

# COVID Anticoagulation Recommendations

## Risk Factors

- Immobility (due to limited PPE resources for routine ambulation)
- Obesity
- Advanced age ( ≥ 50 years)
- Recent surgery or trauma
- Sepsis
- Pregnancy
- Cancer

## VTE Prophylaxis Recommendations

- Enoxaparin 40mg BID<sup>1,2</sup>
- Enoxaparin 30mg BID (if CrCl < 30 mL/min)

## Recommended clinical parameters to guide initiation of VTE treatment

- Persistent fever
- Hypoxia that initially improves then declines
- Obesity with immobility

## Pharmacologic VTE Treatment

*Critically ill;  
Unable to take PO;  
Concern for absorption*

Enoxaparin 1mg/kg BID\*

*If CrCl < 30  
mL/min*

Enoxaparin 1mg/kg daily  
if CrCl < 30mL/min\*

*Enteral route available;  
able to tolerate  
diet/enteral nutrition;  
CrCl >15mL/min*

Rivaroxaban 15mg PO  
BID with food<sup>€</sup> x 21 days  
followed by rivaroxaban  
20mg daily<sup>¥</sup>

*Enteral route available;  
not tolerating diet;  
renal dysfunction*

Apixaban 10mg PO BID x  
7 days  
followed by  
apixaban 5mg PO BID<sup>¥</sup>

*Hemodialysis*

Apixaban 5mg PO BID x  
7 days  
followed by  
Apixaban 2.5 mg PO  
BID<sup>3,4</sup>

\*Consider anti-Xa consult for obese (>150kg) or renally impaired (CrCl <30mL/min)

€ Bioavailability of rivaroxaban is increased when taken with food

¥ Consider drug-drug interactions with strong CYP 3A4 inducers (phenytoin, phenobarbital, carbamazepine) when initiating DOACs. These may decrease serum concentration of rivaroxaban by ~22% and apixaban by ~40%

## References:

1. Ludwig KP, Simons, HJ et al. Implementation of an Enoxaparin Protocol for Venous Thromboembolism Prophylaxis in Obese Surgical Intensive Care Unit Patients. *Annals of Pharmacotherapy*. November 2011 (45) 1356-62.
2. Bickford, A, Majercik, S et al. Weight-based enoxaparin dosing for venous thromboembolism prophylaxis in the obese trauma patient. *The American Journal of Surgery*. 2013 (206); 847-852.
3. Mavrakanas, Thomas A., et al. "Apixaban Pharmacokinetics at Steady State in Hemodialysis Patients." *Journal of the American Society of Nephrology*, vol. 28, no. 7, 2017, pp. 2241–2248., doi:10.1681/asn.2016090980.
4. Siontis, Konstantinos C., et al. "Outcomes Associated With Apixaban Use in Patients With End-Stage Kidney Disease and Atrial Fibrillation in the United States." *Circulation*, vol. 138, no. 15, Sept. 2018, pp. 1519–1529., doi:10.1161/circulationaha.118.035418.
5. Schafer, Joseph H., et al. "Safety and Efficacy of Apixaban Versus Warfarin in Patients With Advanced Chronic Kidney Disease." *Annals of Pharmacotherapy*, vol. 52, no. 11, May 2018, pp. 1078–1084., doi:10.1177/1060028018781853.