Over-the-Counter and Prescription Pain Medications

Pain

Pathophysiology
- Chemical mediators released with tissue damage affecting exposed nerve endings

Treatment
- Nonpharmacologic first
  - Ice, rest, wrapping, etc.
- Nonopioid analgesics
- Opioids analgesics

Pain Assessment
- A Regulatory requirement
- Fifth vital sign
- Assess – Intervene – Re-assess
- Document

Inflammation
- Cardinal signs of inflammation
  - Redness
  - Swelling
  - Heat
  - Pain
  - Loss of function

Nonsteroidal Anti-inflammatory Drugs (NSAIDS)
- Action
  - Inhibit synthesis of COX enzyme
- Cox-1
  - Protects stomach lining
  - Regulates blood platelets
- Cox-2
  - Triggers pain and inflammation
- NSAIDS (nonsteroidal antiinflammatory drugs)
  - First Generation – Inhibit cox-1 & cox-2
  - Second Generation – Inhibit cox-2
- Salicylates
  - Aspirin
- Para-Chlorobenzoic Acid
  - Indomethacin (Indocin)
- Phenylacetic Acid
o Ketorolac (Toradol)

- Propionic acid group
  o Ibuprofen (Motrin)
  o Naproxen (Naprosyn)

- Cox-2 inhibitors - (require a prescription)
  o Celecoxib (Celebrex)

- Treatment for mild-moderate pain
  o Antipyretic (fever reducer)
    ▪ Aspirin and ibuprofen only recommended NSAID for fever or headaches in adults
    ▪ Aspirin contraindicated for children <12 years
  o Anti-inflammatory
    ▪ Reduce swelling and joint stiffness
  o Anti-platelet
    ▪ Prevents blood platelets from sticking together
    ▪ Aspirin prescribed treatment

**NSAID Nursing Interventions**
- Obtain Medical History
- Observe for side effects
  o Pain Evaluation
  o GI Distress, abdominal pain, bleeding
  o Tinnitus & visual disturbance with ASA
- Teaching
  o Take with food/fluid
  o Monitor for signs of bleeding
  o Do not combine with medications without physicians advice
  o Warn aspirin is not for children

**Acetaminophen (Tylenol)**
- Action
  o Inhibits prostaglandin synthesis
  o No anti-inflammatory properties
- Indication
  o Relieves mild-moderate pain
  o Antipyretic (reduces fever)
- Dosing
  o Maximum dose: 4 g/day
  o Use caution with extra-strength Tylenol
- Associated Lab Monitoring
  o Therapeutic range 5-20 mcg/mL
  o LFT’s (Liver Function Studies)
• Adverse Effects
  o Liver toxicity
    ▪ Contraindicated in alcoholics or hepatic failure

Opioid Analgesics
• Action – CNS receptors
  o Analgesia, euphoria, sedation
• Common Opioids
  o Morphine Sulfate
  o Meperidine (Demerol)
  o Codeine
• Controlled Substance
  o Double lock med drawer
  o Two licensed nurses to waste
• Indication
  o Moderate-severe pain relief
  o Antitussive effect (Codeine)
• Side effects/adverse reactions
  o Respiratory depression
  o Orthostatic hypotension
  o Confusion, mental clouding
  o Constipation, urinary retention
  o Tolerance and dependence
• Contraindications
  o Head injuries, increased intracranial pressure
  o Respiratory disorders
  o Shock or hypotension

Special Note – Decreased dose in the elderly

Opioid Nursing Assessment
• Respiratory Depression
  o Monitor respirations/vital signs
  o Hx or presence of respiratory disease?
  o Is the patient experiencing s/s shock?
  o Age/condition of your patient?
• Withdrawal Syndrome
  o Physical dependence
  o 24-48 hours after last dose
  o Unpleasant, not life-threatening
  o Irritability, diaphoresis, restlessness
  o Muscle twitching, tachycardia, hypertension
• Dependency Drug Treatment
  o Methadone in tapering doses

**Opioid Antagonists**
• Naloxone (Narcan)
  o Indication
    ▪ Antidote for opiate overdose or over-sedation
    ▪ Reverse effects of opiates, including respiratory depression, sedation, hypotension
  o Administration IM/IV
  o Adverse Effects
    ▪ Tremors, sweating, hypertension, tachycardia, excitement, dysrhythmias
    ▪ Nausea, vomiting, reversal of analgesia
  o Nursing interventions
    ▪ Monitor vital signs
    ▪ Reoccurrence of pain