

Heparin Drip

Ordering

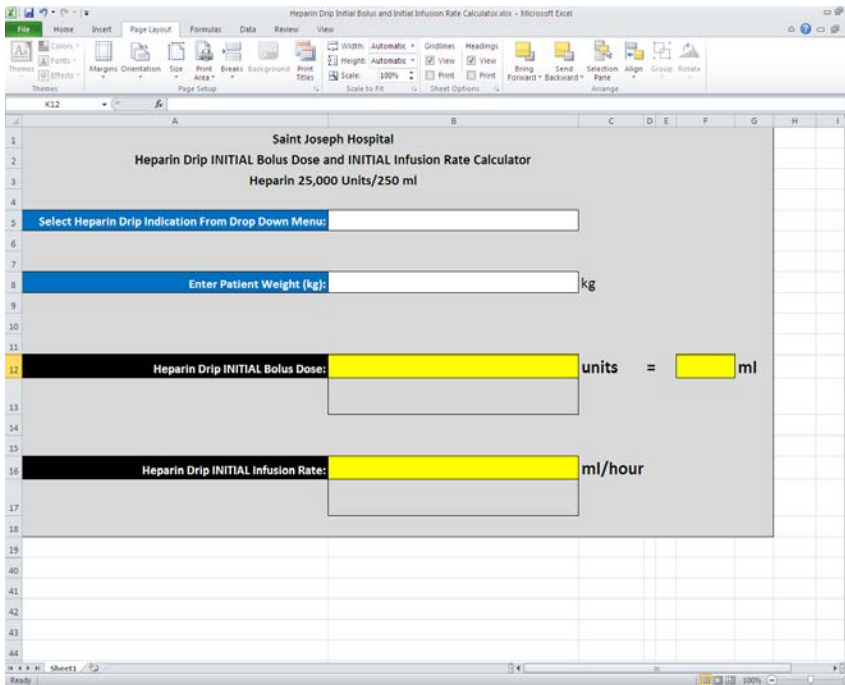
- Nurse entering of Heparin drip orders for physicians **should only occur** in situations when it is not feasible for the physician to enter orders directly
- Select the “**Heparin IV Drip Orders**” PowerPlan it is also listed as **MED Heparin_KY**.
- Select the appropriate infusion protocol (**provider must tell you this**)
 - Cardiac Patients- Acute Coronary Syndrome
 - DVT/PE/A-fib/Bridging Patients
 - Stroke Patients, or
 - Prescriber Adjusted
- Certain orders will automatically be selected. Do not unselect orders unless instructed by MD.
 - Discontinue all Heparin like products
 - No IM injections while on Heparin
 - Notify MD with signs of hypotension and s/s bleeding
 - Notify MD if HCT <32%, Plts <100,000 or 50%
 - Stat PTT, PT/INR, CBC
 - PTT Q 6 Hours while on infusion
 - CBC daily for 3 days then Mon, Wed, Fri after that
- Click Initiate
- If there are Duplications in Therapy, call MD to clarify.
- Click Orders for Signature
- Sign

The screenshot shows a medical orders system interface. The top navigation bar includes 'Orders', 'Full screen', 'Print', and '0 minutes ago'. Below the navigation bar, there are tabs for 'Orders', 'Medication List', and 'Document In Plan'. The left sidebar contains a 'View' section with a tree view of order categories: Orders for Signature, Plans, Document In Plan, Medical, Emergency, Suggested Plans (0), Orders, Vital Signs, Activity, Patient Care, Communication Orders, Nutrition, IV Solutions, Medications, Laboratory, Radiology, Other Diagnostic Tests, Respiratory, Therapies, Consults, Non Categorized, Medical Supplies, Medication History, Medication History Snapshot, and Reconciliation History. The main content area displays a table of orders for 'MED Heparin_KY (Planned Pending), Ordered as: Heparin IV Drip Orders'. The table has columns for Component, Status, and Details. The components listed include Patient Care (Bleeding Precautions, Medication Discontinuation Instructions, Notify Provider of Change in Patient Condition, Notify Provider Laboratory Results), IV Solutions (Cardiac PT's - Acute Coronary Syndrome, DVT/PE/A-fib/Bridging Patients, Stroke Patients), Prescriber Adjusted, and Laboratory (PTT, PTT Heparin Protocol, PT/INR Prothrombin Time). The details for each component provide specific instructions and dosing information.

Drip Initiation

All protocols will have a medication concentration, a starting dose, a starting dose max dose, a bolus dose, and a bolus dose max dose

- Collect STAT specimens
- Verify a clinical dosing weight has been documented in **Kilograms**
- Verify patient using two identifiers
- Access “Heparin Drip Initial Bolus and Infusion Rate Calculator for max bolus and max drip rates”
 - Intranet > Clinical > Heparin Resources



- Document 2nd nurse witness along with pharmacy 3rd check for initial bolus and drip rate
- Document infusion start dose and bolus dose in Cerner
- Please review Heparin documentation screen shots for bolus dose, initial start and titration below
- Locate titration flow sheet
 - Intranet > Clinical > Heparin Resources
 - OR
 - Intranet
 - Orders and Forms
 - Routine Paper Order Sets
 - **“Heparin IV Drip Titration Protocol”**-For Saint Joseph Hospital Patients Only – **OR** For Saint Joseph East Patients Only

PTT - Heparin (sec)	Bolus (Units/kg)	Max Bolus (Units)	Stop Drip (Minutes)	Rate Change (Units/kg/hour)	Repeat PTT (Hours)
< 30 sec	60 Units/kg	2000 Units	0 Minutes	+ 15 Units/kg/hr	6 hours
30 - 39 sec	60 Units/kg	2000 Units	0 Minutes	+ 15 Units/kg/hr	6 hours
40 - 60 sec	No bolus	No bolus	0 Minutes	(No Change)	6 hours unless PTT in range twice consecutively or may recheck daily with 600 units
61 - 80 sec	No bolus	No bolus	0 Minutes	+ 15 Units/kg/hr	6 hours
81 - 100 sec	No bolus	No bolus	60 min	+ 15 Units/kg/hr	6 hours
>100 sec	No bolus	No bolus	Hold until PTT < 90	Restart infusion at 15 units/kg/hr with PTT < 90	6 hours after initiating infusion at lower rate - recheck in 4 hours and then follow chart

- Assess PTT in 6 hours from initiation and adjust per titration protocol

MAX Doses

Example: Cardiac Patients- Acute Coronary Syndrome. Order is to bolus 70units/kg with a max bolus of 4000 units and start infusion at 15 units/kg/hr with a max dose of 1000 units/hr.

Infusion: Start infusion at 15 units/kg/hr

Max dose is 1000 units/hr or 10 mL/hr (concentration of the bag is 25000 units in 250mL= 25000/250=100units/mL)

-For an 80kg pt, the dose would calculate to be 15units x 80kg = 1200units/hr but since the max is 1000units/hr, the initial infusion rate would be 10mL/hr or 1000 units/hr.

Bolus: Bolus patient 70 units/kg (from the bag using the Alaris pump). Max dose of 4000 units.

-For an 80kg patient, the bolus dose would be 70units x 80kg = 5700 units but the max is 4000, so you would dose the patient at 4000units.

Documentation

- **Initial Infusion-** Scan the Heparin drip into the Medication Administration
- Complete the Witness by, site, and dose and the rate will automatically appear. If you have to change the rate or dose due to max doses, make those changes to reflect what is actually on the order and pump.

The screenshot displays the 'Medication Administration' window for patient KYTrain, Clare15. The patient's MRN is 15015 and DOB is 1/1/1942. The medication being administered is 'heparin 25,000 Units' (Intravenous, 10/01/15 13:19:00 EDT). The form includes the following fields and values:

- Performed date / time:** 07/24/2017 1452 EDT
- Performed by:** KYNURSERN, Cindy
- Witnessed by:** (Empty field)
- Bag #:** 1
- Site:** (Empty dropdown)
- Volume (mL):** 250
- Rate (mL/Hr):** (Empty field)
- heparin/NaCl 0.45% Dose:** (Empty dropdown)

The interface also shows a list of scheduled medications on the left, with 'Continuous' infusion selected. The bottom of the window indicates 'Ready to Scan' and '2 of 2' pages.

- Sign the form and have the witness sign the administration using their credentials
- **BOLUS-** To document the bolus, go into the MAR within Powerchart and right click on the administration icon under continuous infusion and select "Chart Details"

- Once in “Chart Details”, you will need to select the “Bolus” option, fourth from the top. Next, fill in the correct documentation for the bolus given.

- Calculate the infusion **volume in milliliters** and then enter.
 - Example: Bolus 70units/kg for ACS protocol. Pt weight is 80kg.
 $70 \times 80 = 5600$ but the max bolus dose is 4000, so their bolus is 4000units.
 The concentration is 100units/mL so 4000 units will be given with 40mL of fluids. You will put **40mL** in the infuse volume.
- Complete the rest of the form and sign.
- The witness will then enter their credentials to witness the administration.

Titration

- After a PTT result is received (after 6 hours of infusion and then every 6 hours from any change made), refer to the titration protocol
- Example: PTT result is 100 seconds
 - The protocol says to stop the drip for 60 minutes, decrease the drip by 3 units/kg/hr and then recheck the PTT in 6 hours
 - The Alaris pump will allow you to change the drip rate down by 3 units/kg/hr and immediately suspend the pump for 60 minutes.
 - To do this
 - Select Heparin channel
 - Select the bottom left option, delay options.
 - Delay for
 - 60 minutes
 - Confirm
 - This will delay the pump for 60 minutes and then turn on to the dose selected prior to adding the delay.
- To Document the titration change
 - IView/I&O → Adult Quick View → IV Drips → Add new drip rate into grid under the Heparin label → save documentation → 2nd nurse will witness the change in drip information.
- Recheck PTT in 6 hours