**HEMOSTASIS**

**Intrinsic Clotting Mechanism**
(blood contacts foreign surface)

- Blood vessel spasm
- Platelet plug formation
  - Serotonin, epinephrine
  - ADP, thromboxane A₂
  - Platelet & plasma factors activate Hageman factor (XII)
  - Ca²⁺
  - Intermediate reactions
  - Ca²⁺

**Extrinsic Clotting Mechanism**
(following tissue damage)

- Damaged tissues release thromboplastin (Ⅲ)
- Activates the enzyme Prothrombin Activator (factor X)
- Prothrombin
  - Thrombin (enzyme)
  - Ca²⁺
  - Fibrinogen
  - Fibrin threads (insoluble)
  - Blood clot formation

= Plasminogen
= Plasmin

* Circulating profibrinolysin is activated (to become fibrinolysin) at about this step and is incorporated into the clot as it is formed. This enzyme acts to breakdown fibrin threads, but the reaction is very slow.