

Guiding bleeding management for improved patient outcomes



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

The ROTEM *delta* thromboelastometry 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 bleeding management

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

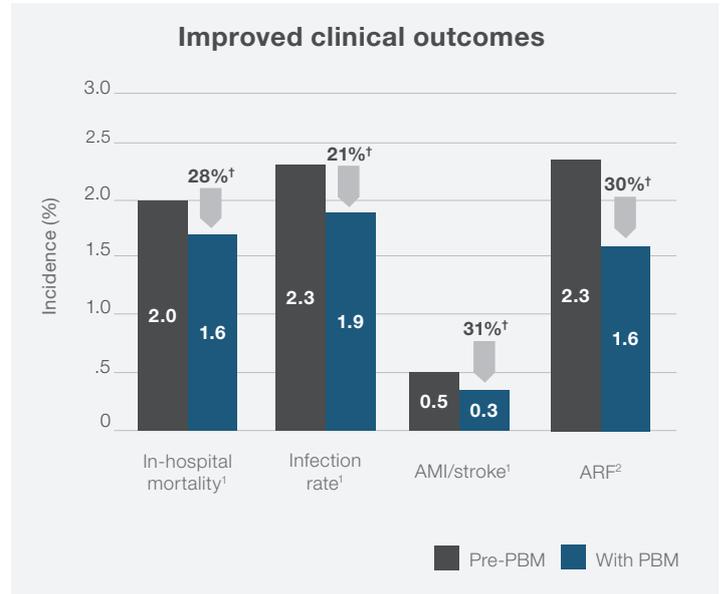
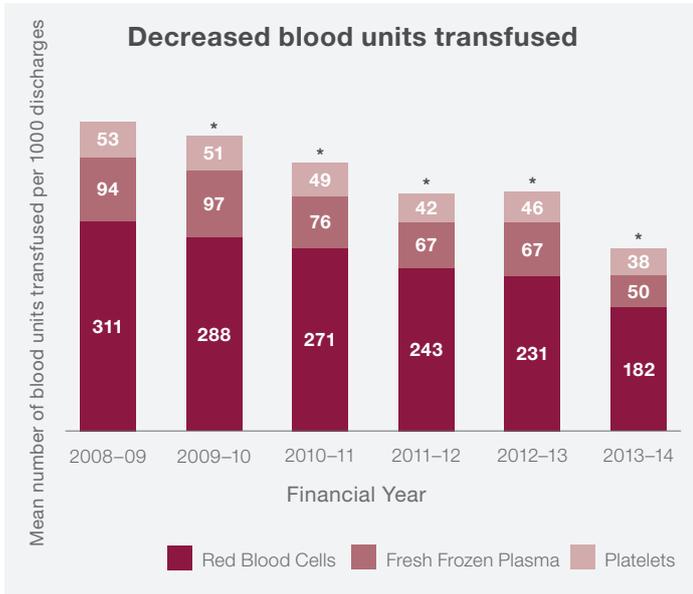
Easy to use

- 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 to inform patient-specific transfusion decisions and respond to patient needs.^{4,5}

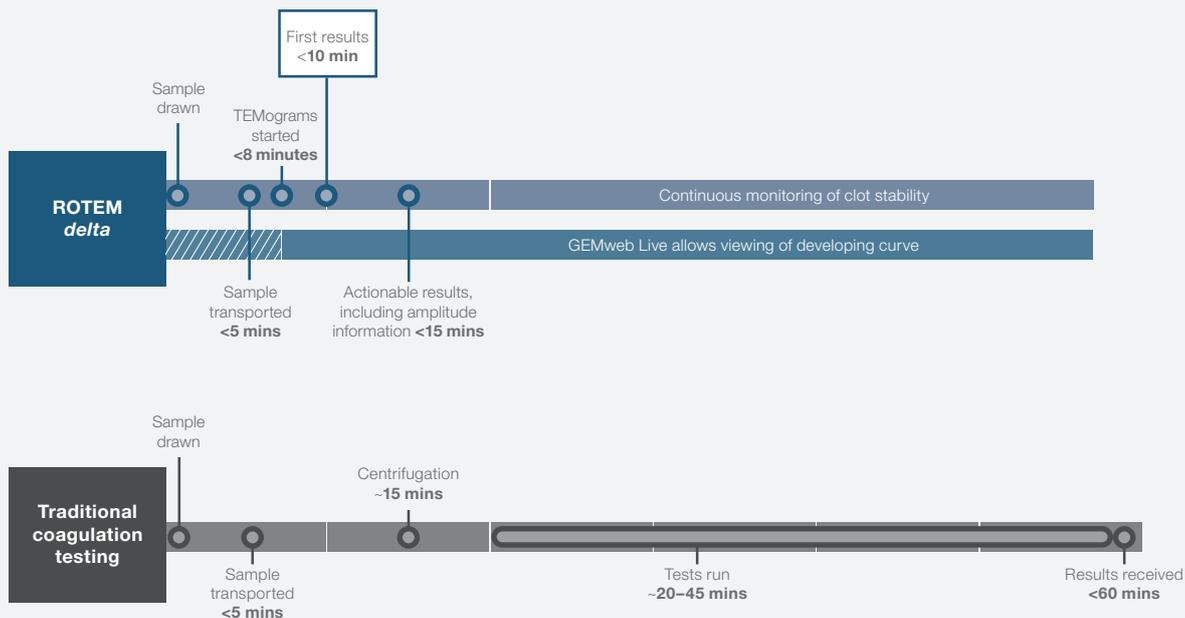
An essential part of any PBM program

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



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

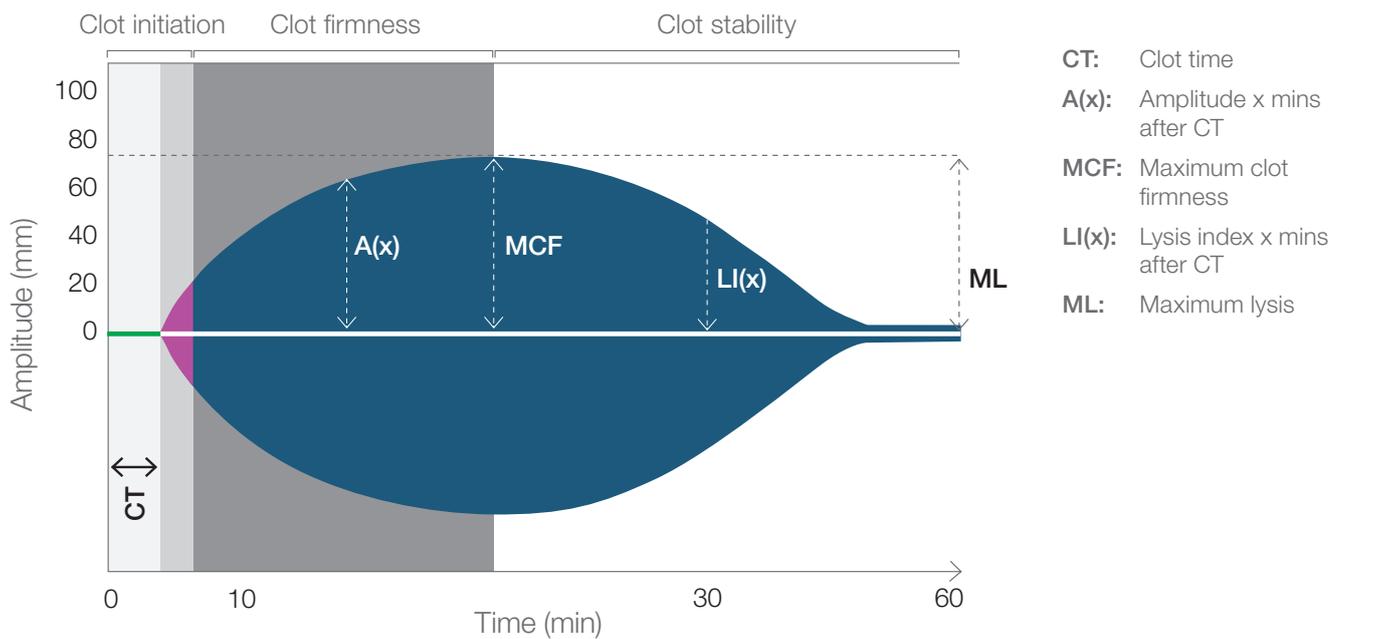
Enables clinical decisions in less time than traditional testing methods.



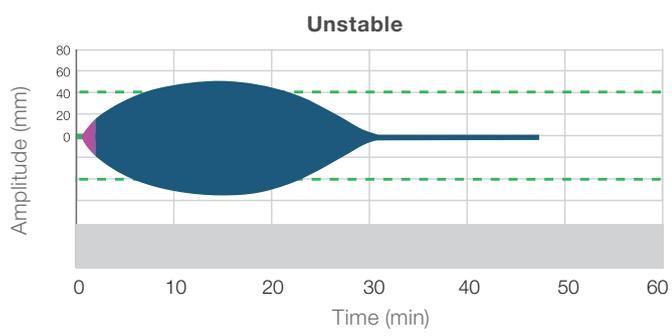
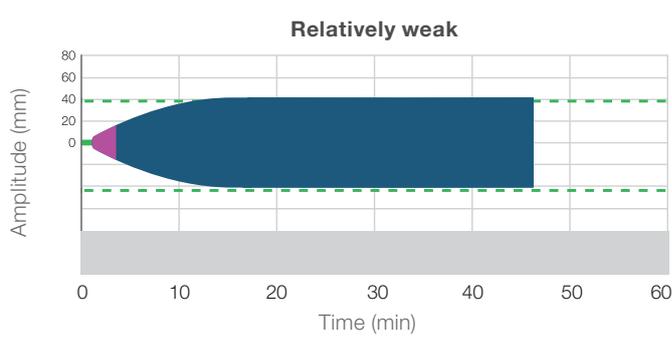
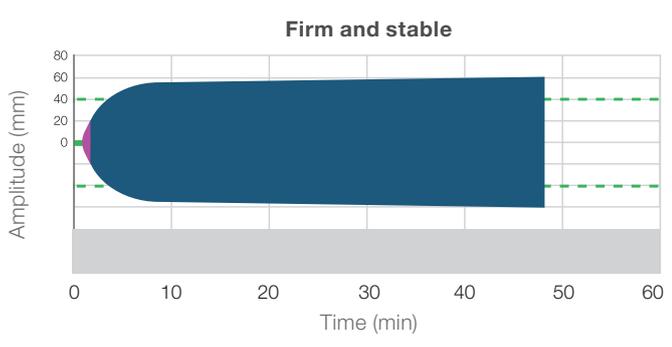
Enhanced interpretation with ROTEM TEMograms

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:** Clot 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 U/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 U/mL
HEPTEM	Monitors intrinsic pathway after neutralizing influence of unfractionated heparin	Up to 7 U/mL
APTEM	Monitors clot firmness after blocking hyperfibrinolysis	Up to 5 U/mL

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



Cardiovascular surgery



Trauma



Liver transplant



Postpartum hemorrhage

Remotely view results in real time

- Web-based and secure data viewer
- TEMograms and numeric ROTEM results displayed in real time, from site of analysis to the point of care
- Measurements made during a procedure are searchable by patient or sample ID

*Unfractionated heparin.

Advanced connectivity and training

Simple management of information, systems and operators

GEMweb[®] Plus⁵⁰⁰
CUSTOM CONNECTIVITY

- Simple web access from any browser
- Easy at-a-glance dashboard
- Centralized access to patient results and TEMograms from any networked ROTEM system
- View, compare and print TEMograms
- Access patient-result history, even during testing
- Automatic and configurable test selection for viewing and downloading (PDF) reports
- Single Laboratory Information System/Hospital Information System connection to test results and TEMograms

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



Simplify education, training and certification

- Educational programs for ROTEM operators
- 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

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Guiding real-time decisions for fewer inappropriate transfusions



Acute Care Diagnostics

Integrative solutions at the speed of life

ROTEM systems are part of the broad Acute Care Diagnostics portfolio from Werfen. 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

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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.

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