Drug Classifications

Drug Group	Function	Action	Examples
Analgesics Non-opioid	Controls mild/moderate pain, fever	Inhibits prostaglandin production	acetylsalicylic acid (Aspirin), ibuprofen (Advil), acetaminophen (Tylenol) indomethacin (anti-rheumatic), pyridium (urinary tract)
Opioid	Controls moderate/severe pain	Binds to opioid receptors in CNS (agonist)	morphine, codeine, meperidine (Demerol), hydromorphone (Dilaudid)
Corticosteroids	Decreases inflammation,	Anti-inflammatory	hydrocortisone (oral or IV; systemic) *medicine is also given to patients with adrenal insufficiency and post-transplant patients for immunosuppression
Antacid	Used for indigestion, heart burn, hyperacidity, gastroesophageal reflux disease (GERD)	Neutralizes gastric acid	magnesium hydroxide/aluminum hydroxide (Diovol and Maalox)
Antianxiety	Treats anxiety disorders	Generalized CNS depression	lorazepam or diazepam *monitor respiratory rate because adverse side effects of benzodiazepeme includes suppression of respirations
Antibiotics/Anti-infective Penicillins	Treats or prevents of bacterial infection	Binds to cell wall resulting in death	ampicillin, amoxicillin *must check for allergies
Sulfonimides	Treats or prevents of bacterial infection	Prevents folic acid production in bacteria leading to cell death	sulfisoxasole, sulfamethoxazole

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Anticoagulant	Treats and prevents thromboembolic disorders	Prevents clot extension and formation	heparin (IV for acute thromboemboli) warfarin (Coumarin or Coumadin) *medicine is given orally to patients with pacemakers, venous thrombus, pulmonary emboli, heart valve replacement surgery, or have atrial fibrillation *used as rat poisoning in large doses
Anticonvulsant	Decreases incidence or severity of seizures	Depresses abnormal neuronal firing in CNS	phenytoin (Dilantin), phenobarbital (a controlled drug), valproic acid, diazepam (Valium), carbamazepine (Tegretol)
Antidepressant	Treats endogenous depression	Prevents reuptake of dopamine, serotonin, and norepinepherine in the presynaptic neurons in brain	tricyclic antidepressants (Amyltriptoline) SSRIs (Prozac, Paxil, Zoloft, Luvox)
Antihypertensive	Treats hypertension	Lowers BP	ACE inhibitors (Vasotec: enalapril, captopril), beta blockers, calcium channel blockers, diuretics *must monitor BP
Antiparkinson	Treats parkinsonism, used as therapeutic relief of tremors and rigidity	Restores balance of acetylcholine and dopamine in CNS	levodopa (Sinemet) - converted to dopamine
Antiplatelet	Treats and prevents thromboembolic events (e.g. stroke/myocardial infarction)	Inhibits platelet aggregation (therefore prolongs bleeding time)	acetylsalicylic acid (Aspirin)
Antipsychotic	Treats chronic psychoses	Blocks dopamine receptors in brain, alters dopamine release and turnover	lithium carbonate (antimanic), haloperidol, chlorpromazine
Antipyretic	Decreases fever	Inhibits prostaglandin effect peripherally, affects thermoregulation of the CNS	acetylsalicylic acid (Aspirin) - can cause GI bleeding, ibuprofen (Advil) - can cause GI bleeding, acetaminophen (Tylenol) - does not have GI side effects

Antiulcer	Treats and prevents peptic ulcer	Neutralizes or decreases gastric acid	Maalox, Diovol, cimetidine *can cause confusion particularly in the elderly
Artificial Tears/Ocular Lubricant	Manages dry eyes	Provides lubrication to dry or artificial eyes	Isopto tears
Bronchodilator	Treats airway obstructions (asthma or chronic obstructive pulmonary disease)	Causes bronchodilation	theophylline (Theo-dur) - relaxes/dilates bronchioles, Aminophylline - converted to theophylline *anxiety and tachycardia are side effects - must monitor breath sounds and vitals.
Cough Expectorant	Treats coughs associated with viral upper respiratory infections	Reduces viscosity of tenacious secretions	guaifenesin – added to cough syrup (e.g. Benylin E)
Cough Suppressant/ Allergy, Cough, Cold Remedies	Symptomatic relief of coughs by minor upper respiratory tract infections	Suppresses the cough reflex by direct effect on the cough centre in the CNS	Benylin, Robitussin
Digitalis Glycosides	Treats irregular fast heart (tachyarrhythmia) and congestive heart failure	Slows and strengthens heart contractions	digoxin *adverse effects include bradycardia and digitalis toxicity - monitor heart rate for 1 minute prior to administration, wait to give dose if HR < 60 bpm
Hypnotic/Sedative	Provides sedation	General CNS depressant	dentobarbital (hypnotic), lorazepam, diazepam *monitor respiratory rate for depression
Laxatives	Treats or prevents constipation	Induces one or more bowel movements per day	stimulants, stool softeners, bulk forming agents, osmotic cathartics
Skeletal Muscle Relaxant	Decreases spasticity associated with CNS disorders, treats acute musculo-skeletal conditions	Acts centrally or directly to relieve muscle tension and spasticity	baclofen, Zanaflex, Valium

Spasmolytic/ Urinary Tract Antispasmodic/ Anticholinergic	Treats urinary symptoms of neurogenic bladder (frequency, urgency, overactive bladder), relieves bladder spasm	Inhibits the action of acetylcholine, reduces smooth muscle spasm	oxybutynin (Ditropan) *monitor voiding pattern

Routes of Medication Administration

- By mouth (PO) – swallowed, absorbed in gut
- Sublingual (SL) – under the tongue, dissolves
- Intramuscular (IM) – absorbed by muscle
- Subcutaneous (SC) – delivered into the subcutaneous fatty tissue
- Intradermal – under the epidermal layer to the dermis
- Intravenous (IV) – directly into the bloodstream (fastest route)
- Topical – for local affect, ointment absorbed by skin
- Transdermal – controlled slow release; topical patch
- Rectal

Medical Distribution Systems

- Unit Dose System
- Bubble Pack System
- Floor or Ward Stock System
- Individual Prescription
- Automated Dispensing System

Drug Dose Forms

- Tablets – compressed dry drug
- Capsule – cylindrical gelatin containers for dry or liquid drug
- Lozenges/Torches – held in the mouth until dissolved
- Elixirs – drug is in clear alcohol/water based liquid
- Emulsions – dispersions of oil in water/water in oil
- Suspensions – dry drug dispersed in liquid; must be shaken before administration
- Syrup – drug is dissolved in sugary solution

* In the table, the asterisks identifies a nursing consideration.