Pharmacology
Perioperative

Medications related to the care of a patient before, during and after surgery

Pain

- Pain management a specialized area of treatment.
- The fifth Vital Sign
- Subjective
- Effect of unrelieved pain
- Cultural variations in response to pain
- Nurses Roles in pain management
2 classifications

- **Acute**
  - Less than 3-6 months
  - Mild to severe intensity on scale of 1-10
  - Relief experienced with healing of cause

- **Chronic**
  - Longer than 6 months
  - 2 classifications related to the disease process
    - Associated with malignant diseases
    - Associated with non-malignant diseases

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**Analgesics**

- The classification for drugs that relieve pain

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**Nonopioid Analgeics**

- **Salicylates**
  - **Action**
    - Peripheral dilation
    - Inhibit prostaglandin production
    - Prevention of platelet aggregation
The Classifications / Uses
- Analgesia
- Anti-pyretic
- Anti-inflammatory
- Anti-platelet

Adverse Reactions & Contraindications
- All things GI
- Hypersensitivity
- Bleeding
- Children

Precautions and Interactions
- Precaution
  - Lactating
  - Liver or kidney disease
  - Clotting problems
- Interactions
  - Pharmacological
  - Dietary
Special considerations

- Gerontological
  - Dietary choices and Pharmacological treatments
- Toxic / Overdose
  - S & S
  - Treatment
- Other
  - Pre-op / procedure
  - Teaching
  - OTC

Generic / Trade

- Aspirin (Anacin-- Bufferin—Ecotrin)

Nonsalicylates

- Action
  - Mechanism of action uncertain
    - Thought to inhibit prostaglandin synthesis like ASA

- Classification / Uses
  - Analgesic
  - Anti-pyretic
Adverse reaction
  - As prescribed
  - Excessive
    - Toxicity/poisoning --- severe DEATH

Contraindication / Precautions
  - Hypersensitivity
  - Concurrent
  - Pregnancy
  - Long term use
  - Alter Blood Sugar

Interactions
  - Pharmacological

Generic / Trade Names
  - Acetaminophen
    (Tylenol – Tempura)

Nonopioid Analgesics
  Nonsteroidal Anti-Inflammatory
  Chapter 18

Action

Classification / Use
Adverse Reactions
- System

Contraindications
- Hypersensitivity
  - Allergic to one = another

Precautions
- Last Trimester preg. and lactation
- Elderly
- Chronic disease

Interactions
- Increased
- Decreased

Generic / Trade names
- Ibuprofen (Advil, Motrin, Midol)
- Indomethocin (Indocin)
- Ketorolac (Torodol)
- Naproxen (Naprosyn, Aleve, Anaprox)
Nursing Process

- Assessment
- Plan
- Implementation
- Evaluation

Patient Teaching

- How
- When
- Why
- Special instructions related to medication

Opioid Analgesics
Chapter 19

- This is one type of a class referred as narcotics
- Controlled Substance
- Used to treat Mod. to Severe pain
- Can cause Physical dependency
Origin

- Raw
  - Morphine Sulfate
  - Codeine
- Semi-synthetic
  - Hydromorphone (Dilaudid)
  - Oxymorphone (Numorphan)
  - Oxycodone (OxyContin)
  - Heroin
- Synthetic
  - Metadone (Dolophine)
  - Levorphanol (Levo-Dromoran)
  - Meperidine (Demerol)

Commonly administered opioids

- po
  - Codeine, Dilaudid, OxyContin, Darvon-N, Ultram
- Subq
  - Codeine, Dilaudid, Demerol, Methadone,
- IM
  - Codeine, Morphine, Demerol, Dilaudid
- IV
  - Fentanyl, Levo-Dromoran, Morphine
- Topical
  - Fentanyl

Action

- Opiate receptors
  - Agonists
  - Partial agonist
  - Antagonist
  - Agonist/antagonist
Uses
- Treatment of mod. to severe acute and chronic pain
- Treatment and management of opiate dependency
- Decrease anxiety
- Sedate
- Anesthesia
- OB
- Treatment of diarrhea
- Treatment of severe cough

Adverse Reactions / Contraindications
- System related
- Effects and Secondary effects
- Hypersensitivity
- Cerebral vascular injury / disorders
- Severe renal and hepatic dx

Precaution
- Elderly
- Addict
- Liver and renal Dx
- Obese

Drug to drug Interaction
- All CNS depressants
Nursing Process

- Always assess!
- Teaching
- Other Helps

PCA / Epidural / Transdermal

- Patient Controlled Analgesia
  - How Administered
  - Advantages
  - Who controls
- Epidural
  - How Administered
  - Who controls
- Transdermal
Patient Teaching
- Who
- How
- When

Opioid Antagonists
Chapter 20
- Action
- Use
  - Naloxone (Narcan)
  - Naltrexone (ReVia)
- Contraindications
- Precautions
- Nursing Process
  - Assess etc.

Neurotransmitters
Neurons are specialized cells in the brain that communicate with each other by sending messages through biochemicals called neurotransmitters.

Neurotransmitters cross gaps, or synapses, between neurons, and attach to receptors. Drugs can alter mood or behavior by blocking these receptors.
Anesthetic Drugs
Chapter 21

- Types / Uses
  - Local
  - Topical
  - Infiltration
  - Regional
    - Spinal
    - Blocks
  - General

Pre-anesthesia

- What is this?
- Medication classes used
- Other considerations

Antianxiety Drugs
Chapter 22

- Uses
- Adverse Reactions
- Contraindications
- Precautions
- Interactions
- Nursing Process
Classifications
Generic / Trade Names

- Benzodiazepines
  - Alprazolam (Xanax)
  - Diazepam (Valium)
  - Lorazepam (Ativan)
- Nonbenzodiazepines
  - Hydroxyzine (Vistaril, Atarax)

Sedatives and Hypnotics
Chapter 23

- Uses
- Adverse Reactions
- Contraindication
- Precautions
- Interactions

Classifications
Generic / Trade Names

- Benzodiazepines
  - Flurazepam (Dalmane)
  - Temazepam (Restoril)
  - Triazolam (Halcion)
- Nonbenzodiazepines
  - Zolpidem (Ambien)
- Barbiturates
  - Pentobarbital sodium (Nembutal Sodium)
  - Secobarbital sodium (Seconal)
Cholinergic Blocking Drugs
Chapter 30

- Uses
- Adverse reactions
- Contraindications
- Precautions
- Interactions

Generic / Trade Names

- Atropine
- Glycopyrrolate (Robinul)
- Scopolamine Hydrochloride