

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

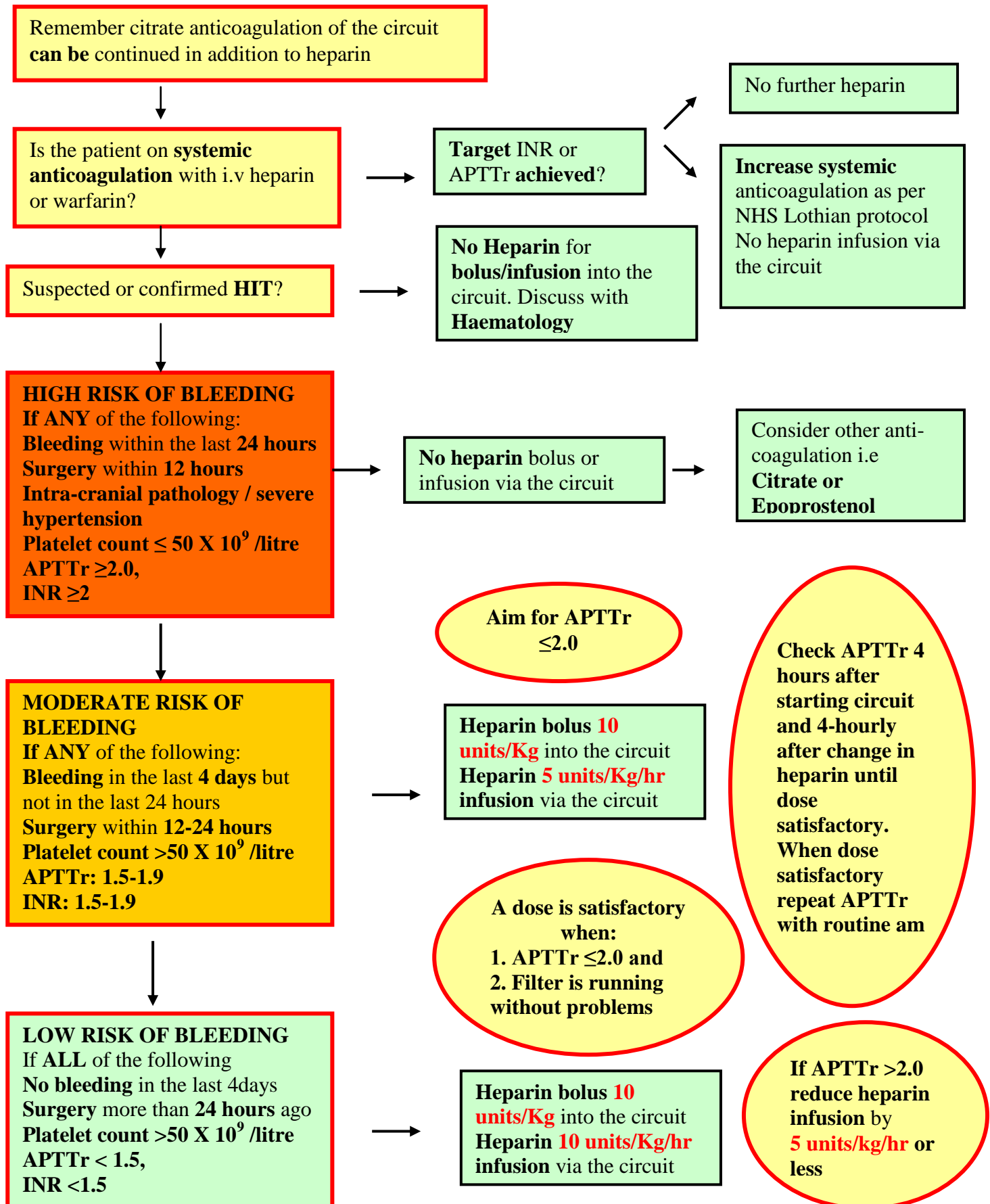
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100-104	1000 units	4.0 mls	1500 units	6.0 mls
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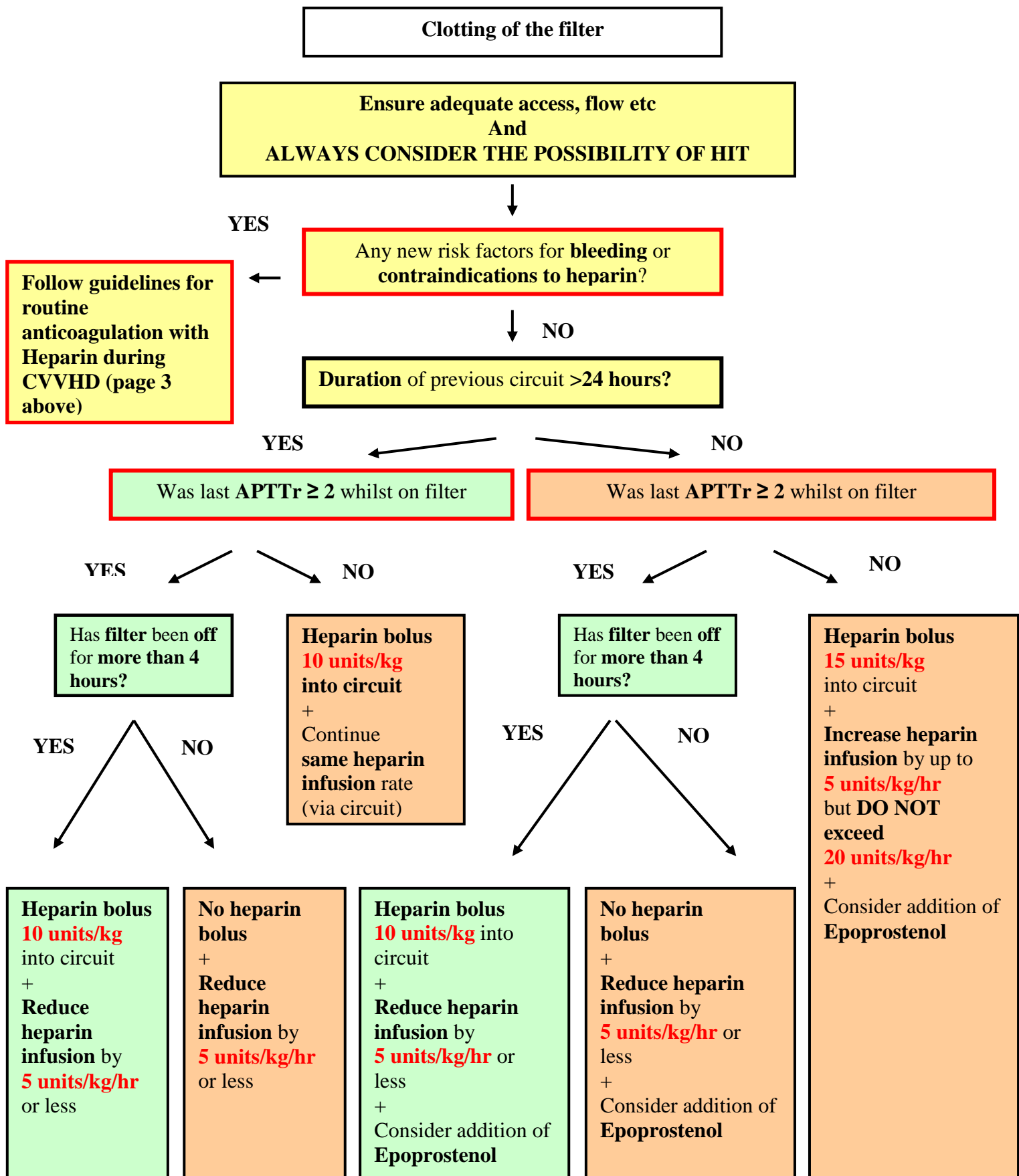
Weight kg	Heparin INFUSION (concentration 250 units/ml)			
	Heparin INFUSION 5 units/kg/hr (mls)	Heparin INFUSION 10 units/kg/hr (mls)	Heparin INFUSION 15 units/kg/hr (mls)	Heparin INFUSION 20 units/kg/hr (mls)
40-44	0.8 ml/hr	1.6 ml/hr	2.4 ml/hr	3.2 ml/hr
45-49	0.9 ml/hr	1.8 ml/hr	2.7 ml/hr	3.6 ml/hr
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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Title: Heparin Dosing in RRT	
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Status Draft/Final: Final	Approved by: Unit consensus
	Written: 09/06/2020
Reviewed on:	Next review : 09/06/2023