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Lec.4

BLEEDING TIME

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BLEEDING TIME

- ▶ **Bleeding** is the loss of blood from the circulatory system, either externally (outside the body) or internally (inside the body). It can occur due to injury, surgery, or spontaneously in medical conditions affecting blood vessels or clotting mechanisms.
- ▶ **time (BT)** is the time it takes for bleeding to stop after a standardized skin incision or puncture.



Purpose of the Test

- ▶ To assess platelet function
- ▶ To screen for bleeding disorders
- ▶ To evaluate the effect of antiplatelet medications
- ▶ Sometimes used pre-operatively to assess bleeding risk



Types of Bleeding Time Tests

► There are two main methods:

1. Duke's Method

1. Older method, less accurate
2. Earlobe or fingertip is pricked
3. Blood is blotted every 30 seconds

Prosedur Waktu Pendarahan Metode Duke *Bleeding Time (BT) Duke*

Ramnik Sood (2015). *Concise Book of Medical Laboratory Technology: Methods and Interpretations*. Second Edition, Jaypee Brothers Medical Publishers (P) Ltd, Hal. 274.

Materials:

- Lancet
- Stopwatch
- Alcohol Swab
- Kertas saring
- Object glass

1. Siapkan alat & bahan
2. Bersihkan cuping telinga dengan alkohol swab dan biarkan kering.
3. Ojeck glass ditempatkan di belakang cuping telinga dan ditahan dengan kuat di tempatnya. Ini menyediakan situs yang kuat untuk sayatan.
4. Tusuk daun telinga dengan kuat pada kaca objek. Buang kaca objek jika daun telinga telah diinsisi. Nyalakan stop watch saat tusukan dilakukan.
5. Pendarahan pada luka harus dibiarkan berlangsung tanpa tekanan dan darah dibiarkan menetes di atas kertas saring. Kertas harus dipindahkan sehingga setiap tetes akan jatuh di area yang baru. Saat pendarahan melambat, luka disentuh dengan lembut dengan area baru dari kertas saring pada **interval 30 detik**. Ketika darah tidak lagi menodai kertas saring, stopwatch dihentikan dan waktu dicatat.

فيديو توضيحي

<https://youtu.be/pbQMDIPG0kY?feature=shared>

Types of Bleeding Time Tests

2. Ivy's Method (more standardized)

1. Preferred method in clinical labs
2. Blood pressure cuff applied to arm
3. Standard incision made on forearm
4. Blood is blotted every 30 seconds until bleeding stops



Ivy's Method: Equipment Required

- ▶ Blood pressure cuff
- ▶ Stopwatch
- ▶ Filter paper
- ▶ Lancet
- ▶ Alcohol swabs
- ▶ Ruler
- ▶ Gloves
- ▶ Bandage



Ivy's Method: Step-by-Step Procedure

- ▶ Apply blood pressure cuff to the upper arm and inflate to 40 mmHg.
- ▶ Clean the forearm with an alcohol swab.
- ▶ Make a standardized incision (usually 5 mm long and 1 mm deep).
- ▶ Start the stopwatch immediately.
- ▶ Every 30 seconds, blot blood with filter paper without touching the wound.
- ▶ Stop the timer when bleeding completely stops.
- ▶ Record the time in minutes and seconds.
- ▶ Apply a sterile bandage.



فيديو توضيحي

► <https://youtu.be/5aTakf2sCbl?feature=shared>



Normal Reference Values

- ▶ **Ivy's Method:** 2 – 7 minutes
- ▶ **Prolonged BT may indicate:**
 1. Thrombocytopenia
 2. Platelet function disorders
 3. von Willebrand disease
 4. Use of antiplatelet drugs



Factors Affecting Bleeding Time

1. Room temperature
2. Site of puncture
3. Depth and size of the wound
4. Cuff pressure
5. Skill of the examiner
6. Platelet count and function
7. Medications (aspirin prolongs BT)

