



Evidence in focus | Publication summary

A comparison between the TEG® 6s and TEG 5000 analyzers to assess coagulation in trauma patients

Neal M, et al. *J Trauma Acute Care Surg* (2019)*

Key takeaways



Confirmation of agreement between TEG 6s and TEG 5000 with close correlation demonstrated ($\rho > 0.9$)



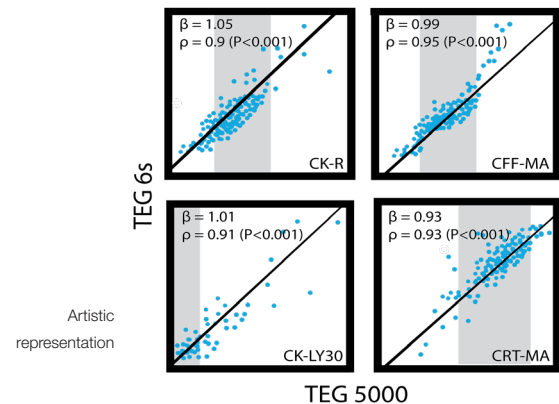
The TEG 6s device appears to be highly reliable for use in trauma patients

Overview

The American College of Surgeons ACS TQIP® recommends the use of thromboelastography, if available, in its guidelines for patients at risk for massive transfusion following trauma. The TEG 5000 device has been shown to be superior to conventional coagulation testing (CCT) in trauma, although it can have challenges in its operation. The multichannel, cartridge based TEG 6s has been shown to have a greater ease of use and precision compared with TEG 5000. The potential reduction in user error and increased portability represent needed advances for trauma care. However, comparison of the two technologies use in trauma had not been investigated. This multicenter (12), noninvasive, observational study, compares blood samples from 475 patients run in duplicate on both systems to assess agreement across four key assay-measurement results. The analysis focuses on the agreement between parameters, as well as on the internal replicability two measurements.

Results

- Linear regression analysis demonstrated strong reliability between the first replicate of the TEG 6s system and the mean of two replicates of the TEG 5000 system with regression line slope estimates (β) and linear correlation estimates (ρ).
- Overall within-device repeatability was excellent for all measurements and the device replicability, suggests that the TEG 6s appears to be generally more consistent than TEG 5000 analyzer.



Conclusion

Pearson linear correlation coefficient estimates were above 0.9 for all measurements compared. Validation of the TEG 6s device for use in trauma represents an important advance in viscoelastic testing and trauma care. The improved platform may allow for broad utilization of the device by health care professionals beyond laboratory technicians.

“The TEG 6s device appears to be highly reliable for use in trauma patients, with close correlation to the TEG 5000 device and equivalent/improved within-device reliability. Given the potential advantages of using the TEG 6s device at the site of care, confirmation of agreement between the devices represents an important advance in diagnostic testing.”

Acknowledgements - Funding: The study and data analysis were funded by Haemonetics. Drs. Neal, Moore, nor any of the co-authors received payment from Haemonetics for efforts associated with the article. The manuscript was drafted by Dr Neal, with support from Dr Moore and Dr Hartmann (Haemonetics).

* Neal M., et al. A comparison between the TEG 6s and TEG 5000 analyzers to assess coagulation in trauma patients *J Trauma Acute Care Surg* 2019;88(2):279-285. Available at: https://journals.lww.com/jtrauma/Fulltext/2020/02000/A_comparison_between_the_TEG_6s_and_TEG_5000.9.aspx