

# Zoom appears to cause malfunction of the TEG®5000 Thromboelastographic Hemostasis Analyser System when co-installed

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## ABSTRACT

The use of a single device to display thromboelastogram results and a Zoom telecommunications channel may result in an error in the processing of the blood sample. We used a single personal computer to display blood samples processed by the TEG® 5000 Thromboelastograph Hemostasis Analyser System, while using the same personal computer to host a Zoom meeting. A flat line was produced by the sample; however this did not correlate with the clinical scenario or with simultaneous laboratory coagulation results. We hypothesize that there is an incompatibility in running Zoom and the TEG® 5000 Thromboelastograph Hemostasis Analyser System together, and this may be due to the use by both applications of Microsoft's dynamic-link library.

**Keywords:** Point-of-care systems; COVID-19; Thromboelastography; Telecommunications; Quality Control; software.

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## INTRODUCTION

We would like to share our experience of an apparent malfunction of the TEG®5000 Thromboelastograph Hemostasis Analyser System (TEG®5000) used in our operating department, and to alert our colleagues to the potential interaction between the Zoom videoconference platform software and TEG®5000.

Due to the requirements to minimise movement in and out of our department's COVID-19-dedicated operating theatre, communication between the clinical team inside the operating theatre and the support team outside the theatre was facilitated by an open 'Zoom' telecommunications channel. As in many clinical areas, the availability of information technology equipment is limited in our operating department. Thus, the Zoom application was installed on the same personal computer (PC) as is used for the TEG®5000 to display its results. Our software is 'Teg V4.2' as supplied by Haemoscope and installed locally on the PC.

Quality control (QC) of the TEG®5000 instrument involves daily electronic quality control (QC) and weekly liquid QC (which mimics a patient sample). On the morning of our software malfunction, an electronic QC was performed followed by a liquid QC. Both sets of results were as expected. A 'Zoom' session was not initiated prior to running the electronic and liquid QC.

Following this, a patient who was suspected of being COVID-19 positive was cared for in the dedicated theatre. Zoom was opened on the aforementioned PC and used for communication during this case, and a blood sample was processed with TEG®5000 for this patient. The TEG appeared to malfunction – showing a continuous flat line. Laboratory coagulation tests sent at the same time as the thromboelastograph sample did not correlate with the flat line shown on TEG®5000 analysis. The flat line result produced by the TEG®5000 was thus assumed by clinical staff to be a spurious result and the theory of the TEG®5000 malfunctioning due to the concurrent use of the PC for Zoom was proposed. As a result, our point of care engineers rebuilt the PC, reloaded Windows TEG®5000 software and removed the Zoom software. An additional PC was installed in our department for use with Zoom. Since this time, the same TEG®5000 machine has run without issue.

We have contacted the TEG®5000 vendor (Haemonetics) and explained this occurrence. To date, we have had no response from them. The QC sample was normal – most likely because although Zoom had been installed it had not yet been opened on this PC. We hypothesize that this incompatibility may be due to the use by both TEG®5000 and Zoom of Microsoft's dynamic-link library. Dynamic-link library is Microsoft's module that contains functions and data that can be used by other applications; it is a means of modularizing applications that also reduces memory overhead.

Resources are limited in healthcare settings internationally. We are certain that our experience may well be repeated elsewhere, with concurrent use of one PC for two such commonly used applications - TEG®5000 and Zoom. We wish to publicize our experience in order to prevent misinterpretation of a spurious thromboelastograph result in other critically ill patients. We would caution our colleagues against installing Zoom on the same PC as TEG®5000. Additionally, it would be prudent for medical laboratory personnel to always open any newly installed software or applications prior to running quality control samples in order to prevent a repeat of our experience.

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