

N441 Exam 3 Concept Review

- Compartment Syndrome
 - o Pressure build up from internal bleeding or swelling of the tissues
 - o Swelling, tightness, pale and shiny
 - o 5 Ps
 - Pain: increased or unrelieved pain
 - Paraesthesia: numbness, tingling or burning (EARLY)
 - Paralysis: inability to move (LATE)
 - Pallor: pale/cyanotic tissue or nail beds
 - Pulselessness: no pulse (LATE)
- Neurovascular Assessment
 - o Every hour for the first 24 hours
 - o Every 1-4 hours following initial 24
 - o Pain, skin temperature, cap refill, pulse, movement and sensation
- Traction
 - o Nursing Care
 - Avoid removing or lifting weights
 - Assess for skin breakdown
 - Avoid pressing or moving pins
 - Pin site care BID
 - One cotton swab per pin
 - o Skeletal Traction
 - Findings:
 - Serous drainage at pin sites
 - Pain in and around pin sites
- Amputation
 - o Care
 - Goal to prevent post-op complications
 - Assess site for bleeding
 - Monitor tissue perfusion
 - Monitor for infection
 - Acknowledge phantom pain
 - Mirror trick
 - o Complications
 - Hypovolemia
 - Pain
 - Infection
 - DVT
 - Stump hematoma
 - Phantom pain
 - Flexion contracture
 - Cardiopulmonary complications
 - Pneumonia

- o Post-op Care
 - Monitor for infection
 - ROM exercises
 - Proper and change of positioning
- o Traumatic Care
 - Stop bleeding
 - Apply pressure
 - Elevate extremity
 - Wrap in dry gauze
 - Place extremity in bag and submerge in ice bath
 - Ensure extremity does not come in contact with water
- Cast
 - o Care
 - Neurovascular assessment
 - Ice and elevate for 24-48 hours
 - Room for 1 finger
 - Use plastic bags during shower
 - Dry thoroughly
 - Move above and below joints
 - Document drainage
 - No foreign objects
 - Cool dryer to relieve itching
 - o Complications
 - SOB
 - Skin break down
 - Constipation?
- Osteomyelitis
 - o S/Sx
 - Fever
 - Leukocytosis
 - Increased ESR
 - Constant bone pain
 - Pulsating
 - Localized
 - Worsens w/ movement
 - o Nursing Interventions
 - Administer antibiotics and analgesics
 - Neurovascular assessment
 - Clean technique when assessing wound
 - o Treatments
 - Long term antibiotics
 - Surgical debridement
 - Bone graft
 - Hyperbaric O2 treatments

- Antibiotic beads
 - Unsuccessful treatment can result in amputation
- Fat emboli
 - o Most common in hip and pelvis fractures
 - o 12-24 hours post injury or total joint arthroplasty
 - o Causes:
 - Post injury of a long bone fracture
 - Total joint arthroplasty
 - o S/Sx:
 - Early
 - Dyspnea
 - Increased RR
 - Decreased O₂
 - Headache
 - Decreased mental acuity
 - Confusion
 - Respiratory distress
 - Chest pain
 - Late
 - Cutaneous petechiae
- Dementia/Delirium
 - o Dementia
 - Irreversible
 - Caused by a number of small strokes or one big stroke followed by small strokes
 - 2-20 years
 - Slow onset (unless stroke)
 - S/Sx:
 - Dysarthria (impaired speech)
 - Loss of voluntary movements
 - Repeats words and sounds
 - Speech lacks meaning
 - Lost in familiar places
 - Disoriented to time, place and person
 - Loss of recent memory
 - o Delirium
 - Effects acetylcholine, dopamine and serotonin
 - Decreased levels of acetylcholine, excess dopaminergic activity
 - Head trauma, ischemia or response to infection in elderly
 - 1 day- 1 month
 - Rapid acute onset
 - Underlying disease
 - S/Sx:
 - Short attention span/ disorganized thinking

- Altered LOC (hypoalert/ hypoactive)
 - Hallucinations
 - Delusions
 - Fear
 - Anxiety
 - Paranoia
 - Tremors
 - Clouding of Consciousness
- o Diagnostics
 - PMH
 - Labs
 - Neuro exam
- o Treatment
 - Antipsychotics
 - Antidepressants
 - Anxiolytics
 - Therapeutic touch
- o Nursing Interventions
 - Assess cognitive status
 - Memory
 - Judgement
 - Personality changes
 - Maintain schedule
 - Provide safe environment
 - Be consistent and repetitive
 - Check for skin breakdown
 - Provide cognitive stimulation
 - o Walks
 - o Music
 - o Crafts
- Increased Intracranial Pressure
 - o S/Sx
 - Severe headache
 - Deteriorating LOC (earliest sign)
 - Restlessness
 - Irritability
 - Dilated or pinpoint pupils
 - Slow reactions
 - Altered breathing
 - Cheyne-Stokes
 - Hyperventilation
 - Apnea
 - Deteriorating motor function
 - Abnormal posture
 - Decerebrate

- Decorticate
 - Flaccidity
 - o Nursing Interventions
 - ABCs
 - Elevate HOB
 - Maintain patent airway
 - Achieve adequate breathing pattern
 - Optimize cerebral tissue perfusion
 - Prevent infection
 - Avoid coughing
 - Do not strain during bowel movements
 - Observe CSF
 - Report bloody or cloudy
 - Avoid movement of neck
 - Restrict fluid intake
 - Diuretics and corticosteroids
 - o Treatment
 - Intraventricular catheter
 - Subarachnoid screw or bolt
 - Epidural or subdural sensor
 - Neurosurgical interventions
 - Craniotomy
 - o Opening the skull
 - Burr holes
 - o Circular opening in skull
 - Craniectomy
 - o Take out portion of skull
 - Cranioplasty
 - o Repair cranial defect w/ plastic or metal plate
 - o Positioning
 - HOB 30-45 degrees
 - o Complications
 - Brainstem herniation
 - Diabetes insipidus
 - SIADH
- Meningitis
 - o Viral
 - Spreads through bloodstream or by direct contact
 - Secondary to cancer or immunosuppressive diseases
 - Causative crosses blood brain barrier
 - Immune response causes inflammation of subarachnoid and pia mater
 - Increase ICP d/t little room for inflammation
 - CSF circulates through subarachnoid and spreads infection
 - S/Sx

- Headache (early)
 - Fever (early)
 - Nuchal rigidity
 - Chills
 - Photophobia
 - Petechiae rash or purpuric lesions
 - Seizures d/t increased ICP
- o Diagnostics
 - Kernig's: knee flex
 - Brudzinski's: neck flex
 - CT scan
 - Lumbar puncture
- Spinal Cord Injury
 - o S/Sx
 - Neck/back pain
 - Inability to feel light touch
 - Cannot differentiate between sharp or dull pain
 - Bradycardia and asystole
 - Absent DTRs
 - Muscle flaccidity
 - Hypotension
 - Shallow respirations
- Automatic Dysreflexia
 - o S/Sx
 - Sudden onset of high BP (systolic over 200)
 - Pounding headache
 - Flushing of skin
 - Profuse sweating
 - o Nursing Interventions
- Strokes
 - o Hemorrhagic
 - S/Sx:
 - Severe headache
 - Early and sudden changes in LOC
 - Nausea/vomiting
 - Possible seizure activity
 - o Ischemic
 - S/Sx:
 - Sudden severe headache
 - Confusion
 - Change in mental status
 - Difficulty walking
 - Dizziness
 - Loss of balance
 - Visual disturbances

- Trouble speaking
 - Trouble understanding speech
 - o TIA
 - o Mini stroke that resolves itself
 - o “warning sign”
- Right/Left Sided Stroke
 - o Manifestations
 - Left:
 - Right sided deficits
 - Right:
 - Left sided deficits
 - Aphasia
 - Wernicke’s aphasia
- Traumatic Brain Injury
 - o Nursing Interventions
 - Maintain patent airway/monitor RR
 - Turn patient every 2 hours
 - Log roll
 - Apply firm pressure over puncture site
 - Assess LOC
 - Monitor fluid and electrolyte balances
 - Glasgow coma scale
 - ICP monitoring
 - Prevent increase in ICP
 - Assess patient:
 - When did the injury occur?
 - What caused the injury?
 - What was the direction of the force of the blow?
- Glasgow Coma Scale
 - o Based on eyes, verbal and motor skills
 - o 15- best possible score
 - o 8- intubate
 - o 3- coma
- Thrombolytic Therapy
 - o Uses
 - Ischemic stroke
 - o When not to use:
 - Hx of bleeding
 - Hemorrhagic stroke
 - Stroke over 3 hours ago
- Cerebral Perfusion Pressure (CPP)
 - o 70-100
- Normal Intracranial Pressure (ICP)
 - o 10-15
- Cushing’s Triad

- o Hypertension
- o Bradycardia
- o Bradypnea