Transition of Anticoagulants 2019

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Brand	Generic
Angiomax	bivalirudin
Arixtra	fondaparinux
Bevyxxa	betrixaban
Coumadin	warfarin
Eliquis	apixaban
Fragmin	dalteparin
Lovenox	enoxaparin
Pradaxa	dabigatran
Savaysa	edoxaban
Xarelto	rivaroxaban

From	To	Action
Apixaban	Argatroban/ Bivalirudin/ Enoxaparin/ Dalteparin/ Fondaparinux/ Heparin	Wait 12 hours after last dose of apixaban to initiate parenteral anticoagulant. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.
Apixaban	Warfarin	When going from apixaban to warfarin, consider the use of parenteral anticoagulation as a bridge (eg, start heparin infusion or therapeutic enoxaparin AND warfarin 12 hours after last dose of apixaban and discontinue parenteral anticoagulant when INR is therapeutic). Apixaban affects INR so that initial INR measurements during the transition may not be useful for determining the appropriate dose of warfarin.
Apixaban	Betrixaban, Dabigatran, Edoxaban, or Rivaroxaban	Wait 12 hours from last dose of apixaban to initiate betrixaban, dabigatran, edoxaban, or rivaroxaban.
Argatroban	Apixaban, Betrixaban, Dabigatran, Edoxaban, or Rivaroxaban	Start apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban within 2 hours of discontinuation of argatroban infusion.
Argatroban	Enoxaparin/ Dalteparin/ Fondaparinux/ Heparin	If no hepatic insufficiency, start parenteral anticoagulant within 2 hours of discontinuing argatroban infusion. If there is hepatic insufficiency, start parenteral anticoagulant 2-4 hours after discontinuing argatroban infusion. **The use of enoxaparin/dalteparin/heparin assumes the patient does not have heparin allergy or heparin-induced thrombocytopenia.*
Argatroban	Warfarin	Argatroban must be continued when warfarin is initiated and co-administration should continue for at least 5 days. Argatroban falsely elevates the INR. After 3-5 days of co-therapy with warfarin, and if the INR is >4.0, temporarily suspend the argatroban for 4 hours, then check the INR. If the INR is <2.0, restart argatroban and consider warfarin dose adjustment. Repeat process every 24-48 hours until the INR is ≥2.0. If the INR is ≥2.0, and at least a 5-day warfarin-argatroban overlap has been achieved, discontinue argatroban and continue warfarin. If the INR is >3.0, consider warfarin dose adjustment. Argatroban may need to be restarted if warfarin-argatroban overlap has not been prescribed for 5 days.
Betrixaban	All other anticoagulants	Since betrixaban is currently only available as a prophylaxis dose, initiate the next anticoagulant as clinically needed irrespective of time of last betrixaban dose.

Bivalirudin	Argatroban/ Dalteparin/ Enoxaparin/ Fondaparinux/ Heparin	Initiate parenteral anticoagulant within 2 hours after discontinuation of bivalirudin. **The use of heparin/dalteparin/enoxaparin assumes the patient does not have heparin allergy or heparin-induced thrombocytopenia. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.*
Bivalirudin	Apixaban/ Betrixaban Dabigatran/ Edoxaban/ Ravaroxaban	Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban within 2 hours after discontinuation of bivalirudin infusion.
Bivalirudin	Warfarin	Bivalirudin must be continued when warfarin is initiated and co-administration should continue for at least 5 days. Bivalirudin elevates the INR. After 3-5 days of co-therapy with warfarin, temporarily suspend the bivalirudin for 4 hours, then check the INR. If the INR is <2.0, restart the bivalirudin and consider warfarin dose adjustment. Repeat process every 24-28 hours until the INR is ≥2.0. If the INR is ≥2.0, and at least a 5-day warfarin-bivalirudin overlap has been achieved, discontinue bivalirudin and continue warfarin. If the INR is >3.0, consider warfarin dose adjustment. Bivalirudin may need to be restarted if warfarin-bivalirudin overlap has not been prescribed for 5 days.
Dabigatran	Argatroban/ Bivalirudin/ Enoxaparin/ Dalteparin/ Fondaparinux/ Heparin	Initiate parenteral anticoagulant when next dose of dabigatran would have been taken. If patient's creatinine clearance has reduced to <15 mL/min while on dabigatran, longer wash out period may be needed before starting new anticoagulant. However, no recommendations can be made. In cases of increased bleeding risk, consider a risk benefit analysis before omitting initial bolus when transitioning to heparin infusion.
Dabigatran	Apixaban, Betrixaban Edoxaban, or Rivaroxaban	Initiate apixaban, betrixaban, edoxaban, or rivaroxaban when the next dose of dabigatran would have been taken. If patient's creatinine clearance has reduced to <15 mL/min while on dabigatran, longer wash out period may be needed before starting new anticoagulant. However, no recommendations can be made.
Dabigatran	Warfarin	For CrCl ≥50 mL/min, start warfarin 3 days before discontinuing dabigatran. For CrCl 30-50 mL/min, start warfarin 2 days before discontinuing dabigatran. For CrCl 15-30 mL/min, start warfarin 1 day before discontinuing dabigatran. For CrCl <15 mL/min, no recommendations can be made. Because dabigatran can increase INR, the INR will better reflect warfarin's effect only after dabigatran has been stopped for at least 2 days.
Dalteparin	Argatroban/ Bivalirudin/ Enoxaparin/ Fondaparinux/ Heparin	<u>From therapeutic dalteparin doses:</u> Initiate parenteral anticoagulant when next dalteparin dose is expected to be given. <u>From prophylaxis dalteparin doses:</u> Initiate parenteral anticoagulant as clinically needed irrespective of time of dalteparin dose. In cases of increased bleeding risk, consider risk benefit analysis before omitting initial bolus when transitioning to heparin infusion.
Dalteparin	Apixaban, Betrixaban Dabigatran, Edoxaban, or Rivaroxaban	<u>From therapeutic dalteparin doses:</u> Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban when next dalteparin dose is expected to be given. <u>From prophylaxis dalteparin doses:</u> Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban as clinically needed irrespective of time of dalteparin dose.

Dalteparin	Warfarin	From therapeutic anticoagulation doses: Overlap therapeutic dalteparin dose with warfarin for at least 5 days AND until INR is in therapeutic range for 24 hours. From prophylaxis dalteparin doses: Initiate warfarin as clinically needed irrespective of time of last dalteparin dose.
Edoxaban	Argatroban/ Bivalirudin/ Dalteparin/ Enoxaparin/ Fondaparinux/ Heparin	Discontinue edoxaban and start the parenteral anticoagulant at the time the next dose of edoxaban scheduled to be taken. In cases of increased bleeding risk, consider a risk benefit analysis before omitting initial bolus when transitioning to heparin infusion.
Edoxaban	Apixaban, Betrixaban, Dabigatran, or Rivaroxaban	Wait 24 hours after last dose of edoxaban to initiate apixaban, betrixaban, dabigatran, or rivaroxaban
Edoxaban	Warfarin	Oral option: For patients taking 60 mg of edoxaban, reduce the dose to 30 mg and begin warfarin concomitantly. For patients receiving 30 mg of edoxaban, reduce the edoxaban dose to 15 mg and begin warfarin concomitantly. INR must be measured at least weekly and just prior to the daily dose of edoxaban to minimize the influence of edoxaban on INR measurements. Once a stable INR $\geq$2.0 is achieved, edoxaban should be discontinued and the warfarin continued. Parenteral option: Discontinue edoxaban and administer a parenteral anticoagulant and warfarin at the time of the next scheduled edoxaban dose. Once a stable INR $\geq$2.0 is achieved, the parenteral anticoagulant should be discontinued and the warfarin continued.
Enoxaparin	Argatroban/ Bivalirudin/ Dalteparin/ Fondaparinux/ Heparin	From therapeutic enoxaparin doses: Initiate parenteral anticoagulant when next enoxaparin dose is expected to be given. In cases of increased bleeding risk, consider a risk benefit analysis before omitting initial bolus when transitioning to heparin infusion. From prophylaxis enoxaparin doses: Initiate parenteral anticoagulant as clinically needed irrespective of time of last enoxaparin dose. In cases of increased bleeding risk, consider a risk benefit analysis before omitting initial bolus when transitioning to heparin infusion.
Enoxaparin	Apixaban, Betrixaban Dabigatran, Edoxaban, or Rivaroxaban	From therapeutic enoxaparin doses: Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban when next enoxaparin dose is expected to be given. From prophylaxis enoxaparin doses: Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban as clinically indicated irrespective of time of last enoxaparin dose.
Enoxaparin	Warfarin	From therapeutic enoxaparin doses: Overlap therapeutic dose enoxaparin with warfarin for at least 5 days AND until INR is in therapeutic range for 24 hours. From prophylaxis enoxaparin doses AND assuming patient does not have a new thrombosis: If immediate therapeutic anticoagulation is not desired: Initiate warfarin as clinically needed irrespective of time of last enoxaparin dose.
Fondaparinux	Argatroban/ Bivalirudin/ Dalteparin/ Enoxaparin/ Heparin	From therapeutic fondaparinux doses: Initiate parenteral anticoagulant when next fondaparinux dose is expected to be given. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion. From prophylaxis fondaparinux doses: Initiate parenteral anticoagulant as clinically needed irrespective of time of last fondaparinux dose.
Fondaparinux	Apixaban, Betrixaban, Dabigatran, Edoxaban, or Rivaroxaban	From therapeutic fondaparinux doses: Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban when next fondaparinux dose is expected to be given. From prophylaxis fondaparinux doses: Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban as clinically indicated irrespective of time of fondaparinux dose.

Fondaparinux	Warfarin	From therapeutic fondaparinux doses: Overlap therapeutic dose fondaparinux with warfarin for at least 5 days AND until INR is in therapeutic range for 24 hours. From prophylaxis fondaparinux doses AND assuming patient does not have a new thrombosis: Initiate warfarin as clinically indicated irrespective of time of fondaparinux dose
Heparin infusion	Argatroban/ Bivalirudin/ Enoxaparin/ Dalteparin/ Fondaparinux	Initiate parenteral anticoagulant within 2 hours after discontinuation of heparin infusion.
Heparin infusion	Apixaban, Betrixaban, Dabigatran, Edoxaban, or Rivaroxaban	Initiate apixaban, betrixaban, dabigatran, edoxaban, or rivaroxaban within 2 hours after discontinuation of heparin infusion.
Heparin infusion	Warfarin	If immediate therapeutic anticoagulation is desired: Overlap therapeutic heparin dose with warfarin for at least 5 days AND until INR is in therapeutic range for 24 hours. If immediate therapeutic anticoagulation is not desired: Initiate warfarin as clinically needed irrespective of time of last heparin dose.
Rivaroxaban (doses ≥15 mg/ day)	Argatroban/ Bivalirudin/ Enoxaparin/ Fondaparinux/ Heparin	Discontinue rivaroxaban and give the first dose of the other anticoagulant at the time that the next rivaroxaban dose is expected to be given. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.
Rivaroxaban (doses ≥15 mg/ day)	Warfarin	When going from rivaroxaban to warfarin, consider the use of parenteral anticoagulant as a bridge (eg, start heparin infusion or therapeutic enoxaparin and warfarin when next dose of rivaroxaban would have been taken). Discontinue the parenteral anticoagulant when INR is therapeutic (eg, ≥2). The INR may be affected by rivaroxaban for 24 hours.
Rivaroxaban (doses ≥15 mg/ day)	Apixaban, Betrixaban, Dabigatran, or Edoxapan	Discontinue rivaroxaban and give the first dose of the other anticoagulant at the time that the next rivaroxaban dose would have been taken.
Rivaroxaban (doses ≤10 mg/day)	All other anticoagulants	Initiate other anticoagulants as clinically needed irrespective of time of last rivaroxaban dose
Warfarin	Apixaban	Wait until INR is <2, then initiate apixaban.
Warfarin	Betrixaban	Wait until INR is ≤2.2, then initiate betrixaban
Warfarin	Dabigatran	Wait until INR is <2, then initiate dabigatran.
Warfarin	Rivaroxaban	Wait until INR is <3, then initiate rivaroxaban.
Warfarin	Edoxaban	Wait until INR is ≤2.5, then initiate edoxaban

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