

# Transition of Anticoagulants 2016



**Van Hellerslia, PharmD, BCPS, CACP**, *Clinical Assistant Professor of Pharmacy Practice, Temple University School of Pharmacy, Philadelphia, PA*

**Pallav Mehta, MD**, *Assistant Professor of Medicine, Division of Hematology/Oncology, MD Anderson Cancer Center at Cooper*

**Reviewer: Kelly Rudd, PharmD, BCPS, CACP**, *Clinical Specialist, Anticoagulation, Bassett Medical Center, Cooperstown, New York*

Brand	Generic
Angiomax	bivalirudin
Arixtra	fondaparinux
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/enoxaparin and warfarin 12 hours after last dose of apixaban and discontinue parenteral anticoagulant when INR is therapeutic $\geq 2$ ).
Apixaban	Dabigatran, Edoxaban, or Rivaroxaban	Wait 12 hours from last dose of apixaban to initiate dabigatran, edoxaban, or rivaroxaban.
Argatroban	Apixaban, Dabigatran, Edoxaban, or Rivaroxaban	Start apixaban, dabigatran, edoxaban, or rivaroxaban within 2 hours of stopping argatroban.
Argatroban	Enoxaparin/ Dalteparin/ Fondaparinux/ Heparin	If no hepatic insufficiency, start parenteral anticoagulant within 2 hours of stopping argatroban. If there is hepatic insufficiency, start parenteral anticoagulant after 2-4 hours of stopping argatroban.  *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 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 $\geq 2.0$ . If the INR is $\geq 2.0$ , and 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
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/ Dabigatran/ Edoxaban/ Rivaroxaban	Initiate apixaban, dabigatran, edoxaban, or rivaroxaban within 2 hours after discontinuation of bivalirudin.
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 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	If CrCl >30 mL/min, wait 12 hours after last dose of dabigatran to initiate parenteral anticoagulant. If CrCl <30 mL/min, wait 24 hours after last dose of dabigatran to initiate parenteral anticoagulant. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.
Dabigatran	Apixaban, Edoxaban, or Rivaroxaban	If CrCl >30 mL/min, wait 12 hours after last dose of dabigatran to initiate apixaban, edoxaban, or rivaroxaban. If CrCl <30 mL/min, wait 24 hours after last dose of dabigatran to initiate apixaban, edoxaban, or rivaroxaban.
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 high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.
Dalteparin	Apixaban, Dabigatran, Edoxaban, or Rivaroxaban	<u>From therapeutic dalteparin doses:</u> Initiate apixaban, dabigatran, edoxaban, or rivaroxaban when next dalteparin dose is expected to be given.  <u>From prophylaxis dalteparin doses:</u> Initiate apixaban, dabigatran, edoxaban, or rivaroxaban as clinically needed irrespective of time of dalteparin dose.
Dalteparin	Warfarin	<u>If immediate therapeutic anticoagulation is desired:</u> Overlap therapeutic dalteparin dose with warfarin for at least 5 days and until INR is in therapeutic range for 24 hours.  <u>If immediate therapeutic anticoagulation is not desired:</u> 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 was due. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.
Edoxaban	Apixaban, Dabigatran, or Rivaroxaban	Wait 24 hours after last dose of edoxaban to initiate apixaban, dabigatran, or rivaroxaban.
Edoxaban	Warfarin	<u>Oral option:</u> 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.  <u>Parenteral option:</u> 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/ Edoxaban/ Fondaparinux/ Heparin	<u>From therapeutic enoxaparin doses:</u> Initiate parenteral anticoagulant when next enoxaparin dose is expected to be given. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.  <u>From prophylaxis enoxaparin doses:</u> Initiate parenteral anticoagulant as clinically needed irrespective of time of last enoxaparin dose. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.
Enoxaparin	Apixaban, Dabigatran, Edoxaban, or Rivaroxaban	<u>From therapeutic enoxaparin doses:</u> Initiate apixaban, dabigatran, edoxaban, or rivaroxaban when next enoxaparin dose expected to be given.  <u>From prophylaxis enoxaparin doses:</u> Initiate apixaban, dabigatran, edoxaban, or rivaroxaban as clinically indicated irrespective of time of last enoxaparin dose.
Enoxaparin	Warfarin	<u>If immediate therapeutic anticoagulation is desired:</u> Overlap therapeutic enoxaparin dose with warfarin for at least 5 days and until INR is in therapeutic range for 24 hours.  <u>If immediate therapeutic anticoagulation is not desired:</u> Initiate warfarin as clinically needed irrespective of time of last enoxaparin dose.
Fondaparinux	Argatroban/ Bivalirudin/ Dalteparin/ Enoxaparin/ Heparin	<u>From therapeutic fondaparinux doses:</u> 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.  <u>From prophylaxis fondaparinux doses:</u> Initiate parenteral anticoagulant as clinically needed irrespective of time of last fondaparinux dose.
Fondaparinux	Apixaban, Dabigatran, Edoxaban, or Rivaroxaban	<u>From therapeutic fondaparinux doses:</u> Initiate apixaban, dabigatran, edoxaban, or rivaroxaban when next fondaparinux dose is expected to be given.  <u>From prophylaxis fondaparinux doses:</u> Initiate apixaban, dabigatran, edoxaban, or rivaroxaban as clinically indicated irrespective of time of fondaparinux dose.
Fondaparinux	Warfarin	Overlap fondaparinux with warfarin for at least 5 days and until INR is in therapeutic range for 24 hours.

Heparin infusion	Argatroban/ Bivalirudin/ Enoxaparin/ Dalteparin/ Fondaparinux	Initiate parenteral anticoagulant within 2 hours after discontinuation of heparin infusion.
Heparin infusion	Apixaban, Dabigatran, Edoxaban, or Rivaroxaban	Initiate apixaban, dabigatran, edoxaban, or rivaroxaban within 2 hours after discontinuation of heparin infusion.
Heparin infusion	Warfarin	<u>If immediate therapeutic anticoagulation is desired:</u> Overlap therapeutic heparin dose with warfarin for at least 5 days and until INR is in therapeutic range for 24 hours.  <u>If immediate therapeutic anticoagulation is not desired:</u> Initiate warfarin as clinically needed irrespective of time of last heparin dose
Rivaroxaban	Argatroban/ Bivalirudin/ Enoxaparin/ Fondaparinux/ Heparin	Discontinue rivaroxaban and give the first dose of the other anticoagulant at the time that the next rivaroxaban dose was due. In cases of high bleeding risk, consider omitting initial bolus when transitioning to heparin infusion.  <u>From rivaroxaban 10 mg dose:</u> Initiate parenteral anticoagulant as clinically needed irrespective of time of last rivaroxaban dose.
Rivaroxaban	Warfarin	When going from rivaroxaban to warfarin, consider the use of parenteral anticoagulant as a bridge (eg, start heparin infusion/enoxaparin and warfarin when next dose of rivaroxaban is due. Discontinue the parenteral anticoagulant when INR is therapeutic (e.g. $\geq 2$ ). The INR may be affected by rivaroxaban for 24 hours.
Rivaroxaban	Apixaban, Dabigatran, or Edoxapan	Discontinue rivaroxaban and give the first dose of the other anticoagulant at the time that the next rivaroxaban dose was due.
Warfarin	Apixaban	Wait until INR is $< 2$ , then initiate dabigatran.
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 $\leq 2.5$ , then initiate edoxaban

#### References

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