

Commonly used drugs in Emergency & ICU



: By

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1. Paracetamol " : " Acetaminophen

Trade names: acamol, panadol

Class: antipyretic, non opioid analgesic, Para-aminophenol type.

Pregnancy: (Category B)

Action: Acetaminophen decrease fever by an effect on hypothalamus leading to sweating & vasodilatation.

It also inhibits the effect of pyrogens on the heat-regulating Center on the hypothalamus.

It may cause analgesia by inhibiting CNS prostaglandin syntheses

So it has no anti-inflammatory effect.

It doesn't manifest any anticoagulant effect or any ulceration of GIT.

Uses:

- Pain due to Headache, dysmenorrhea, arthralgia, myalgia, musculoskeletal pain, immunization, teething, tonsillectomy.
- To reduce fever due to bacterial & viral infection.
- As a substitute for aspirin when contraindicated.

Contraindications:

Renal insufficiency, anemia.

Side effects:

- Chronic & even acute toxicity can occur after long symptom-free usage.
- Hemolytic anemia, neutropenia, thrombocytopenia
- Skin rashes, fever, jaundice, and hypoglycemia.
- Symptoms of over dosage:
- Hepatic toxicity → general malaise, delirium, depression seizures,
- Coma & death, nausea, vomiting, fever, and vascular collapse.

Treatment of overdose:

- 1- Induction of emesis.
- 2- Gastric lavage.
- 3- Activated charcoal.

- 4- Oral N-acetylcysteine (mucomyst) is said to reduce or prevent hepatic damage by inactivating acetaminophen metabolites which cause liver effects.

Dose: by mouth, 0.5–1 g every 4–6 hours to a max. Of 4 g daily;

Child:

- 2 months 60 mg for post-immunization pyrexia;
- Otherwise under 3 months (on doctor's advice only),
10 mg/kg (5 mg/kg if jaundiced);
- 3 months–1 year 60–120 mg,
- 1–5 years 120–250 mg,
- 6–12 years 250–500 mg;

These doses may be repeated every 4–6 hours when necessary
(Max. of 4 doses in 24 hours)

Nursing considerations:

- 1- Suppositories should be stored below 27°C.
- 2- Liver function studies for long term therapy.
- 3- Note signs of met-hemoglobinemia: bluish discoloration of gum & fingernails.
- 4- Have mucomyst available for signs of toxicity.
- 5- Teach patient signs of toxicity to be reported immediately.

2. Acetylsalicylic Acid ' Aspirin ':

Trade name: Aspirin

Classification:

Non-narcotic analgesic, antipyretic, anti-inflammatory, antirhumatic, ant platelet, NSAID.

Pregnancy: (Category C)

Action:

- The antipyretic effect is due to an action on the hypothalamus that results in heat loss by vasodilatation of peripheral blood vessels & promoting sweating.

- The anti-inflammatory effects probably by decreasing prostaglandin synthesis & other mediators of the pain response.
- The analgesic action is not fully known but may be due to improvement of the inflammatory condition .

N.B.: Aspirin also produces inhibition of platelet aggregation.

Uses:

- Pain
- Arthralgia
- Dysmenorrhea
- Anti-inflammatory (arthritis, gout, rheumatic fever)
- To reduce the risk of recurrent ischemic attacks & strokes in men.
- Reduction of risk of death or nonfatal MI in patients with history of infarction or unstable angina pectoris.
- Myalgia
- Headache
- Antipyretic (reduce fever)

Dose:

As "ant platelet" A single dose of aspirin 150–300 mg is given

As soon as possible after an ischemic event, preferably

Dispersed in water or chewed.

The initial dose is followed by maintenance treatment with

Aspirin 75–150 mg daily.

Anti-inflammatory: 0.3–1 g every 4 hours after food; max.

In acute conditions 8 g daily; CHILD, juvenile arthritis, up

to 80 mg/kg daily in 5–6 divided doses after food,

Increased in acute exacerbations to 130 mg/kg

Note: High doses of aspirin are very rarely required and are now

Given under specialist supervision only, and with plasma

Monitoring (especially in children)

Contraindications:

- Hypersensitivity to salicylates.
- Asthma in conjunction with anticoagulant therapy.
- Vitamin deficiency (risk for bleeding increase with Vitamin K deficiency).
- Chickenpox or influenza (potential risk for Reye's syndrome among children and teenagers).

- Pregnancy and lactation.
- One week before & after surgery.
- Patients receiving anticoagulants.
- Patients with bleeding disorders (ie, hemophilia)
- GI bleeding or hemorrhage from other sites.
- History of GI ulcers.

Side effects:

- ✓ Children e chicken pox (rays syndrome),
- ✓ Heartburn, nausea, anorexia, occult blood loss.,
- ✓ GI bleeding, potentiation of peptic ulcer.
- ✓ Bronchospasm.
- ✓ Anaphylaxis
- ✓ Skin rashes.
- ✓ Increase bleeding time.

Salicylate toxicity

- **Salicylism:** nausea, vomiting, dizziness, tinnitus, difficulty hearing, diarrhea, mental confusion.
- **Acute aspirin poisoning:** Respiratory alkalosis, hyperpnea, tachpnea, hemorrhage, confusion, pulmonary edema, convulsion, tetany, metabolic acidosis.

Drug interactions:

- Risk for bleeding increase if taken with other anticoagulants.
- Risk of GI bleeding increase if taken with steroids, alcohol, or other NSAINDs.
- Increased risk for salicylate toxicity if taken with frusimide (lasix)
- Hypotension may occur if taken with nitroglycerin.

Nursing considerations:

1. Take drug with or after food or with milk to decrease GI irritation.
2. Assess for history of asthma and history of hypersensitivity.
3. Do not use with other anticoagulants.
4. Note any history of peptic ulcer.

5. Report signs of side effect e.g. gastric irritation if occurs.
6. Aspirin is not given 1 week before & after surgery to prevent bleeding.
7. If patient is diabetic, discuss the possibility of hypoglycemia occurring
Patients should monitor their blood glucose level frequently.
8. Teaches patient about the toxic symptoms
(ringing in the ears) dizziness, mental confusion-etc) and
ask him/her to report it to physician.

3. Activated Charcoal :

Trade name: Eucarbon

Action: adsorbents

Pregnancy: (Category C)

Uses: used as adsorbent in cases of organophosphorous poisoning

Dose : the first dose of 100 g is given with a laxative

(E.g. magnesium sulphate), followed by activated
charcoal 50 g every 4 hours (or more frequently if

tolerated) until the charcoal is seen in the stool.

Nursing considerations:

- Explain the procedure to patient because it always given via NGT especially if the patient is conscious and you want to insert NGT
- Wear gloves when dealing with this drug because the powder form discolor every thing to black color when touching it

4. Adrenaline ' Epinephrine " : Sympathomimetics

Trade name: Adrenaline

Class: Direct acting-adrenergic agent.

Pregnancy: (Category C)

Action:

A natural hormone produced from adrenal medulla; induce marked stimulation of α , β_1 + β_2 receptors causing cardiac stimulation, bronchodilation & decongestion.

Uses:

- 1- Relief of respiratory distress due to bronchospasm.
- 2- Rapid relief of hypersensitivity reactions.
- 3- Cardiac arrest.
- 4- Open- angle glaucoma.
- 5- To prolong the action of anesthesia.
- 6- Topically to stop bleeding.

Dose:

Available in ampoules of 1ml containing 1 mg adrenaline

Can be given by IM injection, I.V. & S.C.

In CPR "A systole and PEA":

1 in 10 000 (100 micrograms/mL) is recommended in a dose of 10 mL by intravenous injection, preferably through a central line.

If injected through a peripheral line, the drug must be flushed with at least 20 mL sodium chloride 0.9% injection (to aid entry into the central circulation).

In Acute anaphylaxis:

By intramuscular injection (preferably midpoint in anterolateral thigh) (or by subcutaneous injection "not generally recommended") of 1 in 1000 (1 mg/mL) solution "when there is doubt as to the adequacy of the circulation, by slow intravenous injection of 1 in 10 000 (100 micrograms/mL) solution (extreme caution),

Dose:

IV: 10 micrograms/kg " 1 in 10 000 " as indicated; every 3-5 min"

If endotracheal route:

The used dose should be 3-10 times IV dose and diluted.

IM injection

Adult 0.5 mg may be repeated several times if necessary at 5- minute intervals according to blood pressure, pulse and respiratory function

Infusion: 2-10 mic/min titrated to response.

Contraindications:

- Narrow angle glaucoma.
- Shock
- Lactation.

- Tachycardia
- During labor (it may delay the 2nd 8 loge do labor).

Side effects:

- Fatal ventricular fibrillation.
- Cerebral hemorrhage
- urinary retention,
- headache,
- necroses at injection side,
- Blurring of vision, photophobia.

Nursing considerations:

- Never administer 1: 100 solutions IV. Use 1: 1000 mg sol. For I.V. use,
- Use tuberculin (1cc) syringe to measure adrenaline.
- Administer adrenaline using piggyback set to adjust the rate of infusion.
- Administer infusion by electronic infusion device for safety & accuracy.
- Closely monitor patients receiving I.V. adrenaline infusion.
- Note the client for signs of shock "loss of consciousness, clammy, cold skin, cyanosis.... etc.).
- Briskly massage site of S.C. or I.M. injection to hasten the action of the drug.

5. Aluminium hydroxide and magnesium hydroxide :

Trade name: " Allumag"

Class: Antacids

Pregnancy: (Category B)

Action: neutralizing or reducing gastric acidity, thus increasing the pH of the stomach and relieving hyperacidity. If the pH is increased to 4, the activity of pepsin is inhibited.

Uses:

- a. Treatment of hyperacidity. (Heart- burns).
- b. Peptic ulcer
- c. Duodenal ulcer.
- d. Gastroesophaged reflux.
- e. hiatus hernia

Dose: 10 mL 3 or 4 times daily of liquid magnesium–aluminum antacids. Antacids are best given when symptoms occur or are expected, usually between meals

and at bedtime, 4 or more times daily;
required up to once an hour.

additional doses may be

Contraindications:

- Pregnancy
- Children less than 6 years of age.
- Chronic use of aluminum containing antacids may contribute to development of Alzheimer's disease.

Side effects:

- Constipation, intestinal obstruction, bone pain, muscle weakness.

Nursing considerations:

- It is recommended that most antacids be taken at 3 hours after meals & at bed – time.
- Tablets should be thoroughly chewed before swallowing & followed by a glass of milk or water.
- Shake liquid suspensions thoroughly before pouring the medication .
- Client's taking aluminum or calcium containing antacids should take 2500-3000 cc of fluids to prevent constipation.
- Advise clients to report persistent diarrhea or constipation physician.

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6. Allopurinol : Zyloric

Trade name: Zyloric

Class: Anti-gout Agents

Pregnancy: (Category C)

Action: Is a potent xanthine oxidase inhibitor which reduces both serum and urinary uric acid levels by inhibiting the formation of uric acid without disrupting the biosynthesis of vital purines.

Uses:

- Is the drug of choice for chronic gouty arthritis (not useful for treatment of acute gout).
- Hyperuricemia associated with blood diseases, renal diseases.
- Prophylaxis in hyperuricemia in patients with neoplastic conditions.
- Treatment of patients with recurrent uric stone formation.

Dose

initially 100 mg daily, preferably after food, then adjusted according to plasma or urinary uric acid concentration; usual maintenance dose in mild conditions 100–200 mg daily, in moderately severe conditions 300–600 mg daily, in severe conditions 700–

900 mg daily; doses over 300 mg daily given in divided doses; CHILD under 15 years, (in neoplastic conditions, enzyme disorders) 10–20 mg/kg daily (max. 400 mg daily)

Contraindications:

- Hypersensitivity.
- Lactation.
- Hemochromatosis.
- Children except for those with neoplastic diseases.

Side effects:

- Skin rash, alopecia, fever leukopenia, arthralgia, nausea, vomiting.

Nursing considerations:

- Administer with food or immediately after meal to lessen gastric irritation.
- At least 10-12 eight- ounce glasses of fluid should be taken each day.
- Keep urine alkaline to prevent the formation of uric acid stones.
- Take complete drug history.
- Monitor the CBC, liver & renal function & serum uric acid on routine bases.
- If skin rash appear, report to physician.
- Avoid excessive intake of vitamin C which lead to the potential for the formation of kidney stones.
- Advice clients not to take iron salts with allopurinol since high iron concentration may occur in the liver.

7. Amikacin Sulfate:

Trade name: amikin

Class: Antibiotic "Amino glycosides"

Pregnancy: (Category C)

Action: inhibit protein synthesis by binding irreversibly to ribosome which leads to production of nonfunctional protein. They are usually bactericidal as a result of disruption of bacterial cytoplasmic membrane.

Uses:

- Bone and joint infections.
- Respiratory tract infections.
- Septicemia (including neonatal sepsis).
- Urinary tract infection (UTI).
- Post operative infections.
- Intra –abdominal infections (as peritonitis) .
- Skin infections (including burns)

Dose : by intramuscular or by slow intravenous injection or by infusion, 15 mg/kg daily in 2 divided doses, increased to 22.5 mg/kg daily in 3 divided doses in severe infections; max. 1.5 g daily for up to 10 days (max. cumulative dose 15 g); child 15 mg/kg daily in 2 divided doses; neonate loading dose of 10 mg/kg then 15 mg/kg daily in 2 divided doses.

Contraindications:

- Hypersensitivity to amino glycosides.
- Long-term therapy.
- For patients with impaired renal function or pre-existing hearing impairment.

Side effects:

- Ototoxicity: tinnitus, hearing impairment, ataxia & dizziness.
- Renal impairment (Nephrotoxicity) hematuria, proteinuria...
- Neurotoxicity: headache, tremor, lethargy, numbness, burning of face.
- Others: nausea, vomiting, skin rash & super infection.

Nursing considerations:

- I.M. admin. Inject deep into muscle to minimize pain.
- Admin. For only 7-10 days.
- Assess history of hypersensitivity.
- Obtain lab. Studies for renal function.
- Continue to monitor for ototoxicity.
- Discuss with the client / family the importance of taking medications at the appropriate prescribed time intervals.

8. Aminophylline:

Class: Antiasthmatic, bronchodilator

Pregnancy: (Category C)

Action: Relaxes smooth muscles of bronchi causing bronchodilation and increasing vital capacity of the lungs

Uses:

- Prophylaxis and treatment of bronchial asthma.
- Reversible bronchospasm associated with C.O.P.D.

Dose :

By mouth, 100–300 mg, 3–4 times daily, after food

slow intravenous injection: over at least 20 minutes" not previously treated with theophylline" (with close monitoring) (5 mg/kg)

Intravenous infusion: 0.3 – 0.7 mg/kg/hour

Contraindications:

- Hypersensitivity
- Hypotension
- Coronary artery disease (angina pectoris).

Side effects:

- Nausea, vomiting, epigastric pain.
- Rectal irritation following use of suppositories.
- Headache, dizziness, Hypotension, arrhythmias (tachycardia)
- Aminophylline given by rapid I.V. may produce hypotension, flushing, precordial pain, Headache & dizziness.

Nursing considerations:

- Dilute drugs & maintain proper infusion rate.
- Assess client for any history of hypersensitivity.
- Obtain baseline blood pressure and pulse prior to starting therapy, monitor B.P. & pulse closely during therapy.
- Observe closely for signs of toxicity.
- To avoid epigastric pain (when administered orally) give the medication with meals.
- Monitor for serum level of theophylline.
- Instruct the client to increase intake of fluids to liquefy secretions.

9. Amiodarone:

Trade name: Cordarone, Pacerone

Class: Antiarrhythmic agent

Pregnancy: (Category D)

Action: Amiodarone is categorized as a class III antiarrhythmic agent, and prolongs phase 3 of the cardiac action potential. It has numerous other effects however, including actions that are similar to those of antiarrhythmic classes I, II, and IV.

Uses:

- Ventricular fibrillation
- Ventricular tachycardia
- Atrial fibrillation

Dose : by mouth, 200 mg 3 times daily for 1 week reduced to 200 mg twice daily for a further week; maintenance, usually 200 mg daily or the minimum required to control the arrhythmia

by intravenous infusion: initially 5 mg/kg over 20–120 minutes with ECG monitoring; subsequent infusion given if necessary according to response up to max. 1.2 g in 24 hours

"900 mg over 23 hours".

Ventricular fibrillation or pulseless ventricular tachycardia: by intravenous injection over at least 3 minutes, 300 mg

Contraindications:

- allergic reaction
- Pregnant and lactation.
- It is contraindicated in individuals with sinus nodal bradycardia, atrioventricular block, and second or third degree heart block who do not have an artificial pacemaker.
- Individuals with baseline depressed lung function should be monitored closely if amiodarone therapy is to be initiated.
- The neonates.

Side effects:

- **Cardiovascular**

Cardiac arrhythmias, CHF, SA node dysfunction (1% to 3%); hypotension, sinus arrest (postmarketing).

- **CNS**

Abnormal gait/ataxia, dizziness, fatigue, lack of coordination, malaise, paresthesias, tremor/abnormal involuntary movement (4% to 9%); decreased libido, headache, insomnia, sleep disturbances (1% to 3%); confessional states, delirium, disorientation, hallucinations, pseudotumor cerebri (postmarketing).

- **Dermatologic**

Photosensitivity/Solar dermatitis (4% to 9%); flushing (1% to 3%); erythema multiform, exfoliative dermatitis, pruritus, skin cancer, Stevens-Johnson syndrome, toxic epidermal necrolysis, vasculitis (postmarketing).

- **EENT**

Visual disturbances (4% to 9%); abnormal smell sensation (1% to 3%).

- **GI**

Nausea, vomiting (10% to 33%); anorexia, constipation (4% to 9%); abdominal pain, abnormal salivation, abnormal taste (1% to 3%); pancreatitis (postmarketing).

Nursing considerations:

- During IV infusion, carefully monitor blood pressure and

- Slow the infusion if significant hypotension occurs.
- Bradycardia should be treated by slowing the infusion or discontinuing it if necessary. Sustained monitoring is essential because drug has an unusually long half-life.
- Report adverse reactions promptly. Bear in mind that long
- Elimination half-life means that drug effects will persist long after dosage adjustments are made or drug is discontinued.
- Be alert to signs of pulmonary toxicity: progressive dyspnea, fatigue, cough, pleuritic pain, fever.
- Auscultate chest periodically or when patient complains of respiratory symptoms. Check for diminished breath sounds, rales, pleuritic friction rub; observe breathing pattern. Drug induced pulmonary function problems must be distinguished from CHF or pneumonia. Keep your medical direction physician informed.
- Monitor heart rate and rhythm and BP until drug response has stabilized. Report promptly symptomatic bradycardia.
- Patients already receiving antidysrhythmic therapy when
- Amiodarone is started must be closely observed for adverse effects, particularly conduction disturbances and exacerbation of dysrhythmias. Dosage of previous agent should be
- reduced by 30–50% several days after amiodarone therapy is started

10. Ampicillin:

Trade name: Penbritin

Class: Antibiotic "Broad-spectrum penicillin"

Pregnancy: (Category B)

Action: Inhibit cell wall synthesis, some act by binding to penicillin binding protein in the cytoplasmic membrane of the bacteria.

Uses:

- Respiratory, urinary & GI tract infections & other infection due to ampicillin sensitive organisms.

- Meningitis caused by *Neisseria meningitidis*.

Dose

By mouth, 0.25–1 g every 6 hours, at least 30 minutes before food; CHILD under 10 years, half adult dose.

Urinary-tract infections, 500 mg every 8 hours;

CHILD under 10 years, half adult dose.

By intramuscular injection or intravenous injection or infusion, 500 mg every 4–6 hours; CHILD under 10 years, half adult dose

Listerial meningitis (in combination with another antibiotic), by intravenous infusion, 2 g every 4 hours for 10–14 days; INFANT under 1 month, 50 mg/kg every 6 hours; 1–3 months, 50–100 mg/kg every 6 hours; child 3 months–12 years, 100 mg/kg every 6 hours (max. 12 g daily)

Contraindications:

- Hypersensitivity to penicillins.
- Use cautiously with renal disorders.

Side effects:

- Allergic: skin rashes, pruritis, wheezing, fever....
- Diarrhea, abdominal cramp pain, nausea, vomiting.
- Pseudomembranous colitis, thrombocytopenia, leukopenia
- Thrombophlebitis + Electrolytes imbalance following I.V. use.

Hepatotoxicity.

I.M. injection may cause pain at the injection site.

Nursing considerations:

- After reconstitution for I.M., I.V. administration, the solution must be used within the hour.
- I.V. administration should be given slowly within 3–5 minutes or by infusion.
- I.M. injections are made deeply into the gluteal muscle.
- Assess regularly for allergic reactions. If reaction occurs the drug must be discontinued immediately, Epinephrine 'O2' antihistamines + corticosteroids must be immediately available.

- Detain client in an ambulatory care site for at least 20 min after administering Penicillin.
- After injection because rate of absorption should not be increased.
- Complete entire prescribed course of therapy.

11. Amphotericin:

Trade name: Amphocin, Fungizone

Class: Antibiotic, antifungal

Pregnancy: (Category B)

Action: amphotericin associates with ergosterol, a membrane chemical of fungi, forming a pore that leads to K⁺ leakage and fungal cell death

Uses:

Antifungal infection

Dose : *by mouth*, intestinal candidiasis, 100–200 mg every 6 hours; Infant and child, 100 mg 4 times daily

Prophylaxis Neonate 100 mg once daily

By intravenous infusion, systemic fungal infections, initial test dose of 1 mg over 20–30 minutes then 250 micrograms/kg daily, gradually increased if tolerated to 1 mg/kg daily; max. (severe infection) 1.5 mg/kg daily or on alternate days

Contraindications:

Allergic reaction to amphotericin

Side effects:

- Burning, itching, redness, or other sign of irritation not present before use of this medicine, Skin rash, Dryness of skin.
- Nausea, vomiting, diarrhea, melena, abd. Cramps.
- Fever, headache, thrombophlebitis, bone marrow depression, pancytopenia, Anaphylaxis.

Nursing considerations:

- The drug is toxic and should be used only for patients under close medical supervision with a relatively certain diagnosis of deep mycotic infections.
- I.V. adm. usually reserved for life threatening diseases because it is toxic.

- Treatment should be continued for at least 48 hr after clinical cure has been achieved to prevent relapse.

12. Atenolol:

Trade name: Normatin

Class: Beta-adrenergic blocking agent

Pregnancy: (Category D)

Action: Beta-adrenoceptor blocking " anti hypertensive, anti anginal"

Uses:

- Hypertension.
- Angina pectoris.

Dose: by mouth, Hypertension, 50 mg daily (higher doses rarely necessary)

Angina, 100 mg daily in 1 or 2 doses

Arrhythmias, 50–100 mg daily

By intravenous injection, arrhythmias, 2.5 mg at a rate of 1 mg/minute, repeated at 5-minute intervals to a max. Of 10 mg

Contraindications:

- Bradycardia, C.H.F., cardiogenic shock, diabetes, thyrotoxicosis, chronic bronchitis, asthma, bronchospasm, emphysema.

Side effects:

- Bradycardia, C.H.F., hypotension, cold extremities (due to peripheral vasoconstriction), edema, dyspnea, shortness of breath, nausea, vomiting, hepatomegaly and bronchospasm.

Nursing considerations:

- For IV use, the drug may be diluted in sodium chloride, dextrose, or dextrose saline.
- Instruct patient/family to take blood pressure and pulse.
- Provide written instructions as when to call physician (e.g. HR below 50 beat/min).
- Instruct patient to dress warmly during cold weather.
- Diabetic patient should be very careful about symptoms of hypoglycemia.
- Report any asthma-like symptoms.

13. Atorvastatin:

Trade name: Lipitor

Class: Antihyperlipidemic Statins

Pregnancy: (Category X)

Action: lowers the level of cholesterol in the blood by reducing the production of cholesterol by the liver.

Uses:

- Preventing and treating atherosclerosis.

Dose

Primary hypercholesterolemia and combined hyperlipidaemia,
usually 10 mg once daily

Familial hypercholesterolemia, initially 10 mg daily, increased at
intervals of at least 4 weeks to 40 mg once daily; if necessary,
further increased to max. 80 mg once daily

Contraindications:

- Allergy to atorvastatin, fungal byproducts, active liver disease or unexplained and persistent elevations of transaminase levels, pregnancy, lactation.
- Use cautiously with impaired endocrine function

Side effects:

- CNS: Headache, asthenia
- GI: Flatulence, abdominal pain, cramps, constipation, nausea, dyspepsia, heartburn, liver failure
- Respiratory: Sinusitis, pharyngitis.
- Other: Rhabdomyolysis with acute renal failure, arthralgia, myalgia

Nursing considerations:

- Obtain liver function tests as a baseline and periodically during therapy.
- Withhold atorvastatin in any acute, serious condition (severe infection, hypotension, major surgery, trauma, severe metabolic or endocrine disorder, seizures)
- Ensure that patient has tried cholesterol-lowering diet regimen for 3—6 mo before beginning therapy.
- Administer drug without regard to food, but at same time each day.

- Consult dietitian regarding low-cholesterol diets.
- Ensure that patient is not pregnant and has appropriate contraceptives available during therapy; serious fetal damage has been associated with this drug.

14. Atracrium:

Trade name: Tracrium

Pregnancy: (Category C)

Action: muscle relaxant

Uses:

- It is used as an adjunct to general anesthesia or sedation in the intensive care unit (ICU), to relax skeletal muscles, and to facilitate tracheal intubations and mechanical ventilation.

Dose : intravenous injection: 0.3–0.6 mg/kg

Maintenance" intravenous infusion" (0.3–0.6 mg/kg hour)

Contraindications:

- Hypersensitive to atracurium, cisatracurium or benzenesulfonic acid.

Side effects:

- Skin flushing, mild reduction in blood pressure, and difficulty in breathing.
- Very rarely anaphylaxis, a severe allergic reaction, can occur when given with one or more anesthetic agents. There have been rare reports of seizures (fits) in ICU patients who usually also had a medical condition that makes them predisposed to having fits, e.g. head injury or brain disease.

Nursing considerations:

- Always assess past history of surgeries and response to anesthesia
- Assess past history, allergies, and medications.
- Assess use of alcohol, illicit drugs, and opioids.
- Close and frequent observation of the patient and all body systems monitor vital signs, ABCs.
- Monitor for cardiovascular depression, respiratory depression, and complications of anesthesia.

- Implement safety measures.

15. **Atropine sulfate:**

Trade name: atropine

Class: Cholinergic blocking agent

Pregnancy: (Category C)

Action: It is a parasympatholytic agent which cause relaxation of smooth muscles & inhibition of secretory glands

Uses:

- Adjunct in peptic ulcer treatment.
- Irritable bowel syndrome.
- Treatment of spastic disorders of biliary tract.
- During anesthesia to control salivation & bronchial secretions.
- Parkinsonism.
- Anti-arrhythmic (prophylaxis).
- Prophylaxis and treatment of toxicity due to cholinesterase inhibitor including organophosphate pesticides.
- Ophthalmologic treatment of uveitis.

Dose

Bradycardia :Adult 0.5-1 mg IV may repeated at 5 min intervals until desired rate achieved " max 0.03- 0.04 mg / kg " Pediatric 0.02 mg/kg " min dose 0.1 mg , max single dose 0.5 mg for a child and 1 mg for an adolescent.

Asystole & PEA: Adult 1 mg IV may repeated every 3-5 min "max 0.03- 0.04 mg / kg, complete vagal block"

Pediatric unknown efficacy.

Endotracheal route: 30 mic/kg diluted in 5 ml NS

Anticholinesterase poisoning: Adult 1-2 mg push every 5-15 minutes to dry secretions, no max dose

Pediatric 0.05 mg/kg/dose every 5-15 min

NB

Possible paradoxical bradycardia when pushed slowly or
used at doses less than 0.5 mg

when

Contraindications:

- Glaucoma, tachycardia, myocardial ischemia.
- Prostate hypertrophy, myasthenia gravis, paralytic ileus.
- Mental impairment, lactation, hepatic disease.

Side effects:

- Nausea, vomiting, dry mouth, constipation, heartburn,
- dizziness, drowsiness, headache, insomnia, blurring of vision,
- Photophobia, flashing, euphoria, hallucination flushing of the skin.

Nursing considerations:

- Check dosage & measure the drug exactly.
- Assess for history of asthma, glaucoma, ulcer... etc.
- Determine the age of the client.
- Frequent mouth care.
- Assess client for change in pulse rate.
- In case of blurring of vision, assist on ambulating & give safety measures.

16. Bisoprolol fumarate:

Trade name: Zebeta

Class: Beta-adrenoceptor blocking drugs

Pregnancy: (Category C)

Action:

- Blocks adrenergic receptors of the sympathetic nervous system in the heart and juxtaglomerular apparatus (kidney), thus decreasing the excitability of the heart.
- Decreasing cardiac output and oxygen consumption, decreasing the release of rennin from the kidney, and lowering blood pressure.

Uses:

- Management of hypertension,
- used alone or with other antihypertensive agents

Dose

Hypertension and angina, usually 10 mg once daily (5 mg may be adequate in some patients); max. 20 mg daily

Adjunct in stable moderate to severe heart failure, initially 1.25 mg once daily (in the morning) for 1 week then, if well tolerated, increased to 2.5 mg once daily for 1 week, then 3.75 mg once daily for 1 week, then 5 mg once daily for 4 weeks, then 7.5 mg once daily for 4 weeks, then 10 mg once daily; max. 10 mg daily

Contraindications:

- Sinus bradycardia, second- or third-degree heart block, cardiogenic shock, CHF.
- Use cautiously with renal failure, diabetes or thyrotoxicosis (bisoprolol can mask the usual cardiac signs of hypoglycemia and thyrotoxicosis), lactation.

Side effects:

- **CNS:** Dizziness, paresthesias, sleep disturbances, hallucinations, disorientation, memory loss, slurred speech .
- **GI:** Gastric pain, flatulence, constipation, diarrhea, nausea, vomiting, anorexia, ischemic colitis, , retroperitoneal fibrosis, hepatomegaly, acute pancreatitis.
- **CV:** Bradycardia, CHF, cardiac arrhythmias, sinoatrial or AV nodal block, tachycardia, peripheral vascular insufficiency, claudicating, CVA, pulmonary edema, hypotension
- **Respiratory:** Bronchospasm, dyspnea, cough, bronchial obstruction, nasal stuffiness, rhinitis, pharyngitis.
- **GU:** Impotence, decreased libido, Peyronie's disease, dysuria, nocturia, frequent urination.
- **Musculoskeletal:** Joint pain, arthralgia, muscle cramp
- **EENT:** Eye irritation, dry eyes, conjunctivitis, blurred vision
- **Other:** Decreased exercise tolerance, development of antinuclear antibodies, hyperglycemia or hypoglycemia, elevated serum transaminase, alkaline phosphatase, and LDH

Nursing considerations:

- Do not discontinue drug abruptly after chronic therapy (hypersensitivity to catecholamine may have developed, causing exacerbation of angina, MI, and ventricular arrhythmias).
- Taper drug gradually over 2 wk with monitoring.
- Consult with physician about withdrawing drug if patient is to undergo surgery (withdrawal is controversial).

17. Calcium:

Trade name: Calciday, Caltrate

Class: Electrolyte, mineral Calcium Salts

Pregnancy: (Category B)

Action:

- It is essential for maintenance of normal function of nerves, muscles, skeletal system & permeability of cell membranes & capillaries.
- Necessary for activation of many enzymes, contraction of cardiac, skeletal & smooth muscles, nerve impulses, respiration, and blood coagulation.

Uses:

*** I.V:**

- Acute hypocalcemic tetany secondary to :
- Renal failure
- Hypoparathyroidism.
- Premature infants.
- To treat depletion of electrolytes.
- During cardiac resuscitation.

*** I.M. or I.V:**

- To reduce spasm (renal & intestinal).
- To relief sensitivity reactions of insect bites.

**** P.O:**

- Chronic hypoparathyroidism.

- Osteoporosis
- Osteomalacia.
- Rickets
- Myasthenia gravis
- Supplement for pregnant women.

Dose

- In **hypocalcaemic tetany** an initial intravenous injection of 10 mL (2.25 mmol) of calcium gluconate injection 10% should be followed by the continuous infusion of about 40 mL (9 mmol) daily, but plasma calcium should be monitored.
- This regimen can also be used immediately to temporarily reduce the toxic effects of hyperkalaemia.
- **Maintenance:** calcium gluconate 1–2 g daily.

Contraindications:

- Digitized patients.
- Some renal & cardiac patients.
- Cancer with bone metastasis.

Side effects:

- Hypercalcaemia characterized by lassitude – fatigue, skeletal muscle weakness, confusion & constipation.
- Renal calculi, bradycardia, arrhythmias & renal impairment.
- Rapid I.V. administration. May result in vasodilatation, decreased B.P. & H.R., cardiac arrhythmias, syncope and cardiac arrest.

Nursing considerations:

Oral:

- administer 1-1.5 hr after meals, alkalis & large amounts of fat decrease the absorption of calcium.
- If the client has difficulty swallowing large tablets, obtain a calcium in water suspension by diluting the calcium in hot water then cooled by administration.

I.V.:

- Administer slowly.

- Observe vital signs closely for evidence of bradycardia & hypotension.
- Prevent any leakage of medication into the tissue since it is extremely irritating.

LM:

- Rotate the injection sites.
- Obtain baseline renal function.
- In case of hypocalcemic tetany, provide safety precautions to prevent injury.

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18. Captopril:

Trade name: Capotin, nhabace

Class: antihypertensive, inhibitor of angiotensin synthesis.

Pregnancy: (Category C)

Action:

- Captopril is a highly specific competitive inhibitor of angiotensin I Converting enzyme.
- The enzyme is responsible for the conversion of angiotensin I to angiotensin II which decrease BP.
- Reduce peripheral arterial resistance.
- Decrease aldosterone secretion which works to increase level of serum potassium.

Uses:

- Hypertension.
- In combination with diuretics and digitalis in the treatment of CHF.

Dose

hypertension, used alone, initially 12.5 mg twice daily; if used in addition to diuretic, or in elderly, initially 6.25 mg twice daily (first dose at bedtime); usual maintenance dose 25 mg twice daily; max. 50 mg twice daily (rarely 3 times daily in severe hypertension)

Heart failure (adjunct), initially 6.25–12.5 mg under close medical supervision; usual maintenance dose 25 mg 2–3 times daily; usual max. 150 mg daily

Prophylaxis after infarction in clinically stable patients with

asymptomatic or symptomatic left ventricular dysfunction, initially 6.25 mg, starting as early as 3 days after infarction, then increased over several weeks to 150 mg daily (if tolerated) in divided doses .

Contraindications:

- Hypersensitivity, Reno vascular disease and pregnancy.

Side effects:

- Skin rash, loss of taste, neutropnea, nausea, vomiting.
- Hypotension, proteinuria, renal failure and hyperkalemia.

Nursing considerations:

- In case of overdose, give normal saline to restore BP.
- Should not be discontinued without Dr. Instructions.
- Obtain baseline hematological studies, liver & renal functions tests prior to beginning the treatment.
- Determine client understands of the therapy and if he/she takes other medications.
- Observe client closely for hypotension 3 hours after the initial dose.
- In case of hypotension, place client in supine position and give IV saline infusion.
- Withhold potassium sparing diuretics and consult with physician (hyperkalemia may occur).
- Take captopril 1 hour before meal or on an empty stomach.
- Report skin rash, heartburn, and chest pain to physician.
- Explain to client that he may develop loss of taste for 2-3 months, if it persists, notify the physician.

19. Carvedilol:

Trade name: Coreg, Dilatrend.

Class: antihypertensive, beta blockers.

Pregnancy: (Category C)

Action:

- Blocks stimulation of beta1 (myocardial) and beta2 (pulmonary, vascular, and uterine) -adrenergic receptor sites
- Also has alpha1 blocking activity, which may result in orthostatic hypotension.

Uses:

- Management of hypertension.
- Management of CHF (due to ischemia or cardiomyopathy) with digoxin, diuretics, and ACE inhibitors.

Dose

Hypertension, initially 12.5 mg once daily, increased after 2 days to usual dose of 25 mg once daily; if necessary may be further increased at intervals of at least 2 weeks to max. 50 mg daily in single or divided doses; *ELDERLY* initial dose of 12.5 mg daily may provide satisfactory control **Angina**, initially 12.5 mg twice daily, increased after 2 days to 25 mg twice daily

Adjunct in heart failure initially 3.125 mg twice daily (with food), dose increased at intervals of at least 2 weeks to 6.25 mg twice daily, then to 12.5 mg twice daily, then to 25 mg twice daily; increase to highest dose tolerated, max. 25 mg twice daily in patients with severe heart failure or body-weight less than 85 kg and 50 mg twice daily in patients over 85 kg

Contraindications:

- Uncompensated CHF.
- Pulmonary edema.
- Cardiogenic shock.
- Bradycardia or heart block.
- Severe hepatic impairment or bronchial asthma/bronchospasm.

Side effects:

- Carvedilol may cause hyperglycemia, tiredness, weakness, lightheadedness, dizziness, headache,
- diarrhea, nausea, vomiting, vision changes, joint pain, difficulty falling asleep or staying asleep
- Cough, dry eyes, numbness, burning, or tingling in the arms or legs

Nursing considerations:

- Teach patient and family how to check pulse and blood pressure.
- May cause drowsiness or dizziness. Caution patients to avoid driving or other activities that require alertness until response to the drug is known.
- Patients with diabetes should closely monitor blood sugar
- Advise patient to notify health care professional if slow pulse, difficulty breathing, wheezing, cold hands and feet, dizziness, confusion, depression, rash, fever, sore throat, unusual bleeding, or bruising occurs.
- Hypertension: Reinforce the need to continue additional therapies for hypertension (weight loss, sodium restriction, stress reduction, regular exercise, moderation of alcohol consumption, and smoking cessation).

20. Cefazolin:

Trade name: Ancef, Kefzol.

Class: Antibiotic "cephalosporines" **FIRST GENERATION**

Pregnancy: (Category B)

Action: Bind to bacterial cell wall membrane, causing cell death.

Uses:

Treatment of:

- Skin and skin structure infections (including burn wounds)
- Pneumonia.
- Otitis media.
- Urinary tract infections.
- Bone and joint infections.
- Septicemia (including endocarditic) caused by susceptible organisms.
- Perioperative prophylaxis.

Dose

By intramuscular injection or intravenous injection or infusion, 0.5–1 g every 6–12 hours; CHILD, 25–50 mg/kg daily (in divided doses), increased to 100 mg/kg daily in severe infections

Contraindications:

- Hypersensitivity to cephalosporin or Penicillin, renal failure, Pregnancy, Lactation.

Side effects:

- Nausea, vomiting, diarrhea, anorexia, abdominal pain, flatulence, skin rashes super-infection, heartburn, sore mouth, bone marrow depression: (Decrease WBC, decreased platelets, decreased Hct), Nephrotoxicity, (pain, abscess at injection site, phlebitis and inflammation at IV site.

Nursing considerations:

- Infuse over 30 minutes unless otherwise indicated.
- Therapy should be continued for at least 2-3 days after symptoms of infection have disappeared.
- Assess client with a history of hypersensitivity reaction. "for penicillin or cephalosporin."
- Assess client financial status. These drugs are usually expensive.
- If GI upset occurs administer. Drugs with meals. "Should be administered on empty stomach".
- Obtain liver & renal studies.

21. Cefotaxime :

Trade name: claforan.

Class: Antibiotic "cephalosporines "(third generation).

Pregnancy: (Category B)

Action: Bind to bacterial cell wall membrane, causing cell death.

Uses:

- Pneumonia – GU tract infections - meningitis, Peritonitis, septicemia, pelvic cellulitis – endometritis.

Dose

by intramuscular or intravenous injection or by intravenous infusion, 1 g every 12 hours increased in **severe infections** (e.g. meningitis) to 8 g daily in 4 divided doses; higher doses (up to 12 g daily in 3–4 divided doses) may be required; **NEONATE** 50 mg/kg daily in 2–4 divided doses increased to 150–200 mg/kg daily in severe infections; **CHILD** 100–150 mg/kg daily in 2–4 divided doses increased up to 200 mg/kg daily in very severe infections

Gonorrhea, 500 mg as a single dose

Contraindications:

- Hypersensitivity to cephalosporin or Penicillin.

Side effects:

CNS: seizures (high doses).

GI: pseudomembranous colitis, diarrhea, nausea, vomiting, cramps, pseudolithiasis (ceftriaxone).

Derm: rashes, urticaria.

Hemat: bleeding (increased with cefoperazone), blood dyscrasias, hemolytic anemia.

Local: pain at IM site, phlebitis at IV site.

Misc: allergic reactions including anaphylaxis and serum sickness, super infection.

Nursing considerations:

- Should not be mixed with amino glycosides. (each should be given separately)
- For I.V. use, should be mixed with 10 ml sterile water & administer over 3-5 minutes.

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22. Cefazidime :

Trade name: Ceptaz, Fortum, Tazicef, Tazidime

Class: Antibiotic "cephalosporines" *third-generation*

Pregnancy: (Category B)

Action : Bind to bacterial cell wall membrane, causing cell death.

Class: Antibiotic "cephalosporines" *third-generation*

Pregnancy: (Category B)

Action: Bind to bacterial cell wall membrane, causing cell death.

Uses:

- Pneumonia, UTI, infections of skin, bone & abdomen. Meningitis, bacterial septicemia, pre-op. prophylaxis.

Dose

by deep intramuscular injection, or by intravenous injection over at least 2–4 minutes, or by intravenous infusion, 1 g daily; 2–4 g daily in **severe infections**; intramuscular doses over 1 g divided between more than one site, **Neonate** by intravenous infusion over 60 minutes, 20–50 mg/kg daily (max. 50 mg/kg daily) **Infant and child** under 50 kg, by deep intramuscular injection, or by intravenous injection over 2–4 minutes, or by intravenous infusion, 20–50 mg/kg daily; up to 80 mg/kg daily in **severe infections**; doses of 50 mg/kg and over by intravenous infusion only; 50 kg and over, adult dose

Uncomplicated gonorrhea, by deep intramuscular injection, 250 mg as a single dose.

Surgical prophylaxis, by deep intramuscular injection or by intravenous injection over at least 2–4 minutes, 1 g at induction; **colorectal surgery**, by deep intramuscular injection or by intravenous injection over at least 2–4 minutes or by intravenous infusion, 2 g at induction; intramuscular doses over 1 g divided between more than one site

Contraindications:

- Hypersensitivity to cephalosporin or Penicillin ,renal failure

Side effects:

- Nausea, vomiting, diarrhea, anorexia, abdominal pain, flatulence, skin rashes super-infection, heartburn, sore mouth, bone marrow depression.

Nursing considerations:

- I.M. injection should be deep into the body of large muscle.
- I.V. injection should be diluted.
- For stability of solution the package insert should be checked carefully.

- Dosage should be maintained for at least 2 days after symptoms of infection have disappeared (usual course is 4-14 days).

24. Cefuroxime :

Trade name: Zinacef

Class: Antibiotic "cephalosporines" (second generation)

Pregnancy: (Category B)

Action: Bind to bacterial cell wall membrane, causing cell death.

Uses:

- Pharyngitis, tonsillitis , Otitis media ,Lower respiratory tract infections, UTIs Dermatologic infections, Treatment of early Lyme disease ,Lower respiratory tract infections, influenza, Septicemia, Meningitis Bone and joint infections, Perioperative prophylaxis .

Dose : by mouth (as cefuroxime axetil), 250 mg twice daily in most infections including mild to moderate lower respiratory-tract infections (e.g. bronchitis); doubled for more severe lower respiratory-tract infections or if pneumonia suspected

Urinary-tract infection, 125 mg twice daily, doubled in pyelonephritis

Gonorrhea, 1 g as a single dose

Child over 3 months, 125 mg twice daily, if necessary doubled in child over 2 years with otitis media

Lyme disease, adult and child over 12 years, 500 mg twice daily for 20 days By intramuscular injection or intravenous injection or infusion, 750 mg every 6-8 hours; 1.5 g every 6-8 hours in severe infections; single doses over 750 mg intravenous route only

Child usual dose 60 mg/kg daily (range 30-100 mg/kg daily) in 3-4 divided doses (2-3 divided doses in neonates)

Gonorrhea, 1.5 g as a single dose by intramuscular injection (divided between 2 sites)

Surgical prophylaxis, 1.5 g by intravenous injection at induction; up to 3 further doses of 750 mg may be given by intramuscular or intravenous injection every 8 hours for high-risk procedures

Meningitis, 3 g intravenously every 8 hours; Child 200-240 mg/kg daily (in 3-4

divided doses) reduced to 100 mg/kg daily after 3 days or on clinical improvement; Neonate
100 mg/kg daily reduced to 50 mg/kg daily

Contraindications:

Allergy to cephalosporin or penicillins, renal failure, lactation, pregnancy

Side effects:

- **CNS:** Headache, dizziness, lethargy, paresthesias
- **GI:** Nausea, vomiting, diarrhea, anorexia, abdominal pain, flatulence, pseudo membranous colitis, liver toxicity
- **Hematologic:** Bone marrow depression: decreased WBC, decreased platelets, decreased Hct.
- **GU:** Nephrotoxicity
- **Hypersensitivity:** Ranging from rash to fever to anaphylaxis, serum sickness reaction.

Nursing considerations:

- Culture infection, arrange for sensitivity tests before and during therapy if expected response is not seen.
 - Give oral drug with food to decrease GI upset and enhance absorption.
 - Give oral drug to children who can swallow tablets; crushing the drug results in a bitter, unpleasant taste.
 - Have vitamin K available in case hypoprothrombinemia occurs.
 - Discontinue if hypersensitivity reaction occurs.
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25. Chloramphenicol :

Trade name: Chloromycetin

Class: antibiotic

Pregnancy: (Category C)

Action: it inhibits protein synthesis in bacteria by binding to ribosome.

Uses:

- Not to be used for trivial infections as prophylaxis of infection
- Cold, throat infections or flu.
- Treatment of choice for typhoid fever (not for carrier state).

- Meningitis due to hemophilus influenza, pneumococci or
- Meningococci.
- Skin infections (topically).
- Brain abscesses.

Dose : by mouth or by intravenous injection or infusion, 50 mg/kg daily in 4 divided doses (exceptionally, can be doubled for severe infections such as septicemia and meningitis, providing high doses reduced as soon as clinically indicated); Child, haemophilus epiglottitis and pyogenic meningitis, 50–100 mg/kg daily in divided doses (high dosages decreased as soon as clinically indicated); Infants under 2 weeks 25 mg/kg daily (in 4 divided doses),

2 weeks–1 year 50 mg/kg daily (in 4 divided doses)

Contraindications:

- Hypersensitivity to chloramphenicol.
- Pregnancy
- Nursing mothers.
- Renal and hepatic failure.

Side effects:

- A plastic anemia, pancytopenia, nausea, vomiting abdominal distention, “progressive pallid cyanoses, ashen gray color, tachypnea , vasomotor collapse & death”, Gray syndrome in infants, super infections.

Nursing considerations:

- Administer I.V. as 10% solution over at least 1 min.
- Note any history of hypersensitivity & other contraindications, & if Client takes antidiabetic or other medications that cause bone marrow depression.
- Neonates should be observed closely (greater hazards of toxicity).
- Arrange for further hematologic studies to be conducted every 2 days to detect early signs of bone marrow depression.
- The drug should be taken at regular intervals to be most effective.
- The drug should be taken 1 hr before or 2 hr after meals (if GI upset Occurs it could be taken with the food).

26. Chlorpromazine:

Trade name: Largactil

Class: Antipsychotic, phenothiazine

Pregnancy: (Category C)

Action: Act by blocking dopamine receptors. It has significant antiemetic effect, hypotensive, sedative & anticholinergic effect.

Uses:

- Acute & chronic psychosis (such as schizophrenia, mania & manic
- Depression.
- Preanesthetic.
- Intractable hiccoughs.
- Nausea & vomiting.

Dose : by mouth psychomotor agitation, excitement, and violent or dangerously impulsive behavior initially 25 mg 3 times daily (or 75 mg at night), adjusted according to response, to usual maintenance dose of 75–300 mg daily

Intractable hiccup, oral 25–50 mg 3–4 times daily

By deep intramuscular injection, (for relief of acute symptoms, 25–50 mg every 6–8 hours;

Child, 1–5 years 0.5 mg/kg every 6–8 hours (max. 40 mg daily); 6–12 years 0.5 mg/kg every 6–8 hours (max. 75 mg daily)

Induction of hypothermia (to prevent shivering), by deep intramuscular injection, 25–50 mg every 6–8 hours; Child 1–12 years, initially 0.5–1 mg/kg, followed by maintenance 0.5 mg/kg every 4–6 hours.

Contraindications:

- Severe depression, coma.
- Bone marrow depression.
- Patients with history of seizures & on anticonvulsant therapy.
- Hepatic & renal diseases.
- Prostatic hypertrophy.
- Dehydration - glaucoma, measles.

Side effects:

- Depression, dizziness, seizures, gynecomastia. Orthostatic hypotension, bronchospasm, laryngospasm tardive dyskinesia, photosensitivity, leukopenia, aplastic anemia, and dry mouth.

Nursing considerations:

- Shouldn't be used to treat nausea & vomiting in children less than 6 months of age.
- Should avoid getting solution on hands or clothing (it will cause dermatitis).
- Solutions with marked discoloration should be discarded.
- Note any history of seizures.
- Take liver & kidney function test periodically.
- Document & rotate injection sites.
- Report side effects immediately.
- Determine age of male patients & assess for prostatic hypertrophy.

27. Ciprofloxacin Hydrochloride:

Trade name: ciproxin

Class: Antibacterial, quinolone derivative

Pregnancy: (Category C)

Action: is a synthetic quinolone with broad- spectrum bactericidal activity, inhibits the synthesis of bacterial DNA by inhibiting the enzyme DNA gyrase.

Uses:

- UTI, infectious diarrhea
- Infection of lower respiratory tract, bone, joints & skin.

Dose : by mouth, respiratory-tract infections, 250–750 mg

Twice daily, **Urinary-tract infections**, 250–500 mg twice

Daily (100 mg twice daily for 3 days in acute uncomplicated **cystitis** in women)

Chronic prostatitis, 500 mg twice daily for 28 days

Gonorrhea, 500 mg as a single dose

Pseudomonal lower respiratory-tract infection in cystic fibrosis, 750 mg

twice daily; **CHILD** 5–17 years, up to 20 mg/kg twice daily (max. 1.5 g daily)

Most other infections, 500–750 mg twice daily

Surgical prophylaxis, 750 mg 60–90 minutes before procedure

Prophylaxis of meningococcal meningitis, [not licensed for this indication] 500 mg as a single dose; Child 5–12 years 250 mg

By intravenous infusion (over 30–60 minutes; 400 mg over 60 minutes), 200–400 mg twice daily, Child 20 mg/kg daily in 2 divided doses

Pseudomonal lower respiratory-tract infection in cystic fibrosis, 400 mg twice daily; CHILD 5–17 years, up to 10 mg/kg 3 times daily (max. 1.2 g daily)

Child not recommended but where benefit outweighs risk, by mouth, 10–30 mg/kg daily in 2 divided doses or by intravenous infusion, 8–16 mg/kg daily in 2 divided doses

Anthrax (treatment and post-exposure prophylaxis, see notes above), by mouth, 500 mg twice daily; child 30 mg/kg daily in 2 divided doses (max. 1g daily)

Contraindications:

- Hypersensitivity - children - lactation.

Side effects:

- Nausea vomiting, Dysphasia, crystalluria,
- Hematuria, Rashes, bad taste, GI bleeding,
- Headache, insomnia.

Nursing considerations:

- Give medication 2 hr after meals.
- Stress importance of drinking increased amounts of fluids to keep urine acidic & to minimize the risk of crystalluria.

28. Clindamycin phosphate:

Trade name: Dalacin

Class: antibiotic, clindamycin

Pregnancy: (Category B)

Action: suppress protein synthesis by microorganisms by binding to ribosomes. It is both bacteriostatic & bactericidal.

Uses:

- Serious respiratory tract infections. (lung abscess, pneumonia).
- Serious skin infections.
- Septicemia.
- Osteomyelitis caused by staphylococci.
- Used topically for inflammatory acne vulgaris .

Dose : by mouth, 150–300 mg every 6 hours; up to 450 mg every 6 hours in severe infections; CHILD, 3–6 mg/kg every 6 hours

N.B

Patients should discontinue immediately and contact doctor if diarrhea develops; capsules should be swallowed with a glass of water.

By deep intramuscular injection or by intravenous infusion, 0.6–2.7 g daily (in 2–4 divided doses); life-threatening infection, up to 4.8 g daily; single doses above 600 mg by intravenous infusion only; single doses by intravenous infusion not to exceed 1.2 g CHILD over 1 month, 15–40 mg/kg daily in 3–4 divided doses; severe infections, at least 300 mg daily regardless of weight.

Contraindications:

- Hypersensitivity
- Minor bacterial infections.
- Pregnancy.

Side effects:

- Nausea, vomiting, diarrhea, abdominal pain, tenesmus.
- Loss of weight, pseudo membranous colitis, skin rashes.
- Hypotension.
- Thrombophlebitis following I.V. use.

Nursing considerations:

- Give parenteral drug to hospitalized client only.
- Dilute I.V. injections. If I.M., inject medication deeply.
- Don't refrigerate solution (because it becomes thick) .