Evaluation of platelet function can be of clinical importance, particularly in patients undergoing surgery who have a history of significant bleeding. The bleeding time has been used in the past as a screening test for platelet function and von Willebrand disease (vWD). It is invasive, poorly reproducible and, in recent times, has been found not to correlate with patient bleeding. Bleeding time testing is no longer offered.

The PFA-100 is a new generation platelet function analyser which replaces the bleeding time as a more sensitive and rapid screening test for the evaluation of platelet dysfunction and vWD. The PFA-100 does not replace traditional platelet aggregation testing or von Willebrand studies, but can be used in conjunction with it in the investigation of patients with a suspected inherited or drug-induced platelet function disorder and vWD. Such drugs include aspirin and NSAID.

The PFA-100 is particularly sensitive to aspirin-induced platelet dysfunction. It is therefore useful in pre-operative evaluation of patients or monitoring compliance of patients on aspirin. However, PFA-100 is not specific for any disorder. Further diagnostic testing may be required.

Platelet Function Analysis can be requested alone or together with a coagulation screen.

Please note PFA-100 analysis must be tested within 4 hours and is only offered in certain locations.

**Principles of the test**

The PFA-100 test uses a high shear flow system to simulate in vitro the conditions to which platelets are subjected at the site of a damaged blood vessel wall. A sample of whole blood is passed through an aperture in a biochemically active membrane under high shear stress conditions. As happens in vivo, platelets adhere and aggregate across the aperture until the flow of blood ceases. The PFA-100 measures this as Closure Time.

**Clinical applications**

- Investigation of patients with a suspected bleeding disorder
- Pre-operative screening of haemostasis
- Screening for aspirin-induced platelet dysfunction
- Screening for vWD disease.

**References**
