**Drugs**

**Heparin Sodium Injection, USP** Antiagulant

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**DESCRIPTION**

Heparin Sodium Injection, USP is a sterile, nonpyrogenic solution of a highly purified sodium salt of heparin, a high molecular weight disaccharide that has anticoagulant and anti-thrombotic properties. Heparin sodium is obtained from the intestinal mucosa of the hog and is standardized for anticoagulant and anti-thrombotic activity by comparing its action in the presence of antithrombin III to a reference preparation of a highly purified heparin.

**INDICATIONS**

Heparin sodium is administered for the prevention and treatment of thromboembolic disease.  However, these indications have been obtained from single comparative studies or uncontrolled clinical trials where placebo or an alternative treatment was used as controls.  The role of heparin as an anti-thrombotic agent has been studied extensively in both hemodialysis and heparin-induced thrombocytopenia.

**CONTRAINDICATIONS**

1.  Hypersensitivity to heparin, heparin derivatives, or any component of this product.

2.  Known or suspected cerebrovascular disease.

3.  Major surgery involving the central nervous system.

4.  Central nervous system trauma.

5.  Subarachnoid or intracerebral hemorrhage.

**WARNINGS**

1.  When it is inadvisable to use heparin sodium in the presence of cerebrovascular disease.

2.  When the use of heparin sodium is contraindicated.

3.  When cerebrovascular disease is present.

4.  When heparin sodium is not indicated.

5.  When heparin sodium is contraindicated.

6.  When cerebrovascular disease is present.

**PRECAUTIONS**

1.  When heparin sodium is contraindicated.

2.  When cerebrovascular disease is present.

3.  When heparin sodium is not indicated.

4.  When heparin sodium is contraindicated.

5.  When cerebrovascular disease is present.

6.  When heparin sodium is contraindicated.

**ADVERSE EFFECTS**

1.  When heparin sodium is contraindicated.

2.  When cerebrovascular disease is present.

3.  When heparin sodium is not indicated.

4.  When heparin sodium is contraindicated.

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**OVERDOSAGE**

1.  When heparin sodium is contraindicated.

2.  When cerebrovascular disease is present.

3.  When heparin sodium is not indicated.

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**ACTION**

Heparin sodium inhibits reactions which lead to clotting but does not alter fibrinogen. When used in therapeutic doses, heparin should be regulated by frequent determinations of the prothrombin time or partial thromboplastin time. Heparin sodium inhibits coagulation factor Xa, thereby preventing the conversion of fibrinogen to fibrin. Heparin also inhibits platelet aggregation. The use of heparin sodium in conjunction with other anti-coagulants is not recommended.

**ADVERSE EFFECTS**

1.  Bleeding

2.  Hypersensitivity reactions

3.  Other adverse reactions

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**ADMINISTRATION**

1.  Administration of large doses of Heparin Sodium Injection should be under the direction of a physician skilled in the treatment of anticoagulant therapy.

2.  Heparin sodium is administered subcutaneously or intravenously.

3.  Heparin sodium is administered by intermittent intravenous infusion.

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**RECOMMENDATIONS**

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**STABILITY AND STORAGE RECOMMENDATIONS**

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**PHARMACOKINETIC INFORMATION**

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