

## 1. Compartment S/S

- Elevated pressure within an anatomic compartment that is above normal perfusion pressure
- If untreated neuromuscular damage can occur within 4-6 hr
- Caused by an increase in compartment volume and decrease in compartment size (edema or bleeding or restrictive cast or maybe even both)
- Ischemia-edema cycle
- Manifests with the 5 P's:
  - pain: increased/unrelieved pain
  - paralysis: numbness, burning, tingling (early signs)
  - paresthesia: motor weakness or inability to move extremity (late sign)
  - pallor: pale tissue and cyanotic nail beds
  - pulselessness: late manifestation
- Other manifestations: muscles are hard and swollen if untreated can lead to tissue necrosis

## 2. Neurovascular assessment

- Performed Q1Hr for the first 24 hours and every 1-4 hours after
  - Pain: Uncontrolled pain can indicate a potential problem
  - Sensation: Loss of sensation can indicate nerve damage
  - Skin temp: Cold skin can indicate lack of perfusion
  - Cap refill: >time and cyanosis can indicate lack of perfusion
  - Pulses: Doppler may be required to hear pulses
  - Movement: ensure client can move in active motion

## 3. When is it appropriate to remove traction

- Uses pulling force to promote and maintain alignment of an injured area
- Prescriptions should include: type, amount of weight, and if it can be removed for nursing care
- Avoid lifting or removing weights and ensure they hang freely and are not resting on the floor
- Doctors orders to remove traction or in an emergency situation traction can be removed

## 4. Amputation care

- Prevent post-op complications such as hypovolemia, pain, infection

- Assess surgical sites for bleeding
- monitor tissue perfusion at the end of the residual limb
- monitor for manifestations of infection and non healing incision that can lead to osteomyelitis
- Manage phantom pain with medications and mirror therapy
- Residual limb is prepped with a figure 8 wrap and shrinking procedures

#### 5. Complications related to amputations

- Cardiopulmonary complications related to comorbidities
- DVT
- stump hematoma
- infection
- need for revision
- phantom limb pain
- flexion contracture

#### 6. Post-op amputation care

- Treat incisional pain with analgesics
- Manage phantom limb pain
  - Sensation of pain in location of amputation
  - Related to severed nerve pathways
  - Can take months to years to go away and sometimes never does
  - Mirror trick
  - Calcitonin, beta blockers, gabapentin, and baclofen to treat
  - Prosthetics is an option but the residual limb needs to be shaped and shrunk (figure 8 wrap)

#### 7. Complications r/t casts

- Compartment syndrome
- Tissue necrosis

#### 8. Osteomyelitis nursing interventions

- Administer antibiotics as prescribed to maintain a constant blood level
- administer analgesics as needed
- conduct neurovascular assessments if debridement is done
- if the wound is left open to heal, standard precautions are adequate and clean technique can be used for dressing changes

#### 9. Osteomyelitis treatments

- Long lasting antibiotics
- surgical debridement and possible bone graft

- hyperbaric O2 treatments
- surgically implanted antibiotic bead in bone cement

### 10. Fat emboli S/S

- Early manifestations:
  - Tachycardia
  - Chest pain
  - Increased RR
  - Decreased O2
  - Confusion
  - Headache
- Late manifestations:
  - Cutaneous petechiae (discriminating finding from pulmonary embolism)

### 11. Cast care

- Frequent neuro assessments
- Keep it dry
- Don't stick anything into the cast
- Keep it above level of the heart for the first 48 hours and ice therapy first 24 hours
- Ensure not too tight
- Hair dryer on cool setting for itching
- Regularly move joints above and below cast

### 12. Dementia and delirium s/s

- Dementia:
  - Irreversible, progressive, downhill
  - Last 2-20 years
  - Slow onset unless due to ischemic attack symptoms are abrupt
  - Speech lacks meaning
  - Repeats words and sounds
  - Dysarthria (impaired speech)
  - Loss of all voluntary activity
  - Lost in familiar places
  - Disorientated to time, place, and person
  - Loss of recent memory
- Delirium:
  -

### 13. Osteomyelitis s/s

- Infection of the bone that begins as an inflammation within the bone secondary to penetration by infectious organisms following trauma or surgical repair

- Manifestations:
  - Bone pain that is constant, pulsating, localized, and worse w movement
  - Erythema and edema at the site of infection
  - fever
  - leukocytosis and increased ESR

#### 14. Causes of fat emboli

- Known as a fat globule from bone marrow that is released into the vasculature and travels through blood vessels and potentially into the lungs
  - results in acute respiratory insufficiency and impaired organ perfusion
    - Most common in hip/pelvis fixation
    - Can also be seen in long bone fractures

#### 15. Increased intracranial pressure (ICP) s/s – there are a few questions

- Headache
- Decreased LOC
- fever
- Altered respirations
- pupil changes
- restlessness
- irritability
- sensitivity to light
- KNOW VS!!

#### 16. Increased ICP nursing care/actions – there are a few questions

- Low lit room
- HOB at 35 degrees
- Keep neck straight
- Avoid coughing or sneezing
- limit visitors
- neuro assessment
- administer Mannitol
- Continuous monitoring ICP

#### 17. Meningitis s/s

- Fever
- chills
- nausea
- lethargic
- headache
- neck pain (Nuchal rigidity)

- altered LOC
- Positive brudzinski and kernig's sign
  - Brudzinski: flexion of the knees and hips while flexing the neck
  - Kernig: resistance and pain with the extension of the clients leg

### 18. ways to diagnose and test for meningitis

- CT
- MRI
- lumbar puncture
  - cloudy (bacterial)
  - Clear (viral)
  - elevated WBC, protein, CSF pressure
  - decreased glucose (bacterial)
- labs

### 19. Spinal cord injury s/s: depends on the type and level of injury

- Neck or back pain
- Inability to feel light touch and can't decipher pain
- Bradycardia and asystole
- Absent DTRs
- Muscle flaccidity
- hypotension when sitting upright
- shallow respirations

### 20. Autonomic dysreflexia s/s (KNOW TREATMENT)

- Nausea
- Pounding headache
- Nasal congestion
- bradycardia
- sweating
- flushed face
- rash above fracture

### 21. autonomic dysreflexia nursing actions

- determine cause
- sit patient upright
- catheter
- TREATMENT:
  - antihypertensives (nitrates or hydralazine)

- Monitor for severe bradycardia and hypertension
- relieve kink in catheter if indicated
- remove the impaction if indicated
- adjust the room temp
- remove tight clothing
- assess for injury

## 22. Treatment of ICP

- Mannitol

## 23. ICP positioning

- Head of bed at 30 degrees

## 24. Increased ICP complications

- Brainstem herniation
- Diabetes insipidus
- SIADH

## 25. Right/left sided stroke manifestations (alterations you will see in your pt)

- Right:
  - Left sided deficits
  - aphasia
  - wernicke's aphasia
  - altered perception of deficits
  - unilateral neglect syndrome
  - loss of depth perception
  - poor impulse control and judgement
  - left hemiplegia
  - visual changes
- Left:
  - right sided deficits
  - expressive and receptive aphasia (inability to speak and understand language)
  - agnosia (unable to recognize familiar objects)

- agraphia (writing difficulty)
- right extremity hemiplegia (weakness or paralysis)

## 26. Types of strokes and their s/s

- Hemorrhagic:
  - severe headache
  - early and sudden changes in LOC
  - nausea/vomiting
  - possible seizure activity
- Ischemic:
  - Sudden severe headache
  - Confusion or change in mental status
  - numbness or weakness of the face, arm, or leg
  - difficulty walking
  - dizziness
  - loss of balance
  - visual disturbances
  - trouble speaking or understanding speech
- TIA: mini stroke that resolves itself
  - Warning signs before a CVA

## 27. Traumatic brain injury nursing actions

- ICP monitoring/ prevent increase in ICP
- Maintain patent airway and monitor respirations
- Turn patient every 2 hours
- Apply firm pressure over puncture site
- Assess for changes in level of consciousness
- Monitor fluid and electrolyte balances
- Assess the patient asking these important questions: When did the injury occur? What caused the injury? What was the direction of the force of the blow?
- Glasgow coma scale should be implemented

## 28. Dementia and delirium nursing actions

- Dementia & Delirium:

- Assess cognitive status, memory, judgement, and personality changes
- Provide a safe environment
  - Frequent visual checks
  - Keep client away from stairs and exits
- Maintain a sleeping schedule
- Check skin weekly for breakdown
- Provide cognitive stimulation
  - Walks, music, crafts
- Be consistent and repetitive

### 29. Difference bw dementia and delirium

- Dementia: Progressive in nature, not reversible
- Delirium: Reversible, only lasts a few weeks to a few months

### 30. Traumatic amputation care

- Stop the site of bleeding and apply direct pressure
- elevate the extremity
- wrap in dry gauze
- place severed extremity in a bag and submerge in ice bath, ensure extremity doesn't come in contact with water

### 31. Traction nursing care

- Avoid removing and lifting weights; let them hang freely
- Assess for skin breakdown
- Pin site care 2x daily, one cotton swab per pin
- Avoid pressing on or moving pins

### 32. Glasgow coma scale

- 8= intubate
- 3= coma
- 15 is best possible score
- Based on eyes, verbal and motor skills

### 33. Thrombolytic therapy uses and when not to use

- Use: Ischemic stroke
- Not use: Hx of bleeding, hemorrhagic stroke, and if stroke occurred over 3 hours ago, pts on anticoagulants

### 34. Cerebral perfusion pressure (CPP)

- 70-100

### 35. Normal Intracranial pressure (ICP)

- 10-15

### 36. Normal findings of skeletal traction

- Serous drainage at pin sites
- Pain in and around the pin sites

### **37. Cushing's Triad**

- Hypertension, bradycardia, bradypnea