

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME _____

MEDICATION Head Injury

REVIEW MODULE CHAPTER 14

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Cervical spine films to diagnose a cervical spine injury
- Calculation of cerebral perfusion using the ICP monitor
- Computerized tomography (CT) and a magnetic resonance imaging (MRI) of the head and neck

Therapeutic Use

- craniotomy that is the removal of nonviable brain tissue that allows for expansion and/or removal of epidural or subdural hematomas

Complications

- brain herniation
- Hematoma and intracranial hemorrhage
- Pulmonary edema
- Diabetes insipidus or syndrome of inappropriate antidiuretic hormone
- Cerebral salt wasting

Medication Administration

- mannitol an osmotic diuretic used to treat cerebral edema, when used for increased ICP it draws fluid from the brain into blood
- barbiturate, here the client is placed in a coma to decrease cellular metabolic demand
- phenytoin, used prophylactically to prevent or treat seizures
- morphine, an analgesic used to control pain and restlessness

Contraindications/Precautions

- Care should include professionals from other disciplines which include physical, occupational, recreational and speech therapists
- Implement measures to prevent complications of immobility
- The client can be hyperventilated on mechanical ventilation to decrease ICP
- Monitor fluid and electrolyte values and osmolality to detect changes in sodium regulation, onset of diabetes insipidus, or severe hypovolemia

Nursing Interventions

- Monitor serum electrolytes and osmolality daily
- Monitor for dehydration or fluid overload during treatment
- weigh client daily
- document strict intake and output
- monitor the client's vital signs and neurological status to allow early reporting of changes in the GCS score, an increase in the blood pressure, and an alteration in

Interactions

- Administer IV to treat acute cerebral edema
- Monitor urine osmolality
- Monitor serum electrolytes and osmolality closely
- Calm and reassure clients clarifying misconceptions
- Avoid opioid use with clients who are not mechanically ventilated due to CNS depressant effects

Client Education

- update family members on the health status of the client
- in the presence of a critical situation the decision to surgically treat brain herniation is made
- family support is crucial through social service workers or pastoral personnel

Evaluation of Medication Effectiveness

- Assess/monitor the client at regularly scheduled intervals