

## **HEPARIN DOSING GUIDELINE IN CVVHD**

In patients with PE/DVT or other reason for systemic anti-coagulation give **systemic treatment dose heparin (concentration 1000units/ml)** target APTT ratio 2-3 or unfractionated heparin assay 0.3-0.7. **See standard NHS Lothian heparin infusion chart for guidance.** These patients are not mentioned further in this guideline.

### **INDICATIONS FOR HEPARIN WHILE ON CVVHD AND DOSE TO BE GIVEN**

1. Patients with COVID or suspected COVID
  - **Systemic treatment dose heparin (concentration 1000units/ml)** targeted to unfractionated heparin assay of 0.3-0.7 (see **Renal Replacement Therapy in COVID +ve patients guideline**). Do not target heparin to APTT ratio in COVID patients as unreliable.
2. Patients requiring heparin for circuit anti-coagulation only
  - **Circuit anticoagulation delivered via filter machine (concentration 250units/ml)** – see this guideline

**This guideline from now on only refers to patients requiring heparin for CVVHD circuit anticoagulation**

### **Heparin dosing for circuit anticoagulation only:**

- Heparin concentration: **250units/ml** - 10,000units (10mls of 1000unit/ml preparation) added to 30mls of sodium chloride 0.9%. This is a different concentration from the systemic dosing of heparin (1000units/ml)
- **Step 1** - Determine if patient for citrate + heparin or heparin alone with multibic. Citrate does not need to be stopped if using heparin unless contra-indication to citrate. Heparin with multibic can however provide higher clearance rates however which maybe appropriate depending on the clinical indication.
- **Step 2** - Prescribe bolus heparin dose in once only section of Kardex **see page 3 flow chart for correct dose**
- **Step 3** - Prescribe heparin infusion (concentration + rate) in continuous infusion section of Kardex
- **Step 4** - If short circuit life of the filter i.e <72 hours see flow chart on page 4 of this guideline for action
- **Step 5** - Always be alert to the risk of HIT while on heparin which in turn maybe a cause of circuit clotting

**Heparin Bolus Table:** Doses rounded to the nearest 0.5ml, to facilitate administration through the filter

Weight kg	Heparin BOLUS (concentration: 250units/ml)			
	Heparin BOLUS 10 units/kg (units)	Heparin BOLUS 10 units/kg (mls)	Heparin BOLUS 15 units/kg (units)	Heparin BOLUS 15 units/kg (mls)
40-44	375 units	1.5 mls	625 units	2.5 mls
45-49	500 units	2.0 mls	750 units	3.0 mls
50-54	500 units	2.0 mls	750 units	3.0 mls
55-59	625 units	2.5 mls	875 units	3.5 mls
60-64	625 units	2.5 mls	875 units	3.5 mls
65-69	625 units	2.5 mls	1000 units	4.0 mls
70-74	750 units	3.0 mls	1125 units	4.5 mls
75-79	750 units	3.0 mls	1125 units	4.5 mls
80-84	875 units	3.5 mls	1250 units	5.0 mls
85-89	875 units	3.5 mls	1250 units	5.0 mls
90-94	875 units	3.5 mls	1375 units	5.5 mls
95-99	1000 units	4.0 mls	1500 units	6.0 mls

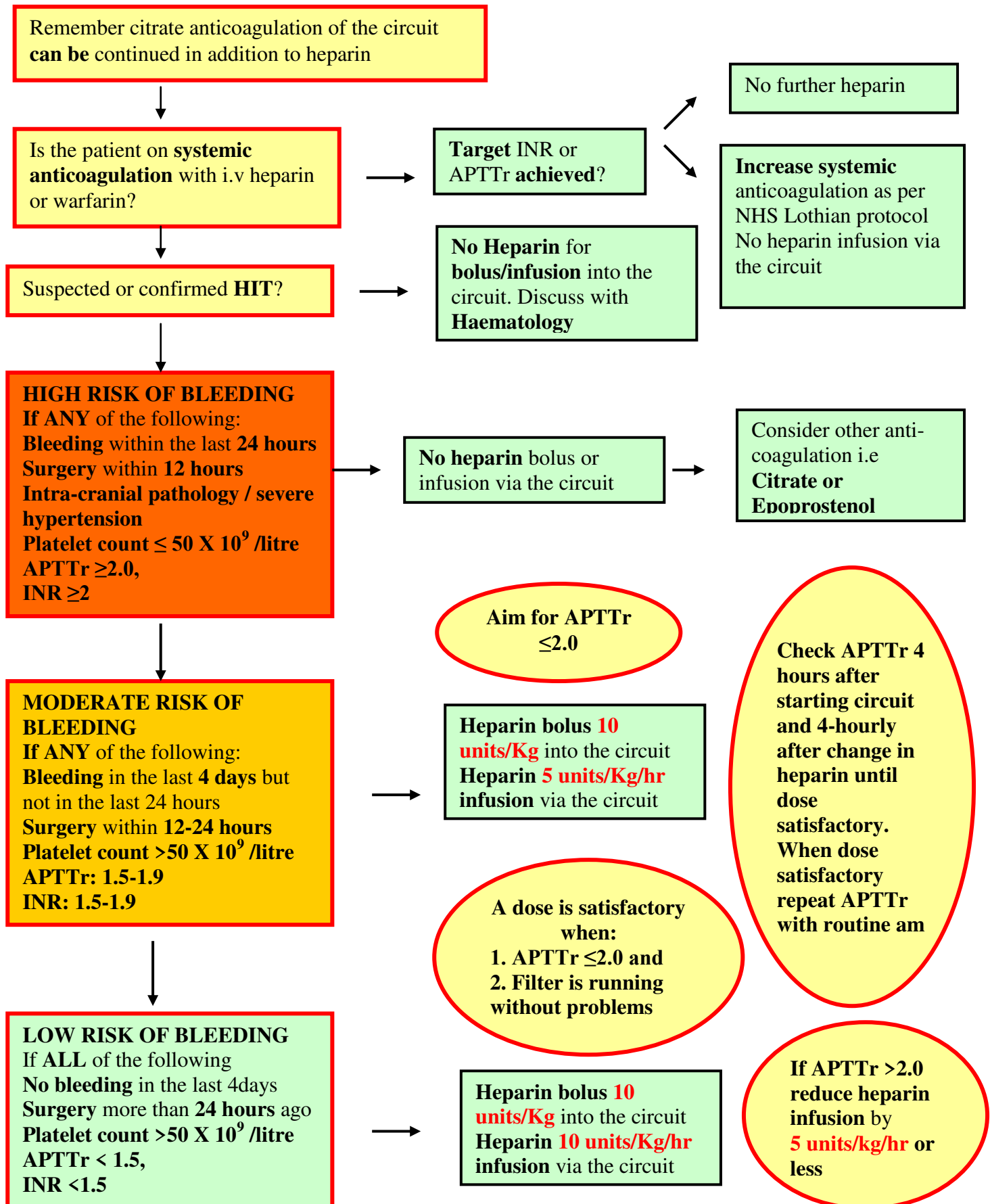
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100-104	1000 units	4.0 mls	1500 units	6.0 mls
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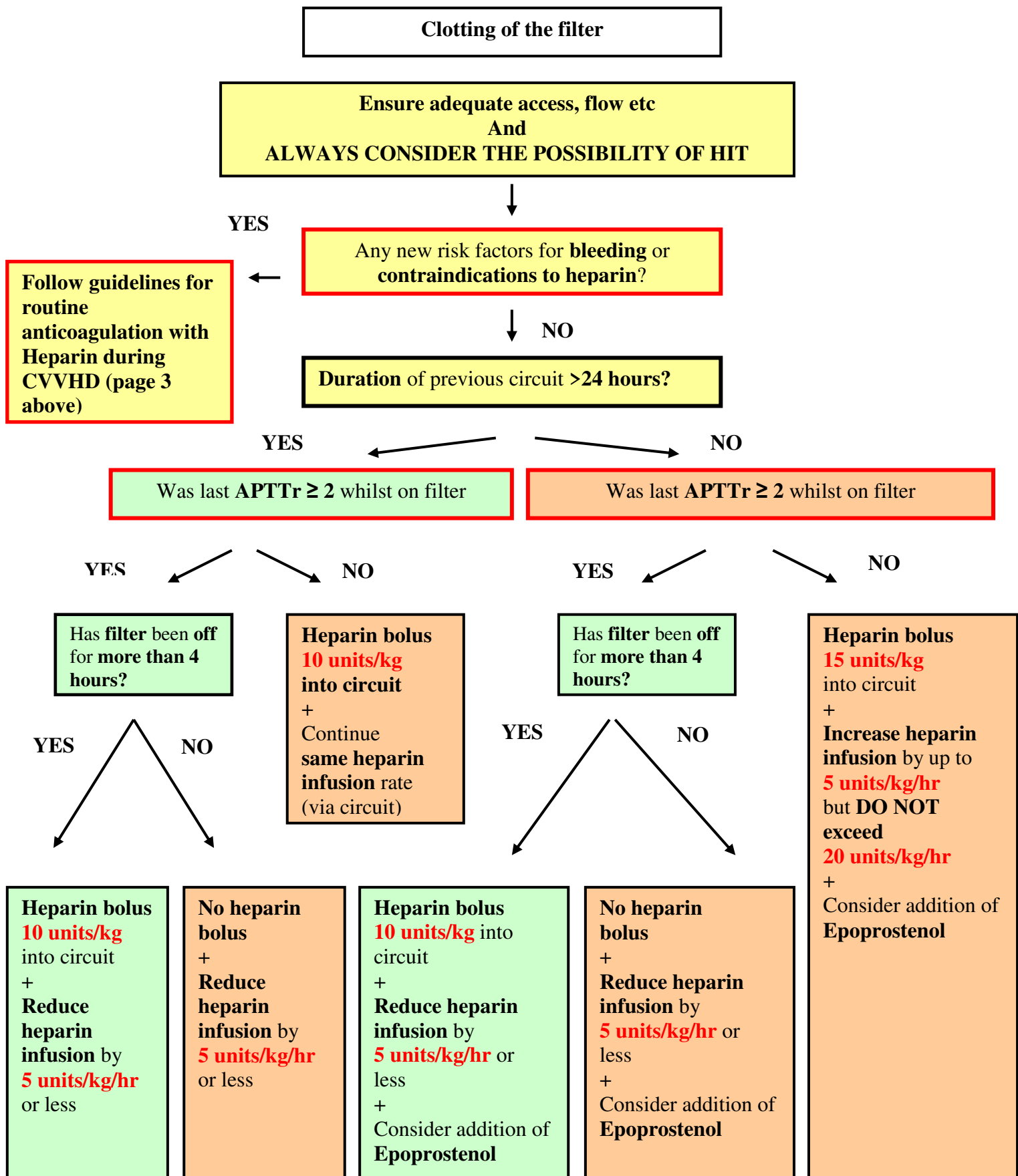
Weight kg	Heparin INFUSION (concentration 250 units/ml)			
	Heparin INFUSION 5 units/kg/hr (mls)	Heparin INFUSION 10 units/kg/hr (mls)	Heparin INFUSION 15 units/kg/hr (mls)	Heparin INFUSION 20 units/kg/hr (mls)
40-44	0.8 ml/hr	1.6 ml/hr	2.4 ml/hr	3.2 ml/hr
45-49	0.9 ml/hr	1.8 ml/hr	2.7 ml/hr	3.6 ml/hr
50-54	1.0 ml/hr	2.0 ml/hr	3.0 ml/hr	4.0 ml/hr
55-59	1.1 ml/hr	2.2 ml/hr	3.3 ml/hr	4.4 ml/hr
60-64	1.2 ml/hr	2.4 ml/hr	3.6 ml/hr	4.8 ml/hr
65-69	1.3 ml/hr	2.6 ml/hr	3.9 ml/hr	5.2 ml/hr
70-74	1.4 ml/hr	2.8 ml/hr	4.2 ml/hr	5.6 ml/hr
75-79	1.5 ml/hr	3.0 ml/hr	4.5 ml/hr	6.0 ml/hr
80-84	1.6 ml/hr	3.2 ml/hr	4.8 ml/hr	6.4 ml/hr
85-89	1.7ml/hr	3.4 ml/hr	5.1 ml/hr	6.8 ml/hr
90-94	1.8 ml/hr	3.6 ml/hr	5.4 ml/hr	7.2 ml/hr
95-99	1.9 ml/hr	3.8 ml/hr	5.7 ml/hr	7.6 ml/hr
100	2.0 ml/hr	4.0 ml/hr	6.0 ml/hr	8.0 ml/hr

Caution should be exercised with patients with Weight  $\geq$  100 Kg.

## Guidelines for Routine CIRCUIT Anticoagulation with Heparin during CVVHD



**Guidelines for Circuit Anticoagulation during CVVH with Short Circuit Life  
(i.e. less than the recommended 72hrs)**



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