Welcome to Anticoagulation

Carlin Rooke, MD June 26, 2019

Part 1 -How to refer to Coumadin Clinic:

(use the Message Pool!)

P ZZZTEST, KLEAN - 100136740 Opened by Roo	ke, Carlin			
Task Edit View Patient Chart Links	Notifications Navigation Help			
🗄 🎬 Physician Handoff 🙆 Home 🖃 Message (Center Patient List 🎬 Discharge I)ashboard 🎬 UpToDate 🎬 ()uality Measures 🔉 🚨	Census Task Lis
🗄 🔀 Tear Off 🏭 Suspend 🚕 🛠 Charges 📲 Exit	🗓 Calculator 🏾 🎬 AdHoc 👔 Specim	en Collection 🔒 PM Conversa	itico 👻 🔄 Commu	nicate 🔹 🎒 Pati
ZZZTEST, KLE 🗵			💿 Messa	ge
ZZZTEST, KLEAN		DOB:10/11/1981	💿 Remir	ider 2:
Attending		Hold Status:N/A		t Letter ::
Allergies: ciprofloxacin, Haldol		Care Team:: <no primary<="" th=""><th>Conta 📑 Provid</th><th>ler Letter a</th></no>	Conta 📑 Provid	ler Letter a
Мепи	🕂 🔷 👻 🛉 Provi	der View		
Provider View	- A	100% - 🌑 🌑 🚮		
Overview	Inpt Summary S	General Medicine	Admit Clinic	🔀 Disch
Patient Summaries				
Results Review	Vital Signs 🚦 🔻		≣∙⊘	Documents
Orders 🕂 Add	Last 5 days for all visits	•		Last 1 month
Documentation 🕂 Add	No results found			No results fou
				NO results fou
Allergies 🕂 Add	Intake and Output		≣∙⊗	Diagnostic
Body System View	Labs		≣∙⊗	Last 1 month
Chart Search				No results fou
Clinical Research	Microbiology (0)		≡•⊗	
Diagnosis & Problems	Patient Background		=- 0	

Fatients	ZZZTEST, KLEAN Caller: ZZZTEST, KLEAN	(aller #:
To:		
CC:	Provider: Rooke, Carlin 🗙	🔀 🗌 To consumer 🗌 Disable further replie
Subject:		▼ Save to Chart As: Phone Message/Call
	Type a name or select from list: OVM	Show names from Global Address Book
	Personnel Pool Distribution List Right click to add/remove a name in the personal address book	Send to

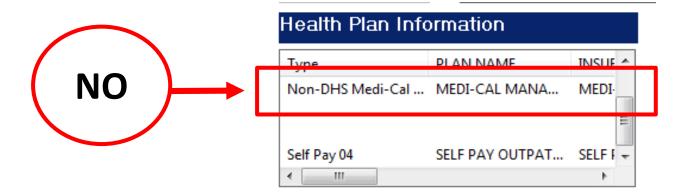
Address Book

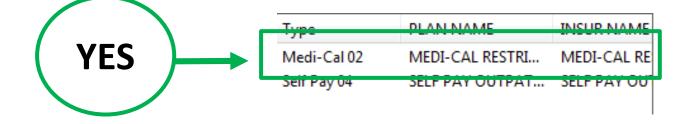
I	nternal			
	Type a name or select from list:			
	OVM			
	Personnel Pool Distribution List			
	Right click to add/remove a name in the personal address book			
	Name	*		
	OVM - Clinic A - Clerical			
	OVM - Clinic A - Nursing			
	OVM - Infusion Center - Clerical	=		
	OVM - Occupational Therapy			
	OVM - Physical Therapy			
	OVM - PT/OT/Speech Therapy - Clerical			
	OVM - Renal Pool			
	OVM - Rheumatology - Clinic E - Clerical			
	OVM - Rheumatology - Clinic E - Nursing			
	OVM - Speech Therapy			
	OVM Coumadin ED/UC Urgent Follow Up			
	OVM ED TFU Coordinator			
	OVM GYN Aftercare ED/UC Urgent Follow Up	Ŧ		
	4 III III III III III III III III III I			

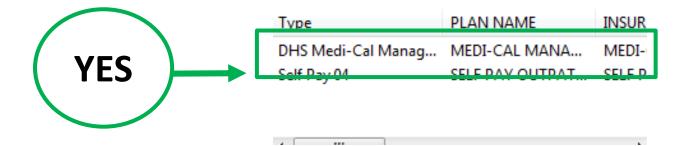
🛇 New Message	
Task Edit	
📍 High 🐧 Notify 📓 Message Journal 📓 Portal Options	aunch Orders 🐔
Patient: ZZZTEST, KLEAN	Caller #:
To: OVM Coumadin ED/UC Urgent Follow Up 🗙	🕅 🔲 Include me
CC: Provider: Rooke, Carlin	× Disable further replies
Subject: WE LOVE COUMADIN CLINIC!	▼ Save to Chart As: Phone Message/Call ▼
Attachments Transition of Care Browse Documents Other Attachments	
Message	
Arial - 24 - 🍪 🔍 🔍 🖟 🛍 🛍 🖏 🖪 🖳 Z	S ■ = = 4 ® V
Tell me something interesting about your pati	ent
Actions	*
Patient Needs Appointment	Remind on:
Needs Lab Before Refill Please Call Patient with Results	Due on:
Message Left for Patient to Return Call	
Agree with Message See Note In Chart	Send Cancel

INPATIENT DISCHARGE: Please check insurance status (or ask for help during UM rounds)

Menu	👎 < 🔹 🕇 Demographics		
ED Summary			
Vitals/Nursing/Results			
Place Orders	Demographics Visit List PPR Summary		
Review Orders 🛛 🕂 Add	Visit Type	Location	Admit Date
Provider Notes 🛛 🕂 Add	Outpatient	OVM Cardio Lab	06/25/2019 12:40:30 PDT
	Outpatient	OVM Lab	06/25/2019 12:24:00 PDT
Notes	Outpatient	OVM Anticoag	06/25/2019 12:08:39 PDT
MAR Summary	Outpatient	OVM Clinic B WAITINGROOM	06/25/2019 09:26:41 PDT
	Outpatient	OVM Lab	06/19/2019 21:39:00 PDT
RFV and PMH	Outpatient	OVM Anticoag	06/11/2019 08:41:46 PDT
Family, Social, Surgical Hx	Outpatient	OVM Anticoag	06/04/2019 09:12:46 PDT
Family, Social, Surgical Hx	Outpatient	OVM Clinic C Exam Room 4	06/04/2019 07:48:02 PDT
Home Meds 🛛 🕂 Add	Outpatient	OVM Anticoag	05/28/2019 08:44:11 PDT
Allergies 🛉 Add	Outpatient	OVM Lab	05/23/2019 16:08:00 PDT
	Outpatient	OVM Clinic A Exam Room 6	05/23/2019 12:56:32 PDT
iView and I&O	Outpatient	OVM Anticoag	05/21/2019 08:42:02 PDT
Flowsheet	Outpatient	OVM Lab	05/14/2019 08:54:00 PDT
Flowsheet	Outpatient Emergency	OVM Anticoag OVM ED 03 .	05/14/2019 08:31:00 PDT 05/07/2019 11:47:00 PDT
Growth Chart	Outpatient Surgery	OVM OPHA	05/07/2019 05:03:59 PDT
Immunization Schedule	Outpatient	OVM OPHA OVM Anticoag	04/30/2019 08:04:00 PDT
Immunization Schedule		UVM Anticoag	04/30/2019 08:04:00 PD1
Demographics		Picalear oct the	nacouguraon
Form Browser	Visit Reason: IN PERSON	Isolation Code	
Clinical Research			
Patient Goals	Accommodation :	Nurse Unit :	OVM Anticoag
Health Maintenance	Room :	Bed :	
Form Browser	Provider Relationships	Health Plan	Information
Chart Search			
ELM Record	Type NAME Admitting Phys (Rooke, Carlin)	Type	PLAN NAME INSUE ^
Community (HIE) Records	Attending Phys (Kooke, Carlin)	E Non-DHS Medi-	
iMedConsent	Nurse Practitio Kopf, Paula		
eConsult	Supervisor Quinto, Vincenzo M	👻 Self Pay 04	SELF PAY OUTPAT SELF F 👻
	· · · · · · · · · · · · · · · · · · ·		4







Minimum time from when you send the referral to when the patient can be seen:

3-5 days

(depending on the day of the week)

IF YOU SEND REFERRAL ON	EARLIEST PATIENT CAN BE SEEN
MONDAY	FRIDAY
TUESDAY	FRIDAY
WEDNESDAY	MONDAY
THURSDAY	MONDAY
FRIDAY	WEDNESDAY

If you really need patient to be seen sooner than 3-5 days (after referral), then PAGE ME OR CALL ANTICOAG CLINIC

PHONE (PROVIDERS ONLY) PHONE (FOR PATIENTS) LOCATION: 2D-152

x73711 x74418

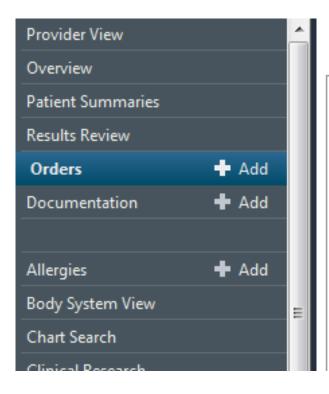
<u>CLINIC HOURS</u>:

MONDAY8:00-12:00TUESDAY8:00-12:00WEDNESDAY8:00-3:00THURSDAYCLOSEDFRIDAY8:00-12:00

Part 2 -IV HEPARIN INFUSION

QUESTIONS? PHARMACY (x73596) ME (AMION)

Search orders for "heparin"



+ A	dd 🍶 Document Medication by Hx Reconciliation 🕶 矝 Check Intera
Orde	rs Medication List Document In Plan
M	Search: heparin 🔍 Advanced Options 🚽
	💿 Up 🔥 Home 👷 Favorites 🔹 🛅 Folders 🗎 Copy Fo
	Heparin Drip (Angio Use Only) 1000 units in D5W 500 mL Premix Heparin Drip (Angio Use Only) 1000 units in NS 500 mL Premix
	 Heparin Drip ACS/Cardiac per Pharmacy Heparin Drip DVT/PE per Pharmacy Heparin Drip Low Dose per Pharmacy
	heparin flush

Select desired order set:

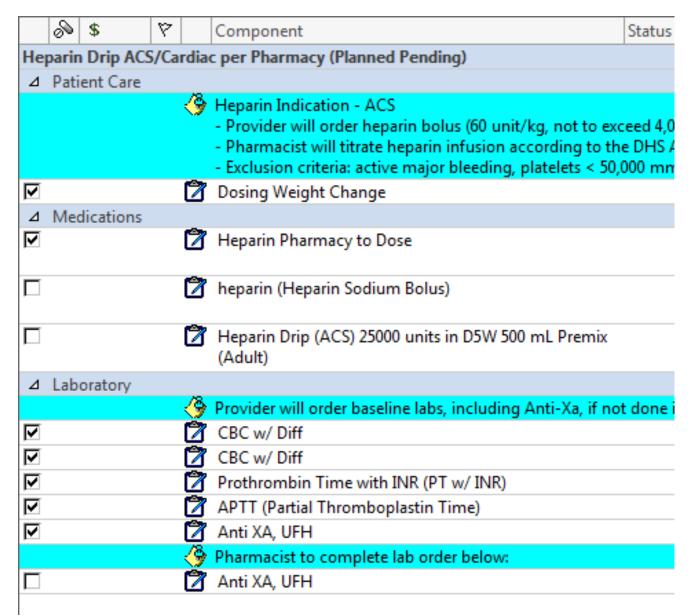
Heparin Drip ACS/Cardiac per Pharmacy
Heparin Drip DVT/PE per Pharmacy
Heparin Drip Low Dose per Pharmacy

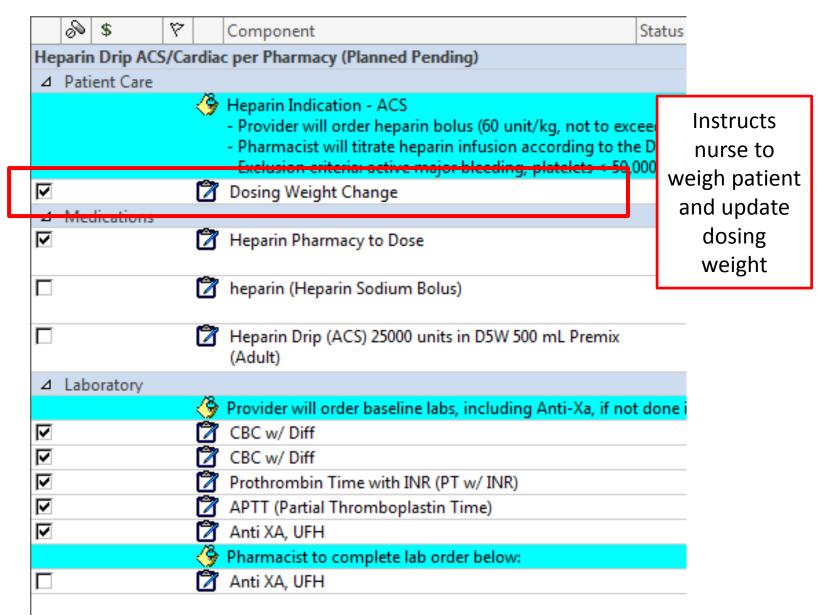
Approved clinical indications:

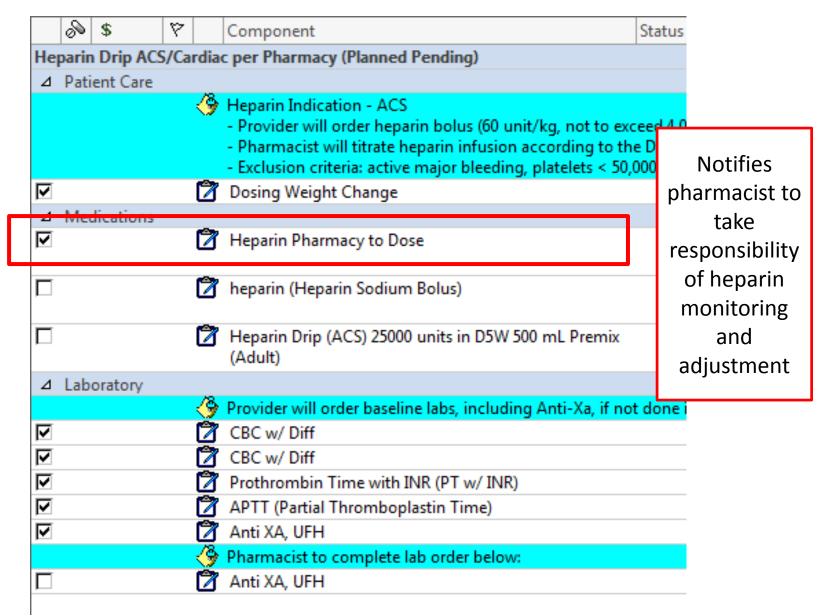
- (1) Unstable angina/NSTEMI
- (2) Bridging for AFib/flutter
- (3) Cardiac valve replacement
- (4) STEMI with TPA
- (5) Intraaortic balloon pump
- (6) Perioperative bridging

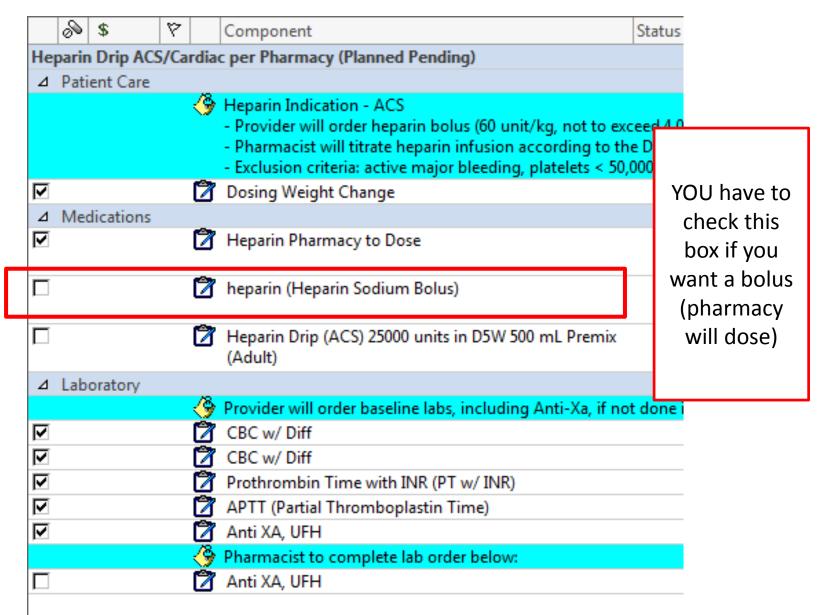
(1) Acute DVT or PE(2) Arterial thrombosis (peripheral emboli)

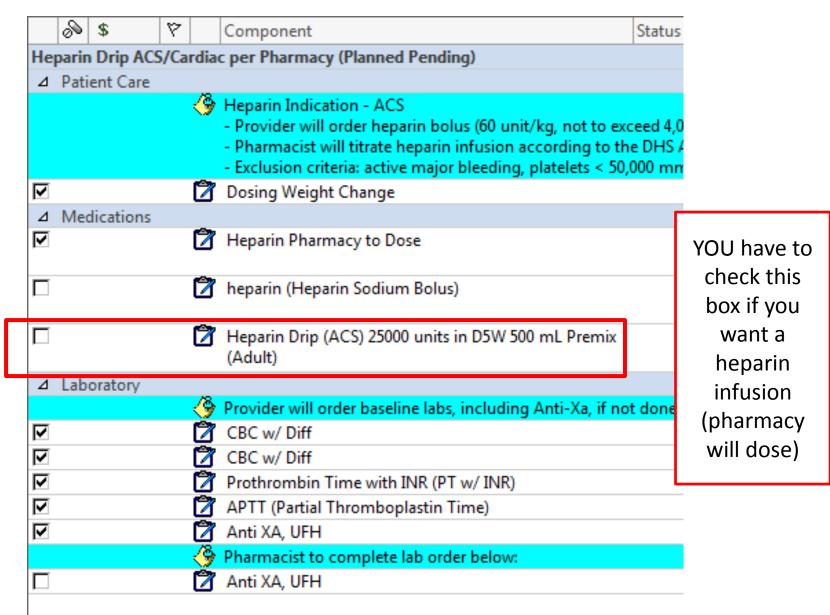
This protocol targets a prophylactic (subtherapeutic) level of anticoagulation. It is intended for high bleeding-risk surgical patients in whom there is concern for vascular thrombosis **This will mostly be used at Har + LAC





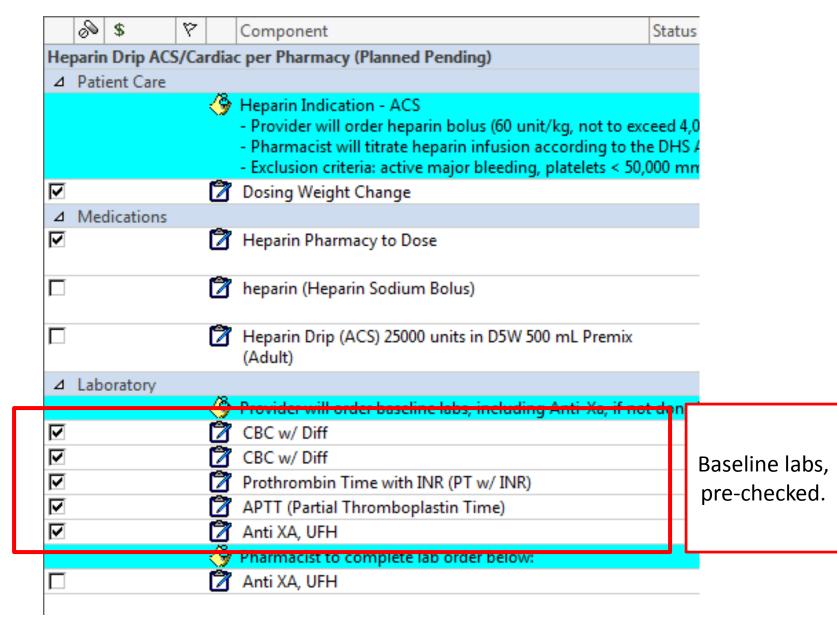






Select appropriate clinical indication. Provide callback number or pager.

					Thanhacy to dose at or anity kgr bo hot exceed 4,000 t
F	Z 8	heparin I 🗹 🖉	IV additive 25,000 units + Premix D5W (H) mL	Heparin	500 mL, IV Continuous Pharmacy to determine init Initial infusion rate 12 unit/kg/hr (not to exceed 1,0
	⊿ Laboratory				
		- 🏈 Provider v	will order baseline labs, including Anti-)	Ka, if not done in pa	st 24 hrs. Pharmacist will order subsequent Anti-Xa levels according to pro
Ŀ	7	🛛 CBC w/ 🛛	Diff		Blood, Stat collect, T;N, Nurse collect
F	7	🛛 CBC w/ 🛛	Diff		Blood, AM Draw collect, T+1;0400, Lab Collect
F	7	🛛 🔁 Prothron	nbin Time with INR (PT w/ INR)		Blood, Stat collect, T;N, Nurse collect
Ŀ	7	🕅 дртт (ра	artial Thromhonlastin Time)		Blood Stat collect T-N Nurse collect
	z Details for her	o <mark>arin IV</mark> a	additive 25,000 units +	Premix D5V	W (Heparin ACS) 500 mL
C	😵 Details 🛗	Continuous D	Details 🛛 🛞 Offset Details 🗎 📑 Diagnose	es	
	+ * II.	₽≈			
	*Heparin Drip In	lication (ACS):	· ·		*Provider Call Back Number/Pager:
	Route of	dministration:	Unstable Angina/NSTEMI Bridging for AFib/Flutter		Requested Start Date/Time:
	Pharm	acy Reference:	Cardiac Valve Replacement		Restricted Criteria Met?: 🔿 Yes 🔿 No
			STEMI with TPA		
	Approving Provid	er/Consultant:	Intraaortic Balloon Pump		
			Perioperative Bridging		



Comparison of the three heparin drip options

What do the three heparin drips have in common?

		⊿ Patient Care			
			<u>(</u>	Heparin Indication - ACS - Provider will order heparin bolus (60 unit, unit/hr)	/kg, not to exceed 4,000 units) and initial heparin infusion (12 unit/kg/hr, not to exceed 1,000
Dosing	-				ccording to the DHS ACS Algorithm (see "Continuous Details") platelets < 50,000 mm3, heparin-induced thrombocytopenia, hypersensitivity to heparin or
weight _	\rightarrow		Ø	Dosing Weight Change	T;N, Weigh patient STAT. Enter as measured weight and dosing weight.
			7	Heparin Pharmacy to Dose	1 EA, N/A, Form: Misc, QDAY
	→		ک	riepanni i nannacy to bose	This is a pharmacy consult order only.
Pharmacy	•		7	heparin (Heparin Sodium Bolus)	Pharmacy to dose, IV Push, Form: Injection, ONCE
to dose			-		Pharmacy to dose at 60 unit/kg. Do not exceed 4,000 units per dose. Round dose to the
			7	Heparin Drip (ACS) 25000 units in D5W	500 mL, IV Continuous Pharmacy to determine initial rate
				500 mL Premix (Adult)	Initial infusion rate 12 unit/kg/hr (not to exceed 1,000 unit/hr). Goal Anti-Xa level 0.30-0.7
		⊿ Laboratory			
			- 🏈	Provider will order baseline labs, including	Anti-Xa, if not done in past 24 hrs. Pharmacist will order subsequent Anti-Xa levels
		-	1 270	according to protocon	
			_ 💆	CBC w/ Diff	Blood, Stat collect, T;N, Nurse collect
			_ 💆	CBC w/ Diff	Blood, AM Draw collect, T+1;0400, Lab Collect
Lab			_ 💆	Prothrombin Time with INR (PT w/ I	Blood, Stat collect, T;N, Nurse collect
orders			_ 💆	APTT (Partial Thromboplastin Time)	Blood, Stat collect, T;N, Nurse collect
orders			Ø	Anti XA, UFH	Blood, Stat collect, T;N, Nurse collect
				Pharmacist to complete lab order below:	
				Anti XA, UFH	Blood, Stat collect, T;N+360, Nurse collect

What is **different** about the three heparin drips?

	⊿ Patient Care		
		unit/hr) - Pharmacist will titrate heparin infusio - Exclusion criteria: active major bleed pork/beef products	unit/kg, not to exceed 4,000 units) and initial heparin infusion (12 unit/kg/hr, not to exceed 1,000 on according to the DHS ACS Algorithm (see "Continuous Details") ing, platelets < 50,000 mm3, heparin-induced thrombocytopenia, hypersensitivity to heparin or
		💙 Dosing Weight Change	T;N, Weigh patient STAT. Enter as measured weight and dosing weight.
Heparin	⊿ Medications	🖄 Heparin Pharmacy to Dose	1 EA, N/A, Form: Misc, QDAY This is a pharmacy consult order only
bolus -		🖄 heparin (Heparin Sodium Bolus)	Pharmacy to dose, IV Push, Form: Injection, ONCE Pharmacy to dose at 60 unit/kg. Do not exceed 4 000 units per dose. Round dose to the
		Heparin Drip (ACS) 25000 units in D5V 500 mL Premix (Adult)	N 500 mL, IV Continuous Pharmacy to determine initial rate Initial infusion rate 12 unit/kg/hr (not to exceed 1,000 unit/hr). Goal Anti-Xa level 0.30-0.7
Infusion	⊿ Laboratory		
		Provider will order baseline labs, inclu according to protocol.	ding Anti-Xa, if not done in past 24 hrs. Pharmacist will order subsequent Anti-Xa levels
		🖄 CBC w/ Diff	Blood, Stat collect, T;N, Nurse collect
		🖄 CBC w/ Diff	Blood, AM Draw collect, T+1;0400, Lab Collect
		Prothrombin Time with INR (PT w/ I	. Blood, Stat collect, T;N, Nurse collect
		🖄 APTT (Partial Thromboplastin Time)	Blood, Stat collect, T;N, Nurse collect
		🖄 Anti XA, UFH	Blood, Stat collect, T;N, Nurse collect
		Pharmacist to complete lab order belows	DW:
		🖄 Anti XA, UFH	Blood, Stat collect, T;N+360, Nurse collect

	ACS/Cardiac	DVT/PE	Low Dose
Bolus	60 unit/kg (max 4,000 unit)	80 unit/kg (max 10,000 unit)	None
Initial infusion	12 unit/kg/hr (Max 1,000 unit/hr)	18 unit/kg/hr (max 2,000 unit/hr)	7 unit/kg/hr (max 1,000 unit/hr)
Goal Anti-Xa	0.3 – 0.7	0.3 – 0.7	0.1 - 0.3
Goal aPTT	75 – 100	75 – 100	50 – 74

Comparison of Bolus, Infusion, and Goal Anti-Xa/aPTT

⊿	Medications	
$\mathbf{\nabla}$	🖄 Heparin Pharmacy to Dose	1 EA, N/A, Form: Misc, QDAY
		This is a pharmacy consult order only.
\Box	🖄 heparin (Heparin Sodium Bolus)	Pharmacy to dose, IV Push, Form: Injection, ONCE
		Pharmacy to dose at 60 unit/kg. Do not exceed 4,000 units per dose. Round dose to the
	Heparin Drip (ACS) 25000 units in	D5W 500 mL, IV Continuous Pharmacy to determine initial rate
	500 mL Premix (Adult)	Initial infusion rate 12 unit/kg/hr (not to exceed 1,000 unit/hr). Goal Anti-Xa level 0.30-0.7

Comparison of **Bolus**

	ACS/Cardiac	DVT/PE	Low Dose
Bolus	60 unit/kg (max 4,000 unit)	80 unit/kg (max 10,000 unit)	None
Initial infusion	12 unit/kg/hr (Max 1,000 unit/hr)	18 unit/kg/hr (max 2,000 unit/hr)	7 unit/kg/hr (max 1,000 unit/hr)
Goal Anti-Xa	0.3 – 0.7	0.3 – 0.7	0.1 – 0.3
Goal aPTT	75 – 100	75 – 100	50 – 74

⊿ Medications		
	🖄 Heparin Pharmacy to Dose	1 EA, N/A, Form: Misc, QDAY This is a pharmacy consult order only.
	🖄 heparin (Heparin Sodium Bolus)	Pharmacy to dose, IV Push, Form: Injection, ONCE Pharmacy to dose at 60 unit/kg. Do not exceed 4,000 units per dose. ound dose to the
	Heparin Drip (ACS) 25000 units in D5W 500 mL Premix (Adult)	500 mL, IV Continuous Pharmacy to determine initial rate Initial infusion rate 12 unit/kg/hr (not to exceed 1,000 unit/hr). Goal Anti-Xa level 0.30-0.7

Comparison of Infusion

	ACS/Cardiac	DVT/PE	Low Dose
Bolus	60 unit/kg (max 4.000 unit)	80 unit/kg (max 10.000 unit)	None
Initial infusion	12 unit/kg/hr (Max 1,000	18 unit/kg/hr (max 2,000	7 unit/kg/hr (max 1,000
			anitymy
Goal Anti-Xa	0.3 – 0.7	0.3 – 0.7	0.1 – 0.3
Goal aPTT	75 – 100	75 – 100	50 – 74

⊿	Medications			
			Heparin Pharmacy to Dose	1 EA, N/A, Form: Misc, QDAY
				This is a pharmacy consult order only.
			heparin (Heparin Sodium Bolus)	Pharmacy to dose, IV Push, Form: Injection, ONCE
				Pharmacy to dose at 60 unit/kg. Do not exceed 4 000 units per dose. Round dose to the
		7	Heparin Drip (ACS) 25000 units in D5W	500 mL, IV Continuous Pharmacy to determine initial rate
			500 mL Premix (Adult)	Initial infusion rate 12 unit/kg/hr (not to exceed 1,000 unit/hr). Goal Anti-Xa level 0.30-0.7

Comparison of Goal Anti-Xa/aPTT

ACS/Cardiac	DVT/PE	Low Dose
60 unit/kg (max 4,000 unit)	80 unit/kg (max 10,000 unit)	None
12 unit/kg/hr (Max 1,000	18 unit/kg/hr (max 2,000	7 unit/kg/hr (max 1,000
unit/hr)	unit/hr)	unit/hr)
0.3 – 0.7	0.3 – 0.7	0.1 – 0.3
75 100	75 100	50 71
	60 unit/kg (max 4,000 unit) 12 unit/kg/hr (Max 1,000 unit/hr) 0.3 – 0.7	60 unit/kg (max 4,000 unit) 80 unit/kg (max 10,000 unit) 12 unit/kg/hr (Max 1,000 18 unit/kg/hr (max 2,000 unit/hr) unit/hr) 0.3 - 0.7 0.3 - 0.7

⊿	Medications			
		Heparin Pharmacy to Dose	1 EA, N/A, Form: Misc, QDAY	
			This is a pharmacy consult order only.	
	Ċ	heparin (Heparin Sodium Bolus)	Pharmacy to dose, IV Push, Form: Injection, ONCE	
			Pharmacy to dose at 60 unit/kg. Do not exceed 4,000 units per dose. Round dose to the	
	2	Heparin Drip (ACS) 25000 units in D5W	500 mL, IV Continuous Pharmacy to determine initial rate	
		500 mL Premix (Adult)	Initial infusion rate 12 unit/kg/hr (not to exceed 1,000 unit/h). Goal Anti-Xa level 0.30-0.7	

FAQs

How do I interpret AntiXa UFH levels?

aPTT (sec)	Anti-Xa (IU)	
Less than 57	Less than 0.2	
58 – 74	0.20 – 0.29	
75 – 100	0.30 - 0.70	
101 – 115	0.71 – 0.80	
116 – 131	0.81 - 1.10	
132 – 179	1.11 – 1.70	
> 179	> 1.70	

Interrupting drip for procedures:

- -- **Discontinue** infusion order
- -- Keep "pharmacy to dose" active
- -- Re-order when you want to restart