

Blood clotting

- It's a defence mechanism

Blood clotting prevents this dangerous loss of blood occurring in addition to blocking pathogens invading the cut and infecting the body.

Cascade of events is triggered- One signal event sets off a whole sequence of reactions leading to an important outcome. So damaged blood vessels leads to protein fibres trapping red blood cells to form a clot through numerous events.

Platelets (disc shaped) collect at site (formed in bone marrow as well as red/white blood cells), circulate in body, suspended in plasma. Have a sac of cytoplasm rich in vesicles (enzymes). Stick to damaged tissues, clump together. Surrounded by cell surface membrane. Change shape from sacs to flattened discs.

Collecting platelets release clotting factor- thromboplastin (protein)- released by damaged tissues at site. Causes prothrombin (soluble plasma protein) to be converted into thrombin. Converts fibrinogen into fibrin (site of cut). Red blood cells trapped in mass of fibres= blood clot

- Clotting is triggered by the abnormal conditions at the break.
- As the sequence of steps involved in clotting is complex – this is an essential fail safe mechanism (generates risk of danger/fatal blockage)

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