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|---------------------|------------------------------------|
| Platelet Function   | Qualitative platelet abnormalities |
| Platelet Count      | Thrombocytopenia                   |
| Platelet Morphology | Bernard-Soulier Syndrome           |

Bleeding time is dependent on:

1. Elasticity of the skin and capillary bed
2. Efficiency of the tissue fluids
3. Mechanical and chemical action of thrombocytes

| Two Methods Under Bleeding Time                                                                      |                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| DUKE METHOD                                                                                          | IVY METHOD                                                                                                                                      |
| Uses <b>lancet</b>                                                                                   | Uses a blood pressure cuff or <b>sphygmomanometer</b> (40mmHg)                                                                                  |
| <b>Earlobe and finger</b>                                                                            | Two separate cuts in the forearm <b>5 cm below</b> the fold of the elbow                                                                        |
| A drop of blood is blotted on to the filter paper <b>every 30 seconds</b> until blood ceases to flow | A drop of blood is blotted on to the filter paper <b>every 30 seconds</b> until bleeding stops                                                  |
| Not recommended because it is not precise or accurate                                                | The length of time for the bleeding to stop is recorded as the bleeding time                                                                    |
| Materials Needed                                                                                     |                                                                                                                                                 |
| 70% alcohol<br>Filter paper<br>Stop watch<br>Lancet<br>Cotton                                        | 70% alcohol<br>Filter paper<br>Stop watch<br>Lancet<br>Cotton<br><b>Sphygmomanometer</b>                                                        |
| Procedure                                                                                            |                                                                                                                                                 |
| Disinfect <b>3<sup>rd</sup> and 4<sup>th</sup> fingers</b> with 70% alcohol                          | Disinfect <b>forearm</b> with 70% alcohol                                                                                                       |
| Puncture using <b>sterile lancet</b>                                                                 | Position <b>sphygmomanometer</b> in the upper arm inflated at <b>40mmHg</b> and make two separate cuts usually 5-10cm apart in quick succession |

|                                                               |                                                       |
|---------------------------------------------------------------|-------------------------------------------------------|
| Start the timer once blood is seen                            | Start timer once blood is seen                        |
| Blot blood using filter paper <b>every 30 seconds</b>         | Blot blood using filter paper <b>every 30 seconds</b> |
| Stop the timer once blood does not appear on the filter paper | Stop the timer once blood ceases to flow              |
| Perform after care to the patient                             | Perform after care to the patient                     |
| Record the bleeding time                                      | Record the bleeding time                              |
| <b>NV: 1-5 minutes</b>                                        | <b>NV: 2-9 minutes</b>                                |

| Three Modifications of Ivy Method                                                                                                     |                                                                                                        |                     |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------|
| Mielke Method                                                                                                                         | Simplate Method                                                                                        | Surgicutt Method    |
| Aka Template bleeding time<br>Uses a template containing a standardized slit in place of a disposable lancet<br>9mm long and 1mm deep | Contains spring-loaded blade within a plastic case which holds a double blade<br>5mm long and 1mm deep | Uses surgical blade |

| Factors Affecting Bleeding Time                                         |                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Inter-capillary pressure                                             | <ul style="list-style-type: none"> <li>Usually affect Duke Method</li> </ul>                                                                                                                                                                        |
| 2. Size and depth of the wound                                          | <ul style="list-style-type: none"> <li>Depends on the age.</li> <li>For children and adults: 2.4mm-3mm</li> <li>For infants: 1.6mm</li> <li>Too deep leads to prolonged bleeding time</li> <li>Too wide leads to prolonged bleeding time</li> </ul> |
| 3. Efficiency of the tissue fluids in accelerating the clotting process | <ul style="list-style-type: none"> <li>Tissue factors increases clotting process</li> </ul>                                                                                                                                                         |
| 4. Thickness and vascularity of the skin                                | <ul style="list-style-type: none"> <li>Avoid scaly sites</li> </ul>                                                                                                                                                                                 |
| 5. Chemical and mechanical actions of platelets                         | <ul style="list-style-type: none"> <li>Number of platelets reflects the bleeding time.</li> </ul>                                                                                                                                                   |