

Acute VTE Care Transition Order Set (Adult)

ACTION

Administration

DOCUMENT PURPOSE

This order set may be used for adult patients diagnosed with venous thromboembolism (VTE: deep vein thrombosis, pulmonary embolism) who are ready to be transferred from the hospital or emergency department to outpatient care settings.

Direct oral anticoagulants (DOACs) should be considered in preference to non-DOAC therapy (a parenteral anticoagulant such as unfractionated heparin (UFH) or low molecular weight heparin (LMWH) overlapped with warfarin) if the patient is an appropriate candidate⁽¹⁾. Patients must have the following to be a DOAC candidate:

- Adequate renal function: creatinine clearance (CrCl) >30 mL/min (> 25 mL/min for Apixaban)
- No significant drug interactions (e.g., carbamazepine, antifungals)
- Confirmed financial coverage for medication
- History of good compliance with medications and/or appointments or highly likely to be adherent

Non-DOAC Therapy for VTE Patients Clinically Unsuitable for DOACs

Clinician to consider non-DOAC therapy (therapeutic dose parenteral anticoagulants or lead-in parenteral with warfarin) for the following indications⁽¹⁾:

THERAPEUTIC DOSE PARENTERAL ANTICOAGULANTS

g	Cancer-associated venous thromboembolism (CAT): LMWH monotherapy may be preferred liven extensive experience, but DOACs are reasonable if patient meets above DOAC eligibility writeria, is able to tolerate oral medications and/or is unable/unwilling to use LMWH ⁽²⁾	
	Pregnancy/breastfeeding: UFH or LMWH (and occasionally warfarin in breastfeeding only) are preferred	
_	Patients with heparin-induced thrombocytopenia (HIT) or a history of HIT: Consider ondaparinux	
	Patients with severe renal dysfunction (estimated CrCl <15 ml/min or dialysis): UFH is preferred over LMWH	
LEAD	D-IN PARENTERAL WITH WARFARIN	
□ A	Antiphospholipid Antibody Syndrome (APAS)	
	Severe renal impairment or hemodialysis	
	flechanical valve	

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Acı	ute VTE Care Transit	ion Order Set (Adult)		ACTIO		
Factors Influencing Drug Sel	ection					
Renal and liver characteristics therapy.	are necessary to dete	rmine appropriateness of	anticoagulation			
RENAL FUNCTION						
□ Calculate estimated CrCl us	sing the Cockcroft-Gau	ılt formula based on the fo	ollowing:			
Age:						
Actual body weight:		(kg)				
Gender:						
Serum Creatinine:		(mg/dL)				
Estimated CrCI:	(mL/mir	nute)				
To calculate CrCl using the Co	•					
https://www.kidney.org/profess	ionals/KDOQI/gfr_calc	<u>culatorCoc</u>		>		
LIVER FUNCTION				Only		
∠ Liver Disease: ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ △ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ ∠ △ ← ∠ ← △ ← △ ← △ ← △ ← △ ← ∠	☐ No ☐ Yes:	Child Pugh Grade:		t O		
CHILD PUGH SCORE						
Measure	1 point	2 points	3 points	Document		
Total bilirubin (mg/dL)	< 2	2 - 3	> 3	00		
Serum albumin (g/dL)	> 3.5	2.8 - 3.5	< 2.8			
INR	Less than 1.7	1.7 – 2.2	Greater than 2.2	nce		
Ascites	None	Mild (or suppressed with medication)	Moderate to Severe (or refractory)	eference		
Hepatic encephalopathy	None	Grade I-II	Grade III-IV	Re		
Note: The score employs five of Each measure is scored 1-3, where Total score of 5-6: grade A (wester Total score of 7-9: grade B (sign Total score 10-15: grade C (devenue) Total score 10-15: gra	with 3 indicating the wo ell-compensated disease gnificant functional com- compensated disease ALL THAT APPLY) the therapy, surgery with	rst condition. se) npromise))	st, recent			
Other (specify):						
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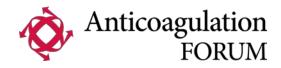
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Anticoagulation FORUM

	Acute VTE Care	Transition Orde	er Set (Adult)		ACTION	
Factors Influencing Drug	Selection Conti	nued				
SHARED DECISION-MAKING	DISCUSSION					
Note: If drug costs are a barrier to filling prescriptions for medication, refer patient to appropriate resources. Select all that have been discussed with patient Bleeding risk/reversal agents Dosing regimen options (e.g. once vs. twice daily) Lifestyle factors of drug (e.g. diet, blood draws, activities, taken with meals) Out-of-pocket medication cost Other (specify):						
DOAC STANDARD DOSE						
DOAC	Apixaban	Rivaroxaban	Edoxaban	Dabigatran		
Parenteral lead-in (usually LMWH)	No	one	≥ 5 days, then S	SWITCH to DOAC	Only	
Standard DOAC dose	10 mg PO BID x 7 days, then 5 mg PO BID	15 mg PO BID x 21 days WITH FOOD, then 20 mg PO daily WITH FOOD	60 mg PO daily	150 mg PO BID	Document C	
CONCOMITANT MEDICATION	(4)				ce	
DOAC DRUG INTERACTIONS A					le l	
DOAC	Apixaban	Rivaroxaban	Edoxaban	Dabigatran	eference	
Renal impairment	Estimated CrCl <25 ml/min: Avoid use	Estimated CrCl <30 ml/min: Avoid use	Estimated CrCl <30 ml/min: Avoid use Estimated CrCl 30-50 ml/min: 30 mg PO daily	Estimated CrCl ≤30 ml/min: Avoid use	Re	
Hepatic impairment	•	o adjustment need void or use with ca void use	ded	No adjustment	(
Body weight						
Overweight	V	/eight >120 kg or	BMI over 40: Avoia	use		
Low	No adj	ustment	≤ 60 kg: 30 mg PO daily	No adjustment		
Underweight		Weight <50) kg: <i>Avoid use</i>			
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Acute VTE Care Transition Order Set (Adult)

ACTION

Factors Influencing Drug Selection Continued...

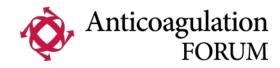
CONCOMITANT MEDICATION (4)

DOAC DRUG INTERACTIONS AND DOSE ADJUSTMENTS CONTINUED...

Discussion a DVNIAMIO		Rivaroxaban	Edoxaban	Dabigatran			
PharmacoDYNAMIC	Avoid	Avoid or minimize concomitant use of antiplatelets					
drug interactions		and/or NSAIDs whenever possible					
PharmacoKINETIC	Eliminated/metal	•		Eliminated by:			
drug interactions	P-gp efflux tran		P-gp efflux tran	sporter system			
	CYP 3A4 hepa	tic isoenzyme					
	system						
P-gp and/or strong 3A4 INDUCERS (e.g., barbiturates, carbamazepine, dexamethasone, phenytoin, primidone, rifampin, St. John's Wort)*		d use		ustment			
P-gp INHIBITORS (e.g. amiodarone, carvedilol, diltiazem, dronaderone, azithro/clarithro/ erythromycin, oral itra/ketoconazole, quinidine, verapamil)*	٨	<i>!/A</i>	30 mg PO daily	Estimated CrCl < 50 ml/min: Avoid use			
Dual P-gp and strong CYP 3A4 INHIBITORS (e.g. clarithromycin, oral itra/ ketoconazole, cobicistat, indinavir, ritonavir, saquinivir, teleprevir)*	Decrease induction and maintenance dose by 50%	Avoid use		I/A			
Dual P-gp and moderate CYP 3A4 INHIBITORS (e.g. cyclosporine, diltiazem, dronaderone, erythromycin, verapamil)* *drug lists are not exhaustive	Use with caution	Estimated CrCl <80 ml/min: Avoid use	٨	I/A			

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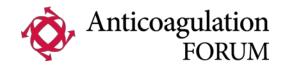
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Acute VTE Care Transition Order Set (Adult) ACTION **Orders OPTIONS FOR TREATMENT APPROACH(1)** Choose one anticoagulation approach and complete orders as per below: DOAC Therapy 1. Single Direct Oral Anticoagulant (DOAC) (Rivaroxaban OR Apixaban) 2. Lead-in Parenteral with DOAC (Parenteral PLUS Edoxaban OR Dabigatran) Non-DOACTherapy 3. Lead-in Parenteral with Warfarin (Parenteral PLUS Warfarin) 4. Therapeutic Dose Parenteral Only (Dalteparin OR Enoxaparin OR Fondaparinux OR Other) **DOAC THERAPY** 1. SINGLE DIRECT ORAL ANTICOAGULANT (DOAC) (RIVAROXABAN OR APIXABAN) Reference Document Only Choose one DOAC and de-escalate dose on (date) **A**PIXABAN Apixaban two 5 mg tablets (10 mg total), PO twice daily for first 7 days, followed by one 5 mg tablet (5 mg total), PO twice daily Apixaban starter pack (single fill for first month of therapy), followed by one tablet (5 mg total), PO twice daily Other (specify): __ RIVAROXABAN (CHOOSE ONLY ONE) Rivaroxaban 15 mg PO twice daily with food for 21 days, followed by 20 mg PO once daily with Rivaroxaban starter pack (single fill for first month of therapy) PO daily with food, followed by 20 mg PO once daily with food Other (specify): Submitted by: ☐ Read Back PRINTED NAME YYYY-MM-DD HH:MM ID Practitioner: PRINTED NAME YYYY-MM-DD HH:MM SIGNATURE

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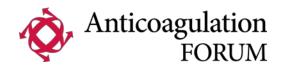
Acute VTE Care Transition Order Set (Adult)	ACTION
Orders Continued	
DOAC THERAPY CONTINUED	
2. LEAD-IN PARENTERAL WITH DOAC (PARENTERAL PLUS EDOXABAN OR DABIGATRAN)	
Choose (a) for requisite 5 day parenteral lead-in, then (b) to switch to DOAC on(date) a. Parenteral Lead-In (choose only one)	
Dalteparin	
200 IU/kg every 24 hours administered subcutaneously for at least 5 days	prohibited
Enoxaparin (choose only one)	rohil
1 mg/kg every 12 hours administered subcutaneously at the same time every day for at least5 days	sure is p
☐ 1.5 mg/kg once a day administered subcutaneously at the same time every day for at least 5 days	/ or disclo
Other (specify):	Only duction o
Fondaparinux (choose only one) Fondaparinux 5 mg (body weight <50 kg) subcutaneously once daily. Treatment should	
continue for at least 5 days Fondaparinux 7.5 mg (50 to 100 kg), subcutaneously once daily. Treatment should continue for at least 5 days	ocument ized use, repro
☐ Fondaparinux 10 mg (>100 kg) subcutaneously once daily. Treatment should continue for at least 5 days	
Other (specify):	J D C
Other Parenteral Anticoagulant	Seference s reserved. Unaut
Other (specify):	Ref hts res
b. DOAC Requiring Parenteral Lead-In (choose only one)	All right
Dabigatran ☐ Dabigatran 150 mg PO twice daily (must leave in original package, take with full glass of water), preceded by parenteral lead-in indicated below	8 ACForum
Other (specify):	2018
Edoxaban (choose only one) ☐ Edoxaban 60 mg PO once daily, preceded by parenteral lead-in indicated below (CrCl greater than ≥ 51 mL/minute)	
☐ Edoxaban 30 mg PO once daily, preceded by parenteral lead-in indicated below (CrCl 30 to 50 mL/minute, with body weight less than or equal to 60 kg, or concomitant P-gp Inhibitor)	
Other (specify):	
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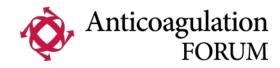
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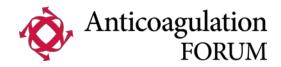
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	Acute VTE Care Transition Order Set (Adult)	ACTION
Or	ders Continued	
NC	ON-DOAC THERAPY	
3.	LEAD-IN PARENTERAL WITH WARFARIN (PARENTERAL PLUS WARFARIN)	
Ch	noose (a) for requisite 5 day parenteral lead-in and until INR >2, then (b) to switch to Warfarin on (date)	
a.	Parenteral Lead-In (choose only one)	
	Dalteparin	ited.
	200 IU/kg every 24 hours administered subcutaneously for at least 5 days	prohibited
	Enoxaparin (choose only one)	ig si
	1 mg/kg every 12 hours administered subcutaneously at the same time every day for at least 5 days	ent Only reproduction or disclosure is
	 1.5 mg/kg once a day administered subcutaneously at the same time every day for at least 5 days 	V or disc
	Other (specify):	Only duction o
	Fondaparinux (choose only one)	rodu
	☐ Fondaparinux 5 mg (body weight <50 kg) subcutaneously once daily. Treatment should continue for at least 5 days	Document horized use, reprod
	☐ Fondaparinux 7.5 mg (50 to 100 kg), subcutaneously once daily. Treatment should continue for at least 5 days	Docu horized u
	☐ Fondaparinux 10 mg (>100 kg) subcutaneously once daily. Treatment should continue for at least 5 days	Reference I
	Other (specify):	rved
	Other Parenteral Anticoagulant	efe
	Other (specify):	A shits
b.	 Warfarin Requiring Parenteral Lead-In (choose only one) □ Warfarin 5 mg PO once daily, then request Physician, NP/PA, Pharmacist, or Anticoagulation Clinic to reassess and adjust Consider lower starting doses of warfarin for elderly patients (e.g. >75 yr) and/or those with low body weight (less than or equal to 50 kg) □ Warfarin 2.5 mg PO once daily, then request Physician, NP/PA, Pharmacist, or Anticoagulation Clinic to reassess and adjust □ Warfarin PO once daily, then request Physician, NP/PA, Pharmacist, or Anticoagulation Clinic to reassess and adjust 	© 2018 ACForum, All rig
	Other (specify):	
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	Acute VTE Care Trans	sition Order Set (Adult)		ACTION
Orders Continued				
NON-DOAC THERAPY cor	NTINUED			
4. THERAPEUTIC DOSE PAR	RENTERAL ONLY (DALTER	PARIN OR ENOXAPARIN OR I	FONDAPARINUX OR	
OTHER)				
Dalteparin (choose only o	•			
200 IU/kg every 24 hour hours administered sub-		neously for 30 days, then 1	50 IU/kg every 24	ed.
200 IU/kg every 24 hour		neously for at least 5 days		prohibited
Enoxaparin (choose only	•			Spice
1 mg/kg every 12 hours 5 days	administered subcutane	eously at the same time eve	ery day for at least	osure
1.5 mg/kg once a day adOther (specify):		usly at the same time every		V or disc
Fondaparinux (choose on				Only duction o
Fondaparinux 5 mg (boo for at least 5 days	dy weight <50 kg) subcu	utaneously once daily. Treat	ment should continue	eprodu
	0 to 100 kg), subcutane	eously once daily. Treatmen	t should continue for at	ocument ized use, reprod
-	100 kg) subcutaneously	once daily. Treatment shou	uld continue for at least	Doc
Other (specify):				Ce
Other Parenteral Anticoag	 ulant			eference
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	Acute VTE Care Trai	nsition Order Set (Adult)		ACTION
Orders Continued				
Baseline CBC (for ALL) Baseline serum creating Other (specify):	ine (for ALL)	☐ Baseline INR fo	r warfarin	
FOLLOW-UP LAB ORDERS DOACS Monitor renal function of Anticoagulant clinic reference Other (specify):	erral as per policy/proce	edure (1, 5)		r disclosure is prohibited
Anticoagulant clinic refe	weeks, then as instruc erral as per policy/proce	ted by clinician or anticoagula edure (1,5)		Document Only Authorized use, reproduction of
Other Considerations				S reserved. Unaut
ANTIPLATELET THERAPY				Fere
clopidogrel, prasugrel, ticag	grelor] and anticoagula hould review the risk-be nenever possible (6). e current ASA therapy tinue current ASA thera e current P2Y-12 thera tinue current P2Y-12 th	py nerapy	bleeding	Ref © 2018 ACForum, All rights res
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Anticoagulation FORUM

Acute VTE Care Transition Order Set (Adult)	ACTION
Other Considerations Continued	
PROTON PUMP INHIBITORS (PPIs) Note: Clinician may consider PPI for patients at high risk of GI bleeding, particularly if using multiple antithrombotic agents or with a prior history of upper GI bleeding (7, 8, 9). PPIs may decrease serum concentrations of the active metabolite(s) of dabigatran. PPIs are optimally taken 30 minutes before breakfast. □ dexlansoprazole 30 mg PO once daily □ esomeprazole 20 mg PO once daily (avoid concomitant use with clopidogrel) □ lansoprazole mg PO once daily (15 − 30 mg)	disclosure is prohibited.
omeprazole 20 mg PO once daily (avoid concomitant use with clopidogrel)	.0
pantoprazole mg PO once daily (20 – 40 mg)	osur
☐ rabeprazole 20 mg PO once daily	discl
Other (specify):	
Patient Education	Only duction o
Provide applicable education and discharge instruction to the patient as per policy/procedure ^(1, 10) . The following topics are important to include within patient education: Follow-up appointments for blood work Follow-up contact information:	nce Document Only Unauthorized use, reproduction or
Safety net phone number to call if any barriers or issues after discharge:	=
 Medication management, including starting/stopping new medication, missed doses and dose change (dose de-escalation or switch to oral therapy at appropriate date/time) 	Reference
Importance of medication adherence	efe
Expected duration of anticoagulation therapy	R ghts
Appropriate medication storage	All ri
□ Drug/diet considerations□ Bleeding and bruising risks	um.
 ☐ When to seek medical attention (e.g. warning signs for bleeding, symptoms of recurrent VTE) ☐ Written education materials for patient/family/caregivers to review after discharge ☐ Importance of social support ☐ Medication reconciliation completed 	© 2018 ACFo
Referrals	
Anticoagulation Clinic: Primary Care Provider:	
☐ Hematology: ☐ Oncology:	
Vascular Specialist:	
Other:	
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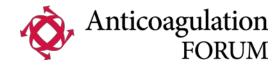
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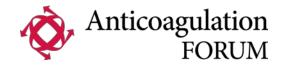
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Additional Orders	t d
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References

All medications have been reviewed using Lexicomp Online.

- 1. Kearon C, Akl EA, Ornelas J, Blaivas A, Jimenez D, Bounameaux H, et al. Antithrombotic therapy for VTE disease: Chest guideline and expert panel report. Chest. 2016 Feb 1;149(2):315–52.
- 2. Raskob GE, van Es N, Verhamme P, et al. Edoxaban for the Treatment of Cancer-Associated Venous Thromboembolism. New England Journal of Medicine. 2017;0(0):null. doi:10.1056/NEJMoa1711948.
- 3. Angermayr, B., Cejna, M., Karnel, F., Gschwantler, M., Koenig, F., ... Peck-Radosavljevic, M. (2003). Child Pugh versus MELD score in predicting survival in patients undergoing transjugular intrahepatic portosystemic shunt. Gut, 52(6), 879–85. doi:10.1136/gut.52.6.879
- 4. Michigan Anticoagulation Quality Improvement Initiative (MAQI2). (2017). Anticoagulation toolkit: A consortium-developed quick reference for anticoagulation.
- Konstantinides SV, Torbicki A, Agnelli G, Danchin N, Fitzmaurice D, Galiè N, et al. 2014 ESC guidelines on the diagnosis and management of acute pulmonary embolism. Eur Heart J. 2014 Nov 14;35(43):3033–3069, 3069a–3069k.
- 6. Castellucci LA, Cameron C, Le Gal G, Rodger MA, Coyle D, Wells PS, et al. Efficacy and safety outcomes of oral anticoagulants and antiplatelet drugs in the secondary prevention of venous thromboembolism: systematic review and network meta-analysis. BMJ. 2013;347:f5133.
- 7. Mazzolai L, Aboyans V, Ageno W, Agnelli G, Alatri A, Bauersachs R, et al. Diagnosis and management of acute deep vein thrombosis: a joint consensus document from the European society of cardiology working groups of aorta and peripheral vascular diseases and pulmonary circulation and right ventricular function. Eur Heart J [Internet]. [cited 2017 Nov 20]; Available from: https://academic.oup.com/eurheartj/advance-article/doi/10.1093/eurheartj/ehx003/3002647
- 8. Abraham, N. S. (2016). Prevention of Gastrointestinal Bleeding in Patients Receiving Direct Oral Anticoagulants. American Journal of Gastroenterology Supplement, 3(1), 2–12. doi:10.1038/ajgsup.2016.2
- Members WC, Bhatt DL, Scheiman J, et al. ACCF/ACG/AHA 2008 Expert Consensus Document on Reducing the Gastrointestinal Risks of Antiplatelet Therapy and NSAID Use: A Report of the American College of Cardiology Foundation Task Force on Clinical Expert Consensus Documents. *Circulation*. 2008;118(18):1894-1909. doi:10.1161/CIRCULATIONAHA.108.191087.
- Slott, Amy, Tschurtz, Brette, Williams, Scott. Discharge Instructions / Education Materials for Venous Thromboembolism (VTE): A Comprehensive Approach to Medication Management. https://www.jointcommission.org/assets/1/6/FINAL_WEB_VTE_COMPENDIUM_OF_RESOURCE_S_09152017.pdf. Accessed December 19, 2017.

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