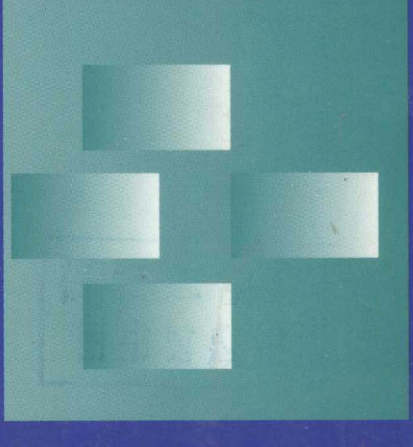
Nurses' IV Drug Manual



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PREFACE

The primary purpose of the *Nurses' IV Drug Manual* is to provide students and practitioners with a quick and comprehensive guide for the safe and knowledgeable administration of intravenous medications.

Since safe and accurate medication administration are primary nursing responsibilities, knowledge of a drug's pharmacologic activity is essential. To foster the concept of quality care and patient safety, this IV drug manual was developed to provide easy access to information for professionals.

The initial concept for this IV drug manual evolved from the nursing staff at Cooper Hospital/UMC. The need for a concise but comprehensive guide for intravenous drug administration was identified. In an effort to support our nursing colleagues, this book was developed, and is dedicated to nurses who, in their patients' best interests, never hesitate to ask the what, when, where, and why of drug administration.

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Donna Whyte Thalken
Maryann C. Powell

HOW TO USE *NURSES' IV DRUG MANUAL*

The *Nurses' IV Drug Manual* is arranged in a two column format to facilitate access to information necessary for the administration of intravenous medications.

The following describes how and where to retrieve information from the drug monograph:

Generic Name: The generic name of the active component(s) of the preparation is listed. If a common standard chemical name is also available, it will be listed in parentheses.

Pronunciation Key: A phonetic pronunciation key is available with the syllable to be emphasized with a stress mark.

Trade Name(s): The most commonly used trade names are listed alphabetically. If a trade name is only used in Canada, a maple leaf symbol ( ) will be designated after the name. If a product is only referred to by its generic/chemical name, a trade name will not be listed.

Classification(s): The most common classifications of uses of the drug are listed alphabetically.

Pregnancy Category: The FDA assigned pregnancy risk category (as defined in Appendix A) is included, if available; otherwise, a designation of Unknown is used. This category identifies the risk to the fetus as determined

by animal and/or human data. Since most drugs have limited or no safety data from controlled trials, a risk versus benefit assessment should occur prior to administration.

Controlled Substance Schedule: This DEA designation (as defined in Appendix B) indicates the abuse potential associated with use of the identified agent.

PHARMACODYNAMICS/KINETICS

Pharmacodynamics describes the mechanism of action and the expected therapeutic effect. Pharmacokinetics describes the parameters associated with the drug following absorption, distribution, metabolism and elimination. If specific data is unavailable, poorly defined or unknown, it will not be listed.

Mechanism of Action: Briefly describes the activity, at a cellular level and at the primary site of action, that results in the anticipated therapeutic effect.

Onset of Action: Describes the time when pharmacologic effect occurs.

Peak Effect: Describes the time when pharmacologic effect is at its maximum.

Peak serum level: Describes the time required to reach a maximal serum concentration (usually immediately following intravenous administration).

Duration of Action: Describes the time over which the pharmacologic effect persists.

Therapeutic Serum Levels: Refers to the accepted therapeutic serum levels for monitoring purposes. Since all drugs are not able to be routinely assayed, data will be included for those for which it is available (values will vary according to each institution or laboratory).

Distribution: Drugs distribute to various body fluids and tissues, and ultimately to the primary site of activity. Data regarding transfer across the placental barrier or into breast milk will be noted under the pregnancy "precautions" section. Drugs bind to tissues and proteins to varying degrees as noted. If a drug is extensively protein bound (>90%), displacement from the binding site may occur through drug interactions or a reduction in the binding protein, i.e., albumin. If this occurs, the increased free drug may result in toxic side effects.

Metabolism/Elimination: Describes the extent, if any, of metabolic activation/inactivation and the primary route of elimination. If the drug is primarily eliminated by the kidneys, the impact of hemodialysis and/or peritoneal dialysis will be noted if available.

Half-Life: Describes the terminal elimination half-life ($t_{1/2}$) with normal end organ function. This refers to the time by which the serum drug concentration declines by 50%. This value assists in estimating when pharmacologic effect will begin to occur (usually at steady state in 4 to 5 half-lives) or decline. Impairment of the primary organ of elimination and its effect on half-life will also be noted.

INDICATIONS/DOSAGE

All FDA labeled indications and usual dosage ranges will be listed for adult, pediatric, and neonatal patients, as they apply to the respective

populations. Modified dosage/intervals may be necessary based on individual patient situations. When literature supports unlabeled indications or use in specific patient populations, dosage guidelines will be presented. Additional information following publication of this manual may modify guidelines. Recommendations for dosage/interval adjustments based on clinical parameters especially in elderly and changing end organ function, specifically creatinine clearance (CrCl), will be made when applicable; refer to product literature or reference sources for specific adjustments. Pediatric dosages are usually based on "mg/kg" body weight or "mg/m^2" body surface area; doses should not exceed adult guidelines unless specifically indicated.

Contraindications/Precautions Describes the situations or patient populations requiring careful consideration and/or administration.

Contraindicated in: As identified by the manufacturer, patients, or conditions in which the drug should not be administered. In certain circumstances, the physician may determine that a relative (rather than absolute) risk versus benefit exists.

Use Cautiously in: Patients or conditions requiring careful monitoring with use; alternative regimens may need to be considered.

Pregnancy/Lactation: Most drugs have no well-controlled trials to establish safety in pregnancy/lactation; however, the FDA has assigned designated safety categories for risk versus benefit assessment. If teratogenic data clearly is available, a recommendation not to administer the drug will be included. Specific information regarding drug passage across placenta or into breast milk will also be noted.

Pediatrics: If there is no or limited safety and efficacy data, this will be noted. If organ immaturity or patient sensitivity is an issue, cautionary statements will be included.

PREPARATION

Describes the details involved in preparing the drug for administration. All agents should be prepared using aseptic technique and have no evidence of particulate matter.

Availability: The most commonly available strengths/concentrations, dosage form and packaging size; additional information such as sodium or benzyl alcohol content are noted.

Reconstitution: If the product is available in a lyophilized/powder for injection, the diluent and volume required to prepare the initial constitution is listed.

Syringe/Infusion: If further dilution of the drug is required prior to administration, as an IV push or infusion, the volumes and compatible diluents/solutions are noted.

STABILITY/STORAGE

Manufacturer specified storage requirements (ie, refrigeration) of the intact vial/ampule and subsequent diluted product are noted. Manufacturer sta-

bility is indicated by the expiration date if stored as specified. Stability of the products in the various dilutions are listed. If a preparation does not contain a preservative, use within 24 hours is suggested unless otherwise specified.

ADMINISTRATION

General information is provided, which includes infusion device requirements, test dose use, trained personnel/ventilatory support requirements, and extravasation/treatment information. Additionally, IV sites should be rotated to avoid phlebitis development especially with frequent IV administration. If the agent has cytotoxic potential, recommendations to handle as per institutional guidelines is included (see Appendix C) for preparation and administration. If spills occur, specific information will be provided if available.

IV Push: Specific rates of administration are identified if available. If recommended to give slowly, a specific rate is not given since institutional policy varies; however, 1 to 5 minutes is acceptable depending on the volume to be given. If small volumes are to be given, further dilution may be considered to increase the accuracy of administration.

Intermittent/Continuous Infusion: Intermittent infusion includes infusion over 0.5 to 12 hours; continuous infusion over 12 to 24 hours as per physician specified order.

COMPATIBILITY/INCOMPATIBILITY

Only information documented for concurrent administration is included. The composition of individual solutions must be identified to ensure complete compatibility. Consider flushing between medications with compatible solution. Products may vary by manufacturer in composition; assess IV tubing and site frequently with initial administrations. Consult the pharmacy department and/or additional reference resources to determine the feasibility of administration of multiple or unlisted agents.

Solution: Unless specifically indicated, dextrose solutions include dextrose 5% and 10%; sodium chloride solutions include 0.2%, 0.3%, 0.45%, and 0.9%; or a combination of dextrose–sodium chloride if compatible in either.

Syringe: Data available for drugs drawn up in same syringe just prior to administration.

Y-Site: Data available for drugs administered through y-site connection.

Additive: Data included only if the need for admixture in the same IV bag is considered necessary.

ADVERSE, EFFECTS

Underline indicates most frequently reported effects; CAPITAL indicates life threatening effects. If a particular effect is important from a safety perspective, this will be listed first in the description. The following abbreviations describe the body systems in a head-to-toe order:

CNS: Central nervous system

Ophtho: Ophthalmic

CV: Cardiovascular

Resp: Respiratory
GI: Gastrointestinal
GU: Genitourinary
Renal: Renal
MS: Musculoskeletal
Derm: Dermatologic
Endo: Endocrine
Fld/Lytes: Fluid and electrolytes
Heme: Hematologic. A nadir is noted when applicable.
Hypersens: Hypersensitivity
Metab: Metabolic
Other: Includes uncategorized effects and effects at the site of administration

TOXICITY/OVERDOSE
This describes the signs/symptoms associated with excessive dosage and/or drug accumulation. Specific treatment, other than symptomatic and supportive measures, is noted if available. If a specific antidote is recognized, this is mentioned. In all cases, a physician should be notified for specific patient management. Anaphylactic reactions are not included; however, additional toxicity treatment measures may be used.

DRUG INTERACTIONS
Includes an alphabetical listing of the agents commonly known to interact with the identified agent, noting the type of drug-drug interaction and/or pharmacologic effect. Drug-food interactions are included if available.

NURSING CONSIDERATIONS
Assessment: Evaluate information in this section prior to and during therapy to assess therapeutic effect and/or toxicity development.
General: Information to be assessed includes vital signs, daily weights, intake/output ratios, hypersensitivity, and infectious disease status determined by the specific agent.
Physical: Information to be assessed includes various body/organ systems.
Lab Alterations: Data to be assessed includes laboratory values requiring baseline and/or periodic monitoring. Also noted will be drug-lab interactions or false positive/negative effects on particular lab tests, if known.
Intervention/Rationale: Describes the reasons for assessment and the particular interventions that may be necessary during evaluation of the patient.
Patient/Family Education: Describes instructions for the patient and/or family regarding the expected adverse and/or therapeutic effects of therapy. This section will aid in targeting those issues pertinent to the patient's understanding. Information may be included to assist the patient in day-to-day activities with minimal interference. In most circumstances, the patient should be aware of the reasons for therapy and what the expected therapeutic outcome/goals should be. Education should include adverse effects and drug interactions relative to the patient and point in therapy.

CONTENTS

Alphabetical Listing of Drugs

ACETAZOLAMIDE

(a-set-a-zole'-a-mide)
Trade Name(s): Diamox
Classification(s): Carbonic anhydrase inhibitor
Pregnancy Category: C

PHARMACODYNAMICS/KINETICS

Mechanism of Action: Inhibits carbonic anhydrase resulting in decreased rate of aqueous humor formation and intraocular pressure. Causes inhibition of renal tubule hydrogen ion secretion and alkaline diuresis. Results in metabolic acidosis. **Onset of Action:** 2 min. **Peak Effect:** 15 min. **Duration of Action:** 4–5 hr. **Distribution:** Distributed throughout body tissues with high concentration in erythrocytes, plasma and kidneys. **Metabolism/Elimination:** Eliminated unchanged by the kidneys

INDICATIONS/DOSAGE

Diuresis in CHF/Drug Induced Edema

Adult: 250–375 mg once daily in morning. Alternate day therapy may be useful in refractory patients. *Pediatric:* 5 mg/kg/dose or 150 mg/m^2 once daily in morning. Alternate day therapy may be useful in refractory patients.

Treatment of Acute Closed Angle Glaucoma (*Change to oral therapy when possible*).

Adult: 500 mg followed by 125–250 mg in 2–4 hr and every 4–6 hr as needed. *Pediatric:* 5–10 mg/kg every 6 hr as needed.

Epilepsy

Adult: 8–30 mg/kg/day in divided doses. Usual dosage range 375–1000 mg. *Pediatric:* 8–30 mg/kg/day in divided doses every 6–8 hr. Maximum dose 1 g/day.

Hydrocephalus

Pediatric/Neonate: 25 mg/kg/day in 3 divided doses. Increase by 25 mg/kg/day to a maximum of 100 mg/kg/day (up to 2 g/day).

CONTRAINDICATIONS/ PRECAUTIONS

Contraindicated in: Adrenocortical insufficiency, hepatic/renal failure, hyperchloremic acidosis, hypersensitivity to sulfa-related agents, severe pulmonary obstruction, significant hypokalemia/hyponatremia. **Use cautiously in:** Emphysema, pulmonary obstruction, respiratory acidosis. **Pregnancy/Lactation:** No well-controlled trial to establish safety. Benefits must outweigh risks. Animal studies demonstrate teratogenic effects at high doses. Crosses placenta.

PREPARATION

Availability: 500 mg vials; 2.05 mEq of sodium/500 mg. **Reconstitution:** Dilute 500 mg vial with at least 5 mL sterile water for injection to yield a solution containing not more than 100 mg/mL. **Infusion:** Prepare just prior to administration. Add to volume large enough to infuse over 4–8 hr.

STABILITY/STORAGE

Vial: Stable 1 week refrigerated. Use within 24 hr (contains no preservative). **Infusion:** Stable for 24 hr.

In the Adverse Effects section, underline indicates most frequent; CAPS indicates life threatening.

ADMINISTRATION

General: Direct IV administration is preferred due to alkaline pH. **IV Push:** Administer at a rate of 100–500 mg/min. **Intermittent Infusion:** Infuse over 4–8 hr.

COMPATIBILITY

Solution: Dextrose solutions, lactated Ringer's, sodium chloride solutions.

ADVERSE EFFECTS

CNS: Ataxia, confusion, convulsions, depression, dizziness, headache, malaise, paralysis, paresthesia of extremities/mucocutaneous areas, sedation, tremor. **Ophtho:** Transient myopia. **GI:** Anorexia, constipation, hepatic insufficiency, melena, nausea, vomiting. **GU:** Crystalluria, glycosuria, hematuria, polyuria. **Renal:** Renal calculi/colic. **Derm:** Photosensitivity. **Endo:** Hyperglycemia. **Fld/Lytes:** Hyperchloremic acidosis, hypokalemia. **Heme:** AGRANULOCYTOSIS, bone marrow depression, hemolytic anemia, leukopenia, pancytopenia, thrombocytopenia. **Hypersens:** Rash, urticaria, pruritus. **Other:** Fever, weight loss.

TOXICITY/OVERDOSE

Signs/Symptoms: Extension of adverse effects. **Treatment:** Symptomatic and supportive treatment.

DRUG INTERACTIONS

Amphetamines, ephedrine, flecainide, pseudoephedrine, quinidine: Enhanced pharmacologic effect. **Digitalis:** Increased potential for digitalis toxicity secondary to diuresis-induced hypokalemia. **Methenamine:** Decreased efficacy of acetazolamide. **Salicylates:** Increased potential for salicylate toxicity secondary to diuresis-induced acidosis. Decreased acetazolamide clearance.

NURSING CONSIDERATIONS

Assessment

General:

Intake/output ratio, baseline/daily weights, vital signs.

Physical:

Musculoskeletal system, hypersensitivity reactions.

Lab Alterations:

Monitor electrolytes (serum potassium daily), serum glucose, CBC with differential and platelet count (baseline and regularly during therapy). Measurement of urinary protein levels may result in false positive results secondary to urine alkalinization.

Intervention/Rationale

Assess for signs/symptoms of dehydration. Drug may lead to water/electrolyte depletion. Drug may cause muscle weakness and cramps due to hypokalemia. ● Assess patients receiving digitalis glycosides for signs/symptoms of toxicity (nausea/vomiting, anorexia, visual disturbances, confusion, cardiac dysrhythmias), especially when hypokalemia is present. ● Monitor patient for hematologic effects similar to sulfa drug reactions. ● Diuresis failures may result from overdosage or too frequent administration; consider alternate day or every 2 day use.

Patient/Family Education

May cause drowsiness (avoid activities requiring alertness). Seek as-

sistance with ambulatory activities. Notify physician/nurse of sore throat, fever, unusual bleeding/bruising, tingling or tremors of feet/hands, flank pain, rash. Note any signs of dehydration (decreased urination, loss of skin turgor, excessive thirst and leg cramps). Avoid excess exposure to sunlight.

ACYCLOVIR

(ay-sye'-kloe-veer)

Trade Name(s): Zovirax

Classification(s): Antiviral

Pregnancy Category: C

PHARMACODYNAMICS/KINETICS

Mechanism of Action: Inhibits viral DNA replication. **Peak Serum Level:** 1.5–2 hr. **Distribution:** Widely distributed in tissues/body fluids. 9%–33% protein bound. **Metabolism/Elimination:** Eliminated primarily as unchanged drug (62%–91%) by the kidneys. Removed by hemodialysis. **Half-Life:** 2.5–3.0 hr. Anuria 19 hr.

INDICATIONS/DOSAGE

Treatment of Herpes Simplex Encephalitis

Adult: 10 mg/kg every 8 hr for 10 days. *Pediatric:* 500 mg/m^2 every 8 hr for 10 days.

Mucosal/Cutaneous Herpes Simplex Virus (HSV) Infection in Immunocompromised States

Adult: 5 mg/kg every 8 hr for 7 days. *Pediatric:* 250 mg/m^2 every 8 hr for 7 days.

Varicella/Zoster Infections in Immunocompromised States

Adult: 10 mg/kg every 8 hr for 7 days. *Pediatric:* 500 mg/m^2 every 8 hr for 7 days.

Treatment of HSV Infections in Patients Receiving Hemodialysis

Adult/Pediatric: 5 mg/kg daily after each dialysis or 2.5 mg/kg every 24 hr, with an additional 2.5 mg/kg after each dialysis.

CONTRAINDICATIONS/PRECAUTIONS

Contraindicated in: Hypersensitivity to acyclovir or ganciclovir. **Pregnancy/Lactation:** No well-controlled trials to establish safety. Benefits must outweigh risks. Animal studies demonstrate maternal and fetal anomalies. Distributed in breast milk.

PREPARATION

Availability: 500 mg or 1000 mg vials; 2.1 mEq sodium/500 mg. **Reconstitution:** Dilute each 500 mg with 10 mL sterile water for injection to a final concentration of 50 mg/mL. **Infusion:** Further dilute each 500 mg vial with at least 50–100 mL compatible IV solution. Maximum final concentration 7–10 mg/mL.

STABILITY/STORAGE

Vial: Use reconstituted vial within 12 hr. Do not refrigerate. Crystals will redissolve at room temperature without affecting drug strength. **Infusion:** Store at room temperature. Use within 24 hr.

ADMINISTRATION

General: Avoid rapid bolus. Administer dose after hemodialysis. Infusion times shorter than 1 hr may

cause increased risk of renal toxicity. **Intermittent Infusion:** Infuse over at least 1 hr via infusion pump.

COMPATIBILITY

Solution: Dextrose solutions, lactated Ringer's, sodium chloride solutions. **Y-site:** Amikacin, ampicillin, cefazolin, cefotaxime, ceftazidime, ceftizoxime, ceftriaxone, cefuroxime, chloramphenicol, cimetidine, clindamycin, dexamethasone, diphenhydramine, doxycycline, erythromycin, gentamicin, heparin, hydrocortisone, hydromorphone, imipenem, lorazepam, magnesium sulfate, meperidine, methylprednisolone, metronidazole, morphine, multivitamins, nafcillin, oxacillin, penicillin, piperacillin, potassium chloride, ranitidine, sodium bicarbonate, theophylline, ticarcillin, tobramycin, trimethoprim/sulfa, vancomycin, zidovudine.

INCOMPATIBILITY

Solution: Bacteriostatic water. **Y-site:** Dobutamine, dopamine, foscarnet, ondansetron.

ADVERSE EFFECTS

CNS: Headache, confusion, hallucinations, lethargy, lightheadedness, seizures, tremor. **CV:** Chest pain, PULMONARY EDEMA WITH TAMPONADE, edema, hypotension. **GI:** Abdominal pain, anorexia, nausea, increased ALT (SGPT)/AST (SGOT), thirst, vomiting. **GU:** Anuria, hematuria, pain on urination. **Renal:** Transient increases in serum creatinine/BUN. **Fld/Lytes:** Hypokalemia. **Heme:** Anemia, NEUTROPENIA, THROMBOCYTOPENIA. **Hypersens:** Rash, urticaria. **Other:** Phlebitis, fever.

TOXICITY/OVERDOSE

Signs/Symptoms: Crystal precipitation in renal tubules may occur with bolus injections and poor hydration status.

Treatment: Hemodialysis for 6 hr provides 60% decrease in plasma concentrations. In acute renal failure/anuria, hemodialysis may be beneficial until renal function is restored. Peritoneal dialysis is less effective.

DRUG INTERACTIONS

Interferon, Intrathecal methotrexate: Potentiates acyclovir adverse effects. **Probenecid:** Decreased acyclovir urinary excretion. **Zidovudine:** Increased drowsiness and lethargy.

NURSING CONSIDERATIONS

Assessment

General:

Intake/output ratio, hydration status.

Physical:

Neurologic/mental status, cardiopulmonary status, integumentary system.

Lab Alterations:

Monitor BUN, serum creatinine, CBC with differential and platelet count.

Intervention/Rationale

Adequate hydration should be administered concurrently to enhance renal elimination and prevent renal toxicity. ● Assess skin and mucosa lesions for improvement/change.

Patient/Family Education

Maintain good oral fluid intake/hydration. Avoid persons with known infections and crowds. Use condoms (HIV virus may be dormant

and can be transmitted to sexual partner). Inform physician/nurse of signs/symptoms of bleeding, increased bruising, fever, infection.

ADENOSINE

(a-den'-oh-seen)

Trade Name(s): Adenocard

Classification(s): Antiarrhythmic agent

Pregnancy Category: C

PHARMACODYNAMICS/KINETICS

Mechanism of Action: Slows atrioventricular (AV) conduction and interrupts reentry pathways. **Onset of Action:** Immediate. **Duration of Action:** 0.5–1.0 min. **Distribution:** Distributes rapidly in circulation. Taken up by erythrocytes and vascular endothelial cells. Exhibits direct effect on myocardial tissue. **Metabolism/Elimination:** Primarily metabolized to inosine and adenosine monophosphate (AMP). **Half-Life:** < 10 sec.

INDICATIONS/DOSAGE

Paroxysmal Supraventricular Tachycardia (Including Accessory Bypass Tracts)

Adult: Initial dose 6 mg. Give 12 mg after 1–2 min and may repeat once if needed. Doses > 12 mg are not recommended.

CONTRAINDICATIONS/ PRECAUTIONS

Contraindicated in: Hypersensitivity, atrial flutter/fibrillation, second/third degree AV block or sick sinus syndrome (except with functional pacemaker), ventricular tachycardia. **Use cautiously in:** Asthma, first degree heart block. **Pregnancy/Lactation:** No well-controlled trials to establish safety. Benefits must outweigh risks. Adenosine is endogenous material and no fetal effects are expected. **Pediatrics:** Safety and efficacy not established.

PREPARATION

Availability: 6 mg/2 mL vial.

STABILITY/STORAGE

Vial: Do not refrigerate. Discard unused portion.

ADMINISTRATION

General: Administer directly into vein or in as proximal an IV line as possible to assure drug reaches systemic circulation. Flush line with saline following administration. **IV Push:** Rapid bolus over 1–2 sec.

COMPATIBILITY

Solution: Dextrose solutions, sodium chloride solutions.

ADVERSE EFFECTS

CNS: Dizziness, lightheadedness, burning sensation, extremity tingling, numbness, headache. **Ophtho:** Blurred vision. **CV:** Bradycardia, chest pain, hypotension (especially with large doses), palpitations. **Resp:** Chest pressure, hyperventilation, shortness of breath. **GI:** Metallic taste, nausea, throat tightness. **GU:** Groin pressure. **Other:** Facial flushing, sweating.

TOXICITY/OVERDOSE

Signs/Symptoms: Rapidly self-limiting. **Treatment:** Symptomatic treatment of prolonged effects.

DRUG INTERACTIONS

Carbamazepine: Concomitant use may increase degree of heart block.

In the Adverse Effects section, underline indicates most frequent; CAPS indicates life threatening.

Dipyridamole: Increased adenosine effects. **Methylxanthines** (caffeine, theophylline): Antagonizes adenosine effects. Increased doses may be necessary.

NURSING CONSIDERATIONS

Assessment

General:

Vital signs, continuous ECG monitoring

Physical:

Cardiac status.

Intervention/Rationale

Emergency equipment, pacemaker, and defibrillator must be readily available. Continuous ECG monitoring required during administration. Rapid treatment of extrasystoles and AV block may be required. During conversion, new, transient rhythms may appear (e.g., premature ventricular contraction (PVC), premature atrial contraction (PAC), sinus bradycardia/tachycardia) and resolve spontaneously in few seconds. May cause severe but transient bradycardia (ventricular response rates may be as low as 30).

Patient/Family Education

Educate regarding expected therapeutic outcome and side effects. Seek assistance with ambulatory activities.

ALBUMIN, NORMAL HUMAN SERUM

(al-byoo′-min)

Trade Name(s): Albuminar, Albutein, Buminate, Plasbumin

Classification(s): Blood derivative, volume expander

Pregnancy Category: C

PHARMACODYNAMICS/KINETICS

Mechanism of Action: Expands blood volume by increasing intravascular oncotic pressure. Causes shift of fluid from interstitial spaces into the circulation. **Onset of Action:** Within 15 min. **Duration of Action:** Several hours. **Distribution:** Distributes throughout intra/extravascular spaces. **Half-Life:** 16 hr.

INDICATIONS/DOSAGE

Shock

Adult: 500 mL (5%). May repeat in 30 min. Dose not to exceed 125 g/24 hr. *Pediatric:* 50 mL (5%). May repeat in 30 min. *Neonate:* 10–20 mL/kg (5%). May repeat in 30 min.

Burns

Adult/Pediatric: Varies according to severity of condition. Optimum regimen not established. Maintain serum albumin at 2–3 g/100 mL or total serum protein 5.2 g/100 mL. Subsequent doses determined by patient's condition. Dose not to exceed 125 g/24 hr.

Acute Hypoproteinemia

Adult: 50–75 g of 5% solution daily or 25–100 g of 25% solution daily. Subsequent doses determined by patient's condition. Dose not to exceed 125 g/24 hr. *Neonate:* 1.4–1.8 mL/kg of 25% albumin (350–450 mg/kg).