MDC I Exam 2 Guide with notes from oral review

Multidimensional Care 1 (Rasmussen University)

Multidimensional Care Lecture I – Concept Guide for Exam II

The Effects of Immobility (Fundamental Book Chapter 32)

- Body Mechanics (Body Alignment, maintain proper posture, balance, coordination, joint mobility)

What are some principles for maintaining balance when you're moving or lifting things safely? Keep your feet apart (wide base of support), make sure you have center of gravity in alignment when lifting things (head erect, buttocks pulled in… feet wide). When you are trying to lift something. Keeping your Center Of Gravity aligned but also try to lift with knees NOT back, pull object close to you. If we are moving a patient up in bed, use a draw sheet or draw device, have the bed up to your level to not hurt your back, stand close to the bed, angle the body a little bit more towards the area or direction wea re moving to, face the way you want to move the patient (so you don't twist)

-a term used to describe the way we move our bodies
-body alignment, balance, coordination, and joint mobility are 4 components of body mechanics

Body Alignment: (aka posture)

-proper posture places spine in a neutral (resting) position and maintains natural curves as it allows movement to occur with less stress and fatigue, the bones are aligned, and muscles, joints, ligaments can work at peak efficiency
-most posture issues occur from trauma, careless sitting and standing habits, excessive weight, negative self-image, occupation stress, skeletal misalignment (scoliosis, kyphosis)

Balance:

-achieved when the body is in alignment

Coordination:

-coordinates movement by cerebellum
-smooth movement requires coordination between nervous and musculoskeletal systems
-basal ganglia, deep in cerebrum also assists in coordination of movement
-cerebral cortex initiates voluntary movement
-damage to motor cortex, basal ganglia, or cerebellum affects coordination of movement
-(ex. Stroke affects motor cortex, altering gait and changes in posture)

Join Mobility

-mobility: refers to a person's ability to move within the environment
-ROM-maximum movement possible at a joint
-AROM-movement of joint performed by the individual without assistance
-AROM involves strength and flexibility, is part of being physically fit
-PROM-moving joints through ROM when PT is unable to do so for himself

- Planning and Evaluating a Fitness Program – Flexibility

Patient Ed for promoting flexibility – stretching before and after exercise, for patients where we are worried about loss of ROM….

-fitness programs focus on flexibility, resistance training, and aerobic conditioning
-mode of exercise: type of activity

Flexibility Training: Stretching before exercise helps warm up the muscles and prevents injury during exercise
-stretching after cools the muscles and limits post-exercise stiffness
-a regular flexibility program helps maintain mobility as aging occurs

- Benefits of Regular Exercise (Chart 32-3 p. 824)

Broken down by body area…a lot of teaching we can do: how/why we exercise

- Cardiovascular System
- Improves pumping action of the heart.
- Decreases heart rate, heart rate variability, and blood pressure
- Improves circulation by increasing the number of capillaries.
- Improves venous return to the heart.
- Increases blood volume and hematocrit.
- Increases high-density lipoprotein (HDL).
- Decreases low-density lipoprotein (LDL) and total cholesterol.
- Decreases risk of thrombophlebitis.

Respiratory System

- Improves pulmonary circulation (keeping the tissue well oxygenated, healthy, and elastic.
- Improves gas exchange at the alveolar–capillary membrane, and overall aerobic capacity.
- Dilates bronchioles to increase ventilation/gas exchange.

Musculoskeletal System

- Improves skeletal development in children.*****
- Increases muscle mass, strength, power, and endurance.
- Improves flexibility.
- Increases coordination.
- Helps maintain joint structure and function; reduces risk of osteoarthritis.
- Improves bone mass and mineral density.***important for our older patients
- Improves gait speed, stability, and balance.
- Facilitates weight management.
- Decreases adipose surrounding organs.

Gastrointestinal System

- Improves appetite.
- Improves abdominal muscle tone.
- Decreases risk of colon cancer.
- Walking increases peristalsis***

Urinary System

- Increases efficiency of kidney function.

Integumentary System

- Improves skin tone as a result of improved circulation (so improved turnover of skin cells).

Immune System

- Reduces susceptibility to minor viral illnesses.
- Reduces systemic inflammation.
- Improves bone mass with aging; reduces risk of osteoporosis.
- Reduces risk of falls and helps older adults maintain an independent lifestyle.
- Important for patients with an inflammatory disorder***

Mental Health

- Boosts energy level.
- Release endorphins, which assist with pain control and stress management.
- Improves self-esteem and body image.
- Provides a nonpharmacological way to relieve symptoms of anxiety and depression.
- Leads to positive outlook and sense of optimism.
- Promotes clearer thinking and improved memory in older adults.
- Enhances feelings of well-being and diminishes depressive symptoms.
- Relieves some stress.
- Can be a source of social interaction.

Overall Health

- Burns calories to achieve and maintain healthy body weight.
- Leads to reduced abdominal obesity.
- Improves overall stamina.
- Reduces fatigue.
- Increases sleep time and improves sleep quality.

Patient Positioning

- Change of position Q2h for PT unable to move to prevent skin breakdown
- Immobile PT are more prone to pressure injury as a result of reduced circulation

- Firm mattress provides support to PT body and makes it easier to turn PT
- In the home setting, place a piece of plywood under a sagging mattress for support
- Clean, dry bed also makes it easier to turn the PT, decreases risk of skin maceration or pressure ulcer formation

Positions
- -Fowler's-semi-sitting position, head of bed elevated 45-60 degrees
- -Semi-Fowler's-head of bed elevated 30-45 degrees
- -High-Fowler-head of bed elevated 60-90; for patient that has difficulty breathing***
- -Lateral-side-lying position with top hip and knee flexed and placed in front of rest of body
- -Prone-PT lying on abdomen with head turned to one side
- -Sims'-semi-prone/ideal for enema or perineal procedure***
- -Supine-PT lies on back with head and shoulders elevated on a small pillow; for patients with low BP (the flatter the better!!)**
- How do we move the patient up in bed? Assistive devices like another person, lifts, plastic draw sheets; disadvantage/risk of just a draw sheet: shearing***patients arms need to be crossed on their chest, don't want arms to hit anything, ask patients to lift head towards chest (so hyperextension*** doesn't occur)

- Effect of immobility – p. 831

On Circulatory system: Increases workload of the heart, venous stasis (leads to DVT)

Effects of Immobility on Muscles & Bones:
- -musculoskeletal system is one of first systems affected by immobility
- -inactivity causes wasting of gastrocnemius, soleus, and leg muscles that control flexion and extension of hip, knee, and ankle
- -confinement to bed leads to 7-10% muscle atrophy per week and stiff joints
- -contractures and ankylosis can occur (fusion of joints)
- Loss of muscle mass and strength
- Muscles stiff and inflexible
- -affects parathyroid function and calcium metabolism-therefore bone formation, leading to osteoporosis and renal calculi (kidney stones) due to increased excretion of calcium

Effects of Immobility on the Lungs
- -decreases strength of all muscles, but also those involved in chest wall expansion, affecting ventilation
- -secretions pool in airways (because alveoli collapse) and strength to effectively cough*** and expectorate secretions diminishes (clear airways)****
  - Depth of respiration decreases
- -leads to compression and injury of small vessels in the legs and decreased clearance of coagulation factors, causing blood to clot faster-**aka Virchow's triad- (stasis, activation of clotting, and vessel injury, trilogy of symptoms associated with great chance of DVT)**
- -orthostatic hypotension

Effects of Immobility on Metabolism
- -increases level of serum lactic acid and decreases ATP concentration
- -metabolic rate drops, fat stores increase
- -reduced muscle mass
- -triggers release of catecholines (epi, norepi)
- -triggers higher stress hormone->**Immobility can be a stressor itself**

Effects of Immobility on the Integument
- -obstructs skin circulation→ tissue ischemia/necrosis
  *interventions-q2h turns, skin care

Effects of Immobility on GI

- -slows peristalsis (so risk for constipation)→ appetite diminishes/food digested slowly→decreased calorie intake/inability to meet protein demands/body muscle then broken down as food source
- -in extreme situations, paralytic ileus can occur

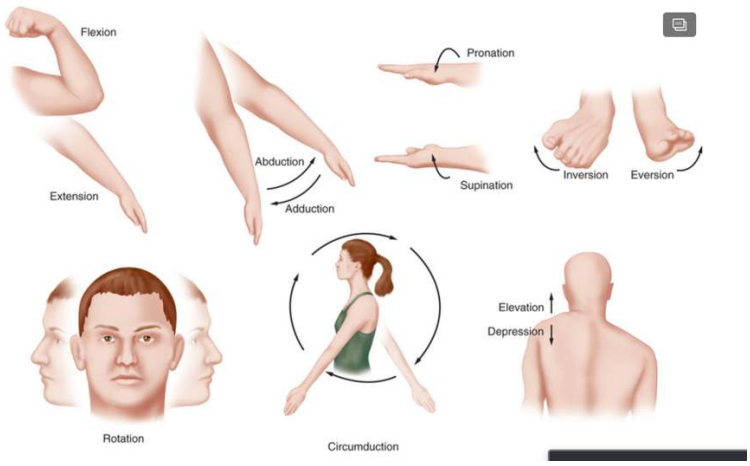
Effects of Immobility on Genitourinary

- -being supine inhibits drainage of urine
- -creates ideal environment for infection and renal calculi

Psychological-depression, isolation, anxiety, other mood changes

- Terms to describe problems with Muscle Mass, Strength, or Mobility
  - Chart 32-5 on P. 833
  - Atrophy- decrease in the size of muscle tissue due to lack of use or loss of innervation.
  - Clonus- spasmodic contraction of opposing muscles resulting in tremorous movement.
  - Flaccidity-is a decrease or absence of muscle tone.
  - Hemiplegia- is paralysis of one side of the body.
  - Hypertrophy- is an increase in the size or bulk of a muscle or organ.
  - Paraplegia- is paralysis of the lower portion of the trunk and both legs.
  - Paresis- is partial or incomplete paralysis.
  - Paresthesia- numbness, tingling, or burning due to injury of the nerve(s) innervating the affected area.
  - Quadriplegia- is paralysis of all four extremities.
  - Spasticity-is a motor disorder characterized by increased muscle tone, exaggerated tendon jerks, and clonus.
  - Tremor-is involuntary quivering movement of a body part

- Range of Motion Terminology Know these terms mentioned in THIS PIC…questions will describe the movement… we must link the motion with the term; what's the difference b/w active and pass ROM?



ROM-maximum movement at joint
-AROM-movement of joints by PT
-PROM-movement of joints through their range of motion by another person; ANYTIME SOMEONE IS ASSISTING IT IS AUTOMATICALLY PASSIVE ROM
-CPM-continuous passive motion is a device that repetitively but gently flexes and extends knee joint
-often used after knee replacement or procedures to improve joint ROM
AROM also improves and respiratory and cardiac function

- DVT (Signs and Symptoms, Prevention, Risk Factors) IN MED SURG BOOK p. 1035 bullet point list of risk factors

- Complication related to Immobility
- Risk factors:
  - Cancer or chemotherapy
  - • Surgical procedure longer than 30 minutes
  - • History of smoking
  - • Obesity
  - • Heart disease
  - • Prolonged immobility
  - • Oral contraceptives or hormones
  - • History of VTE complications
  - • Older adults (especially with hip fractures)

  If pt has a risk factor we need to call the doctor to get pharmacological intervention (usually blood clotting meds)
  - Signs and Symptoms:
    - Redness, warmth, swelling pain
    - Calves
    - How do we assess? Measure the calf** (more accurate way of keeping track of changes)

What can pts do to prevent DVT? Calf-pump exercise, get pt up and walking around at least once an hour, need calf muscles to contract…Sequential Compression Device (sp?), changing position, medication, exercise

- Adaptive devices – uses

Canes, crutches, walkers, braces; other than moving around what other types of adaptive devices are there? Our goal with adaptive devices is to promote independence; but what kind of devices help with ADLs? Ch. 42 p. 863…talked about in Module 4…Grab bars, elevated toilets… ("don't need to focus on how to use adaptive devices") why do we use adaptive devices? For the purpose of promoting client independence as much as possible*** Qs that ask about "what should the nurse do to promote client independence?' look for examples that contain using adaptive devices or options that talk about self-care

-canes

- Single-ended cane with a half-circle handle. This is ideal for the patient who needs minimal support and is able to negotiate stairs.
- Single-ended cane with a straight handle. This is ideal for the patient with hand weakness who has good balance.
- Multiprong canes. A multiprong cane usually has three or four prongs, and all types have a straight handle. These canes provide a wide base of support

-walkers

- A walker is a lightweight metal frame device with four legs that provides a wide base of support as a patient ambulates.
- These walkers are best for patients whose mobility problems are related to fatigue or shortness of breath rather than gait instability

-crutches

- -The forearm support crutch is more likely to be used by a patient with permanent limitations. It is usually con- structed of lightweight aluminum with a hand hold and a forearm support
- -Axillary crutches are for both short- and long-term use

-Properly fitted axillary crutches support the body weight in the hands and arms, not the axilla

- Interventions to promote respiratory function ??
  -positioning-high-fowlers/orthopenic position; reduces risk of aspiration during meals
  -mechanic vent/trach/nasal cannula
  -incentive spirometer (forces pt to take deep breaths)
  Deep breathing techniques…teach to cough

  Pressure Ulcers – Risk Factors ??
- Immobility
- DM
- Obesity
- Lack of perfusion (vascular problems)
- Poor nutrition (if they are not getting protein, body tissue is breaking down!)
- Chronic diseases can cause complications (she does not specify which)

- Care for Ankle Injury ??

-RICE (Rest, Ice, Compression, Elevation)
-NSAID
-splint/brace
-physical therapy
-massage

The Musculoskeletal System (Medical-Surgical Book Chapter 49 & 50)

Osteoporosis- is a chronic disease of CELLULAR REGULATION in which bone loss causes significant decreased density and possible fracture.

Why are our patients with osteoporosis prone to fractures? Bone loss and bone weakening (bone matrix), one of your main complications with osteoporosis is fractures…
When should we start patient screening? Both women and men after age 50 (potentially earlier for women…)
If we have a patient that has osteoporosis what kind of education? (see below)

- Complications – dowager's hump/kyphosis/back pain/increased risk for fracture If fall occurs
- Patient Screening- Bone Mineral Density/ MRI/ DXA
- Nursing Goals- pt will avoid fractures by preventing falls, managing risk factors, adhering to preventive or treatment measures for bone loss
- Patient Education
  - -building strong bones as a young person may be best defense against osteoperosis
  - -decrease modifiable risks: increase consumption of dairy products/dark green leafy veggies
  - -importance of sun exposure/adequate vitamin D in diet
  - -smoking cessation
  - -weight loss
  - -avoid excessive alcohol
  - -encourage daily exercise-regularly scheduled walking, swimming, water aerobics, yoga, tai chi, low impact***
  - -avoid jarring exercise-horseback riding/jogging
  - Intake calcium, vitamin D

- Osteoarthritis (she did not go over this)

- Osteomyelitis
  - Patient Education (focus on teaching***)
    -educate about medications (antibiotics! ***…finish prescription, etc.)/encourage compliance and to follow regimen
    -inform about s/s (watching for complications such as increasing pain, things not healing right…)
    -provide comfort w/rest and positioning

-assist in ADL
-coordinate PT while in hospital to improve mobility, especially after surgery
-provide mobility assistance devices

Plantar Fasciitis
Common complication: reduced circulation…so slower healing…sore and injuries on lower extremities take longer to heal

Physical Assessment (of osteoperosis????) BELOW IS PHYS. ASSESSMENT OF OSTEOPEROSIS…not sure what she wanted

PHYSICAL ASSESSMENT RELATED TO THE MUSCULOSKELTAL SYSTEM ITSELF

- **ROM**
- **Inspect**
- **Palpate**
- **What is crepitus caused by? In joints it is caused by floating cartilage and bone fragments**

- Neurovascular Assessment
  - Reflexes
  - Neuro testing – sensations (dull, sharp)
  - Pulses
  - Edema
  - Capillary refill

What do you do if you can't palpate pedal pulses? Get the doppler

Pain Assessment-*ask her*

What are some factors we assess with pain? PQRST…the kind of Qs you would ask during a pain assessment

- Lab & Diagnostic Assessment
  - MRI Screening Questions (Chart 49-3 p. 1013)
  - Is the patient pregnant?
  - Does the patient have ferromagnetic fragments or implants, such as an older-style aneurysm clip?
  - Does the patient have a pacemaker, stent, or electronic implant?
  - Does the patient have chronic kidney disease? (Gadolinium contrast agents may cause severe systemic complications if the kidneys do not function.)
  - Can the patient lie still in the supine position for 45 to 60 minutes (unless using an upright or vertically oriented machine)?
  - Do they have anxiety?
  - Does the patient need life-support equipment available?
  - Can the patient communicate clearly and understand verbal communication?
  - Did the patient get any tattoo more than 35*** years ago? (If so, metal particles may be in the ink.) •
  - Is the patient claustrophobic? (Ask this question for closed MRI scanners; open MRIs do not cause claustrophobia.)

- Fractures (Incomplete, Complete, Open, Closed, Displaced)
  - Types

• *Complete fracture*. The break is across the entire width of the bone in such a way that the bone is divided into two distinct sections. If bone alignment is altered or disrupted, the fracture is also referred to as a *displaced* fracture. The ends of bone sections of a displaced fracture are more likely to damage surrounding nerves, blood vessels, and other soft tissues. "What is the difference b/w complete and incomplete?"…Qs will say "this is what you see…the nurse will know this is what?"

• *Incomplete fracture*. The fracture does not divide the bone into two portions because the break is through only part of the bone. This type of fracture is not typically displaced.

WHAT DOES IT MEAN IF A BONE IS DISPLACED alignment is altered or disrupted

WHAT IS THE DIFFERENCE B/W OPEN AND CLOSED? Open-skin surface is disrupted/ closed-no visible wound

IF I HAVE A PATIENT THAT HAS A FEMUR THAT IS BROKEN AND STICKING OUT OF THEIR LEG HOW WOULD YOU DESCRIBE THAT FRACTURE? OPEN, COMPLETE, DISPLACED

- States of Healing – be familiar what is happening at which stage, TIME FRAMES*** (on this exam and final!)
- 1st-within 24-72 hours a hematoma forms at site of fracture
- 2nd- Occurs in 3 days/2 weeks-granulation tissue begins to invade hematoma/prompts formation of fibrocartilage→providing foundation of bone healing
- 3rd-Occurs as a result of vascular and cellular proliferation/within 3-6 weeks site is surrounded by new vascular tissue (callus is beginning of a nonbony union)
- 4th-callus is gradually resorbed and transformed into bone
- 5th-consolidation and remodeling of bone continues to meet mechanical demands/can take up to 1 year/ depends on severity of injury and age/health of PT
- Priority Assessments-assessment and prevention of neurovascular dysfunction or compromise. Marked neuro compromise significantly decreases arterial perfusion

  -* Bone is very vascular. Therefore bleeding is a risk with bone injury. In addition, trauma can cut nearby arteries and cause hemorrhage, resulting in rapidly developing hypovolemic shock.*

- Priority Interventions

-remove rings and jewelry from effected limb
-expose area of injury to assure accurate assessment
-control any bleeding by applying direct pressure
-splint the injury
-prevent shock by placing pt in supine
-manage pain w/opioid

- Cast Care

  -handle with palms of your hands
  -have PT reports painful "hot spots" under case which might indicate area of pressure necrosis
  -Instruct PT to never put anything down into cast (pencil)
  -Encourage PT/family to smell for mustiness or unpleasant odor/if ignored PT may develop fever
  -Don't get wet

If a patient has a cast and their hand begins to swell…elevate (above level of heart), don't dangle leg…

If you have a patient that comes into the ER and they broke something…what are your priority assessments? Pain level…think of ABCs…so here Circulation is most important…how do you check it? Cap refills, bruising, edema, pulses…make sure they don't get up and move around, control bleeding, splint injury, remove jewelry (baseline edema in the hands)

- Complications Related to Fracture
  - Compartment syndrome

    -6 P's-pain, pressure, paralysis, paresthesia, pallor, pulselessness

Patients at highest risk for infection? Open wounds…pins…keep the site clean every shift or 12 hours, assess, ORIF and OREF (kept open and hardware is on the outside, puts pt at risk for infection) pts that put things down their cast…

    -most common in tibia and forearm
    -related to muscle, blood vessels, and nerves are caught within the fascia leading to the increase in venous pressure and resulting edema
    -edema leads to increasing pain, unrelieved by pain meds
    -if unrelieved could lead to amputation distal to compartment syndrome

  - Infection- The edema continues to increase and leads to tissue necrosis and possible tissue infection.

  - Delayed Union-fracture isn't healed within 6 months of injury

    -common in tibial fractures and pathological fractures
    -may lead to chronic pain

- VTE (DVT & PE)
  DVT-can lead to a PE
  -prophylactic treatment w/ Lovenox
  -also treated with TED hose, SCD's, foot pumps

  CRPS-Complex Regional Pain Syndrome
  -dysfunction of central and peripheral nervous system that leads to chronic pain
  -occurs in feet or hands
  -genetic factors may contribute
  - S/S: changes in color, temperature, sensitivity, ….

Tractions -not used very often presently

- Traction is the application of a pulling force to a part of the body to provide reduction, alignment, and rest. It is also used as a last resort to decrease muscle spasm (thus relieving pain) and prevent or correct deformity and tissue damage; keep extremity properly aligned

Why do we use traction? See above

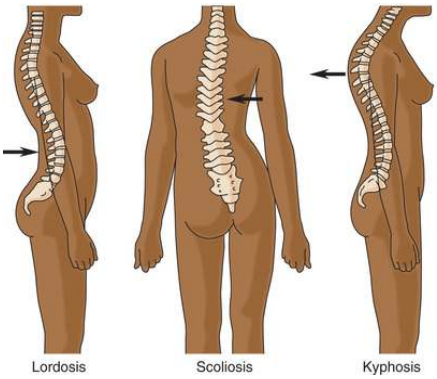
Nursing Interventions

- Client is immobile so will need to be monitored for all the complications associated with immobility.
- Don't let traction weights rest on the floor or any surface
- The equipment ropes, pulleys and weights need to be checked every shift
- If patient reports severe pain and realignment and repositioning of the patient does not relieve the discomfort the weight may be to heavy and the PCP will need to be notified
- Monitor Neurovascular checks of affected limb
- Monitor pin sites for infection

- Skeletal- In skeletal traction, screws are surgically inserted directly into bone/allows for heavier weight.; its red and has drainage…what do you do? Some drainage is normal (clear)…but should not be yellow, bloody…so interventions are take a would culture, vitals?, treat with antibiotics so contact provider (change in status!)***
- Buck's Traction- Boot attached to 5 – 10-pound weight used to relieve muscle spasm pain from a hip or proximal femur fracture.; we use it frequently with the hip if the patient cant have surgery or pre-surgery
- Halo (Cervical Skeletal) Traction- cervical skeletal/for fractures of spine; used with fractures of vertebrae themselves, esp cervical
- Sidearm skin or skeletal-forearm is flexed and extended 90 degrees from upper part of body/
- Russel's-sling under knee suspends the leg, flat and straight

Traction priority assessments are skin, watching weights, circulation

- Spinal Column (Lordosis, Kyphosis, Scoliosis) – basic definitions



- Transferring-assess for pt need for ambulatory devices *ask her*

Use gait belt before you get a patient up, then if you need the pt to get off the bed and stand up…how would you instruct them to do that? You don't want them to pull themselves up with the walker…teach them to push themselves off the bed with arms***, don't reach for walker

- Falls
  - Risk Reduction in the home environment – Patient Education
    -handrails in bathrooms
    -ramps instead of stairs
    -wear rubber sole shoes
    -adequate lighting
    -avoid scatter rugs
    -prevent clutter
    -avoid slippery floors
  - Risk Factors-gait-assist devices/musculoskeletal disorder/ etc.

High risk for falls: age, meds, polypharmacy, low blood pressure, opioids…sedatives

Orthopedic Surgery Complications p. 1014 in book

- Swelling
- Increased joint pain attributable to mechanical injury
- Thrombophlebitis
- Infection
- Bleeding
- VTE (DVT and PE – chest pain, SOB, difficulty breathing, vital signs…palpitations, hypertension, high heart rate, tachypnea, low O2 Sat%***)
- Severe joint or limb pain post discharge-teach PT to contact physician immediately!

Sensory & Perception (Medical-Surgical Book Chapters 46-48)

- **Visual Impairment**
  - *Nursing Interventions – (Book p. 975, Chart 47-4)*
    - Always knock or announce your entrance into the patient's room or area and introduce yourself.
    - Ensure that all members of the health care team also use this courtesy of announcement and introduction.
    - Ensure that the patient's reduced vision is noted in the medical record, is communicated to all staff, is marked on the call board, and is identified on the door of the patient's room.
    - Determine to what degree the patient can see anything.
    - Orient the patient to the environment, counting steps with him or her to the bathroom******
    - Help the patient place objects on the bedside table or in the bed and around the bed and room and do not move them without the patient's permission******
    - Remove all objects and clutter between the patient's bed and the bathroom.
    - Ask the patient what type of assistance he or she prefers for grooming, toileting, eating, and ambulating and communicate these preferences with the staff.

        - Describe food placement on a plate in terms of a clock face.
        - Open milk cartons; open salt, pepper, and condiment packages; and remove lids from cups and bowls.
        - Unless the patient also has a hearing problem, use a normal tone of voice when speaking.
        - When walking with the patient, offer him or her your arm and walk a step ahead.
- **Physical Assessment – terms**
    - Vision – PERRLA, Snellen/Rosenbaum…
        - What is it called if their pupils are different sizes? Anisocoria
        - What is it called if the eyes appear to be protruding? Exophthalmos, opposite is Enophthalmos
        - What is it when the eyes appear to be drooping? Ptosis

- **Patient Education**
    - *Instillation of Eye Drops (Book p. 967)*
        - Put in lower conjunctival sac
        - Do not drop-in center of eye
        - Stabilize hands on facial structures (bony prominences)
        - Hold the inner eye to avoid systemic effects (puncta occlusion)
        - Do not let dropper touch their eye
        - Wash hands before
- **Cataracts**
    - *Assessment (Mod 7 PP – slide 19)*
        - *Signs and symptoms*
            - Blurred vision
            - Clouded vision
            - Decreased color perception
            - May think that glasses are smudged
            - Double vision
            - Halos around objects
            - Problems with ADL'S
            - Affects reading and driving
            - Impaired night vision
            - Frequents changes in eyeglass prescription
            - Without surgical intervention blindness follows

    - *Cataract surgery*
        - *Post-Op Assessment (Mod 7 PP – slide 24, 26)*
            - Antibiotic and steroid ointment are placed in the eye immediately post-op.
            - Discharged home one hour after surgery
            - Wear dark glasses and avoid bright sunlight until pupils respond to light.
            - Do not drive – Will need ride home
            - Develop a schedule for the administration of post-op eye drops. Be sure client or family can demonstrate the correct technique for administering the drops.
            - Be sure the client understands the importance of attending all follow-up appointments.
            - Itching of the eye is normal.

- Eyelid swelling is normal also and can be managed with a cool compress
- Discomfort can be managed with Tylenol but aspirin needs to be avoided because it affects blood clotting.
- Uncontrolled pain may indicate hemorrhage or increased intraocular pressure and the physician should be notified especially if nausea and vomiting accompanies the pain.
- Report Worsening Vision
- Observe for increasing eye redness
- Decrease in vision
- Increase in tears
- Photophobia
- Floaters
- Sharp, or sudden pain in eye
- Green or yellow drainage on the lids and lashes
- NOTE: Creamy, white, crusty drainage on eye lids and lashes is normal, but stress importance of handwashing

  - *Discharge Planning (Mod 7 PP – slide 25)*
    - Do no bend at the waist
    - Lift more than 10 pounds
    - Sneeze or cough
    - Blow your nose
    - Strain to move bowels
    - Have sexual intercourse
    - Vomit
    - Keep head in a dependent position
    - Wear tight shirt collars
    - ****avoid anything that increases IOP

- **Glaucoma**
  - *Disease process (Mod 7 PP – slide 27)*
    - When the intraocular pressure increases it leads to compression of the retinal blood vessels and photoreceptors and their nerve fibers resulting in hypoxemia and death of the tissue and loss of vision; VISION LOSS IS PERMANENT***
  - *Signs and Symptoms (Mod 7 PP – slide 31, Book – p.972)*
    - Sudden severe pain around the eyes radiating over the face
    - Headache or brow pain
    - Nausea and vomiting
    - Seeing colored halos around lights
    - Sudden blurred vision
    - Reddened sclera

        - Foggy cornea
        - Moderately dilated pupil that does not react to light
        - Cupping and atrophy of the optic disc
    - *Normal Intraocular Pressure Range (Book – p.972*)
        - 10 mm Hg – 21 mm Hg in tonometry
    - *Goal of Treatment (Mod 7 PP – slide 27*)
        - Reduce intraocular pressure
    - *Testing for (Book – p. 967, 972)*
        - Tonometry (Goldmann applanation used with a slit lamp)– measure IOP
        - Visual field testing by perimetry/gonioscopy – to determine whether the angle is open or closed
        - Ultrasonic imaging of the retina and optic nerve - creates a three-dimensional view of the back of the eye; tells us the TYPE
        - What is corneal staining used for? To look for foreign bodies in the eye (things not easily visible)
    - *Medications (Book p. 975, Chart 47-5)*
        - Administration Education
            - This was mentioned above…punctal occlusion, don't touch bottle to eye…etc.
        - Pre-Medication Assessment
            - What kind of medication is timolol? Reduce pressure in the eye, but primarily it's a beta blocker so it decreases BP and heart rate; So if we know these two things, we need to assess for vitals first!*** If the patient has low BP/HR to begin with we need to withhold the medication/alert the provider
    - *Patient Education for using Beta-Adrenergic Blockers (Book – p. 975)*
        - Ask whether the patient has moderate-to-severe asthma or COPD.
        - If these drugs are absorbed systemically, they constrict pulmonary smooth muscle and narrow airways.
        - Warn patients with diabetes to check their blood glucose levels more often when taking these drugs.
        - These drugs induce hypoglycemia and mask the hypoglycemic symptoms.
        - Teach patients who also take oral beta blockers to check their pulse at least twice per day and to notify the primary health care and eye care providers if the pulse is consistently below 58 beats/ min.
        - These drugs (like timolol) potentiate the effects of systemic beta blockers and can cause an unsafe drop-in heart rate and blood pressure; assess vital signs first!!!
-
- **Meniere's Disease (Mod 7 PP – slide 35, Book p. 995)**
    - *Patient Education (PP – slide 35, Book p. 995)*
        - Turn head slowly
        - Stop smoking
        - Reduce sodium intake (so less fluid buildup/pressure)
        - Use medications as directed
        - This is an illness that is extreme vertigo, buildup of fluids*** in the labyrinth of the ear that causes alterations in vision, hearing and balance; can be intermittent; cause is unknown/genetic; can be dangerous to the patient (fall risk!), pt should not be driving; can be very debilitating
    -
    - *Tympanoplasty (Mod 7 PP - slide 46)*

        - Reconstruction of the middle ear from reconstruction of the ear drum to the replacement of the ossicles in the middle ear.
            - Pre-op
                - Systemic antibiotics to decrease the risk of infection
                - Hearing loss after surgery is normal because of post-op treatment
                - Dressing are changes using sterile technique.
        - Post surgical care: monitor vital signs
    - *Weber Test (Book – p.989, 990, 996, 998)*
        - *How performed (Book – p.989, 990, 996, 998)*
            - The Weber tuning fork test is performed by placing a vibrating tuning fork on the middle of the patient's head and asking him or her to indicate in which ear the sound is louder. right means that the sound is heard louder in the right ear.
            - With the Weber test, the patient can usually hear sounds well in the ear with a conductive hearing loss because of bone conduction
            - Conductive hearing loss: lateralization to the affected ear
            - Sensorineural hearing loss: lateralization to the unaffected ear
        - *Normal Result (Book – p.989, 990, 996, 998)*
            - The normal test result is sound heard equally in both ears. The term *lateralization* is used if the sound is louder in one ear. For example, lateralization to the right means that the sound is heard louder in the right ear.

Make sure you know the following:

- Physiologic prioritization – ABC's
- Priorities (Think about Maslow Hierarchy)

  Physiological FIRST, Safety & Security, Love & Belonging, Esteem Self-Actualization
- Steps of the Nursing Process

  Assessment, DX, Planning, Implementation, Evaluation
- Vital sign ranges (normal vs abnormal)

  BP 120/80

  Resp-12-20

  HR-60-100

  Axillary-97.6

  Rectal/Oral=98.6

  Tympanic-99.6

- Delegation

  *don't delegate anything you can EAT, Evaluate, Assess, Teach

    - Interventions are the only part of the nursing process that can be delegated; nothing with education or diagnosis; UAP CAN DO VITAL SIGNS (stable patients only), bathing, etc.

- Therapeutic Communication
    - Silence
    - Presenting reality
    - Active listening
    - Asking questions
    - Open-ended questions
    - Clarifying techniques
        - Restating
        - Reflecting
        - Paraphrasing
        - Exploring
    - Offering general leads, broad opening statements
    - Showing acceptance and recognition
    - Focusing
    - Giving information
    - Summarizing
    - Offering self
    - Touch
    - Sharing Feelings