WHEN MINUTES COUNT
to stop the bleeding
The key to bleeding control

### Rapid differential diagnosis

Acute peri-operative bleeding can be life-threatening and always requires immediate action. Rapid differential diagnostic information is the basis of targeted diagnostic therapy. ROTEM® analysis provides valuable results in 5 to 20 minutes and treatment can start instantly. ROTEM® analysis with a new blood sample enables monitoring and fine-tuning of the therapy.

### Comprehensive bleeding management

- pre-operative screening
- peri-operative differential diagnosis
- rapid discrimination between surgical bleeding and coagulopathy
- therapy monitoring and control

### Benefits of differential diagnosis

- targeted therapy
- effects of treatment can be monitored immediately
- risks of complications are minimised
- patient benefit becomes measurable

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#### DIFFERENTIAL DIAGNOSIS

<table>
<thead>
<tr>
<th>SCREENING (INTEM/EXTEM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORMAL</td>
</tr>
<tr>
<td>No obvious haemostasis</td>
</tr>
<tr>
<td>disorder</td>
</tr>
<tr>
<td>Surgical bleeding likely</td>
</tr>
</tbody>
</table>

For targeted therapy:

#### ADDITIONAL TESTS

<table>
<thead>
<tr>
<th>DIFERENTIAL DIAGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusion of suspected primary haemostatic disorder</td>
</tr>
<tr>
<td>Factor deficiency?</td>
</tr>
<tr>
<td>problem or fibrinogen deficiency?</td>
</tr>
<tr>
<td>Platelet disorder?</td>
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</tbody>
</table>

#### CONSIDER

<table>
<thead>
<tr>
<th>Surgical intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor concentrates</th>
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<tr>
<td>FFP, Cryo</td>
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</table>

The ROTEM® system provides a unique set of tests to discriminate between therapeutic options.
ROTEM® delta – bleeding management for the patient’s benefit
In critical bleeding situations, coagulation testing in the laboratory is time consuming and may not correlate to the clinical picture. ROTEM® analysis is performed near the patient and provides information on
– hyperfibrinolysis
– the extent of dilutional coagulopathy
– the requirement for either fibrinogen or platelet substitution
– heparin and protamin dosage monitoring

Step by step user guidance – for true POC use
– test preparation steps on screen
– easy to use automated pipette
– reliable results, even in emergency situations
Multi-language support: English, French, German, Italian, Spanish, Swedish and Turkish. Other languages upon request.

RESULT TRACKING AND TRANSFER

LEFT Curve overlay of previous results simplifies therapy control.

RIGHT All test results are available in numerical and graphical format. Transfer to LIS/HIS systems or real time view on selected PCs is available. The integrated user management ensures data safety.
POC-optimized software
The touch-screen optimized measurement software enhances operation. Elaborate colour coding of the TEMogram curve and flagged out of range numerical results facilitate evaluation, even when looking at the monitor from a distance. Overlay of a patient’s TEMogram with a standard curve or the same patient’s previous TEMograms further simplify interpretation.

Help system with patient cases from clinical experts
Comprehensive understanding of the patient’s coagulation is important for targeted treatment. The on-board learning programme, with cases from experts, helps novices with result evaluation and interpretation. Cases are shown with test results, diagnostic conclusions and applied treatment.

REAGENTS FOR DIFFERENTIAL ANALYSIS

<table>
<thead>
<tr>
<th>REAGENT</th>
<th>MAIN COMPONENTS</th>
<th>INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ex-TEM®</td>
<td>Tissue factor</td>
<td>Global test for plasmatic coagulation factors, fibrin polymerisation, platelet contribution, hyperfibrinolysis. Low heparin sensitivity.</td>
</tr>
<tr>
<td>in-TEM®</td>
<td>Contact activator</td>
<td>Global test for plasmatic coagulation factors, fibrin polymerisation, platelet contribution. Heparin sensitive.</td>
</tr>
<tr>
<td>fibr-TEM®</td>
<td>Cytochalasin D</td>
<td>Fibrin status: Identification of Ca++ polymerisation disorders or deficiency.</td>
</tr>
<tr>
<td>ap-TEM®</td>
<td>Aprotinin</td>
<td>Confirmation or exclusion of Ca++ hyperfibrinolysis.</td>
</tr>
<tr>
<td>hep-TEM®</td>
<td>Heparinase I</td>
<td>Screening test in the presence of Ca++ heparinase; like INTEM, but without heparin influence.</td>
</tr>
</tbody>
</table>

Each test requires only 300µl of citrated blood.
* Patent pending, Application UK 0701821.1
Available from Q3 2007

TWO REAGENT LINES – EQUIVALENT RESULTS

SINGLE DOSE REAGENTS*
For optimal reagent usage
One test per vial
No reagent handling
Just add blood and start test
Store up to 14 days without cooling
No reagent wastage

LIQUID REAGENTS
For high volume user
Ready to use
Colour coded
Excellent stability

EASY TO HANDLE

EASY TO HANDLE

CONVENIENT TOUCH SCREEN
INTEGRATED LEARNING PROGRAMME

LEFT Touch-screen operation and a consistent colour coding facilitate easy handling and interpretation.

RIGHT The cases shown in the learning programme combine patient history, test results and applied treatment on one concise screen.
The key to cost control

Technology for the POC
Thromboelastometry is designed to assess clot formation and lysis by a reliable and fast method. The unique ball-bearing stabilized technology enables operation of the system in the busy situation of an operating theatre – even on a trolley.

ROTEM® guided therapy – potential cost savings
In addition to better patient care, ROTEM® guided therapy has been shown to effectively save cost. Early targeted treatment leads to better control of bleeding with lower transfusion requirements. Moreover, the reduced platelet transfusion has the additional potential of reducing ICU and hospital stay time.

THE TEMOGRAM
ROBUST TECHNOLOGY FOR THE POC

1 RBC
2 Platelets
3 FFP
4 PPSB
5 FXIII
6 FVIIa
7 Fibrinogen
8 Total cost savings

* data with kind permission of G. Spalding, Heart Centre, Bernau

THE SAVING POTENTIAL
of ROTEM® guided therapy*

| SAVINGS % | 1 | 2 | 4 | 5 | 6 | 8 | 100
|-----------|---|---|---|---|---|---|---|
| ADDITIONAL COSTS % | 3 | 4 | 7 | 8 | 100

* data with kind permission of G. Spalding, Heart Centre, Bernau
The bleeding management system

BIBLIOGRAPHY


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