Adult Health Final Exam

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Ventilator Care

- Maintain patent airway by repositioning Q2H and PRN, perform passive range of motion, and apply protective barriers (soft wrist restraints) only if necessary
- Assess respiratory status every 1-2 hr
    - Breath sounds equal bilaterally
- Monitor VS, ABGs, CXRs(perform these everyday), and LOC
- Monitor and document ventilator settings hourly or sooner
    - Never turn off ventilator alarms
- Maintain adequate (but not excessive) volume in the cuff of the ET tube
- Administer medications as prescribed
    - Analgesics: Morphine and Fentanyl (pain management/respiratory effort)
    - Sedatives: Propofol, Diazepam, Lorazepam, Midazolam (Sedation/Anxiety)
    - Neuromuscular blocking agents: Pancuronium (paralyze the muscle/suppress respiratory effort)
    - Ulcer-preventing agents: Famotidine
    - Antibiotics: For established infections
- Incorrect position of ET
    - Common issue in ET tube placement is placing the tube in the right main bronchus due to anatomy
    - common signs you are in the main bronchus and not 2 cm above carina:
        - Right-sided breath sounds heard but left-side breath sounds are absent
        - Left-side chest wall expansion is absent
        - Possible low spO2

Pneumothorax causes/findings

- Presence of air or gas in the pleural space that causes lung collapse
- Expected Findings:
    - Pleuritic pain
    - Signs of respiratory distress (tachypnea, tachycardia, hypoxia, cyanosis, dyspnea)
    - Reduced or absent breath sounds on affected side
    - Asymmetrical chest wall movement
    - Hyperresonance
    - Dull percussion

- Subcutaneous Emphysema

ET tube placement

- Correct placement should be 2 cm above carina
- Common issue in placement is placing the tube into the right main bronchus

Chest tube indications

- fluid, air, or blood in pleural space
- facilitate lung expansion
- re-establish negative pressure

Chest tube normal/abnormal findings

- Water-seal chamber → Tidaling is normal (bubbling may mean air leak)
- Suction chamber → Bubbling is normal
- Care for chest tube:
  - Always keep the chest tube below the chest to allow gravity to assist with drainage
  - Notify provider if drainage is >70 ml/hr

Blood transfusion times/nursing responsibilities

- Check temperature prior to administration for blood reaction (check temp FIRST)
- Administer RBC up to 4 hours
- Administer FFP as fast as patient can tolerate
- Usually a reaction will happen in the first 15 minutes of administration
- Reactions
  - Acute Hemolytic
    - Most dangerous - potentially life threatening
    - LOW BACK PAIN, nausea, chest tightness, fever, chills, and anxiety
    - Incompatibility is the main cause
  - Allergic
    - Local erythema, hives, and pruritus
  - Febrile Nonhemolytic
    - FEVER, flushing, anxiety, muscle pain, and headache
  - Bacterial Contamination
    - shock (tachycardia and hypotension)
  - Transfusion-Associated Circulatory Overload (TACO)
    - Fluid overload
    - Dyspnea, distended jugular pulmonary congestion, bounding pulses, HTN, tachycardia

- Only infuse blood administration with NORMAL SALINE
- Nursing Role in Blood Administration
    - type and cross will be completed
    - 18 or 20 gauge needle
    - ask patient if they have had a previous reaction to blood products
    - 2 RNs must verify correct patient and product
    - administer blood 30 minutes after receiving from blood bank

Pulmonary embolism and fat embolism S/S and treatment

- pulmonary embolism
    - s/s
        - dyspnea
        - tachypnea
        - crackles and cough
        - tachycardia, hypotension
        - diaphoresis
        - pleural effusion
    - treatment
        - administer oxygen to relieve hypoxemia and dyspnea
        - anticoagulants
            - heparin, enoxaparin, and warfarin
        - thrombolytic therapy (clot buster)
            - alteplase
- fat embolism
    - s/s
        - petechiae over chest and axilla
        - dyspnea, tachypnea
        - associated with long bone fractures
    - treatment
        - anticoagulants and thrombolytic therapy

Acute respiratory failure manifestations

- rapid and shallow breathing, arrhythmias, and profuse sweating
- paO2 less than 60 (hypoxemia)
- paCO2 greater than 50 (hypercapnia)
- ph less than 7.35 (acidosis)

Defibrillation/Cardioversion

- defibrillation
    - v-tach WITHOUT a pulse
    - emergency
    - patient has NO CARDIAC OUTPUT
    - client unconscious
    - EKG monitoring
- cardioversion
    - v-tach WITH a pulse
    - atrial dysrhythmias
    - supraventricular tachycardia (SVT)
    - complications
        - embolism
        - decreased cardiac output and heart failure

Coronary artery disease risk factors (nonmodifiable risk factors)

- modifiable
    - serum lipid levels
    - BP greater than 140/90
    - diabetes
    - tobacco use
    - physical inactivity/sedentary lifestyle
    - obesity
    - depression
- nonmodifiable
    - family history
    - advanced age

Atelectasis/pulmonary edema

- atelectasis s/s
    - diminished breath sounds in lower lobes
    - dyspnea
    - cough and sputum production
    - tachycardia and tachypnea
    - pleural pain
- pulmonary edema

    - you will hear crackles
    - frothy sputum
    - causes: acculturation of fluid

Pericarditis DX & TX

- dx
    - elevated cardiac enzymes and myoglobin, cbc, bmp
    - you will not have elevated troponin
- tx
    - DO NOT ADMINISTER indomethacin (decreases coronary blood flow)
    - administer NSAIDs, colchicine (most common), and corticosteroids

Abdominal aortic aneurysm S/S and treatment

- s/s
    - constant gnawing feeling in abdomen
    - flank or back pain - pressure on the nerves causes this pain
    - pulsating abdominal mass (DO NOT PALPATE)
    - bruit over the area of aneurysm
    - elevated blood pressure
    - indications of rupture
        - falling blood pressure, constant, intense back pain, decreased hematocrit
- treatment
    - ensure hemodynamically stable (control their hypertension by medications), repair/resection
    - get them to the OR if emergent

MI S/S and labs

- chest pain
- SOB
- nausea
- anxiety
- cool, pale skin
- increase HR and RR
- labs:
    - troponin I and T, CK-MB, and myoglobin

Transfusion associated circulatory overload

- Fluid overload

- Dyspnea, distended jugular pulmonary congestion, bounding pulses, HTN, tachycardia

DIC

- excessive clotting and bleeding
- compromised organ function or failure
- common causes
    - sepsis, blood emboli like amniotic fluid, transfusion or transplant reactions, severe burns, and toxins like snake or spider venoms
- s/s
    - bleeding from mucous membranes, venipuncture sites, and GI/GU tract
    - decreased temperature, increased pain, cyanosis of extremities, petechiae, bleeding gums, wounds, epistaxis
    - decreased pulses, increased cap refill, dyspnea, chest pain, tachycardia, high-pitched bronchial breath sounds
    - gastric pain, heartburn, hematemesis, rectum bleeding
    - decreased urine output, increased creatinine and blood urea nitrogen, decreased alertness and orientation, anxiety, and restlessness
- labs
    - low platelet count
    - low fibrinogen levels
    - prolonged pt, ptt, and thrombin times
    - elevated degradation products, and d-dimer
- treatment
    - treat underlying conditions
    - correct secondary effects of tissue ischemia by
        - improve oxygenation
        - replace fluids
        - correct electrolyte imbalances
        - administer vasopressor medication
    - if serious hemorrhage occurs
        - administer cryoprecipitate and platelets
        - heparin infusion

Acid-base imbalances- how to calculate and causes of abnormal (REVIEW ALL OF THIS**)**

- review tic tac toe method
- metabolic acidosis

    - renal failure (DKA)
- metabolic alkalosis
    - vomiting or gastric suction (NG TUBE)
- respiratory acidosis
    - hypoventilation (COPD)
- respiratory alkalosis
    - hyperventilation (HYPERVENTILATION/ASTHMA)

Hypovolemic Shock causes and S/S

- shock state resulting from decreased intravascular volume due to fluid loss
- s/s
    - hypotension, tachycardia, tachypnea, dyspnea

Fluid overload S/S

- acute weight gain, peripheral edema, ascites, crackles, bounding pulses, increased respiratory rate, tachycardia, tachypnea and increased urine output
- restrict sodium intake and use semi-fowler's position

Treatment of cardiogenic, septic, and anaphylactic shock

- cardiogenic shock
    - prevent cardiogenic shock
    - monitor hemodynamic status
    - administer medications, iv fluids
    - maintain/monitor IABP
    - ensure safety and comfort
- septic shock
    - require vasopressors to maintain map of greater than or equal to 65 and have a lactate of greater than or equal to 2
- anaphylactic shock
    - administer epinephrine

Traumatic amputation

- gentle handling (this promotes healing and prevents damage)
- keep surgical tourniquet at the bedside post operative
- frequent inspection of infection
- compression bandages (helps residual limb prepare for prosthetic device)
- Implement a medical emergency system

- Apply direct pressure using gauze, if available, or clean cloth to prevent life-threatening hemorrhage.
- Wrap the severed extremity in dry sterile gauze or in a clean cloth, and place in a sealed plastic bag. Submerge the bag in ice water (one part in ice and three parts water) and send with the client.

Cast care/assessment

- DO:
    - Ice for the first 24 hours
    - dry cast thoroughly if exposed to water
    - evaluate extremity above the heart for first 48 hours (help reduce swelling)
    - use hair dryer on cool setting for itching
    - regularly move joint above and below the cast
    - report signs of possible problems
    - keep appointments and have fracture and cast checked
- DON'T:
    - insert any objects into the cast
    - get cast wet
    - remove any padding
    - bear weight on new cast for 48 hours
    - cover cast with plastic for prolonged periods due to moisture build up and skin breakdown
- Nursing Care:
    - monitor neurovascular status
    - handle plaster cast with palms, not fingertips, until cast is dry to prevent denting in cast
    - instruct client to not lie on hard surfaces
    - ensure cast is not too tight; there should be room for 2 fingers between skin and cast
- Client Education:
    - do not place foreign objects into the cast
    - utilize plastic bags to prevent soiling of the cast during baths/showers
    - report any areas under the cast that are painful, have increased drainage, warm to touch, or have an odor
    - report SOB (indicates DVT,PE, or FE)

Prevent amputation complications

- perform ROM exercises
- elevate the extremity 24-48 hours to reduce swelling/discomfort then no more elevation

- have the client lay prone 20-30 minutes several times a day (to prevent hip contractures)
- address phantom pain (mirroring or gabapentin)
- address incisional pain
- keep skin dry
- monitor blood flow
- assess mental status and address the limb is gone

Osteomyelitis

- s/s:
    - infection of the bone that begins as inflammation
    - bone pain that is constant, pulsating, localized, and worse with movement
    - erythema and edema at the site of infection
    - fever
    - increased wbc and increased esr (inflammation)
- nursing interventions:
    - perform hand hygiene (reduce spread of infection)
    - administer antibiotics as prescribed
    - debridement and dressing changes
        - conduct neurovascular assessment
        - use clean technique during dressing changes
- treatment:
    - long course antibiotics (patients will need a picc line)
    - surgical debridement and possible bone graft
    - hyperbaric chamber
    - amputation (if other treatment options are unsuccessful)
    -

Compartment syndrome

- manifestations are elevated by the 5Ps
- pain
    - increased or unrelieved
- paresthesia
    - numbness, burning, tingling (early manifestations)
- pallor
    - pale tissue and cyanotic nail beds
- paralysis

    - motoro weak or inability to move extremities (late manifestations)
- pulselessness (late manifestations)
- neurovascular assessments and know the causes

Increase Intracranial pressure and normal value

- s/s
    - severe headache
    - deteriorating level of consciousness (earliest sign)
    - restlessness
    - irritability
    - projectile vomiting
    - dilated or pinpoint pupils
    - slowness to react
    - altered breathing patterns (cheyne stokes, hyperventilation, or apnea)
    - seizures
    - changes in speech
    - abnormal posture
        - decerebrate
            - head and neck are arched
            - legs are straight
            - toes are pointed downward
        - decorticate
            - arms are adducted and flexed against the chest
            - legs are internally rotated
            - closed hands
        - **DeCORticate = patient will bring arms to the CORE of their body
        - ** Decerebrate = extended. arms will be extended. worse type of positioning because it indicates more damage
    - KNOW VS FOR INCREASED ICP
        - Cushing's Triad
            - increased systolic bp/hypertension (widening pulse pressure)
            - decreased pulse (bradycardia)
            - altered respiratory pattern (irregular respirations)
- Treatment

        - mannitol
- Nursing actions
    - maintain patent airway
        - suction carefully (suctioning can increase icp)
        - elevate hob (30 degrees)
    - optimize cerebral perfusion (keep head in a neutral position)
    - maintain fluid balance
    - maintain normal temperature
    - perform neuro assessment
    - place foley catheter, if necessary
    - prevent injury
    - educate client to avoid coughing, sneezing, do not strain during bowel movements, avoid neck movements (keep midline)

Meningitis

- viral
    - headache and high fever
    - nuchal rigidity (neck stiffness)
    - positive kernigs and brudzinski
        - kernig's = think knee
        - brudzinski = think neck
- bacterial
    - red, macular rash
    - photophobia
    - altered mentation
    - seizures
- diagnosis
    - ct scan, mri, lumbar puncture
        - csf culture
            - cloudy = bacterial
            - clear = viral
- nursing interventions
    - administer iv antibiotics
    - monitor for increased icp

- bed rest
- preventable vaccines
  - meningococcal
    - given between ages 16-18, usually before going to college or military
- droplet precaution
  - initiated until antibiotics have been given for 24 hours and oral/nasal secretions are no longer infectious

Ischemic and hemorrhagic stroke S/S and treatment

- ischemic stroke
  - blockage in an artery resulting in lack of blood flow and oxygen to the brain causing damage or death of brain cells
  - s/s
    - sudden,severe headache
    - trouble walking
    - trouble speaking
    - numbness of face, arms, or legs
- hemorrhagic stroke
  - blood from an artery begins bleeding into the brain
  - s/s
    - severe headache
    - difficulty walking
    - numbness in part of the face
    - difficulty speaking
- treatment
  - TPA
    - administer within 3 hours

Glasgow coma scale

- 15 is the best score
- 8 think intubate
- 3 mechanical ventilation

Triage- ED and disaster

- Emergency Severity Index (ESI)
  - level 1 (resuscitation) → immediately
    - cardiac arrest

        - intubated trauma patient
        - overdose with bradypnea
        - severe respiratory distress
    - level 2 (emergent) → 10 min
        - chest pain with cardiac history
    - level 3 (urgent) → 60 min
        - abdominal pain
        - gynecological disorders unless in severe distress
        - hip fracture in older patients
    - level 4 (less urgent) → could be delayed
        - laceration
        - closed extremity trauma
        - cystitis
    - level 5 (nonurgent) → could be delayed (examination only)
        - simple rash
        - cold symptoms
        - minor burns
        - prescription fill
- Disaster Triage
    - red (immediate)
        - see first
        - life threatening injuries but survival with minimal interventions → can progress rapidly to expectant if treatment is delayed
    - yellow (delayed)
        - see second
        - injuries are significant and require medical care but can wait hours without threat to life or limb
    - green (minimal)
        - see third
        - injuries are minor, treatment can be delayed hours to days
        - move them away from the triage area or have them assist during the disaster
    - black (expectant)
        - see last
        - injuries are extensive and unlikely to survive even with definitive care

        - separate from others but do not abandon
        - comfort care

Triage officer

- Incident commander coordinates who oversees and coordinates all efforts surrounding the event and makes sure all roles are assigned to personnel.
- Identifies hazardous substances and ensures staff has correct PPE
- Healthcare providers can function as incident commander

Partial-thickness and full-thickness burn s/s

- partial thickness burns (2nd degree)
    - 2nd degree type 1 (superficial partial thickness)
        - damage to the entire epidermis and some parts of the dermis
        - pink → red
        - blisters
        - mild to moderate edema
        - no eschar
        - painful
        - no scarring but minor pigment changes
        - heals within 2-3 weeks
    - 2nd degree type 2 (deep partial thickness)
        - damage to entire epidermis and deep into dermis
        - red → white
        - blisters are rare
        - moderate edema
        - eschar soft and dry
        - painful and sensitive to touch
        - scarring likely, possible grafting
        - healing within 2-6 weeks
- full thickness burns (3rd degree)
    - damage to the entire epidermis and dermis
    - red, black, brown, yellow, or white skin
    - no blisters
    - severe edema
    - eschar is hard and inelastic
    - sensation minimal or absent

    - scarring
    - grafting
    - heals within weeks to months
    - examples include grease, tar, chemical, or electrical burns

Burns and electrolytes

- hyperkalemia and hyponatremia

Primary vs. Secondary assessment

- primary
    - a primary survey is a rapid assessment of life threatening conditions
    - the primary survey should be completed systematically so life threatening conditions are not missed
    - standard precautions → gloves, gown, eye protection, face mask, and shoe covers - must be worn to prevent contamination with bodily fluids
    - the abcde principle guides the primary survey
    - neurological assessment to determine level of consciousness
- secondary
    - head to toe assessment
    - vital signs
    - client allergies
    - pulse ox

Fluids specific for blood transfusion, burns, and DKA/HHS

- blood transfusion
    - normal saline
- burns
    - lactated ringers
- dka/hhs
    - normal saline

Rule of Nines

- quick method used to approximate the extent of burns by dividing the body into multiples of nine
- the sum equals the total body surface area → this tells you how much fluid to give your patient
- chest is 18
- back is 18
- arns are 4.5

- legs at 9
- head is 4.5 → front and back
- genitalia is 1
- front and back of limbs, bilaterally

Escharotomy/fasciotomy

- escharotomy
    - incision through the eschar → relieves pressure and improves circulation
- fasciotomy
    - incision through the fascia and eschar → relieves pressure when escharotomy does not and improves circulation

Biological weapons of mass destruction

- anthrax
    - odorless and invisible, fever, chills, chest discomfort, headache, and n/v
    - treat with penicillin, erythromycin, gentamicin, and/or doxycycline
- botulism
    - neurologic symptoms → progresses to paralysis of arms, legs, trunk, and/or respiratory muscles
    - rn responsibility → airway and prom
- smallpox
    - fever, back pain, n/v, malaise and headache, maculopapular rash
    - contact and droplet precautions

Disaster preparedness kit

- 3 day supply of water and nonperishable food
- adequate supply of prescription medications
- back pack, clean clothing, blankets, first aid kit, battery operated radio, flashlight and batteries

PPE

- level a → highest level of respiratory, skin, eye, and mucous membranes protection (vapor tight)
- level b → highest level of respiratory protection but a lesser level of skin and eye protection than with level A situations (not vapor tight)
- level c → requires the air-purifying respirator
- level d → typical work uniform

Pre=planning for a disaster

- what does a community need for disaster
- how much water should the patient have 1 gallon/per person/per day

Fire emergency steps

- r - rescue
- a - alarm
- c - contain
- e - extinguish

Carbon monoxide/heat stroke S/S and treatment

- carbon monoxide
    - headache, flushing, decreased visual acuity, slight breathlessness, n/v, drowsiness, confusion, stupor,, tinnitus, vertigo, and tachycardia
    - treatment
        - oxygen and airway patency
- heat stroke
    - temperature 104 or higher, lack of perspiration, hypotension, tachycardia, altered mental status, abnormal potassium and sodium levels
    - treatment
        - iv fluids and oxygen

Complete and incomplete airway obstruction

- complete obstruction
    - inability to talk, cough, or breathe
    - apnea, cyanosis, and paradoxical breathing may be noted
    - clutching neck
    - absent breath sounds
    - unconsciousness or death
- partial obstruction
    - stridor/wheezing
    - saying they feel like they cannot breath
    - spontaneous coughing
    - allows passage of oxygen still
    - gagging and clearing throat

Insulin- treatment of DKA/HHS

- regular insulin IV

Diabetes insipidus/SIADH S/S and treatment

- diabetes insipidus
    - s/s
        - polyuria
        - polydipsia
        - nocturia
        - fatigue
        - dehydration → tachycardia, hypotension, poor skin turgor, dry mucous membranes, weak peripheral pulses
        - hypernatremia
        - decreased urine specific gravity
    - treatment
        - IV therapy
            - vasopressin and desmopressin
        - monitor vs, i&o, weight, labs
        - maintain prescribed diet → no caffeine
        - client should be on ekg r/t hyperkalemia
- siadh
    - s/s
        - fluid volume overload → tachycardia, hypertension, bounding pulse, JVD, crackles, weight gain without edema, low urine output that is very concentrated
        - hyponatremia (dilutional)
            - seizure, coma, personality changes, muscle cramps and tremors
        - increased urine specific gravity
    - treatment
        - fluid restriction
            - 500-1,000 ml per day
            - monitor i&o, weight, lung sounds, mental status, and labs
            - provide safe environment r/t brain swelling and water intoxication
            - hypertonic saline infusion (3-5% sodium chloride)

Hypoglycemia S/S & treatment

- s/s
    - diaphoresis (cool, clammy skin)
    - tachycardia

    - tremors
    - inability to concentrate
    - nervousness
    - headache
    - slurred speech
- treatment
    - 15 g of carbs
        - glucose tablets
        - 6-10 life savers or hard candy
        - 4 tsp of sugar
        - 4 sugar cubes
        - 1 tbsp of honey or syrup
        - ½ cup of fruit juice or regular soft drink
        - 8 oz of low fat milk
        - 3 graham crackers
    - for unconscious patient

Myxedema coma nursing actions

- maintain patent airway with oxygen → risk for respiratory failure
- continuous cardiac monitoring
- initiate aspiration precautions
- assess the client's temperature hourly and keep them warm →bair hugger, warm IV fluids, blanket, thermostat

Glands- Addison's and Cushing's disease

- addisions
    - weight loss
    - hyperpigmentation
    - craving for salt
    - weakness and fatigue
    - n/v/d or constipation
    - abdominal pain
    - dizziness with orthostatic hypotension
    - dehydration
    - hyponatremia, hyperkalemia, hypoglycemia, and hypercalcemia

- cushings
    - classic picture → central type obesity with a fatty buffalo hump in the neck and supraclavicular areas, a heavy trunk, moon face, and relatively thin extremities
    - striae
    - weight gain
    - dependent edema
    - hyperglycemia
    - tachycardia, hypertension, weakness, fatigue, back and joint pain, irritability, decreased libido

Hemodialysis and labs

- complications include clotting/infection, hypotension, anemia, and disequilibrium syndrome.
- disequilibrium syndrome
    - rapid removal of electrolytes from the client's blood and can lead to dysrhythmias or seizures
    - s/s include restlessness, headache, nausea, seizures, cerebral edema, increased icp
- labs
    - BMP
        - glucose, calcium, bun, creatinine, electrolytes
        - electrolytes will typically be high and fluid will build up
    - h&h
    - coagulation studies

Patient education for dialysis and diet

- monitor peritoneal dialysis patient glucose levels because the dialysate solution has dextrose in it which can be absorbed through the peritoneum
- low protein diet

Acute kidney and chronic kidney disease labs

- serum creatinine - high
- BUN - high
- urine specific gravity - low
- serum electrolytes - high
- hct
- UA

Pancreatitis labs

- amylase and lipase are elevated

Patient education- reducing risk of DM

- weight control (obesity)
- exercise
- eat healthy diet

DM labs

- Hgb A1C should be less than 7%
- Fasting glucose if above 150 is diabetic
- these two together determine if you are diabetic

Stages of shock

1. initial
    a. no visible changes in client parameters, only changes on cellular level
2. compensatory (non-progressive)
    a. measures to increase cardiac output to restore tissue perfusion and oxygenation
    b. s/s
        i. vasoconstriction causes
            1. increased hr, increased heart contractility (maintain bp and cardiac output)
        ii. body shunts blood causes
            1. cool, clammy skin, hypoactive bowel sounds, decreased urine output
        iii. anaerobic metabolism causes
            1. acidosis, increased rr, compensatory respiratory alkalosis, confusion
3. progressive
    a. compensatory mechanisms begin to fail
        i. s/s
            1. mechanisms that regulate BP can no longer compensate
                a. BP and MAP decrease, all organs suffer from hypoperfusion, mental status further deteriorates, hypoxia
            2. lungs begin to fail
                a. hypoxemia, increased co2, atelectasis, pulmonary edema
            3. inadequate perfusion of the heart
                a. dysrhythmias, ischemia, mottled skin, petechiae
            4. GFR cannot be maintained
                a. acute renal failure may occur

5. liver function, gi function, hematological function are all affected
6. dic may occur
7. metabolic acidosis

4. refractory
    a. irreversible shock and total body failure
    b. severe organ damage has occurred, and patient does not respond to treatment and cannot survive
        i. s/s
            1. bp remains low
            2. renal and liver function fail
            3. anaerobic metabolism worsens acidosis
            4. multiple organ dysfunction progresses to complete organ failure
            5. unconscious

Distributive shock

- shock state resulting from widespread vasodilation and increased capillary permeability
- neurogenic shock
- anaphylactic shock
- septic shock (most common)

Abnormal electrolyte S/S (REVIEW THIS CONCEPT)

- hyponatremia (neurologic deficits)
    - poor skin turgor, dry mucous membranes, headache, hypotension, nausea, abdominal cramping, confusion, seizure
- hypernatremia
    - thirst, elevated temperature, dry swollen tongue, restless, weakness, seizures
- hypokalemia (heart problems)
    - fatigue, anorexia, dysrhythmias/arrhythmias, muscle weakness and cramps, paresthesias, glucose intolerance, decreased muscle strength and DTRs, flattened t wave, u wave, ileus or slowed motility, and st segment depression
- hyperkalemia
    - cardiac changes and ventricular dysrhythmias, muscle weakness, anxiety, gi symptoms, peaked t wave
- hypocalcemia (tendon reflexes, tinglining)
    - tetany, numbness, paresthesia, hyperactive DTRs, trousseau's sign, chvostek's sign
- hypercalcemia

    - muscle weakness, incoordination, anorexia, constipation, n/v, abdominal and bone pain, polyuria, ecg changes, pathologic fractures, flank pain
- hypomagnesemia (muscle problems)
    - neuromuscular irritability, tremors, alterations in mood and loc, pathologic fractures
- hypermagnesemia
    - flushing, lowered bp, hypoactive reflexes, drowsiness, depressed respirations, bradycardia and bradypnea

Multiple organ dysfunction syndrome (MODS)

- Failure of two or more organ systems in an acutely ill patient such that homeostasis cannot be maintained without intervention
- organ failure usually begins in the lungs
- MODS nursing management
    - supporting the patient and monitoring organ perfusion until primary organ insults are halted
    - providing information and support to the family

Cerebral perfusion pressure

- amount of pressure needed to maintain blood flow to the brain
- cpp=map-icp
- 70 - 100

Med math