

Guiding bleeding management for improved patient outcomes



Rapid results for real-time decision-making—and fewer unnecessary blood transfusions¹⁻³

The ROTEM *delta* viscoelastic testing system enables timely and comprehensive assessment of coagulopathy. Fast, easy-to-interpret TEMograms provide real-time, actionable results.

In patients exhibiting clinically significant bleeding, ROTEM testing guides appropriate clinical decisions toward individual and goal-directed therapy. This helps clinicians optimize hemostasis, while minimizing blood product exposure—a key goal of patient blood management (PBM) programs.



A complete viscoelastic testing system for effective PBM

Offering enhanced interpretation and reproducibility for timely and comprehensive assessment

Enables rapid clinical decisions

- Early parameters in <10–15 minutes, enabling clinical decisions up to 3x faster than traditional methods
- No incubation time—testing initiated in <1 minute
- Rapid activators for timely results
- Heparin neutralization allows testing during cardiopulmonary bypass

Enhanced interpretation

- Large TEMograms viewed at-a-glance
- Reference ranges to assess hemostasis and inform therapeutic decisions
- Profile and patient overlays to compare in-process results to reference curves

Accurate, reproducible results

- System performance continuously monitored to ensure quality results
- Four independent channels for differential diagnosis of coagulopathy

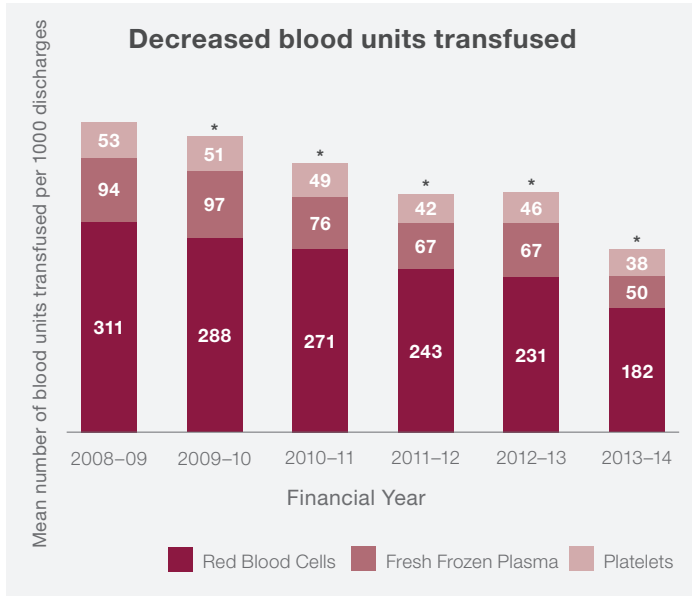
Easy to use

- Automated pipetting, with step-by-step onscreen guidance
- Intuitive, touchscreen interface
- Automated assay initiation upon sample introduction

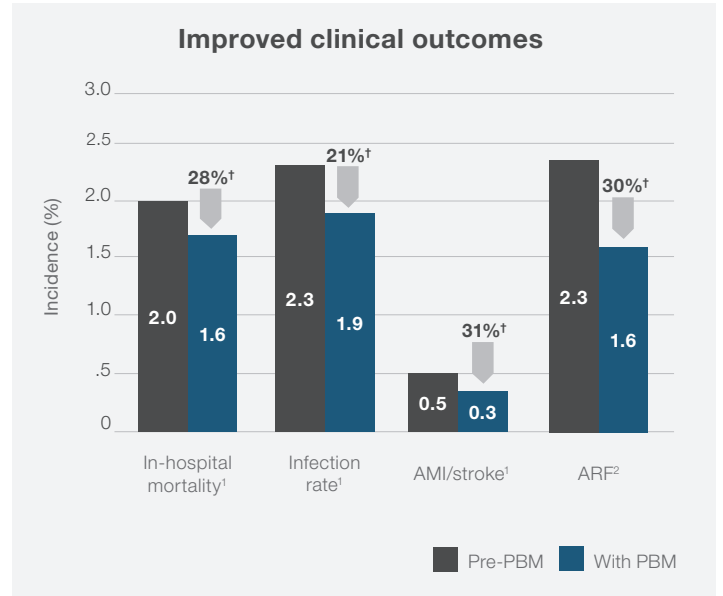
Evidence-based and validated. Viscoelastic testing is recommended in key clinical guidelines^{4,5} to inform patient-specific transfusion decisions and respond to patient needs.

An essential part of any PBM program

Studies show that PBM can reduce transfusions and improve patient outcomes^{1,2}



*p-value <0.05, indicating significant decrease in mean units transfused/100 discharges vs. 2008-09.

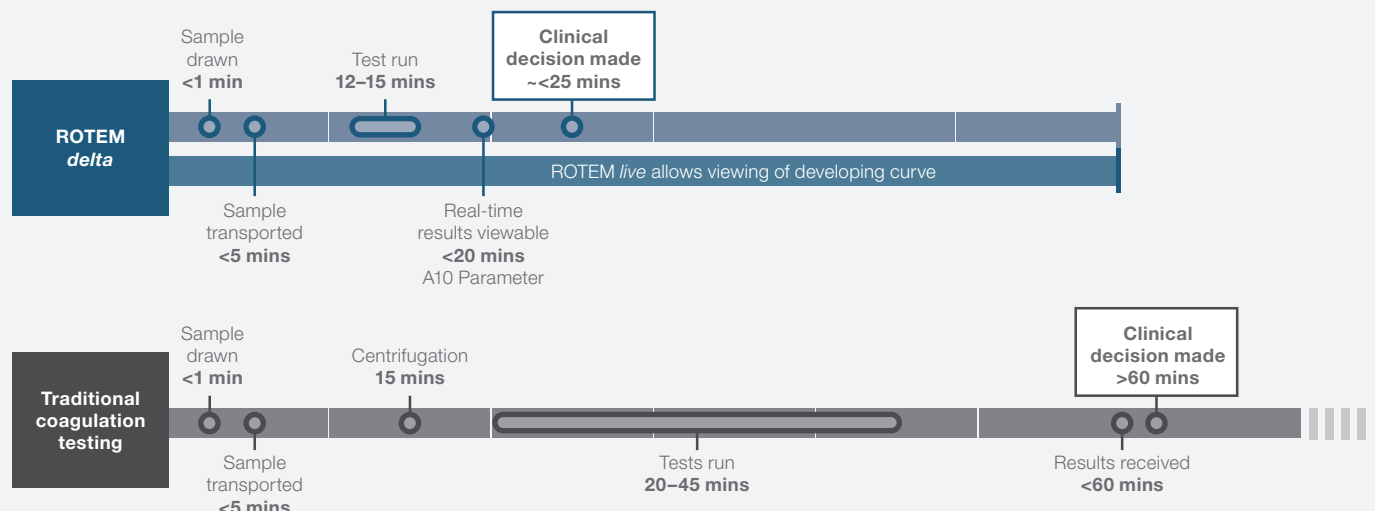


AMI=acute myocardial infarction; ARF=acute renal failure

[†]Adjusted

ROTEM *delta* testing guides appropriate and timely decisions for effective bleeding management

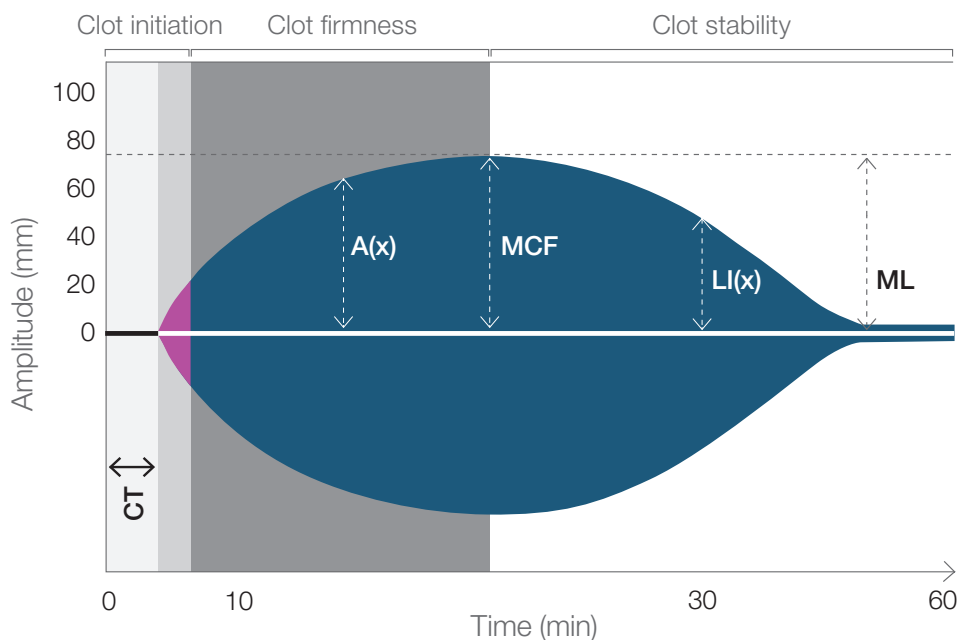
Enables clinical decisions within 25 minutes of sample draw vs. >60 minutes with traditional testing.



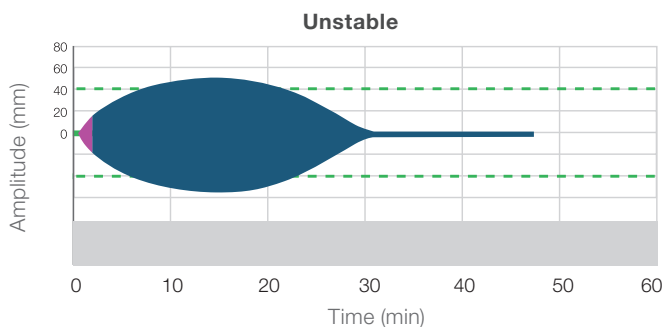
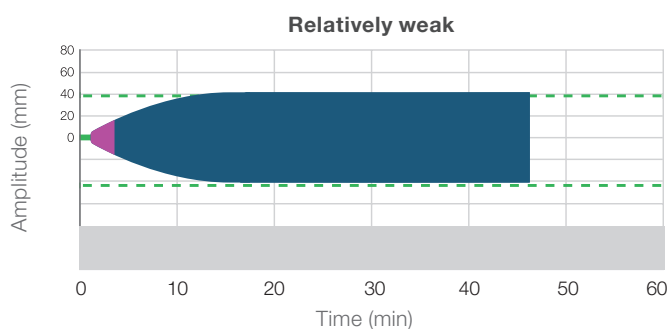
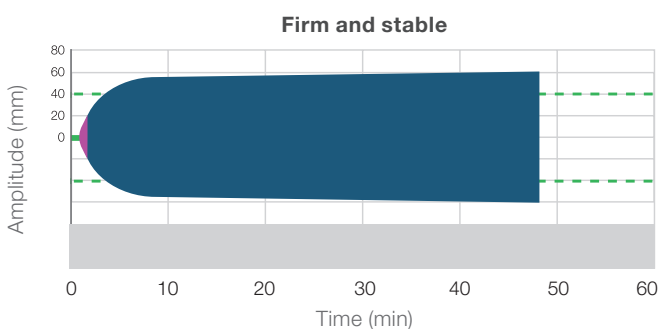
Enhanced interpretation with ROTEM TEMograms

A clear picture of coagulopathy

- Immediate, at-a-glance assessments of clot firmness and stability
- Enhanced clotting activators expedite TEMogram formation and results
- Shapes and published reference ranges inform hemostasis assessment and therapeutic decisions



- CT:** Clotting time
- A(x):** Amplitude x mins after CT
- MCF:** Maximum clot firmness
- LI(x):** Lysis index x mins after CT
- ML:** Maximum lysis

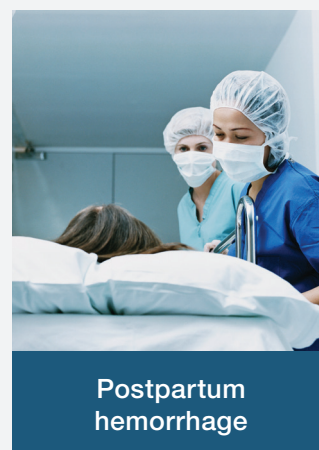
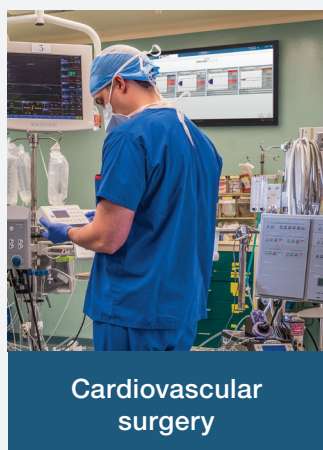


Facilitates differential diagnosis.
Comparing TEMograms from multiple assays allows quick interpretation of results and targeted therapeutic decisions.

Flexible assay menu for broad indications

Assay	Analytical principle	Heparin neutralization
EXTEM	Assesses clot formation, firmness and stability through activation of extrinsic pathway	Up to 5 IU/mL
INTEM	Evaluates influence of heparin, clot formation, firmness and stability through activation of intrinsic pathway	N/A
FIBTEM	Assesses fibrinogen status and fibrin polymerization by blocking platelet contribution	Up to 5 IU/mL
HEPTEM	Monitors intrinsic pathway after neutralizing influence of unfractionated heparin	Up to 7 IU/mL, used in cardiovascular surgery
APTEM	Monitors clot firmness after blocking hyperfibrinolysis	Up to 5 IU/mL, used in trauma

Enables individualized, goal-directed therapy guidance in a wide range of clinical scenarios



Remote viewing of results in real-time

- Web-based and secure data viewer
- TEMograms and numeric ROTEM measurement results displayed in real-time, from site of analysis to the point of care
- Searchable measurements by patient or sample ID

Advanced connectivity and training

Simple management of information, systems and operators

GEMweb[®] Plus⁵⁰⁰
CUSTOM CONNECTIVITY

- Full traceability from a single interface, accessed from anywhere
- Enhanced operator management and data analysis
- Simplified quality management of ROTEM *delta* systems
- Remote system configuration
- Open connectivity including Werfen and non-Werfen instruments*

At-a-glance dashboards facilitate access to patient samples, controls and historical results



*Open connectivity for select non-Werfen analyzers. Contact your local Werfen representative for information on non-Werfen device connection details and availability.

Centrally support laboratory decision-making

HEMOHUB

- Connects ROTEM systems, Werfen Hemostasis systems and operators
- Critical results and system status displayed in real time
- Simple, efficient management of quality control (QC)
- Helps optimize operations and facilitate accreditation

Simplify education, training and certification

werfen|academy

- Educational programs for ROTEM *delta* operators
- Point-of-care operator training for certification and accreditation
- Comprehensive online classes in PBM, Hemostasis, Acute Care and Autoimmunity
- Available online 24/7, from PC or mobile device



Guiding real-time decisions for fewer unnecessary transfusions



Acute Care Diagnostics

Integrative solutions at the speed of life

ROTEM systems are part of the broad Acute Care Diagnostics portfolio from Instrumentation Laboratory. Acute care requires timely, decisive action, based on accurate diagnostic assessment. That's why thousands of hospitals trust our Blood Gas, PBM and Whole Blood Hemostasis products for fast, quality results, enhancing efficiency and patient care.



References

1. Leahy M, Hofmann A, Towler S, et al. Improved outcomes and reduced costs associated with a health-system-wide patient blood management program: a retrospective observational study in four major adult tertiary-care hospitals. *Transfusion*. 2017;57:1347-1358.
2. Meybohm P, Hermann E, Steinbicker AU, et al. Patient blood management is associated with a substantial reduction of red blood cell utilization and safe for patient's outcome: a prospective, multicenter cohort study with a noninferiority design. *Ann Surg*. 2016;264:203-211.
3. Nardi G, Agostini V, Rondinelli B, et al. Trauma-induced coagulopathy: impact of the early coagulation support protocol on blood product consumption, mortality and costs. *Crit Care*. 2015;19:1-10.
4. Rotondo MF, Cribari C, Smith RS, et al. Resources for optimal care of the injured patient. Chicago: *American College of Surgeons, Committee on Trauma*. 2014.
5. American Society of Anesthesiologists Task Force on Perioperative Blood Management. Practice guidelines for perioperative blood management: an updated report by the American Society of Anesthesiologists Task Force on Perioperative Blood Management. *Anesthesiology*. 2015;122:241-275.

Corporate Headquarters

Plaza de Europa, 21-23
08908 L'Hospitalet de Llobregat
Barcelona, Spain
+34-93-4010101

Headquarters and Technology Center, Hemostasis and Acute Care Diagnostics

180 Hartwell Road
Bedford, MA 01730-2433
USA
+1-781-861-0710

Worldwide Locations

The Americas

Brazil
São Paulo
+55-11-46227878

Canada
Richmond Hill, ON
+1-800-552-2025 x6115

Colombia
Bogotá
+57-15-221-052

Mexico
Mexico City
+52-55-5262-1760

Uruguay
Montevideo
+5982-481-81-33

USA
Bedford, MA
+1-781-861-0710

Asia-Pacific

Australia
Sydney
+61-02-9098-0200

China
Beijing
+86-10-59756055

Hong Kong
+852-2792-7773

Shanghai
+86-21-66308671

India
New Delhi
+91-490-29-550

Japan
Tokyo
+81-3-5419-1301

Korea
Seoul
+82-1899-9217

Thailand
Bangkok
+66-271-226-28/9

Europe

Austria
Vienna
+43-1-256-58-000

Belgium
Brussels
+32-2-7252052

Czech Republic
Prague
+420-246-090-931

France
Paris
+33-182-30-86-00

Germany
Munich
+49-89-909070

Hungary
Budapest
+36-1-882-73-10

Italy
Milan
+39-02-25221

Lithuania

Kaunas
+370-37-313157

The Netherlands
Breda
+31-76-5480100

Poland
Warsaw
+48-22-336-18-00

Portugal
Lisbon
+351-214247312

Russia
Moscow
+7-499-124-45-59

Spain
Barcelona
+34-902-20-30-90

UK
Warrington, England
+44-1925-810141

werfen.com

For more information, contact your local Werfen sales representative or distributor.

ACL, ACL AcuStar, ACL Elite, ACL TOP, HemoCell, HemoHub, HemosIL, ReadIPlasTin, RecombiPlasTin, SynthAFax and SynthASil are trademarks of Instrumentation Laboratory Company and/or one of its subsidiaries or parent companies and may be registered in the United States Patent and Trademark Office and in other jurisdictions. The Werfen logo is a trademark of Werfen and may be registered in the Patent and Trademark Offices of jurisdictions throughout the world. All other product names, company names, marks, logos and symbols are trademarks of their respective owners.

©2021 Instrumentation Laboratory. All rights reserved.

werfen