

PRODUCT MONOGRAPH

HEPARIN SODIUM and 0.9% SODIUM CHLORIDE INJECTION
Heparin Sodium

Intravenous solution

1000 USP Heparin Units in 500mL 0.9% Sodium Chloride Injection
2000 USP Heparin Units in 1000mL 0.9% Sodium Chloride Injection

Anticoagulant

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HEPARIN SODIUM AND 0.9% SODIUM CHLORIDE INJECTION

Heparin Sodium

PART I: HEALTH PROFESSIONAL INFORMATION

SUMMARY PRODUCT INFORMATION

Route of Administration	Dosage Form / Strength	Clinically Relevant Nonmedicinal Ingredients
Intravenous	Solution/ 2 unit/ml of Heparin Sodium and 9mg/ml of Sodium Chloride	Citric Acid, Anhydrous, USP Dibasic Sodium Phosphate, USP <i>For a complete listing see Dosage Forms, Composition and Packaging section.</i>

INDICATIONS AND CLINICAL USE

Heparin Sodium in 0.9% Sodium Chloride Injection (Heparin Sodium, USP and Sodium Chloride, USP) is indicated for anticoagulant therapy:

- in extracorporeal circulation,
- in dialysis procedures,
- as an aid in the maintenance of catheter patency.

CONTRAINDICATIONS

Heparin sodium is contraindicated in patients:

- with uncontrollable bleeding (see WARNINGS AND PRECAUTIONS), except when this is due to disseminated intravascular coagulation.
- with a known hypersensitivity to heparin sodium or porcine derivatives or to any ingredient in the formulation or component of the container (for a complete listing, see DOSAGE FORMS, COMPOSITION AND PACKAGING).
- with severe thrombocytopenia.
- when suitable blood coagulation tests cannot be performed at appropriate intervals (for full-dose heparin sodium therapy). There is usually no need to monitor the effect of low-dose heparin in patients with normal coagulation parameters.

WARNINGS AND PRECAUTIONS

Heparin is not intended for intramuscular use.

Do not use Heparin Sodium in 0.9% Sodium Chloride Injection as a “catheter lock flush” product. Heparin Sodium in 0.9% Sodium Chloride Injection is not suitable for this use. Use only products approved for catheter lock to perform catheter lock flush procedures.

Carefully examine all presentations of heparin sodium to confirm the correct formulation prior to administration of the drug.

Allergic reactions

There is experimental evidence that heparin may modify or inhibit allergic reactions. However, the application of these findings to human patients has not been fully defined.

Hypersensitivity reactions have been reported with chills, fever and urticaria as the most usual manifestations. Asthma, rhinitis, lacrimation, and anaphylactoid reactions have also been reported.

Vasospastic reactions may develop independent of the origin of heparin, 6 to 10 days after the initiation of the therapy and last for 4 to 6 hours. The affected limb is painful, ischemic and cyanosed. An artery to this limb may have been recently catheterized. After repeat injections, the reaction may gradually increase to include generalized vasospasm, with cyanosis, tachypnea, feeling of oppression and headache.

Hemorrhage

Heparin Sodium should be used with extreme caution in disease states in which there is increased danger of hemorrhage.

Heparin sodium should be used with extreme care in patients suffering from conditions in which there is increased danger of hemorrhage, for example:

Cardiovascular

Subacute bacterial endocarditis, arteriosclerosis, severe hypertension, increased capillary permeability during and immediately following:

- a. spinal tap or spinal anesthesia.
- b. major surgery, especially involving the brain, spinal cord, or eye.

Hematologic

Conditions associated with increased bleeding tendencies such as hemophilia, some purpuras and thrombocytopenia.

Gastrointestinal

Conditions associated with inaccessible ulcerative lesions and continuous tube drainage of stomach or small intestine.

Other

Menstruation, liver disease with impaired hemostasis.

Adrenal hemorrhage with resultant acute adrenal insufficiency has occurred during anticoagulant therapy. Therefore, such treatment should be discontinued in patients who develop signs and symptoms compatible with acute adrenal hemorrhage and insufficiency. Plasma cortisol levels should be measured immediately, and vigorous therapy with intravenous corticosteroids should be instituted promptly. Initiation of therapy should not depend

upon laboratory confirmation of the diagnosis, since any delay in an acute situation may result in the patient's death.

Coagulation testing

Administration of Heparin Sodium when used in therapeutic dosage should be regulated by frequent blood coagulation tests. If the coagulation tests are unduly prolonged or if hemorrhage occurs, Heparin Sodium should be promptly discontinued (See OVERDOSAGE).

Thrombocytopenia

Thrombocytopenia has been reported to occur in patients receiving heparin with a reported incidence of up to 30%. Platelet counts should be obtained at baseline and periodically during heparin administration. Mild thrombocytopenia (count greater than 100,000/mm³) may remain stable or reverse even if heparin is continued. However, thrombocytopenia of any degree should be monitored closely. If the count falls below 100,000/mm³ or if recurrent thrombosis develops (see **Heparin-induced Thrombocytopenia (HIT) With or Without Thrombosis**), the heparin product should be discontinued and, if necessary, an alternative anticoagulant administered.

Heparin-induced Thrombocytopenia (HIT) (With or Without Thrombosis)

HIT is a serious immune-mediated reaction resulting from irreversible aggregation of platelets. HIT may progress to the development of venous and arterial thromboses, a condition referred to as HIT with thrombosis. Thrombotic events may also be the initial presentation for HIT. These serious thromboembolic events include deep vein thrombosis, pulmonary embolism, cerebral vein thrombosis, limb ischemia, stroke, myocardial infarction, mesenteric thrombosis, renal arterial thrombosis, skin necrosis, gangrene of the extremities that may lead to amputation, and fatal outcomes.

Once HIT (with or without thrombosis) is diagnosed or strongly suspected, all heparin sodium sources (including heparin flushes) should be discontinued and an alternative anticoagulant used. Future use of heparin sodium, especially within 3 to 6 months following the diagnosis of HIT (with or without thrombosis), and while patients test positive for HIT antibodies, should be avoided.

Immune-mediated HIT is diagnosed based on clinical findings supplemented by laboratory tests confirming the presence of antibodies to heparin sodium, or platelet activation induced by heparin sodium. A drop in platelet count greater than 50% from baseline is considered indicative of HIT. Platelet counts begin to fall 5 to 10 days after exposure to heparin sodium in heparin sodium-naïve individuals, and reach a threshold by days 7 to 14. In contrast, "rapid onset" HIT can occur very quickly (within 24 hours following heparin sodium initiation), especially in patients with a recent exposure to heparin sodium (i.e. previous 3 months). Thrombosis development shortly after documenting thrombocytopenia is a characteristic finding in almost half of all patients with HIT.

Thrombocytopenia of any degree should be monitored closely. If the platelet count falls below 100,000/mm³ or if recurrent thrombosis develops, the heparin product should be promptly discontinued and alternative anticoagulants considered if patients require continued anticoagulation.

Delayed Onset of HIT (With or Without Thrombosis)

Heparin-induced thrombocytopenia (with or without thrombosis) can occur up to several weeks after the discontinuation of heparin therapy. Patients presenting with thrombocytopenia or thrombosis after discontinuation of heparin sodium should be evaluated for HIT (with or without thrombosis).

Fluid overload

The intravenous administration of these solutions can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states, or pulmonary edema. The risk of dilutional states is inversely proportional to the electrolyte concentrations of the solutions. The risk of solute overload causing congested states with peripheral and pulmonary edema is directly proportional to the electrolyte concentrations of the solutions.

General

Do not administer unless the solution is clear.

Reactions which may occur because of the solution or the technique of administration of Heparin Sodium in 0.9% Sodium Chloride Injection include: febrile response; infection at the site of injection; venous thrombosis or phlebitis extending from the site of injection; extravasation; and hypervolemia.

If a reaction does occur, discontinue the infusion, evaluate the patient, institute appropriate therapeutic countermeasures and save the remainder of the fluid for examination if deemed necessary.

Sensitivity/Resistance

Increased resistance to heparin is frequently encountered in fever, thrombosis, thrombophlebitis, infections with thrombosing tendencies, myocardial infarction, cancer and in postsurgical patients.

Other

Excessive administration of potassium-free solutions may result in significant hypokalemia.

Solutions containing sodium ions should be used with great care in patients with congestive heart failure, severe renal insufficiency, and in clinical states in which there exists edema with sodium retention.

In patients with diminished renal function, administration may result in sodium retention. Because dosages of the drug are titrated to response (See Dosage and Administration).

PRECAUTIONS

Because Heparin Sodium is derived from animal tissue, it should be used with caution in patients with a history of allergy.

Heparin Sodium and 0.9% Sodium Chloride Injection should also be used with caution in the presence of hepatic or renal disease, hypertension, during menstruation, or in patients with indwelling catheters.

Larger doses of heparin may be necessary in the febrile state.

Solutions containing sodium should be used with caution in patients receiving corticosteroids or corticotrophin.

NO ADDITIVES SHOULD BE MADE TO HEPARIN SODIUM AND 0.9% SODIUM CHLORIDE INJECTION.

Special Populations

Pregnant Women: Animal reproduction studies have not been conducted with Heparin Sodium and 0.9% Sodium Chloride Injection. It is also not known whether Heparin Sodium and 0.9% Sodium Chloride Injection can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Heparin Sodium and 0.9% Sodium Chloride Injection should be given to a pregnant woman only if clearly needed. Heparin sodium does not cross the placental barrier.

Nursing Women: Heparin Sodium is not excreted in human milk.

Pediatrics (< 12 years of age): Safety and effectiveness in pediatric patients have not been established.

Geriatrics (> 60 years of age): A higher incidence of bleeding has been reported in patients over 60 years of age, especially women. Clinical studies indicate that lower doses of heparin may be indicated in these patients (see **Clinical Pharmacology**).

Monitoring and Laboratory Tests

Clinical evaluation and periodic laboratory determinations are necessary to monitor changes in fluid balance and electrolyte concentration and acid base balance during prolonged parenteral therapy or whenever the condition of the patient warrants such an evaluation.

Periodic platelet counts, hematocrits, and tests for occult blood in stool are recommended during the entire course of heparin therapy, regardless of the route of administration.

ADVERSE REACTIONS

If an adverse reaction does occur, discontinue the infusion, evaluate the patient, institute appropriate therapeutic counter-measures, and save the remainder of the fluid for examination if deemed necessary.

Clinical Trial Adverse Drug Reactions

There are no data available on adverse reactions from Baxter-controlled clinical trials conducted with heparin sodium.

Post-Market Adverse Drug Reactions

The following adverse reactions have been reported in the post-marketing experience and/or are known to have been reported with the use of heparin sodium. These reactions are listed by MedDRA System Organ Class (SOC), then by preferred term in order of severity.

BLOOD AND LYMPHATIC SYSTEM DISORDERS: Hemorrhage, Heparin-induced thrombocytopenia (HIT), Heparin-induced thrombocytopenia and thrombosis (HITT), Heparin-associated thrombocytopenia (HAT), Delayed HITT, Acute reversible thrombocytopenia.

IMMUNE SYSTEM DISORDERS: Anaphylactic reaction and shock, Anaphylactoid reaction and Hypersensitivity.

ENDOCRINE SYSTEM DISORDERS: Adrenal hemorrhage (with resultant acute adrenal insufficiency), Suppression of aldosterone synthesis.

METABOLISM AND NUTRITION DISORDERS: Rebound hyperlipemia (upon withdrawal of heparin), Hypervolemia.

NERVOUS SYSTEM DISORDERS: Headache.

VASCULAR DISORDERS: Venous thrombosis or Phlebitis, Extravasation.

GASTROINTESTINAL DISORDERS: Retroperitoneal hemorrhage, Gastrointestinal hemorrhage, Nausea and Vomiting.

RESPIRATORY, THORACIC AND MEDIASTINAL DISORDERS: Asthma, Rhinitis, Cyanosis, Tachypnea.

EYE DISORDERS: Lacrimation.

CARDIAC DISORDERS: Vasospastic reactions.

SKIN AND SUBCUTANEOUS TISSUE DISORDER: Erythema, Skin necrosis, Urticaria, Delayed Transient Alopecia, Itching and Burning, especially on the plantar side of the feet.

MUSCULOSKELETAL AND CONNECTIVE TISSUE DISORDERS: Osteoporosis, Arthralgia.

RENAL AND URINARY DISORDERS: Suppression of renal functions.

REPRODUCTIVE SYSTEM AND BREAST DISORDERS: Ovarian hemorrhage, Priapism.

DISORDERS AND ADMINISTRATION SITE CONDITIONS: Chest pain, Febrile response, Injection site reactions, Chills and Fever, Sense of oppression.

INJURY, POISONING, AND PROCEDURAL COMPLICATIONS: Post procedural hematoma.

INVESTIGATIONS: Elevated blood pressure, Elevations of aminotransferase (SGOT [S-AST] and SGPT [S-ALT]) levels.

DRUG INTERACTIONS

Drug-Drug Interactions

Oral anticoagulants

Heparin sodium may prolong the one-stage prothrombin time. Therefore, when heparin sodium is given with dicumarol or warfarin sodium, a period of at least 5 hours after the last intravenous dose or 24 hours after the last subcutaneous dose should elapse before blood is drawn if a valid prothrombin time is to be obtained.

Other Interactions

Drugs such as acetylsalicylic acid, dextran, phenylbutazone, ibuprofen, indomethacin, dipyridamole, hydroxychloroquine and others that interfere with platelet-aggregation reactions (the main hemostatic defense of heparinized patients) may induce bleeding and should be used with caution in patients receiving heparin sodium.

Digitalis, tetracyclines, nicotine, or antihistamines may partially counteract the anticoagulant action of heparin sodium.

Drug-Laboratory Interactions

Hyperaminotransferasemia

Significant elevations of aminotransferase (SGOT [S-AST] and SGPT [S-ALT]) levels have occurred in a high percentage of patients (and healthy subjects) who have received heparin. Since aminotransferase determinations are important in the differential diagnosis of myocardial infarction, liver disease, and pulmonary emboli, rises that might be caused by drugs (like heparin) should be interpreted with caution.

DOSAGE AND ADMINISTRATION

Dosing Considerations

Heparin Sodium is not effective by oral administration and Heparin Sodium and 0.9% Sodium Chloride Injection should not be given orally.

Recommended Dose and Dosage Adjustment

Heparin administration procedures vary and are adjusted to the requirements of the individual patient by the attending physician, but a proper heparinization schedule **MUST BE** initiated before and maintained throughout dialysis to prevent clotting and subsequent blood path obstruction.

Dosage is dependent upon the age, weight and clinical conditions of the patient, in addition to the procedure being employed.

Administration

Priming fluid should contain 2000 USP heparin units per 1000 mL of 0.9% Sodium Chloride Injection.

Visually inspect the container. If the administration port protector is damaged, detached, or not present, discard container as solution path sterility may be impaired.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration whenever solution and container permit. Use of a final filter is recommended during administration of all parenteral solutions, where possible.

Because dosages of this drug are titrated to response, **no additives should be made to Heparin Sodium and 0.9% Sodium Chloride Injection.**

It is recommended that the intravenous administration apparatus be replaced at least every 24 hours.

All injections in VIAFLEX Plus plastic containers are intended for administration using sterile equipment.

Note: Read dialyzer direction sheets and follow manufacturer's directions for use.

DIRECTION FOR USE OF VIAFLEX PLUS PLASTIC CONTAINER

Warning: Do not use plastic containers in series connections. Such use could result in air embolism due to residual air being drawn from the primary container before administration of the fluid from the secondary container is completed.

To Open

Tear overwrap down side at slit and remove solution container. Do not remove unit from overwrap until ready for use. The overwrap is a moisture barrier. The inner bag maintains the sterility of the product. After removing

overwrap, check for minute leaks by squeezing inner bag firmly. If leaks are found discard solution as sterility may be impaired. **Do not add supplementary medication.**

Preparation for Administration

1. Suspend container from eyelet support.
2. Remove plastic protector from outlet port at bottom of container.
3. Attach administration set. Refer to complete directions accompanying set.

OVERDOSAGE

For management of a suspected drug overdose, contact your regional Poison Control Centre.

Symptoms

Bleeding is the primary sign of heparin sodium overdose. Nosebleeds, blood in urine or tarry stools may be noted as the first sign of bleeding. Easy bruising or petechial formations may precede frank bleeding.

Treatment

Neutralization of heparin effect.

If reversal of heparinization is desired or in the case of overdose, protamine sulfate (1% solution) by slow infusion is utilized. No more than 50 mg should be given very slowly in a 10 minute period. Each mg of protamine sulfate neutralizes approximately 100 units of heparin sodium (or 1.0 to 1.5 mg neutralizes approximately 1.0 mg of heparin). Heparins derived from various animal sources require different amounts of protamine sulfate for neutralization. This fact is of most importance during procedures of regional heparinization, including dialysis.

Decreasing amounts of protamine are required as time from the last heparin injection increases. For example, thirty minutes after a dose of heparin, approximately 0.5 mg of protamine is sufficient to neutralize each 100 USP units of heparin. Blood or plasma transfusions may be necessary; these dilute but do not neutralize heparin.

ACTION AND CLINICAL PHARMACOLOGY

Mechanism of Action

Heparin sodium inhibits reactions which lead to the clotting of blood and the formation of fibrin clots both *in vitro* and *in vivo*. Heparin sodium acts at multiple sites in the normal coagulation system. Small amounts of heparin sodium in combination with antithrombin III (heparin co-factor) can prevent the development of a hypercoagulable state by inactivating activated Factor X, preventing the conversion of prothrombin to thrombin. Once a hypercoagulable state exists, larger amounts of heparin sodium in combination with antithrombin III can inhibit the coagulation process by inactivating thrombin and earlier clotting intermediates, thus preventing the conversion of fibrinogen to fibrin. Heparin sodium also prevents the formation of a stable fibrin clot by inhibiting the activation of the fibrin stabilizing factor.

Bleeding time is usually unaffected by heparin sodium. Clotting time is prolonged by full therapeutic doses of heparin sodium; in most cases it is not measurably affected by low doses of heparin sodium. Heparin sodium does not have fibrinolytic activity; therefore it will not lyse existing clots.

Patients over 60 years of age, following similar doses of heparin, may have higher plasma levels of heparin and longer activated partial thromboplastin times (APTTs) compared with patients under 60 years of age.

Pharmacokinetics

Peak plasma levels of heparin sodium are achieved 2 to 4 hours following subcutaneous administration, although there are considerable individual variations. Loglinear plots of heparin sodium plasma concentrations with time, for a wide range of dose levels, are linear, which suggests the absence of zero order processes. The liver and the reticulo-endothelial system are the sites of biotransformation. The biphasic elimination curve, a rapidly declining alpha phase ($t_{1/2} = 10$ min.), and after the age of 40 a slower beta phase, indicates uptake in organs. The absence of a relationship between anticoagulant half-life and concentration half-life may reflect factors such as protein binding of heparin sodium.

The plasma half-life is approximately 1½ hours, however the half-life increases with increasing doses ranging from approximately 1 hour with a dose of 100 units/kg to approximately 2½ hours with a dose of 400 units/kg.

Special Populations and Conditions

The plasma half-life may be prolonged in patients with cirrhosis or severe renal impairment. Patients with pulmonary embolism may have a more rapid clearance of heparin sodium. Heparin sodium is not removed by hemodialysis.

STORAGE AND STABILITY

Protect from freezing.

Exposure of pharmaceutical products to heat should be minimized. Avoid excessive heat. It is recommended the product be stored at room temperature (15-25°C); brief exposure up to 40°C does not adversely affect the product.

SPECIAL HANDLING INSTRUCTIONS

See STORAGE AND STABILITY.

DOSAGE FORMS, COMPOSITION AND PACKAGING

Heparin Sodium and 0.9% Sodium Chloride Injection is a sterile nonpyrogenic solution of Heparin Sodium, USP derived from porcine intestinal mucosa, standardized for use as an anticoagulant, in 0.9% Sodium Chloride (NaCl) Injection.

Each 100 mL of Heparin Sodium in 0.9% Sodium Chloride Injection contains:

Drug Substance

Heparin Sodium, USP	200 Units
Sodium Chloride	900 mg

Excipients

Citric Acid, USP (Buffers)	36.2mg
Dibasic Sodium Phosphate, USP (Buffers)	228.0 mg
Water for Injection, USP	qs

Osmolarity (actual): 358 mOsmol/L.

The pH of the solution is approximately 7.0.

The approximate ionic concentrations are as follows:

Approx. mmol/L	Sodium	186.4	
	Chloride	154	
	Phosphate (as HPO_4^{2-})		16.2
	Citrate	1.9	
Approx. mEq/L	Sodium	186.4	
	Chloride	154	
	Phosphate (as HPO_4^{2-})		32.4
	Citrate	1.9	

The VIAFLEX PLUS plastic container is fabricated from a specially formulated polyvinyl chloride (PL 146 plastic). Water can permeate from inside the container into the overwrap in amounts insufficient to affect the solution significantly. Solutions in contact with the plastic container can leach out certain of its chemical components in very small amounts within the expiration period, e.g., di-2-ethylhexylphthalate (DEHP), up to 5 parts per million. However, the safety of the plastic has been confirmed in tests in animals according to USP biological tests for plastic containers as well as by tissue culture toxicity studies.

Heparin Sodium in 0.9% Sodium Chloride Injection is supplied in VIAFLEX PLUS plastic (polyvinyl chloride) containers in the following sizes and concentrations:

- 500 mL 1000 USP Heparin Units in 0.9% Sodium Chloride
- 1000 mL 2000 USP Heparin Units in 0.9% Sodium Chloride

PART II: SCIENTIFIC INFORMATION

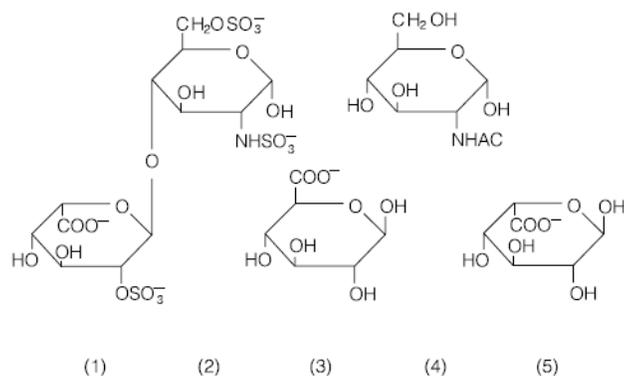
PHARMACEUTICAL INFORMATION

Drug Substance – Heparin Sodium

Proper name: Heparin sodium, USP

Chemical name: Heparin sodium

Structural formula:



Heparin is a heterogeneous group of straight-chain anionic mucopolysaccharides, called glycosaminoglycans, having anticoagulant properties. Although others may be present, the main sugars occurring in heparin are (1) α -L-iduronic acid-2-sulfate, (2) 2-deoxy-2-sulfamino- α -D-glucose 6-sulfate, (3) β -D-glucuronic acid, (4) 2-acetamido-2-deoxy- α -D-glucose, and (5) α -L-iduronic acid. These sugars are present in decreasing amounts, usually in the order (2)>(1)>(4)>(3)>(5), and are joined by glycosidic linkages, forming polymers of varying sizes. Heparin is strongly acidic because of its content of covalently linked sulfate and carboxylic acid groups. In heparin sodium, the acidic protons of the sulfate units are partially replaced by sodium ions.

Drug Substance –Sodium Chloride

Proper name: Sodium Chloride

Chemical name: Sodium Chloride

Molecular formula and molecular mass: NaCl , 58.54g/mol

Physicochemical properties: Soluble in water, glycerol. Very slightly soluble in alcohol

Product description

Heparin Sodium and 0.9% Sodium Chloride Injection is a sterile nonpyrogenic solution of Heparin Sodium, USP derived from porcine intestinal mucosa, standardized for use as an anticoagulant. The anticoagulant potency of the heparin sodium is determined by a biological assay using a USP reference.

TOXICOLOGY

Studies on the carcinogenic potential, reproductive and developmental toxicity, and genotoxic potential of the components of Heparin Sodium and 0.9% Sodium Chloride Injection have not been performed.

PART III: CONSUMER INFORMATION

HEPARIN SODIUM IN 0.9% SODIUM CHLORIDE INJECTION

Heparin Sodium, USP and Sodium Chloride, USP

This leaflet is part III of a three-part "Product Monograph" is designed specifically for Consumers. This leaflet is a summary and will not tell you everything about HEPARIN SODIUM IN 0.9% SODIUM CHLORIDE INJECTION. Contact your doctor or pharmacist if you have any questions about the drug.

1 of the product monograph.

What dosage forms it comes in:

This medication is a sterile solution for intravenous administration that comes in the following dosages:
 1000 USP Heparin Units in 500mL 0.9% Sodium Chloride Injection
 2000 USP Heparin Units in 1000mL 0.9% Sodium Chloride Injection

ABOUT THIS MEDICATION

What the medication is used for:

This medication belongs to a group of medicines known as anticoagulants. Heparin Sodium in 0.9% Sodium Chloride Injection is used as anticoagulant in extracorporeal circulation and dialysis procedure. It is also used as an aid in maintenance of catheter patency.

What it does:

This medication works by decreasing the clotting ability of your blood and helping stop clots from forming in the blood vessels.

When it should not be used:

Do not use this medication if you have had or currently have any of the following:

- A known allergy to heparin, pork, or sulfites;
- a severe decrease in the number of platelets in the blood
- uncontrollable bleeding

What the medicinal ingredient is:

Heparin Sodium, USP
 Sodium Chloride, USP

What the important nonmedicinal ingredients are:

Citric Acid, Anhydrous, USP
 Dibasic Sodium Phosphate, USP

For a full listing of nonmedicinal ingredients see Part

WARNINGS AND PRECAUTIONS

BEFORE you use HEPARIN SODIUM IN 0.9% SODIUM CHLORIDE INJECTION talk to your doctor, pharmacist or nurse if:

- you are having an epidural or spinal anaesthetic. It is important that you remind your doctor that you are receiving heparin infusion before you receive any anaesthetic
- you have or have had in the past, injury or surgery on the brain, spinal cord, or eyes
- you have any condition which makes you likely to bleed more easily, regardless of the reason. Ask your doctor if unsure.
- you are menstruating.
- you often consume alcohol.
- you suffer from kidney or liver problems.
- you are pregnant or nursing, or may become pregnant.
- you are over 60 years of age.
- you have a severe decrease in the number of platelets in the blood
- you have bacterial infection inside of the heart (bacterial endocarditis)
- you have high blood pressure (hypertension)
- you have ulcerative lesions of the small intestine or stomach

INTERACTIONS WITH THIS MEDICATION

Tell your doctor if you are taking or have recently taken any medications, including medications that do not require a prescription.

Tell your doctor, pharmacist or nurse if you are taking any of the following medicines:

Drugs that affect blood clotting (e.g. anticoagulants, antithrombotic drugs, platelet inhibitors, and thrombolytics). You may be likely to bleed more easily.

Non-steroidal anti-inflammatory drugs (e.g. ibuprofen) for arthritis or pain. You may be likely to bleed more easily

Salicylates (such as aspirin) for reducing pain and inflammation, or for stopping harmful blood clots from forming. You may be likely to bleed more easily

Digitalis, tetracyclines, nicotine, and antihistamines. These medications may partially counteract the anticoagulant activity of heparin sodium.

SIDE EFFECTS AND WHAT TO DO ABOUT THEM

This medication may cause side effects. Do not be alarmed by this list of side effects, you may not experience any of them. However, tell your doctor or nurse if you do not feel well while you are being given heparin sodium. Ask your doctor or nurse to answer any questions that you may have.

Tell your doctor or nurse *immediately* if you experience any of the following as these side effects may be serious and you may need urgent medical attention:

- If you experience any of the following after having an epidural or spinal anaesthetic: tingling, weakness or numbness in your legs or lower body, back pain, loss of control of your bowel or bladder.
- Signs of stroke (bleeding in the brain), such as: severe headache, severe nausea and vomiting, dizziness, confusion.
- Signs of bleeding in the abdomen, such as: abdominal or stomach pain, back pain, blood in urine or stool, vomiting of blood, black stool (tarry stool).
- Signs of an allergic reaction to this medication, such as: rash, itching, hives on the skin, swelling of the face, lips, tongue or other parts of the body, shortness of breath, wheezing, trouble breathing.
- Chest pain, rapid or unusual heart beat,
- Bleeding episodes such as unexplained nosebleeds, heavy menstrual periods, bleeding from gums while brushing teeth, bleeding or oozing from surgical wounds.
- Spontaneous bruising (bruise not caused by injury)
- Unexplained skin lesions (sores)
- Pain or swelling of legs or feet
- Discoloration (purple or red) and pain around the injection site
- Prolonged, painful erection
- Fever
- Chills

PROPER USE OF THIS MEDICATION

Usual dose:

Your doctor will determine your dosage according to the results of suitable laboratory tests.

The rate for infusion of the medication is dependent upon age, weight, clinical condition of the patient and the procedure being employed.

Administration:

Heparin is not intended for intramuscular use.

Your doctor should not use Heparin Sodium in 0.9% Sodium Chloride Injection for catheter lock flush procedure.

Overdose:

Bleeding is the primary sign of heparin sodium overdose. Nosebleeds, blood in urine, tarry stools or easy bruising may be noted as the first sign of bleeding.

In case of drug overdose, contact a health care practitioner, hospital emergency department or regional Poison Control Centre immediately, even if there are no symptoms. Your doctor may treat you with protamine sulphate to neutralize the heparin sodium.

This is not a complete list of side effects. For any unexpected effects while taking HEPARIN SODIUM

IN 0.9% SODIUM CHLORIDE INJECTION, contact your doctor or pharmacist.

This leaflet was prepared by Baxter Corporation, Mississauga, ON L5N 0C2.

Last revised: November 3, 2016

HOW TO STORE IT

Store at room temperature (15 to 25⁰C). Protect from freezing. Excessive heat should be avoided.

REPORTING SUSPECTED SIDE EFFECTS

You can report any suspected adverse reactions associated with the use of health products to the Canada Vigilance Program by one of the following 3 ways:

- Report online at www.healthcanada.gc.ca/medeffect
- Call toll-free at 1-866-234-2345
- Complete a Canada Vigilance Reporting Form and:
 - Fax toll-free to 1-866-678-6789, or
 - Mail to: **Canada**

Vigilance Program

**Health Canada
Postal Locator 0701D
Ottawa, Ontario
K1A 0K9**

Postage paid labels, Canada Vigilance Reporting Form and the adverse reaction reporting guidelines are available on the MedEffect™ Canada Web site at www.healthcanada.gc.ca/medeffect.

NOTE: Should you require information related to the management of side effects, contact your health professional. The Canada Vigilance Program does not provide medical advice.

MORE INFORMATION

This document plus the full product monograph, prepared for health professionals can be found at:

<http://www.baxter.ca>.

or by contacting the sponsor, Baxter Corporation, at: 1-800-387-83-99