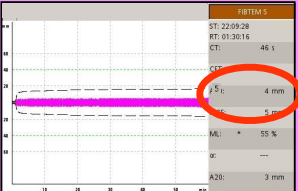

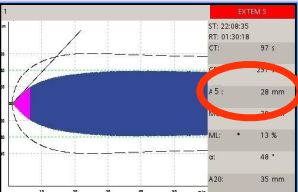
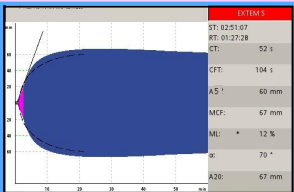
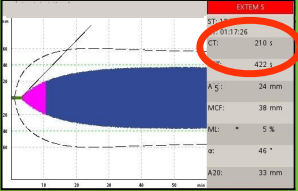
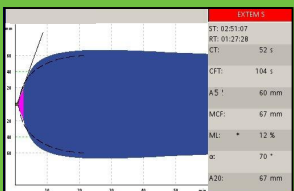
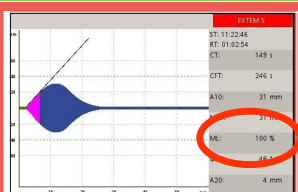
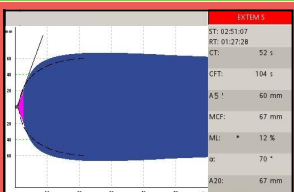


# KEMH ROTEM Algorithm for Critical Bleeding

**Key Points:** This algorithm should be used in conjunction with the KEMH Blood Product Guidelines for Major Obstetric Haemorrhage. Only treat abnormal values if active bleeding or at high risk of bleeding. Repeat ROTEM analysis 10 mins after intervention to assess response.

	ABNORMAL ROTEM	CRITERIA	DIAGNOSIS	INTERVENTION	CORRECTED ROTEM
<b>FIBRINOGEN</b>		<b>FIBTEM A5 ≤ 10mm</b>	<b>Low fibrinogen</b>	<b>Cryoprecipitate OR Fibrinogen concentrate</b> (see dosing guide) <b>AND Tranexamic acid 1g</b>	
<b>PLATELETS</b>		<b>EXTEM A5 ≤ 35mm</b> and <b>FIBTEM A5 ≥ 10mm</b>	<b>Low platelets</b>	<b>Platelets: 1 adult dose</b> (correlate with platelet count)	
		<b>EXTEM A5 ≤ 25mm</b> and <b>FIBTEM A5 ≤ 10mm</b>	<b>Low platelets and Low fibrinogen</b>	<b>Platelets and fibrinogen</b> (correlate with platelet count)	
<b>FACTORS</b>		<b>EXTEM CT 80-140s</b> and <b>FIBTEM A5 ≤ 10mm</b>	<b>Low fibrinogen</b>	Correct <b>fibrinogen</b> and reassess	
		<b>EXTEM CT &gt;140s</b> and <b>FIBTEM A5 ≤ 10mm</b>	<b>Low fibrinogen and Low coagulation factors</b>	<b>FFP 1-2U + Fibrinogen as indicated</b> (Consider Prothrombinex-see below)	
<b>FIBRINOLYSIS</b>		Early Diagnosis <b>EXTEM A5 ≤ 35mm</b> or <b>FIBTEM CT &gt;600s</b>	<b>High likelihood of excess fibrinolysis</b>	<b>Tranexamic acid 1g</b> Consider repeat dose if has lost over 1 blood volume since initial dose	
		Late Diagnosis <b>EXTEM or FIBTEM ML ≥ 5%</b>	<b>Excess fibrinolysis</b>		

## Fibrinogen Dosing Guide

### FIBTEM A5 Target: ≥12mm

FIBTEM A5	Increase required	Cryoprecipitate	Fibrinogen Concentrate
9-10mm	2-3 mm	1-2 doses	2g*
7-8mm	4-5 mm	1-2 doses	3g*
4-6mm	6-8 mm	2 doses	4g
<4mm	≥9mm	2 doses	5g

\*Outside of currently approved guidelines, must be discussed with haematologist

## Fibrinogen Concentrate

### Guidelines For Use

- Consultant anaesthetist or haematologist approval required.
- Patients must be experiencing life threatening haemorrhage.
- Fibrinogen concentrate may be indicated instead of, or in addition to, cryoprecipitate if the FIBTEM A5 is 6mm or below, OR there is a high suspicion of coagulopathy in a life threatening haemorrhage.
- Use at higher FIBTEM values may be appropriate in patients refusing cryoprecipitate.

### Administration

- Reconstitute 1g in 50ml warm sterile water (use prepared kit in fluid warmer).
- Swirl gently and do not shake (to avoid foaming).
- Administer each 1g via syringe driver over 2-4 mins if life-threatening haemorrhage or over 10 mins if not.

## Cryoprecipitate

1. 1 dose is equivalent to 10 whole blood units or 5 apheresis units.
2. May be supplied as whole blood units or as apheresis units (or a combination) 1 apheresis unit = 2 whole blood units.
3. Availability time: generally available within 10 minutes of request being made

## Prothrombinex

1. Haematologist approval required
2. Consider as an alternative to FFP for patients with coagulation factor deficiency (e.g. prolonged EXTEM CT see above) in the following circumstances:
  - Circulatory overload
  - Rapid correction in extreme coagulopathy