NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST
TEG Treatment Algorithm

Patient Inclusion

1. Major Haemorrhage Protocol activated in bleeding patient
2. Code Red Trauma alert
3. Code Amber Trauma Alert (with suspicion of significant active bleeding)
4. Blood Transfusion commenced with cardiovascular instability

This algorithm is for treatment of coagulopathy due to significant bleeding.
It is to be used in conjunction with the existing NUH Major Haemorrhage protocol.

NB. Cardiac theatres has its own treatment algorithm

When to run TEG assay

For red trauma calls, a TEG assay should be done with the patient's initial bloods. Please ensure that sufficient blood is drawn to allow this.

- Trauma patients
  - Code RED Trauma – immediately on arrival in ED
  - Code AMBER Trauma – if CVS instability

- ALL bleeding patients with suspected coagulopathy
  - If MHP activated
  - After every 4th unit of Packed Red Cells transfused until clinical haemostasis
  - After administration of blood product (eg platelets/cryo)
  - At discretion of anaesthetist or senior clinician

How to run TEG assay

Venous or arterial blood is to be drawn from the patient and transferred to a "light-blue top" citrated sampling tube.
Ensure the tube is filled to above the etched line! If it is not, do NOT use as results will not be valid.
Standard=2.7ml. Paediatric=1.3ml

Hand the correctly filled tube to the TEG operator (ODP/ICU nurse/Trauma case manager) who will operate the TEG6S machine.

Your TEG curves will be immediately displayed on the TEG6 screen AND on the TEGManager software from any NUH computer

Location of TEG6 machines

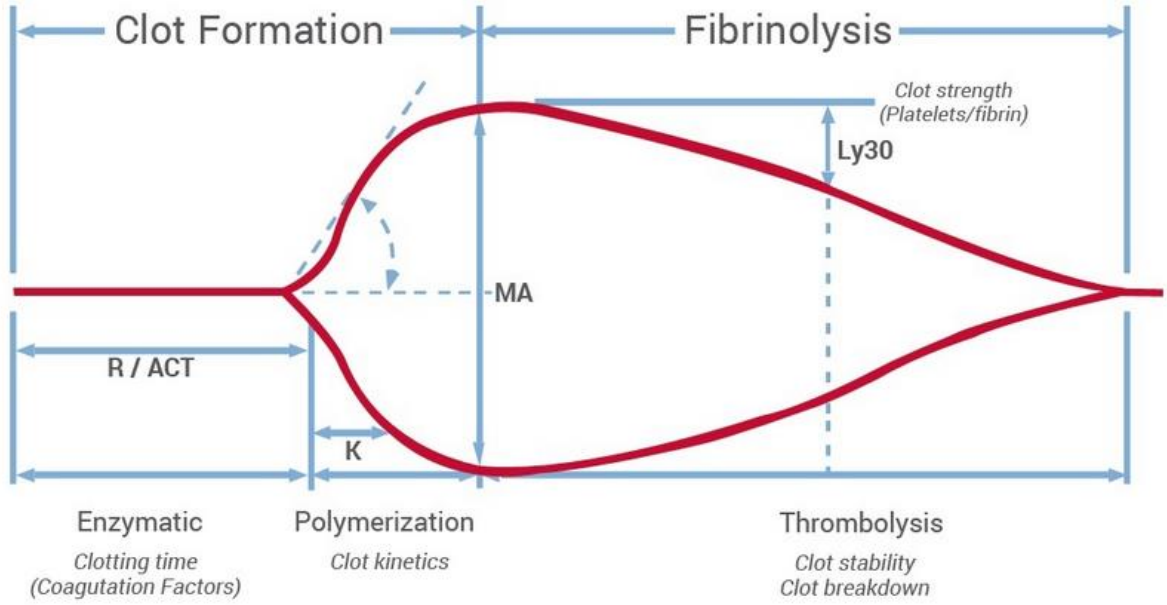
1. In ED next to ABG machine
2. Emergency theatres (outside TH1 – QMC C-floor)
3. QMC Maternity theatre
4. Theatres – Trent Cardiac Centre

Using TEG for treatment of coagulopathy

The NUH major haemorrhage protocol details the pack system and when activated is a guarantee of what blood components will be made available by haematology.

Interpretation of the TEG curves will allow administration of the correct blood components to match the patient's needs.

It is usual in trauma major haemorrhage to transfuse FFP and PRC in a 1:1 ratio until TEG or conventional lab tests are available.



The TEG Global Haemostasis cartridge has 4 tests;
Kaolin TEG, rapid TEG, functional fibrinogen, Heparinase TEG

NUH TEG Treatment Algorithm

This may be used for all cases of bleeding due to trauma or other cause:

1. CRT-ACT > 120secs — Coagulopathy present
    a. If unstable – resuscitate with RBC:FFP 1:1 ratio
    b. Consider activating MHP
2. CK – Rtime > 9.1 mins — Clotting factor deficiency
    a. Give FFP 15ml/kg
3. CK/CRT MA < 52 — Clot strength problem
    a. If<40mm give platelets
    b. Give platelets if 40-52 with normal CFF-MA
4. CFF-MA <17mm — Low fibrinogen
    a. Give 2 pools cryoprecipitate
5. LY30 > 3% — Fibrinolysis
    a. Give 15mg/kg tranexamic acid (up to 1g)

Additionally… Treat hypocalcaemia, correct hypothermia. Consider cell salvage.

Note: If patient is known to be on any anticoagulation, the anticoagulation must be reversed and the results interpreted with caution.

If the R-time of the heparinise (CKH) curve is >2min shorter than R-time of CK curve then there is significant heparin effect and protamine should be considered.

Viewing results – TEG Manager

The TEG results can be viewed on the TEG6 machine or remotely via the TEG Manager software package. TEG Manager can be viewed on ANY trust computer, iPhone or iPad via the following link;

https://nuhhaemteg.nuh.local

Within the search tool click today's date and then select the patient's K number from the list. The results curves will then be displayed for interpretation.

Log-ons for TEG Manager will only be issued upon viewing of TEG training video and completion of TEG competency questionnaire.

Please contact Dr Jim Bradley (Anaesthetic lead for TEG) if you need any help/advice with TEG interpretation or to discuss the algorithm or training.

To reset an old/ inactive account please email pathology point of care department PATHOLOGY-POCT@nuh.nhs.uk

Glossary

CK	Citrated Kaolin TEG	
CRT	Citrated Rapid TEG	
CKH	Citrated Kaolin TEG plus Heparinase	
CFF	Citrated Functional Fibrinogen TEG	
R-time	Reaction time (minutes)	time for intial clot formation
MA	Maximum Amplitude (mm)	indicates maximal clot strength
Ly30	Clot lysis(%) @30mins	30mins after MA is reached