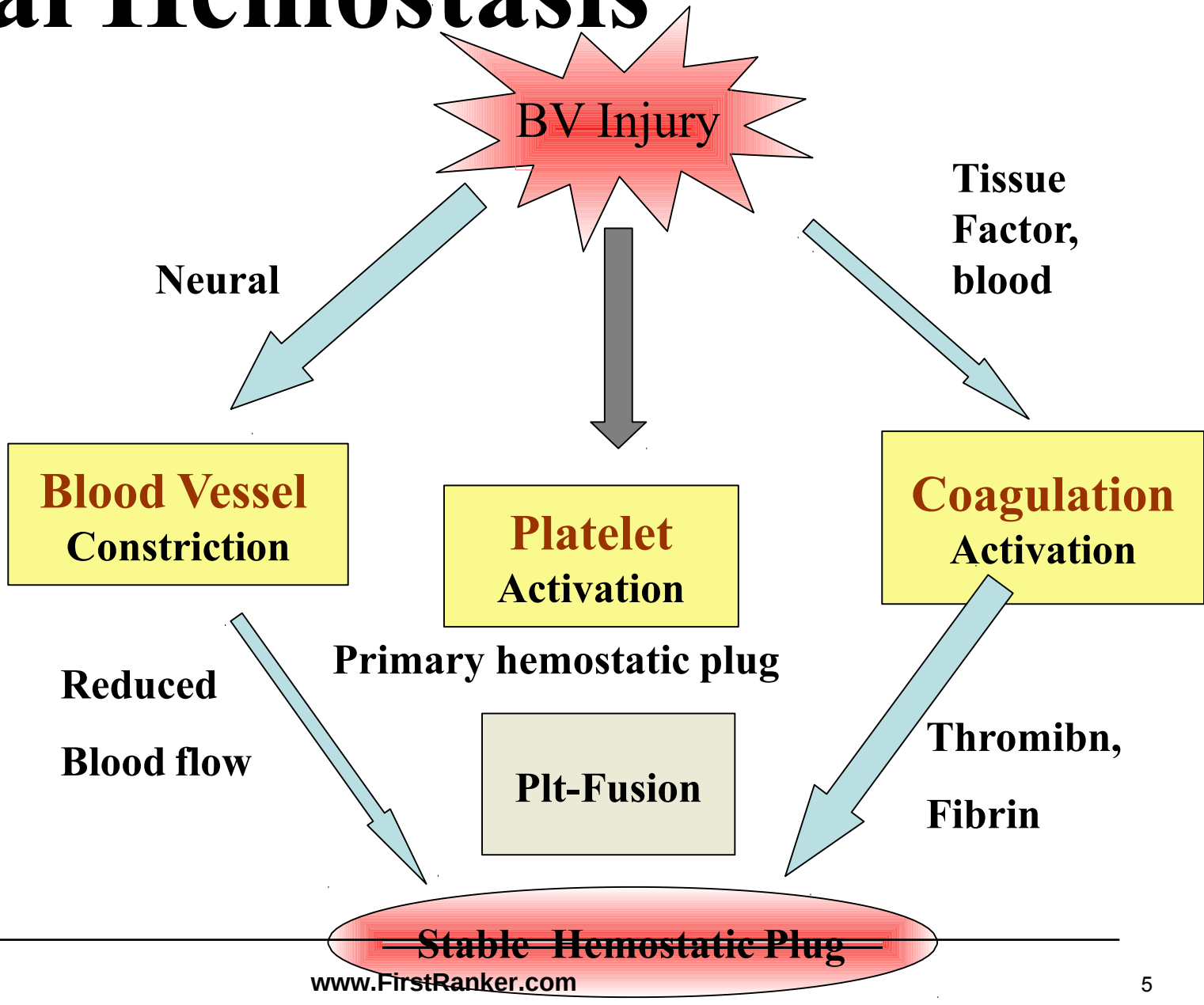
Tests of bleeding disorders

Normal Hemostasis



1. Bleeding Time

- It is the time taken from the puncture of the blood vessel to the stoppage of bleeding.
- The bleeding time test is a useful tool to test for platelet plug formation and capillary integrity.
- BT is more imp. than CT.
- CT concerns the blood only i.e. how firm the the clot is formed, whereas BT involves the interaction of blood with the injured tissues.

Duke Method

- With the Duke method, the patient is pricked with a special needle or lancet, preferably on the earlobe or fingertip, after having been swabbed with alcohol.
- The prick is about 3-4 mm deep. The patient then wipes the blood every 30 seconds with a filter paper.
- The test ends when bleeding stops. The usual time is about 2-6 minutes.

Ivy method

- Clean the anterior surface of the forearm with spirit.
- The blood pressure cuff is placed on the upper arm and inflated to 40 mmHg.
- A lancet or scalpel blade is used to make a shallow incision that is 1 millimeter deep on the anterior of the forearm.
- The time from when the incision is made until all bleeding has stopped is measured and is called the bleeding time. Every 30 seconds, filter paper or a paper towel is used to draw off the blood.
- Normal BT by this method is 3-6 minutes.

Bleeding Time

Bleeding Time

- A prolonged bleeding time may be a result from decreased number of thrombocytes or impaired blood vessels.
- Bleeding time is affected by platelet function, certain vascular disorders and von Willebrand Disease, not by other coagulation factors.
- Diseases that cause prolonged bleeding time include thrombocytopenia, disseminated intravascular coagulation (DIC).
- Aspirin and other cyclooxygenase inhibitors can prolong bleeding time significantly.

Bleeding Time

- People with von Willebrand disease usually experience increased bleeding time.
- Von Willebrand factor is a platelet agglutination protein, but this is not considered an effective diagnostic test for this condition.
- It is also prolonged in hypofibrinogenemia.
- Many experts regard the bleeding time as useless, in that it does not predict surgical bleeding.

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2. Clotting Time

- It is the time taken from the puncture of the blood vessel to the formation of a fibrin thread.
- A. Capillary Glass Tube Method : Here the blood is collected in capillary tube & total time is noted to form FIBRIN THREADS on breaking tube every 30 seconds. N : 3-8 minutes
- B. Lee & White method : Here venous blood is collected in 8 mm diameter glass tube, rocked in a water bath at 37°C & time is noted from the time of vene puncture till the blood stops flowing. N : 6-12 minutes.

Clotting Time

- Mechanism Involved is INTRINSIC Pathway.
- CT depends on presence of all clotting factors.
- It gets prolonged in :
  - 1. Deficiency of clotting factors – Hemophilia.
  - 2. Vitamin K Deficiency – Factor II, VII, IX & X.
  - 3. Anticoagulant overdose.
- BT & CT is measured before surgery & liver or bone marrow biopsy.
- PURPURA : BT increased, CT normal.
- ~~HEMOPHILIA : BT normal, CT increased.~~

Clotting Time

THANK YOU

for your attention!

- Take home message - All Bleeding stops…. Eventually