
Various PowerPlans utilizing Heparin infusions and intranet-based Heparin calculators are available in a redesigned state for NL EMMC, NL AR Gould Hospital, and NL Mercy Hospital. The updates will support the transition from PTT monitoring to Anti-Xa monitoring. This flyer reviews the changes in the process for utilizing PowerPlans and embedded hyperlinks to use the Heparin calculators.

Affected PowerPlans

- Acute Myocardial Infarction/Acute Coronary Syndrome (AMI/ACS)
- Atrial Fibrillation Afib Module
- CARD Ablation Inpatient
- CARD Admission/Transfer
- CARD Right Ventricular Biopsy
- CARD Structural Heart Inpatient
- CARD Cath Inpatient
- ED Chest Pain Non-STEMI
- General Medical Admission Transfer Adult
- TAVR – Transapical/Transaortic Post-Op
- TAVR – Transfemoral Post-Op
- Vascular Admission
- Vascular Post Op (1 change will be automatic)
- STEMI tenecteplase (TNKase)
- Inpatient Heart Cath

Full summary of changes to PowerPlans:

The following four new PowerPlan subphases have been created:

- Heparin Infusion High Intensity for Active Thrombus Protocol
 - Heparin Infusion Low Intensity for Neuro Indications or High Risk for Bleeding Protocol
 - Heparin Infusion Moderate Intensity for AFIB, NSTEMI, UA or Bridging Protocol
 - Heparin Conversion from Oral Factor Xa Inhibitors Protocol (NLARG)
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The following two pre-existing PowerPlan subphases are revised. Details below:

- **Heparin for Vascular Surgery**
 - Content updated.
 - Title changed (previously: Heparin Infusion (Vascular Surgery Low Dose Heparin) Protocol).
 - Calculator link removed due to subphase no longer a Protocol.
- **Heparin Conversion from Oral Factor Xa Inhibitors Protocol**
 - PTT content updates.
 - EMMC only.

The above new and revised PowerPlan subphases will replace the following current subphases:

- Heparin Cardiac WITH Bolus Protocol (NLARG)
- Heparin Cardiac WITHOUT Bolus Protocol (NLARG)
- Heparin Neuro Indications Protocol (NLARG)
- Heparin VTE WITH Bolus Protocol (NLARG)
- Heparin VTE WITHOUT Bolus Protocol (NLARG)
- Unfractionated Cardiac Heparin Protocol
- Unfractionated VTE Heparin Protocol
- Heparin Infusion (Cardiac Indications) Protocol
- Heparin Infusion (Cardiac with TNKase) Protocol
- Heparin Infusion (Neuro Indications) Protocol
- Heparin Infusion (Venous Thromboembolic Disorder) Protocol

NOTE: The above changes only apply to NL AR Gould Hospital, NL EMMC, and NL Mercy Hospital

Powerplan	Previous Name	Anti-Xa goal (IU/mL)	Initial Bolus	Initial Rate	PRN Bolus
Heparin Infusion High Intensity for Active Thrombus	Heparin Infusion (Venous Thromboembolic Disorder)	0.3-0.7	80 units/kg Max 10,000 units	18 units/kg/hr Max 1,800 units/hr	80 units/kg Max 10,000 units 40 units/kg Max 10,000 units
Heparin Infusion Moderate Intensity for A Fib, NSTEMI, UA, Bridging	Heparin Infusion (Cardiac Indications)	0.3-0.7 (previously 0.3-0.63)	60 units/kg Max 4,000 units (previously 10,000)	12 units/kg/hr Max 1,000 units/hr	25 units/kg Max 2,500 units 10 units/kg Max 1,000 units
Heparin Infusion Low Intensity for Neuro Indication or High Bleed Risk	Heparin Infusion (Neuro Indications)	0.3-0.6 (previously 0.3-0.59)	No bolus	12 units/kg/hr Max 1,000 units/hr	25 units/kg Max 2,500 units 10 units/kg Max 1,000 units
Heparin Conversion from Oral Factor Xa Inhibitors	No change	PTT GOAL ARG:40-65 sec EMMC:53-100 sec Mercy: N/A: PTT not done on-site	No bolus	12 units/kg/hr Max 1,000 units/hr	25 units/kg Max 2,500 units 10 units/kg Max 1,000 units
Heparin For Vascular Surgery	Heparin Infusion (Vascular Low Dose Heparin)	EMMC only: < 0.3	No bolus	500 units/hr	none
AntiXa requirement Previously: every 6 hours until obtaining therapeutic range, then daily NEW: every 6 hours until 2 consecutive Anti-Xas in range, then daily based on levels (see Heparin Calculator)					

NOTE: Changes from current state are indicated in red. These name changes are occurring in response to errors surrounding selection on wrong PowerPlans based on indication. The Anti-Xa range changed from 0.3-0.63 to 0.3-0.7 to align with recommendations from Anticoagulation Forum.

Heparin PowerPlan Ordering:


Ordering, planning, initiating by provider and nursing steps will remain unchanged. For more information visit the following links:


[Order,-Plan,-and-Initiate-a-PowerPlan.aspx \(northernlighthouse.org\)](http://northernlighthouse.org/Order,-Plan,-and-Initiate-a-PowerPlan.aspx)

[Protocol-PowerPlans-Hospital-Nurse-and-Ancillary.aspx \(northernlighthouse.org\)](http://northernlighthouse.org/Protocol-PowerPlans-Hospital-Nurse-and-Ancillary.aspx)



NOTE: PowerPlans have pre-selected orders, ensure you are reviewing the orders prior to signing. Orders that have missing details will be indicated with the Blue Circle with a white X.

Heparin Calculator

After PowerPlan is ordered, to access the Heparin Calculator, select the subphase within the plan. The subphase icon will be visible:  Upon selecting the subphase, reference information (site-specific) will become available.

To view site-specific Heparin Calculator, click the reference text icon: 

	Component	Status	Details
Acute Myocardial Infarction/Acute Coronary Syndrome (AMI/ACS), Acute MI/ACS (Planned Pending)			
Patient Care			
<input checked="" type="checkbox"/>	Education		Tobacco Cessation Teaching, ONCE, If patient has smoked within the past ...
<input checked="" type="checkbox"/>	Notify If		Notify provider for chest pain with ECG changes
Medications			
Platelet Aggregation Inhibitors			
	Aspirin should be administered within 24-hours of arrival to patients without contraindications who are being treated for acute MI.		
<input type="checkbox"/>	aspirin		324 mg, Chew tab, PO, ONCE, NOW (4 X 81 mg tabs) PO chew now, IF not already administered
<input type="checkbox"/>	aspirin		81 mg, Tab, PO, Daily, NOW, Start now if not already given
	Consider co-administration of clopidogrel (Plavix) to patients presenting with findings consistent with ACS. In patients suspected of having left main or 3 vessel CAD who are chest pain free or stable consider not co-administering clopidogrel (Plavix).		
<input type="checkbox"/>	clopidogrel (Plavix)		300 mg, Tab, PO (Loading), ONCE
<input type="checkbox"/>	clopidogrel (Plavix)		75 mg, Tab, PO, Daily
Anticoagulants			
	Consider use of direct thrombin inhibitor if patient has history of Heparin Induced Thrombocytopenia.		
<input type="checkbox"/>	Heparin Infusion Moderate Intensity for AFIB, NSTEMI...		
<input type="checkbox"/>	enoxaparin (Lovenox)		1 mg/kg, Soln, SUBCUTANEOUS, Every 12 Hour Interval, Recommend 1 m...

Acute Myocardial Infarction/Acute Coronary Syndrome (AMI/ACS), Acute MI/ACS, _ Heparin Infusion Moderate Intensity for AFIB, NSTEMI, UA or Bridging Protocol (Planned Pending)			
Medications			
<input checked="" type="checkbox"/>	 Heparin Calculator		EMMC Heparin Calculator - click icon on left or acces...
<input checked="" type="checkbox"/>	Reference EMMC		Reference EMMC
	Notifications:  Click to see Evidence-based Information.		
	1. Obtain PTT or aPTT on heparin, STAT, heparin initial bolus (if indicated), PTT, CBC with differential, unless labs already done within past 24-hours. 2. For patients admitted with heparin already infusing: a) obtain patient weight, b) continue current dose, c) check Anti-Xa level 6 hours after initiation or last dose change. 3. Adjust IV heparin infusion using the Moderate Intensity-Infusion Rate Change Tab on the heparin calculator.		
	Select Initial Heparin Bolus if Indicated		
<input type="checkbox"/>	heparin (Heparin initial bolus (MAX Dose 4,000 Units))		60 units/kg, Soln, IVP, ONCE, Indication: Heparin Prot...
<input checked="" type="checkbox"/>	heparin (Heparin 25,000 units/500 mL D5W (Premix))		Tot Vol: 500 mL, Titrate, Soln, IV, Anti-Xa Goal for Mo... Adjust IV heparin infusion using Moderate Intensity-I...
<input type="checkbox"/>	heparin IV - Pharmacy to Dose / Monitor		Daily, Reason: Pharmacy to Monitor Only, Comment:...
PRN Heparin Boluses			
<input checked="" type="checkbox"/>	heparin (Heparin (MAX Dose 2,500 Units))		25 units/kg, Soln, IVP, Every 6 Hours, PRN, Heparin Pr...
<input checked="" type="checkbox"/>	heparin (Heparin (MAX Dose 1,000 Units))		10 units/kg, Soln, IVP, Every 6 Hours, PRN, Heparin Pr... Calculate IV heparin bolus using Moderate Intensity-I...
Laboratory			
	STAT labs unless done within past 24 hours		
<input type="checkbox"/>	PTT		BLOOD, Stat
<input type="checkbox"/>	CBC with Differential		BLOOD, Stat
<input checked="" type="checkbox"/>	CBC without Differential		BLOOD, Timed Study, Start: T+1:0545, Every AM, 10 D...
<input checked="" type="checkbox"/>	Anti-Xa Heparin Assay		BLOOD, Timed Study, Start: T+1:0545, Every AM, 10 D...
<input checked="" type="checkbox"/>	-6 hr Anti-Xa Heparin Assay - Between 0.30 Unit/mL and 0.7...		11 Days
Laboratory (Other)			

- Heparin calculator will now be available from local intranet page. When determining the Rate Change for Anti-Xa Monitoring, refer to the View window to the left. In this specific example: **Heparin Infusion Moderate Intensity for AFIB, NSTEMI, UA or Bridging Protocol** subphase is selected, thus meaning the Moderate Intensity Heparin calculator option should be chosen.
- After provider initiation, nursing may need to utilize the Heparin calculator for rate changes or other reference. The direct links to the calculators are as follows:

- NL EMMC:

<https://intranet.emhs.org/emmc/the-hub/files/heparin-calculators.aspx>

- NL Mercy Hospital:

<https://intranet.emhs.org/mercy/pages/heparin-calculators.aspx>

- NL AR Gould Hospital:

<https://intranet.emhs.org/tamc/pages/heparin-calculators.aspx>

NOTE: Refer to MAR for initial bolus.