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Practical physiology

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Bleeding

- ✓ **Bleeding** means **loss of blood from damaged injured blood vessels.**
- ✓ The process of prevention of blood loss through the injured vessel is called Hemostasis.

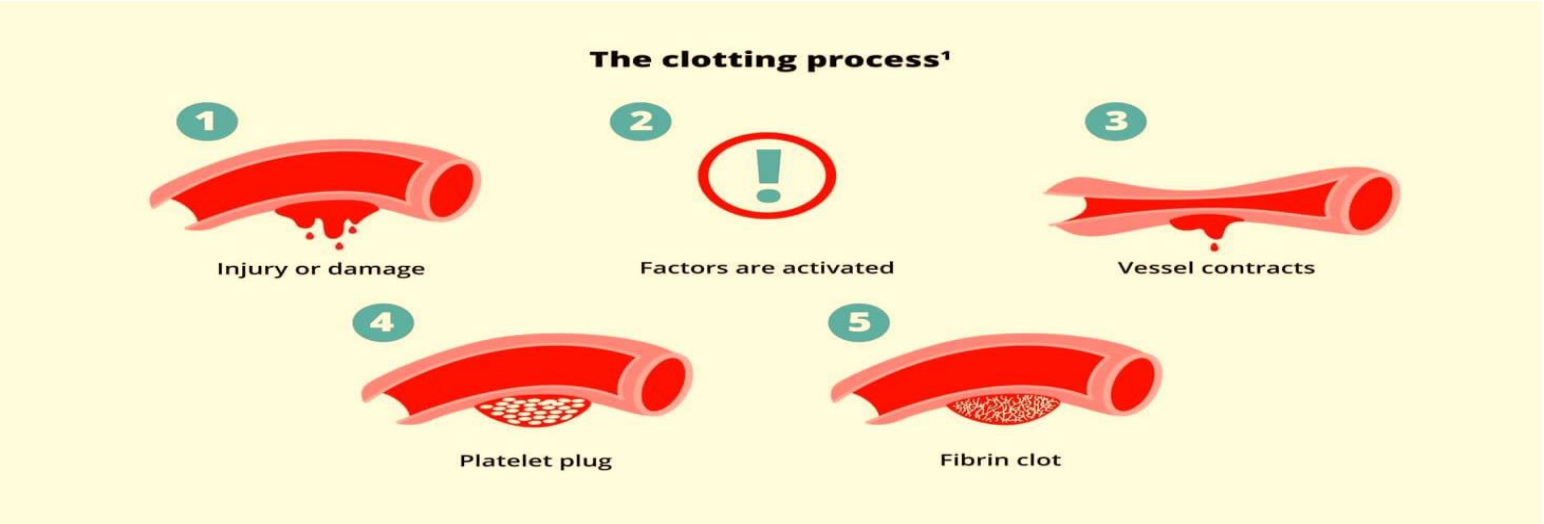
- ✓ **Hemostasis** involves a series of events which leads to clot formation and prevention of further blood loss.

Steps of blood clot formation:

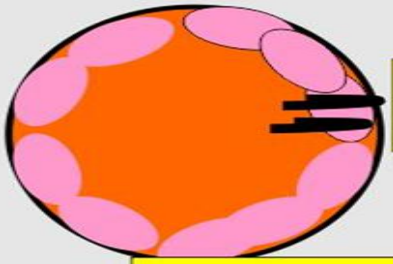
1.Vasoconstriction (contraction of injured blood vessels).

2.Platelet plug formation.

3.Formation of a blood clot.



Bleeding control mechanism



Injury to vessel

Contraction of the vessel

Adherence of the platelets

Activation of the clotting factor

Formation of the clot

Bleeding stop

Prolonged bleeding time if

1. Low platelets count
2. Inadequate pletelets function
3. Inadequate vessel contration

Bleeding Time

Bleeding Time (BT): Bleeding time is a true test of hemostasis, it indicates how well platelets interact with blood vessel walls to form blood clots. So the bleeding time is the time taken from the onset of the wound until the bleeding stops.

Purpose: Bleeding time is used to detect the defects of platelets and to evaluate their function.

Normal value:

Normal range= **1–5 minutes**

Prolonged bleeding time

1. Platelets functional disorder
2. Aspirin
3. Vessel wall defects

Experimental of the bleeding time

Two main methods are followed to estimate the bleeding time:

1. **Duke's method**
2. **The Ivy's method**

Duke's method of the bleeding time

Materials required

1. Disposable lancet
2. Clean filter papers
3. Stop watch
4. 70% alcohol
5. cotton

Procedure of Duke's method

1. Clean the tip of a finger with alcohol and let dry.
2. Puncture of finger using sterile lancet.
3. Start the stop watch at the moment of the puncture.
4. Blot the blood with the filter paper every 30 second, avoid touching the skin, move the filter paper so that each drop of blood touches a clean area.
5. When the filter paper no longer shows signs of blood, stop the stopwatch and record the time.


Made with KINEMASTER

The Ivy's method of the bleeding time

Ivy's Method

This is a more reliable method because if is done

under standard condition of pressure

Materials

1- disposable lancet

2-filter paper

3-Sphygmomanometer

4-Stop watch

5-70% alcohol

Procedure of the Ivy's method

1.clean the front surface of the forearm with 70% alcohol let to dry.

2.place a sphygmomanometer cuff around the patient upper arm and raise the pressure in the cuff to 40 mm/Ng

3. make (one, two, or three) puncture in the front surface of the forearm avoiding and blood vessels.

4.start the stop watch as soon as the puncture is made

5.Remove the drops of blood with filter paper (every 30 second) from the site of punctures and take the time of bleeding stops.

Normal Range= 1.5-4 minutes