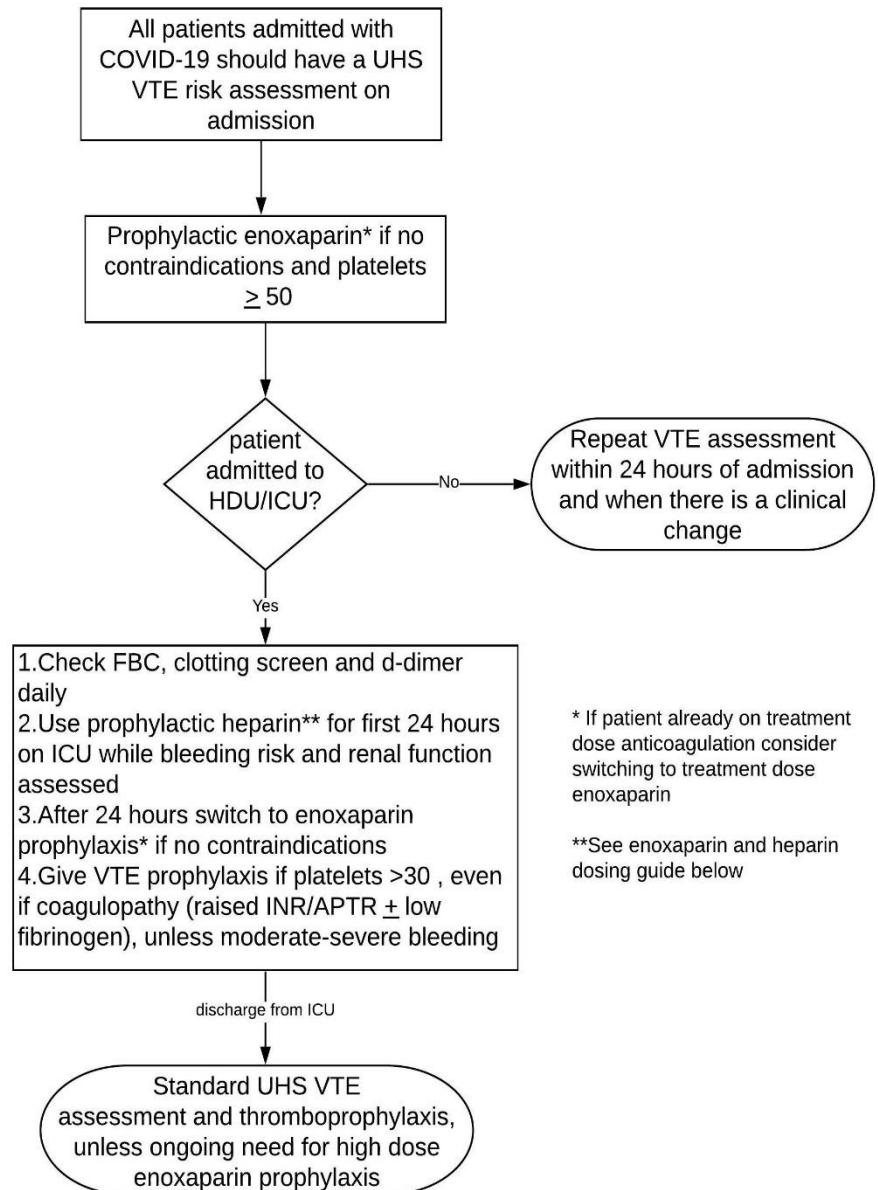


# Thromboprophylaxis of patients on HDU/ICU with COVID-19 at University Hospital Southampton

## Key Points:

1. Hospitalised COVID-19 patients are at high VTE risk
2. A high incidence of VTE has been reported in COVID-19 patients on ICU despite standard dose thromboprophylaxis
3. A high D-dimer  $\pm$  disseminated intravascular coagulation are associated with poor prognosis
4. There is evidence LMWH prophylaxis is associated with reduced mortality in severe COVID-19
5. Only give platelet transfusions if platelets  $<20$  with minor/no bleeding,  $<50$  and moderate bleeding or  $<75$  and major bleeding
6. Only give FFP if INR  $>1.5$  and moderate-severe bleeding
7. Only give cryoprecipitate if fibrinogen is  $<2$  and moderate-severe bleeding



## Further information:

[University Hospital Southampton Thromboprophylaxis and Risk Assessment Guideline: Appendix C Risk Assessment](#)

[BSH Interim Guidance:](#)

<https://thrombosisuk.org/downloads/T&H%20and%20COVID.pdf>

[ISTH Interim Guidance:](#)

<https://onlinelibrary.wiley.com/doi/epdf/10.1111/jth.14810>

[ISTH Academy:](#)

[https://academy.isth.org/isth/#!\\*menu=8\\*browseby=8\\*sortby=2\\*label=1979](https://academy.isth.org/isth/#!*menu=8*browseby=8*sortby=2*label=1979)

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## Thromboprophylaxis of patients on HDU/ICU with COVID-19 at University Hospital Southampton

Weight	Enoxaparin dose for VTE prophylaxis <sup>1,2,3</sup>	Heparin dose for VTE prophylaxis <sup>1,2,3</sup>	Anticoagulation prophylaxis with haemofiltration
<50 kg	Enoxaparin 40mg od	Heparin 5000 units bd	Intravenous heparin (APTR 1.5-2.5)  If unable to obtain target APTR despite increasing doses of heparin or patient clots despite target APTR send anti Xa levels (target 0.3-0.7) <sup>4</sup>
<100 kg	Enoxaparin 40mg bd	Heparin 5000 units tds	
100-150 kg	Enoxaparin 60mg bd	Heparin 5000 units tds	
>150 kg	Enoxaparin 80mg bd	Heparin 7500 units tds	

1. Enoxaparin doses should be reduced by 50% if creatinine clearance 15-30. If creatinine clearance <15 give s/c unfractionated heparin prophylaxis

2. Standard enoxaparin/heparin prophylactic doses (see UHS VTE risk assessment policy) should be given if platelet count 30-50, enoxaparin/heparin should be omitted if platelet count <30

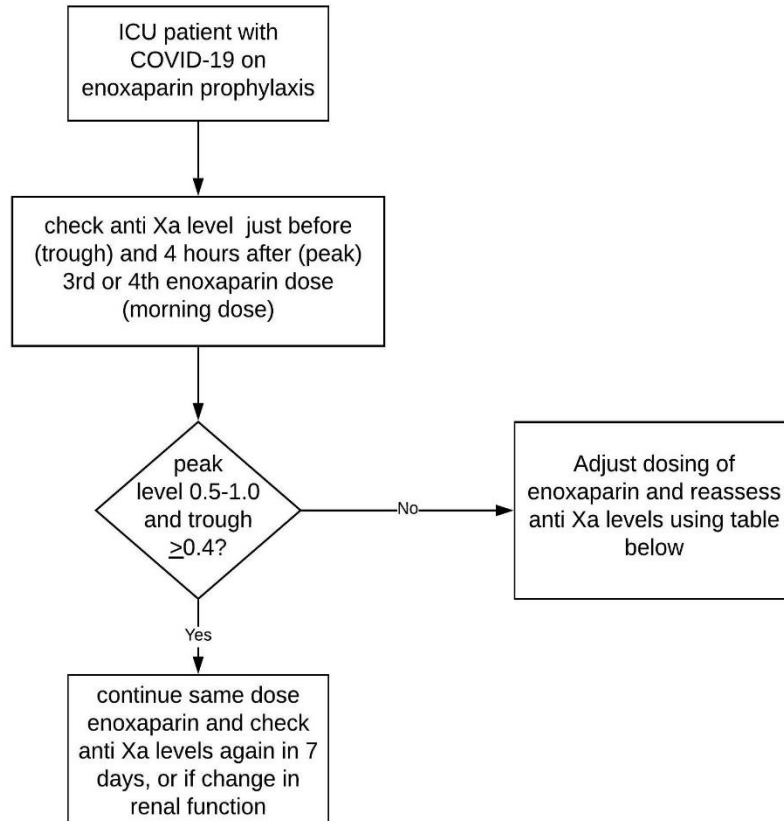
3. All patients should have their anti Xa levels monitored to ensure adequate anticoagulation (see below)

4. If patient not achieving target anti Xa levels, or clotting despite therapeutic enoxaparin/heparin, check antithrombin, factor VIII and VWF antigen and discuss with a senior haematologist

All patients should be assessed for need for mechanical thromboprophylaxis using UHS VTE risk assessment

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## Anti Xa monitoring of enoxaparin



Peak anti Xa level	Delay next dose	Enoxaparin dose change	Recheck peak (4 hour) anti Xa levels
<0.35	no	Increase 25%	After next morning dose
0.35-0.49	no	Increase 10%	After next morning dose
0.5-1	no	No change	7 days, or if change in renal function
1.1-1.5	no	Decrease 20%	After next morning dose
1.6-2.0	3 hours	Decrease 30%	After next morning dose
>2	Until anti Xa <0.6	Decrease by 40%	When next dose due, then 12 hourly until anti Xa <0.6

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If trough level anti Xa  $<0.4$  and peak level in/above target range discuss with haematologist (clotting phone 007585880224)

### **Anti Xa monitoring of subcutaneous heparin prophylaxis**

- Anti Xa levels should be checked 6 hours after the first morning heparin dose, if the patient is not being converted to enoxaparin or IV heparin within the next 24 hours
- Aim for a target of anti Xa 0.2-0.5
- If level  $<0.25$  increase heparin dose by 25%
- If level  $>0.5$  reduce heparin dose by 25%
- After dose changes recheck the anti Xa level 6 hours after the next morning dose