

Platelet function analysis

Platelet function analysis (PFA) can be used as an initial screening test for investigating platelet dysfunction.

A whole blood sample is passed under high shear stress through a small aperture in a biochemically active cartridge.

There are two test cartridges currently available:

- collagen/epinephrine (COL/EPI) and
- collagen/adenosine (COL/ADP)

As happens with a cut in the skin, platelets adhere and aggregate across the aperture, eventually closing it and stopping the flow of blood.

The PFA test measures this closure time (CT) in seconds.

The CT can be interpreted as normal or prolonged.

Interpretation of PFA results

COL/EPI CT: Normal; COL/ADP CT: Normal
Normal, severe disease excluded

COL/EPI CT: Prolonged; COL/ADP CT: Normal
Von Willebrand disease
Platelet dysfunction including drug-induced platelet dysfunction (e.g. aspirin, NSAIDs)

COL/EPI CT: Prolonged; COL/ADP CT: Prolonged
Von Willebrand disease
Platelet dysfunction including drug-induced platelet dysfunction

Limitations

The PFA is useful only as an initial screening test – the results are not specific enough for definitive diagnosis.

Abnormal results will require follow-up diagnostic testing, which could include von Willebrand disease assays and/or formal platelet aggregation studies, as well as clinical correlation.