AT THE FOREFRONT
UChicago Medicine

TO: Medical Staff, House Staff, Patient Care Centers, and Outpatient Clinics

FROM: Krzysztof Mikrut, B.S, MT (ASCP)
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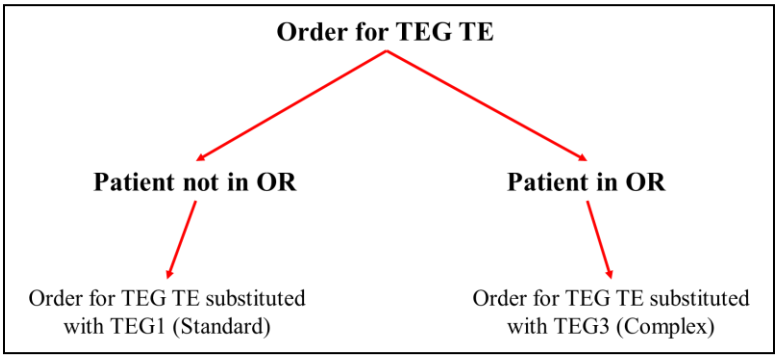
DATE: August 30, 2022

RE: Thromboelastography (TEG) 6S cartridge shortage

Due to unanticipated manufacturing problems, the UCM Coagulation Laboratory will run out of TEG 6S cartridge within the week. *This cartridge is currently used for the TEG Transfusion Evaluation (TE) package and is the most commonly ordered TEG package at UCM.*

The Haemonetics corporation has not provided us with an anticipated supply recovery time.

As of 9/1/2022 at 07:00 and until further notice, the UCM Coagulation Laboratory will convert TEG TE package orders to either a TEG1 (Standard) or TEG3 (Complex) package based on the patient's location, as illustrated below.



For questions, please contact Krzysztof Mikrut, Laboratory Manager, at 773-702-1315, or Geoffrey Wool, MD PhD, Medical Director, at 773-926-1455.

For more details on the packages and reported parameters, see supplement below.

Supplement

The UCM Coagulation Laboratory currently offers three TEG packages:

	Test name	TEG1 Standard	TEG2 Heparin	TEG Transfusion Evaluation
	Instrument	TEG 5000	TEG 5000	TEG 6S
	Availability	24/7		
	Pathologist Interpretation	IF REQUESTED		
TEG Reagents and Parameters Reported	**Kaolin**	R	R	R
		K	K	
		Angle	Angle	
		MA	MA	
		Ly30	Ly30	Ly30
	Kaolin with Heparinase		R	
			K	
			Angle	
			MA	
			Ly30	
	Rapid TEG			
				MA
	Functional Fibrinogen			FF MA

As of 9/1/2022 at 07:00 and until further notice, the UCM Coagulation Laboratory will convert TEG TE package orders to either a TEG1 (Standard) or TEG3 (Complex) package based on the patient's location. Details are below.

		TEG1 Standard	TEG3 Complex
		Used for non-OR patients	**Used for OR patients**
TEG Reagents and Parameters Reported	**Kaolin**	R	R
		K	K
		Angle	Angle
		MA	MA
		Ly30	Ly30
	Rapid TEG		R
			K
			Angle
			MA
			FFMA

	Functional Fibrinogen		FBGN

WHAT ARE THE TEG PARAMETERS?

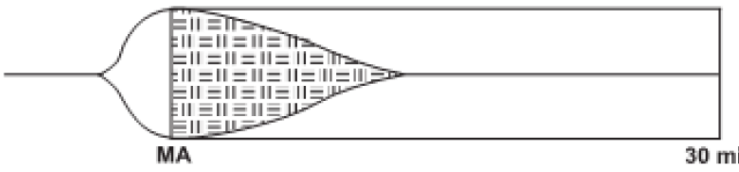
- R Time (Reaction Time): The time in minutes from the start of a sample run until the first significant levels of detectable clot formation (amplitude of 2 mm in the TEG tracing). This represents the enzymatic portion of coagulation. This is the point at which most traditional coagulation assays reach their end points.

- K Time: A measure of the speed or clot kinetics to reach a certain level of clot strength (time in minutes to reach an amplitude of 20 mm). Inversely correlates with blood fibrinogen concentration.

- Angle (α) measures the rapidity of fibrinogen conversion to fibrin resulting from thrombin production, and is heavily influenced by the fibrinogen level. It is defined as the angle in degrees above the horizontal that is formed by a straight line passing through 2 specific points on the upper envelope of the patient's tracing: those corresponding to the R and to the K time points. Positively correlates with blood fibrinogen concentration.

- MA (Maximum Amplitude). Measurement of maximum strength or stiffness (maximum shear modulus) of the developed clot in mm. Clot strength is the result of two components – the modest contribution of fibrin to clot strength and the much more significant contribution of the platelets.

- LY30: Comparing a hypothetical curve with no lysis to the actual TGE curve, this parameter measures the reduction of the area under the curve of the TEG tracing from the time MA is measured until 30 minutes after the MA, thus providing an index of fibrinolysis.



LY30 ~80% in this example

Locally Determined Adult Reference Intervals for TEG 5000 Testing (TEG#1 & TEG#3):

Normal Ranges for TEG 5000 Citrated Kaolin (CK):

R: 4.0 - 8.0 minutes
K: 1.0 – 2.1 minutes
Angle: 60.0 – 73.0 degrees
MA: 57.0 – 74.0 mm
LY30: 0.0 - 5.0%

Normal Range for TEG 5000 Citrated Rapid TEG

R: 0.2 – 0.9 minutes
K: 0.6 – 1.8 minutes
Angle: 70.0 – 82.0 degrees

MA: 57.0 – 72.0 mm

Normal Ranges for TEG 5000 Citrated Functional Fibrinogen

MA: 13.0 – 32.0 mm
Fibrinogen Level (FLEV): 250.0 – 600.0 mg/dL

TEG testing results will continue to be available for real-time viewing at UCMC workstations. Remote, real-time viewing of the tracing is via TEG Manager software, which can be accessed from UCMC Applications. If the TEG Manager icon is not displayed in individual users' UCMC applications menu page, they will need to fill out a SARF for access to the TEG Manager program: http://home.uchospitals.edu/tools/apps/sarf