

MEDICELL LTD

A HAEMONETICS® COMPANY

BASIC GUIDE TO TEG® INTERPRETATION



MEDICELL LTD
DIAGNOSTICS DIVISION

(t) 020 8371 9908

Cardiac Protocol

All samples are kaolin activated

Sample No.	When	Cup Type	Why Do It?
1	On induction	<ul style="list-style-type: none"> Plain (clear) cup and pin If heparin suspected use heparinase bonded (blue) cup and pin as part of a split sample 	Gives baseline haemostatic profile
2	Re-Warmed (approx 36°C) (2)	<ul style="list-style-type: none"> Heparinase bonded cup and pin (blue) 	Early identification of any coagulopathy that starts to develop during bypass
3	10 mins post protamine	Split sample: <ul style="list-style-type: none"> Plain (clear) cup and pin Heparinase bonded cup and pin (blue) 	<ol style="list-style-type: none"> Checks heparin reversal Gives post bypass haemostatic profile – identifies cause of coagulopathy in bleeding patient (see suggested treatment protocol)
4	Post op ITU – if indicated	Split sample: <ul style="list-style-type: none"> Plain (clear) cup and pin Heparinase bonded cup and pin (blue) 	<ol style="list-style-type: none"> If it is indicated by a developing coagulopathy profile seen in samples 1–3 If patient is bleeding or ‘going off’ clinically

NB

- When using two cups ensure Plain cup is on the left of the heparinase cup
- This is the point the patient comes off the pump/ end of last anastomosis in off pump case.



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Suggested Treatment Protocol

For kaolin activated samples

TEG® Values	Clinical Cause	Suggested Treatment
R between 11 – 14 min (2)	↓↓ clotting factors	X2 FFP or 8ml/kg
R greater than 14 min (2)	↓↓↓ clotting factors	X4 FFP or 16 ml/kg
MA between 42 – 47mm G between 3.6 – 4.4 K (3)	↓ platelet function	X 1 Platelet Pool
MA < 42 mm G less than 3.6K (3)	↓↓ platelet function	X 2 Platelet Pools
LY30 at 7.5% or greater, with CI less than 1.0	Primary fibrinolysis	Antifibrinolytic of choice
LY30 at 7.5% or greater, with CI greater than 3.0	Secondary fibrinolysis	Anticoagulant of choice
R less than 3 min MA greater than 75mm G greater than 15K	Prothrombotic state	Anticoagulant of choice

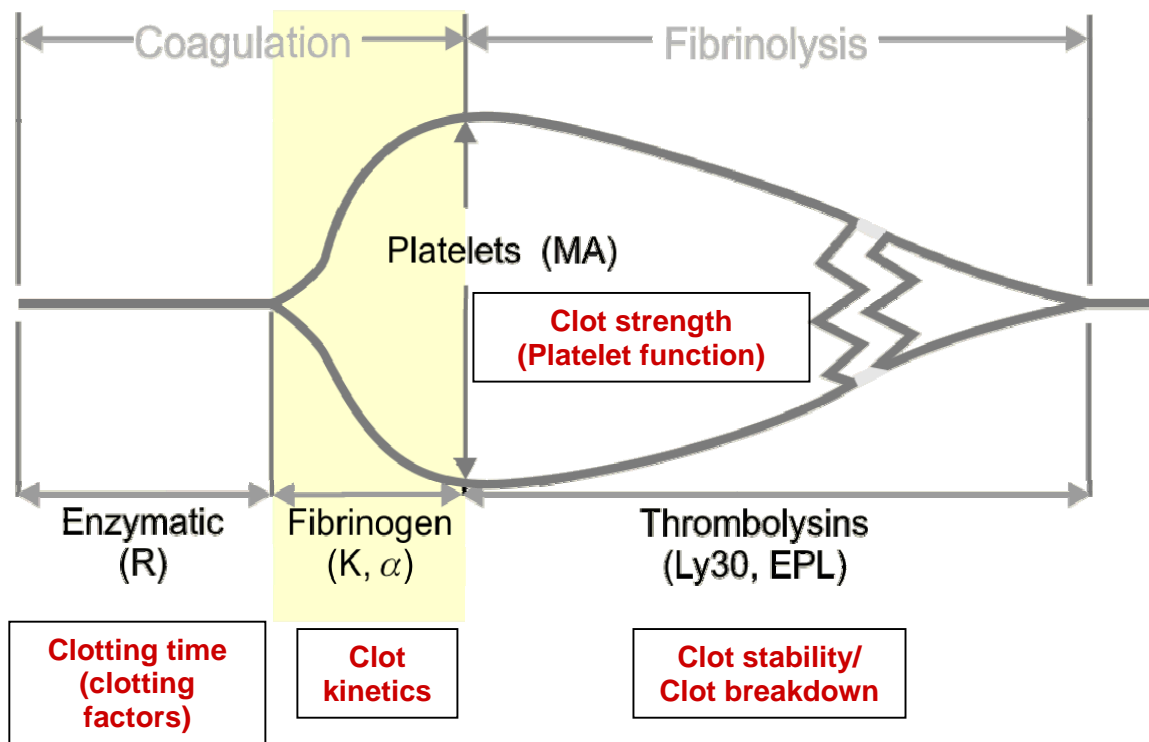
NB

1. Blood product and antifibrinolytic treatment is only suggested if your patient is bleeding at a level you wish to treat
2. These guidelines apply after you have ruled out heparin as a cause for the long R time
3. A normal kaolin activated MA does not rule out platelet inhibitor effects. If the patient is/was on antiplatelet agents PlateletMapping™ results should be used to assess platelet function and hence need for treatment with platelets



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What Does TEG[®] Report?



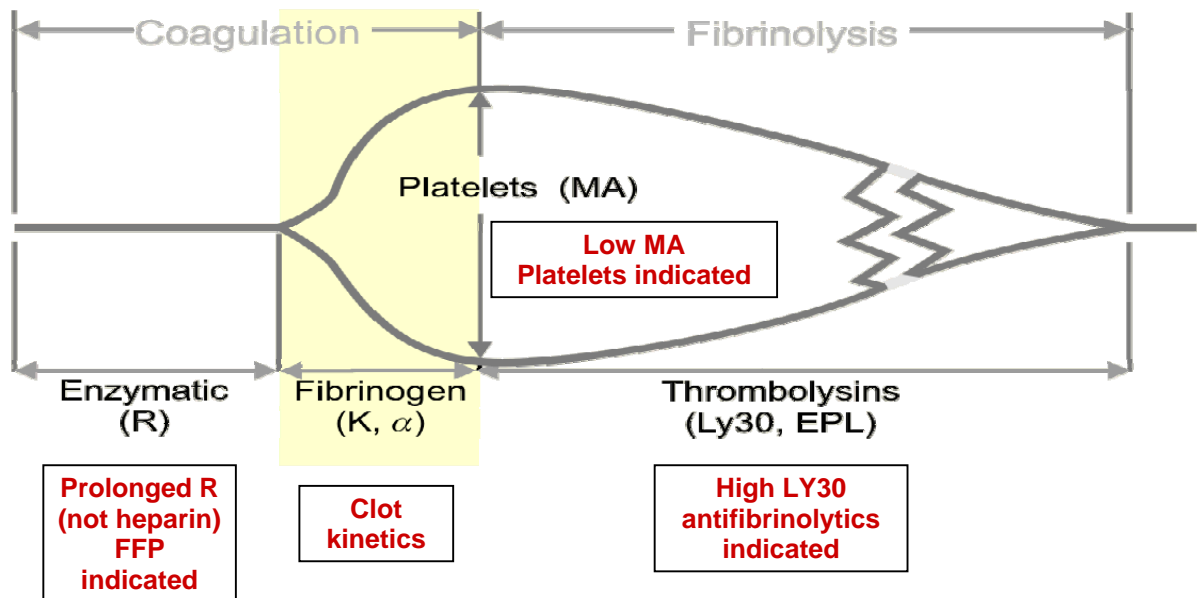
TEG[®] Parameter Definitions

- R = Reaction time
 - The reaction time is the time from when the blood was placed in the TEG[®] analyser until the initial fibrin formation ie how long it takes for the blood to start to clot, and is therefore a measure of clotting factors
- K = Kinetic time
 - The K time is a measure of the speed taken to reach a specific level of clot strength. Together with the alpha angle it is a measure of clot kinetics
- Alpha Angle
 - Measures the speed of fibrin build-up and cross-linking (clot strengthening)
- MA = Maximum Amplitude
 - The maximum amplitude represents the ultimate strength of the clot and is a measure of platelet function. It is a direct function of the maximum dynamic properties of fibrin and platelet bonding via GPIIb/IIIa.
- LY30 = Lysis 30 minutes after MA
 - It shows any breakdown of the clot and therefore gives an idea of clot stability

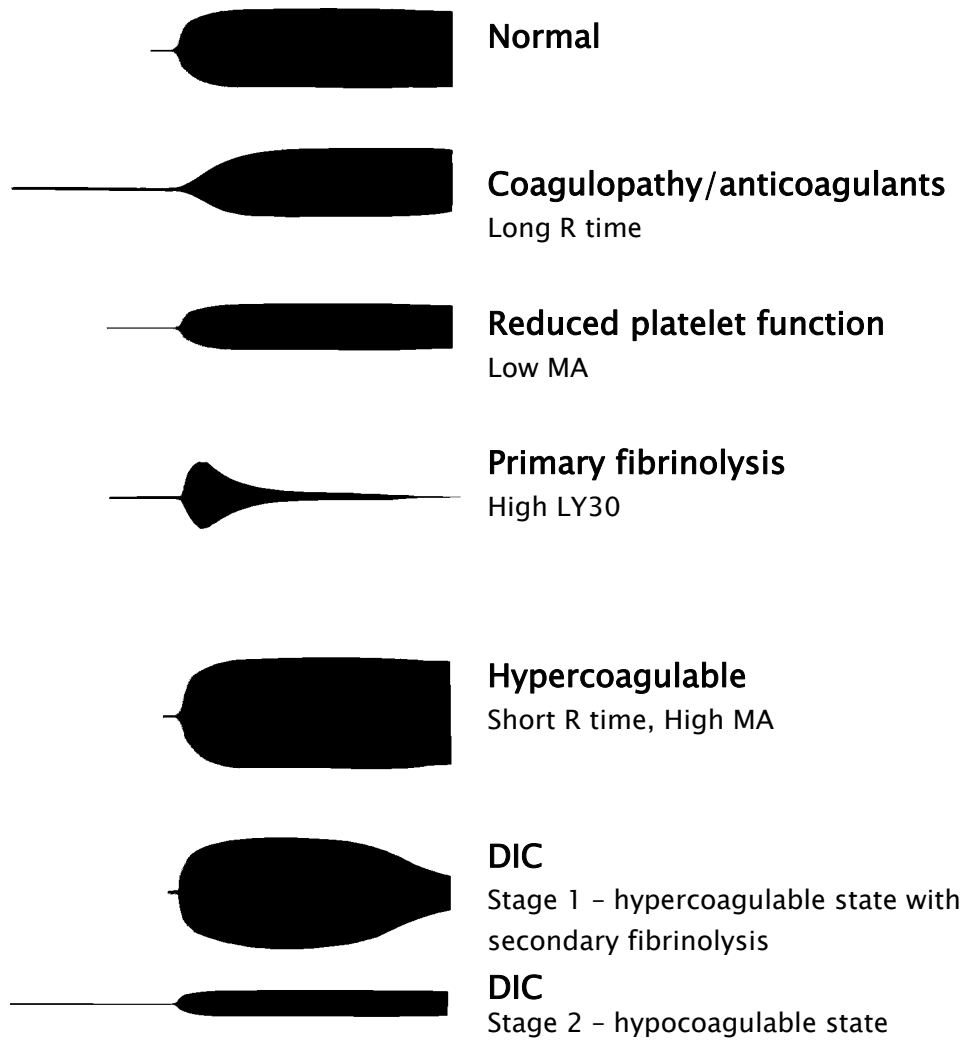


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TEG[®] Directed Therapy For Bleeding Patient

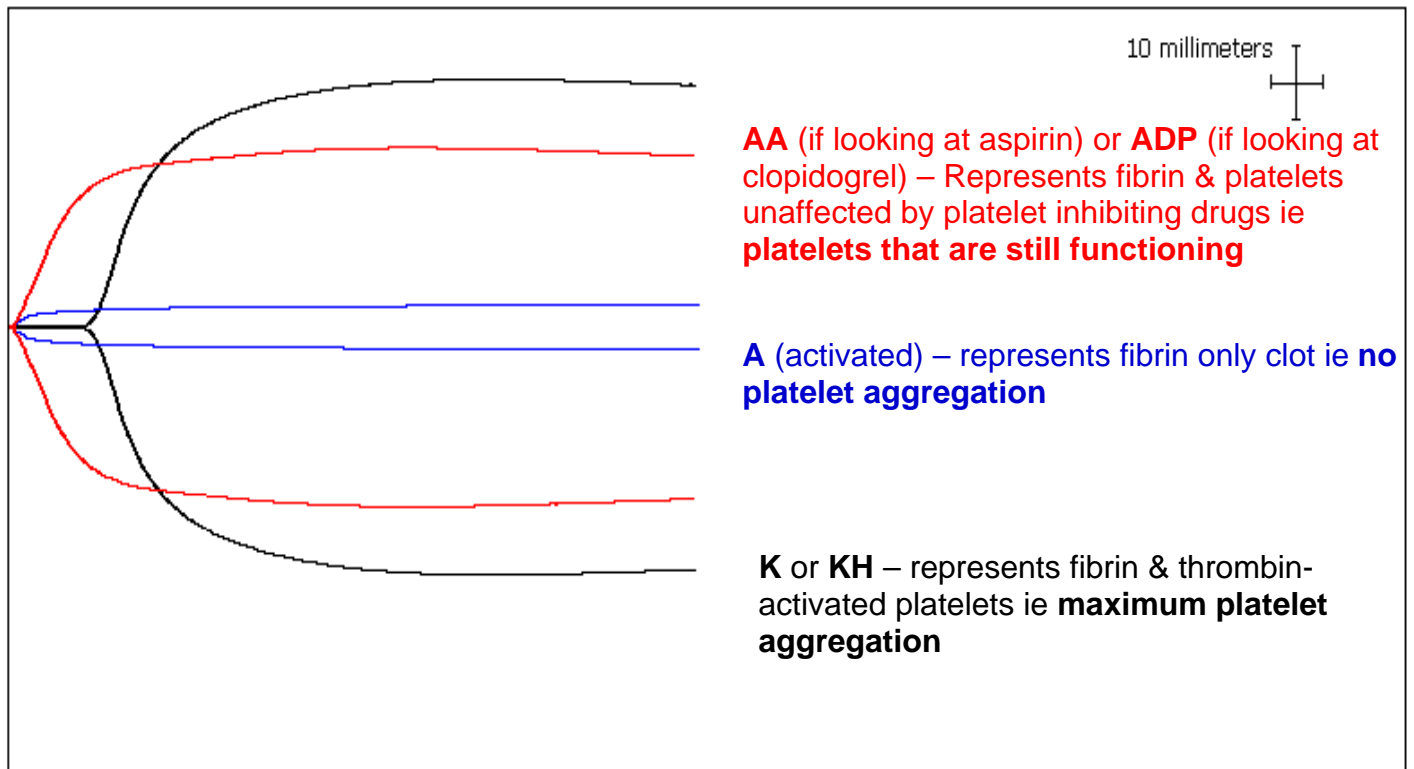


Qualitative Analysis



PlateletMapping™

There is a kit for monitoring the effect of platelet inhibiting drugs such as aspirin and clopidogrel.



The traces run for a maximum of 20 minutes. Overlaying the traces causes the software to calculate and display % inhibition and % function.



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What To Look For In An Etest

- Numbers in min/max are changing
- Final value 1800 – 2300
- Message etest ok
- If message is 'not at equilibrium' – retry
- If message is 'etest is off centre/out of range' – can be tweaked with trimmer tool – report to Site Administrator



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ME59011.REV04 – MediceLL Basic Guide to TEG® Interpretation



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