Any laboratory involved in the diagnosis and treatment of bleeding disorders employing some or all of the techniques described in this manual will require a minimum of basic equipment. Note that evaluation and use of semi-automated and fully automated coagulometers are dealt with in Section 41.

**THE BASIC EQUIPMENT REQUIREMENTS ARE:**

- A 4°C refrigerator for reagent storage
  Reagents should normally be maintained at 2°C–8°C unless otherwise stated by the manufacturer. A good-quality domestic-grade unit may be adequate.

- A deep freeze able to maintain at least -35°C
  A lower temperature, such as -70°C, is useful for more prolonged storage. Clotting factors are stable at this temperature for at least six months (Woodhams et al., 2001). Freezers of -20°C are typically inadequate for storage of plasmas and reagents for many tests of hemostasis. Freezers with an auto defrost cycle are completely unsuitable.

- Regulated water bath(s) capable of maintaining temperatures of 37°C ± 0.5°C
  Dry hot blocks may or may not be suitable, depending on the unit. Temperature is normally better maintained in a water bath.

- A pH meter

- A light source (for example, an Anglepoise lamp)

- Stopwatch(es)

- Calibrated automatic pipettes capable of accurate and precise delivery of sample and reagent volume in the range of 0 µl–200 µl and up to 1000 µl
  It is important that the accuracy of these is checked (see Section 2).

- A calibrated pipette for delivery of liquid volumes up to 5 ml

- A centrifuge capable of generating at least 1700 g
  For most coagulation analyses, centrifugation at room temperature (20°C–25°C) is acceptable. (In some techniques, 2500 g and centrifugation at 4°C are recommended.)
• A calibrated analytical weighing scale/balance capable of accurate measurement of grams to three decimal places. See Section 2 for a procedure to check accuracy.

Additional equipment is required for some procedures, including:
• a microtitre plate reader for enzyme-linked immunosorbent techniques (ELISA)
• a platelet aggregometer
• equipment specified on particular method sheets.

Air conditioning in each room is a great advantage in countries where temperatures are high.

There should be an adequate supply of consumables. Re-use of laboratory test tubes and pipette tips after washing should be avoided, since residual material can adversely affect results, causing wastage of reagents and time.

REFERENCE