

Chernecky & Berger: Laboratory Tests and Diagnostic Procedures, 5th ed.

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Bleeding Time, Ivy—Blood

Norm.

1–9 minutes. Panic range: >15 minutes. Shorter in men than in women, and shorter in clients more than 50 years of age.

Increased.

Anemia (aplastic, pernicious), collagen diseases, congenital heart disease, disseminated intravascular coagulopathy, drug sensitivity, ethyl alcohol ingestion along with aspirin ingestion, factor deficiency (I, II, V, VII, VIII, IX, XI), fibrinolytic activity, Glanzmann's disease, hemorrhagic disease of the newborn, Hodgkin's disease, hypothyroidism, idiopathic thrombocytopenic purpura, infections (measles, mumps, streptococcal), leukemia (acute), liver disease (severe), mononucleosis (infectious), multiple myeloma, purpura hemorrhagica, scurvy, thrombasthenia, thrombocytopathy, thrombocytopenia purpura (secondary because of allergy), von Willebrand's disease, and uremia. Drugs include anticoagulants (oral), indomethacin, ketorolac, phenylbutazone, and platelet aggregation inhibitor drugs (aspirin, clopidogrel, eptifibatide). Herbs or natural remedies that may inhibit platelet activity include feverfew (*Tanacetum parthenium*), *Ginkgo biloba*, garlic, ginger, and ginseng.

Decreased.

Not clinically significant.

Description.

The duration of active bleeding from superficial incisions of the skin is measured. It is most helpful as an indicator of platelet abnormality, either in their number or from their function. This method is more sensitive than the Duke bleeding time because a blood pressure cuff is used to increase venous pressure and ensure capillary filling without interfering with venous return.

Professional Considerations

Consent form NOT required for most labs.

Risks

Bleeding, hematoma, infection, ecchymoses, scar, or keloid formation.

Contraindications

This test is contraindicated in clients who require upper-extremity restraints, have edematous or very cold arms, or are prone to keloid formation. It should not be performed if there are contraindications to placing or inflating a blood pressure cuff on the arm (casts, rash, dressings, arteriovenous fistula). Other contraindications include platelet count <50,000/mm³, severe bleeding disorders, skin infectious diseases, and senile skin changes or if the client has taken medications containing acetyl groups within 7 days before the test.

Preparation

1. See Client and Family Teaching .

2. Obtain a blood pressure cuff, a manometer, alcohol wipes, a stopwatch, a lancet, and filter paper.
3. Screen client for the use of herbal preparations or natural remedies such as feverfew (*Tanacetum parthenium*), *Ginkgo biloba*, garlic, ginger, and ginseng.

Procedure

1. Cleanse the volar aspect of the forearm with an alcohol wipe and allow it to dry completely. Choose a site with no superficial veins.
2. Place the blood pressure cuff on the upper arm and inflate it to 40 mm Hg.
3. Make two small incisions or puncture wounds 2–3 mm deep with the lancet on the site that was cleansed with alcohol. Start timing with the stopwatch.
4. Remove blood from the wounds by gently blotting with filter paper, without exerting pressure on the wound, every 30 seconds.
5. When the blood flow ceases, stop timing with the stopwatch. If bleeding continues for more than 20 minutes, discontinue the test and apply pressure to the site.
6. Calculate the bleeding time by averaging the bleeding time of both incisions.

Postprocedure Care

1. If the bleeding time is normal, apply a dry dressing to the site. If the bleeding time is prolonged, apply a pressure bandage to the site.

Client and Family Teaching

1. Do not take aspirin for 7 days before the test.
2. Call the physician if there are signs of infection at the test site: increasing pain, bleeding, redness, swelling, purulent drainage, or temperature >101 degrees F (>38.3 degrees C).
3. Results are normally available within 24 hours.

Factors That Affect Results

1. A uniform incision is difficult to make without considerable skill.
2. Pressing too hard on the blood with the filter paper disturbs the platelet plug and prolongs bleeding time.

Other Data

1. The depth of the puncture with the lancet is difficult to standardize and results in difficulty reproducing bleeding times.
2. Healthy pregnant women given 75 mg of aspirin for 2 weeks have an increased bleeding time by Ivy tests.
3. Nitric oxide does not affect IV bleeding time.

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