

Protamine Dosing Guidelines

Guidelines for Unfractionated Heparin

Immediate Reversal

- Discontinue heparin infusion
- Calculate total amount of heparin received over the preceding 3 hours
- STAT protamine sulfate - see dosing recommendations below

Time From Last Dose of Heparin	Protamine Sulfate Dose
If initiated within 30 minutes	1 mg protamine for every 100 units of heparin (maximum recommended dose is 50 mg)
If initiated within 31-60 minutes	0.75 mg protamine for every 100 units of heparin (maximum recommended dose is 50 mg)
If initiated within 61-120 minutes	0.5 mg protamine for every 100 units of heparin (maximum recommended dose is 50 mg)
If initiated more than 120 minutes	0.375 mg protamine for every 100 units of heparin (maximum recommended dose is 50 mg)

- **Protamine must be administered via Slow IVPush over at least 10 minutes**
- Monitor: Anti Xa level

*****NOTIFY attending physician if patient exhibits rash, shortness of breath or any other signs of anaphylaxis**

Guidelines for Low Molecular Weight Heparin

- Protamine sulfate neutralizes about 60% of the anti-factor Xa activity.
- STAT protamine sulfate – see dosing recommendations below

Time From Last Dose Of Enoxaparin	Protamine Sulfate Dose
LESS than 8 hours	1 mg protamine for every 1 mg of enoxaparin (maximum recommended dose is 50 mg)
GREATER than or EQUAL to 8 hours	0.5 mg protamine for every 1 mg of enoxaparin (maximum recommended dose is 50 mg)

- **Protamine must be administered via Slow IVPush over at least 10 minutes**
- aPTT at 4 hours
- ***If, 4 hours after initial dose of protamine, bleeding continues or aPTT is prolonged, may administer a second dose of protamine 0.5 mg for every 1 mg of enoxaparin***
- Monitor: Anti Xa level