Damn Easy:
Thromboelastography for Dummies

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Disclosures
Objectives

• Demystify viscoelastic assays with a simple analogy
• Describe component administration in TEG-guided resuscitation
Thromboelastography (TEG)
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
Thromboelastography (TEG)

Traditional “Measures” of Coagulation

- PT/INR
- PTT
- Plts
Thromboelastography (TEG)

Traditional “Measures” of Coagulation

- PT/INR
- PTT
- Plts

Plasma
Cellulate
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulate

TEG
Thromboelastography (TEG)

Traditional “Measures” of Coagulation

- PT/INR
- PTT
- Plts

Plasma
Cellulate

TEG

Oscillating cup
Whole blood clot at 37°C

4°45°
Thromboelastography (TEG)

Traditional “Measures” of Coagulation

- PT/INR
- PTT
- Plts

Plasma
Cellulate

![TEG Diagram]
Thromboelastography (TEG)

Traditional “Measures” of Coagulation

- PT/INR
- PTT
- Plts

Plasma
Cellulate

TEG

Oscillating cup
Whole blood clot at 37°C
4°45′
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Coagulation Factors

TEG
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulate

Coagulation Factors
Fibrin Meshwork
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulate

Coagulation Factors
Fibrin Meshwork
Platelets
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulate

Coagulation Factors
Fibrin Meshwork
Platelets

Coagulation
Fibrinolysis

Ly30
30min
Thromboelastography (TEG)

Traditional “Measures” of Coagulation

- PT/INR
- PTT
- Plts

Plasma
Cellulate

Fibrin Meshwork
Platelets

Coagulation Factors

Ly30

30min

Coagulation
Fibrinolysis

TIME

R
K
MA

Curette
Oscillating cup

Whole blood clot at 37°C

4°45′
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulare

Fibrin Meshwork
Platelets

Coagulation Factors

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
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<tbody>
<tr>
<td>R Time</td>
<td>Time to start forming clot</td>
</tr>
<tr>
<td>K Time</td>
<td>Time until clot reaches a fixed strength</td>
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<tr>
<td>Alpha angle</td>
<td>Speed of fibrin accumulation</td>
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<tr>
<td>Maximum Amplitude (MA)</td>
<td>Highest vertical amplitude of the TEG</td>
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<tr>
<td>Lysis at 30 Minutes (LY30)</td>
<td>Percentage of amplitude reduction 30 minutes after maximum amplitude</td>
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</table>
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Coagulation Factors
- Platelets
- Celluluate
- Plasma

Fibrin Meshwork

Ly30

R
K
MA

TIME

30min
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulate

Coagulation Factors
Fibrin Meshwork
Platelets

Ly30

R Time
>55sec

2uFFP
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Coagulation Factors
- Fibrin Meshwork
- Platelets

Plasma
- Cellulate

Ly30

R Time > 55sec

Angle < 65

2uFFP

Cryo 10u
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
- Cellulate
- Fibrin Meshwork
- Platelets

Coagulation Factors

Coagulation

Fibrinolysis

Ly30

R Time
- >55sec

30min

MA
- <55mm

2uFFP

Cryo 10u

Platelets 6 pack
Thromboelastography (TEG)

Traditional “Measures” of Coagulation
- PT/INR
- PTT
- Plts

Plasma
Cellulate

Coagulation Factors
Fibrin Meshwork
Platelets

Coagulation
Fibrinolysis

R Time
Angle
MA
LY30

>55sec
<65
<55mm
>8%

2uFFP
Cryo 10u
Platelets 6 pack
TXA 1g
Objectives

• Demystify TEG with a simple analogy

• Describe component administration in TEG-guided resuscitation