

Prior Authorization DRUG Guidelines

INNOHEP® (Tinzaparin)

Effective Date: 7/28/05

Date Developed: 7/19/05 by C. Wilhelmy MD

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Innohep is Low Molecular Weight Heparin similar to Lovenox.. Heparin acts as an anticoagulant by enhancing the inhibition rate of clotting proteases by antithrombin III, impairing normal hemostasis and inhibition of factor Xa. Low molecular weight heparins have a small effect on the activated partial thromboplastin time and strongly inhibit factor Xa. The primary inhibitory activity of tinzaparin is through antithrombin.

Pre-Authorization Criteria:

Innohep is used for the treatment of acute symptomatic deep vein thrombosis, with or without pulmonary embolism, in conjunction with warfarin sodium.

VCHCP requires that Innohep be prescribed by a hematologist under rare conditions.

MONITORING PARAMETERS — CBC including platelet count and hematocrit or hemoglobin, and stool for occult blood; the monitoring of PT and/or aPTT is not necessary. Patients receiving both warfarin and tinzaparin should have their INR drawn just prior to the next scheduled dose of tinzaparin.

General Information:

- Innohep is contraindicated in patients with a history of heparin-induced thrombocytopenia and in patients with a hypersensitivity to sulfites, benzylalcohol, or pork products.

Innohep may increase the risk for death, compared to UFH, when administered to elderly patients with renal insufficiency.**DOSING: ADULTS** — Treatment of DVT: Dosing Regimen: SubQ: 175 anti-Xa int. units/kg of body weight once daily. Warfarin sodium should be started when appropriate. Administer tinzaparin for at least 5-10days conversion to oral vitamin K antagonist (VKA) or until patient is adequately anticoagulated with warfarin.

DOSING: ELDERLY — Refer to adult dosing.

DOSING: RENAL IMPAIRMENT — Patients with severe renal impairment had a 24% decrease in clearance, use with caution.

DOSING: HEPATIC IMPAIRMENT — No adjustment necessary.

DOSAGE FORMS — Injection, solution: 20,000 anti-Xa int. units/mL (2 mL) [contains benzyl alcohol and sodium metabisulfite]

ADMINISTRATION — Patient should be lying down or sitting. Administer by deep SubQ injection, alternating between the left and right anterolateral and left and right posterolateral abdominal wall. Vary site daily. The entire needle should be introduced into the skin fold formed by the thumb and forefinger. Hold the skin fold until injection is complete. To minimize bruising, do not rub the injection site.

CONTRAINDICATIONS — Hypersensitivity to tinzaparin sodium, heparin, sulfites, benzyl alcohol, pork products, or any component of the formulation; active major bleeding; heparin-induced thrombocytopenia (current or history of)

WARNINGS / PRECAUTIONS — Patients with recent or anticipated neuraxial anesthesia (epidural or spinal anesthesia) are at risk of spinal or epidural hematoma and subsequent paralysis. Consider risk versus benefit prior to neuraxial anesthesia; risk is increased by concomitant agents which may alter hemostasis, as well as traumatic or repeated epidural or spinal puncture, and indwelling epidural catheters. Patient should be observed closely for signs and symptoms of neurological impairment. Not to be used interchangeably (unit for unit) with heparin or any other low molecular weight heparins.

Monitor patient closely for signs or symptoms of bleeding. Certain patients are at increased risk of bleeding. Risk factors include bacterial endocarditis; congenital or acquired bleeding disorders; active ulcerative or angiodysplastic GI diseases; severe uncontrolled hypertension; hemorrhagic stroke; use shortly after brain, spinal, or ophthalmologic surgery; patients treated concomitantly with platelet inhibitors; recent GI bleeding; thrombocytopenia or platelet defects; severe liver disease; hypertensive or diabetic retinopathy; or in patients undergoing invasive procedures. Monitor platelet count closely. Rare cases of thrombocytopenia have occurred. Manufacturer recommends discontinuation of therapy if platelets are $<100,000/\text{mm}^3$.

Safety and efficacy in pediatric patients has not been established. Use with caution in the elderly (delayed elimination may occur). Heparin can cause hyperkalemia by affecting aldosterone; similar reactions could occur with LMWHs. Monitor for hyperkalemia. For subcutaneous injection only, do not mix with other injections or infusions. Clinical experience is limited in patients with BMI >40 kg.

DRUG INTERACTIONS

Drugs which affect platelet function (eg, aspirin, NSAIDs, dipyridamole, ticlopidine, clopidogrel, sulfapyrazone, dextran) may potentiate the risk of hemorrhage.

Thrombolytic agents increase the risk of hemorrhage.

Warfarin: Risk of bleeding may be increased during concurrent therapy. Tinzaparin is commonly continued during the initiation of warfarin therapy to assure anticoagulation and to protect against possible transient hypercoagulability

PREGNANCY RISK FACTOR — B

PREGNANCY IMPLICATIONS — There are no adequate and well-controlled studies in pregnant women. Cases of teratogenic effects and/or fetal death have been reported (relationship to tinzaparin not established). Use during pregnancy only if clearly needed. Pregnant women, or those who become pregnant while receiving tinzaparin, should be informed of the potential risks to the fetus.

LACTATION — Excretion in breast milk unknown/use caution

PATIENT EDUCATION — This drug can only be administered by SubQ injection. You may have a tendency to bleed easily while taking this drug; brush teeth with soft brush; floss with waxed floss; use electric razor; avoid scissors or sharp knives and potentially harmful activities. Report chest pain; persistent constipation; persistent erection; unusual bleeding or bruising (bleeding gums, nosebleed, blood in urine, dark stool); pain in joints or back; or numbness, tingling, swelling, or pain at injection site.

REFERENCES

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3. Simonneau, G, Sors, H, Charbonnier, B, et al. A Comparison of Low-Molecular-Weight Heparin With Unfractionated Heparin for Acute Pulmonary Embolism. The THESEE Study Group. *Tinzaparine ou Heparine Standard: Evaluations dans l'Embolie Pulmonaire. N Engl J Med* 1997; 337:663.
4. Innohep prescribing information, Celgene, December 2008

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