



Normal Thromboelastography 6s Values During Third Trimester of Pregnancy

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Background

TEG 6s: measures clot viscoelasticity using a resonance method to analyze rate of fibrin clot formation

- Rapid preparation of samples
- Cartridge based
- Rapid results

Normal baseline determined from healthy, nonpregnant samples

- Physiologically normal values in pregnancy may appear abnormal
- No established reference ranges for pregnancy

Methods

- Retrospective chart review
- Women in third trimester
- Global TEG 6s for clinical or investigational purposes
- Women with coagulation disorders or on anticoagulants excluded
- Samples drawn per standard practice: venous blood sample drawn into vacutainer tubes containing a sodium citrate solution, incubated for ten minutes, 1 mL whole blood pipetted into cartridge
- Cartridge contains four assays: Kaolin TEG, Kaolin TEG with heparinase, RapidTEG, and TEG Functional Fibrinogen
- Histograms, QQ plots and Shapiro-Wilk tests performed to assess the normality of data



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Results

- 59 parturients
- Results in table
- Prior reference ranges for healthy pregnant women for TEG 5000 presented
- Manufacturer reference ranges for healthy volunteers presented

Variable	Pregnant TEG 6s (n=59)*	Pregnant TEG 5000 ³ (n=50)	TEG 6s Haemonetics Reference Ranges
R (min)	5.65 ± 0.94	7.0 ± 3.0	4.6-9.1
K (min)	0.9 [0.8-1.2]	2.0 ± 0.9	0.8-2.1
Angle (deg)	76.2 [74.3-77.3]	64.8 ± 8.6	63-78
MA CK (mm)	67.5 [65.5-68.4]	75.4 ± 5.4	52-69
MA CRT (mm)	67.9 [66.2-69.1]		52-70
MA CFF (mm)	28.2 ± 6.0		15-32
FLEV (mg/dL)	514.2 ± 110.3		278-581

* Data are presented as mean (±standard deviation) and median [interquartile range], as appropriate.



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Discussion

Limitations

- Retrospective
- Limited sample size

Conclusions

- Reaction time, Kinetic time, and Maximum Amplitude all appear to have lower reference range in TEG 6s than in TEG 5000
- Alpha angle appears to be increased compared to TEG 5000
- Normal TEG 6s ranges are important to establish given potential value of this rapid POC modality

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References

1. *Am J Hematol.* 2014; 89(2): 228-32
2. *J Thromb Haemost.* 2020; 18(8):1813-1838
3. *Anaesthesia.* 2012; 67(7): 741-747