Time); Factor assays; BT (Bleeding Time)

**\*DON’T DRAW FIRST\***

**Red top tube (plain vacuum tube)**

Additive: no additive or anticoagulant. Collected blood clots by normal coagulation process in 30 minutes; no need to invert the tube after collection.

Common tests: Serum chemistry tests (glucose, cholesterol, triglycerides, HDL, potassium, amylase, alkaline phosphatase, BUN, CK, liver enzymes); Serology tests (RPR, mono spot, rheumatoid factor, ANA); blood bank

**Red/Gray (speckled) top tube - tiger-top tube and serum separator tubes (SST)**

Additive: clot activators - glass particles, silica and celite (speeds up clot formation) & thixotropic gel (a serum separator which when centrifuged forms a barrier between the serum & the cells preventing contamination of the serum with cellular elements). Must be inverted 5 times.

Common laboratory use: chemistry tests on serum (glucose, cholesterol, triglycerides, potassium)

**Green top tube**

Additive: sodium heparin, lithium heparin, ammonium heparin. Heparin slows down/ stops thrombin in the coagulation cascade. It's not used for hematology because heparin interferes with the Wright's stained blood smear. Invert tube 8 times.

Common tests: chemistry tests on plasma: ammonia, carboxyhemoglobin & STAT electrolytes, chromosome screening

**Lavender top tube**

Additive: anticoagulant EDTA. EDTA slows down/ stops coagulation by binding to calcium in the specimen. Fill tubes at least 2/3 full & invert 5- 8 times.

Common tests: hematology tests on whole blood. CBC (Complete Blood Count); RBC count, WBC count & platelet count; WBC differential count; Hemoglobin & Hematocrit determinations; ESR (erythrocyte sedimentation rate); sickle cell screening

**Gray top tube**

Additive: All top tubes contain a glucose preservative (antiglycolytic agent): sodium fluoride (preserves glucose for 3 days) or lithium iodoacetate (preserves glucose for 24 hours). May also contain the anticoagulant potassium oxalate (prevents clotting by binding calcium). Invert 8 times.

Common tests: Fasting blood sugar (FBS); Glucose tolerance test (GTT); Blood alcohol levels; Lactic acid measurement

**Dark Blue**

Additive: clot activator (plastic serum), EDTA (plastic)
Common laboratory use: for trace elements, toxicology, and nutritional chemistry testing

**CLIA Waived tests:**

Fecal occult blood (Hemacult)

 HCG (pregnancy test)

Urine Dipsticks

Blood Sugar Finger stick

**Abbreviations**

**HCG : Human**  chorionic gonadotropin ( Pregnancy Test)

**FSH: Follicle Stimulating Hormone: Measures women’s menopausal condition**

**ABG : Arterial Blood Gases 7.38 - 7.42**

**TSH : Thyroid Stimulating Hormone**

**Blood Work**

**K: Potassium 3.5-5 mmol/L**

**Na: Sodium: 135-145 mmol/L**

**RBC** Male: **4.7 to 6.1**

 Female**: 4.2 to 5.4**

**HG : Hemoglobin**

|  |
| --- |
| Male: **13.5-17.5**Female: **12.0-15.5**  |

**HCT: Hematocrit**

|  |
| --- |
| Male: **38.8-50.**0 Female: **34.9-44.5** |

**Cholesterol**

**Total Cholesterol<200**

**LDL : <100**

**HDL: > 60**

**Blood Glucose 70-110**

|  |  |
| --- | --- |
|  |  |
|  |  |
| White blood cell count | 3.5-10.5 |
| Platelet count | 150-450  |

**Urine Collection (Look at power point)**

**Know 24 hour urine ( if the person urinates without collecting in container , need to start again)**

**Clean catch (for Culture and sensitivity)**

**Normal Specific gravity (closest to one) Range** 1.005-1.030

Know what hematuria is ( Blood in urine)

\*Stool Sample: Contaminated sample if urine is in sample \*

**Technique for draw**

**If you have a hematoma: stop draw**

**Take off tourniquet in one minute**

**Take tourniquet off before removing needle.**

**Explain procedure to patient**

**15-30 degree angle**

**23 gauge for winged infusion set**

**21 for a straight needle**

**Red spots (petechae) apply pressure after draw but do not stop**

**Biohazardous waste: Anything with body fluids requires special handling**

**MSDS: Where you find information about chemicals in your workplace you may be working with.**

**Sterilization rids area of pathogens and non-pathogens: Autoclaving**

**Disinfection: Rids area of pathogens: You would disinfect a sigmoidoscopy scope after use**

**Sanitization: reduced pathogens but not all: You would wash instruments to prepare them for autoclaving**

**Clean with bleach**

**Flammable liquids sign: Yellow or red**

**Infants and Pediatrics**

**Ear Irrigation: Down and back**

**Infant heart rate and respiration always higher that toddler and adults**

**Injections: Vastus Lateralis**

**Heel stick for infant: Keep still, use heel warmer, and use lateral and medial part of heel (Never the middle of the heel)**

**Wipe away first drop of blood**

**Medical Terminology/ Positioning**

**Febrile**

**Afebrile**

**Menarche**

**Trendelenburg: Feet up head down for someone who has fainted**

**Sims: left lateral side lying position: Sigmoidoscopy**

**Supine: On back**

**Lithotomy: Gynecological Examination**

**Fowlers: Upright 90 degrees**

**Semi Fowlers: 60-85 degrees**

**Prone: lying face down**

**EKG**

**P: Atrial depolarization Q R S: Ventricular Depolarization T: ventricular repolarization**

**PR Interval .12 -.20**

**Holter monitor: Don’t get wet, if lead comes off they have to go back to get it replaced.**

**Some EKG artifacts that change the rhythm: phones, Somatic tremors (Parkinson’s disease)**

**If patient in fetal position for EKG, note on EKG reading**

**What is bradycardia**

**What is tachycardia**

**What is the electrical pathway:**

 **SA to AV to Bundle of His to L & R Bundles to Purkinje Fibers**

**If someone had an amputation place the lead as distal as you can and document on EKG**

**Voltage : 5mm per big box**

**Vital Signs**

**Normal BMI:18.5-24.9**

**Normal B/P 120/80 pre hypertension 121-81 –139/ 89**

**Hypertension140/88**

**Hypotension 90/60**

**P 60-100**

**R 12-20**

**Temp F to C - 30 /2**

**Temp C to F x 2 + 30**

**12 inches in a foot 2.5. cm in an inch**

**Kg to lbs 2.2lb = 1 kg**

**Teaspoon: 5ml**

**Tablespoon: 15ml**

**1 oz = 30 ml**

**Eye Exams**

**Tumbling E eye exam is a FAR for someone who does not understand English**

**Jaeger Test: NEAR test . Place 15” inches**

**Rosenbaum Test: NEAR test 18 inches**

**Ishahara Test: For color blindness**

**Snellen Chart: FAR vision 20 ft at line 20= 20:20 vision ( adult)**

**Snellen Chart: FAR vision 10 ft at line 20= 20:20 vision (child)**

**Ear exam**

**Pull pinna up and back for anyone over three years**

**Cerumen is the substance removed from ear ( Ear wax)**

**Coding**

**CMS 1500: Basic insurance form: Send to insurance company**

**Consent forms: Always have doctor discuss with patient**

**Health Care Proxy: required for mental or physical impairment (such as Alzheimer’s)**

**Procedural codes need modifier if doctor does something in addition to the original diagnosis**

**Procedural codes 5 digits**

**Diagnostic Code 3 digits**

**Chain of custody**

**Before sending everyone in chain must sign: last one will be the person sending the sample**

**If a parent calls the hospital after a kid has ingested poison have them call poison control**

**Labs include Paternity tests, alcohol and drug screens**