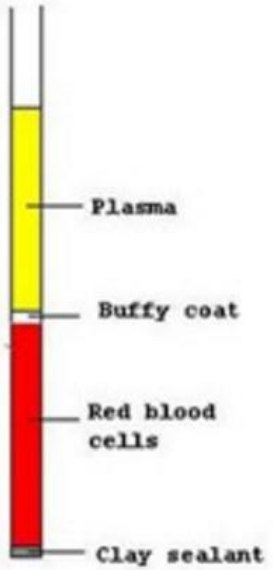
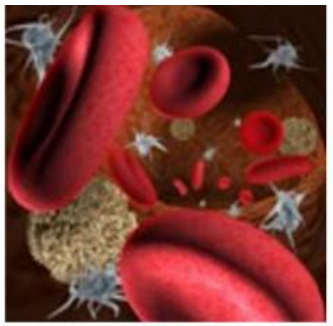
Microhematocrit Determination

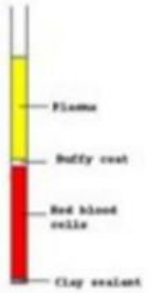


CTAE

Microhematocrit

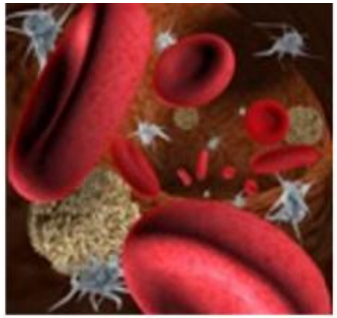


- Hematocrit
  - — Test that provides a health care worker with an estimate of the patient's red cell volume.
  - — Remember that the RBCs determine a person's oxygen capacity.
  - — A hematocrit measurement is used to screen for anemia, blood donation, evaluating therapies and treatment, as well as assessing blood loss.

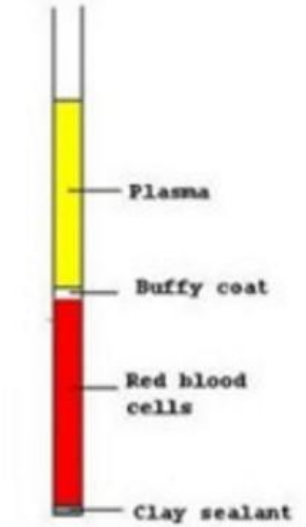


- A hematocrit can be measured manually (microhematocrit) or by using a hematology analyzer.
- A hematocrit is included as part of a CBC (complete blood count).

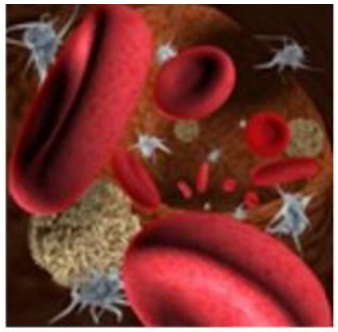
Microhematocrit



- Microhematocrit
  - — Test involves only a small amount of blood.
  - — The test uses the separation of cellular components by centrifugation.
  - —Whole blood is centrifuged in a capillary tube.
  - — Red cells settle at the bottom with the buffy coat (WBCs and PLTs) resting just above the RBCs.
  - — The remaining liquid is plasma.
  - — The microhematocrit is determined by comparing the volume of RBCs to the total volume of the whole blood sample.
  - — This number is expressed in a percentage.
  - — A microhematocrit is also known as a crit or Hct.



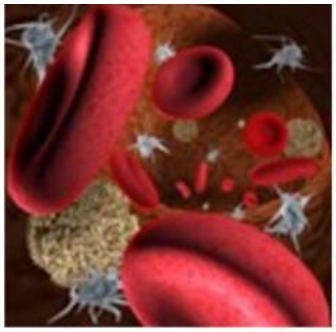
Microhematocrit Equipment/Reference Values



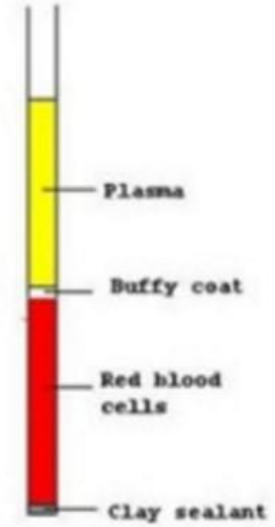
- Microhematocrit Equipment
  - — Microhematocrit centrifuge
  - — Microhematocrit tubes
  - —Capillary stick supplies

- Hematocrit Reference Values
  - — Like hemoglobin, hematocrit values differ based on age and gender.
  - — Adult males range from 42-52 %
  - — Adult females range from 36-48 %
  - — Newborns range from 51-61 %

Microhematocrit Reference Values

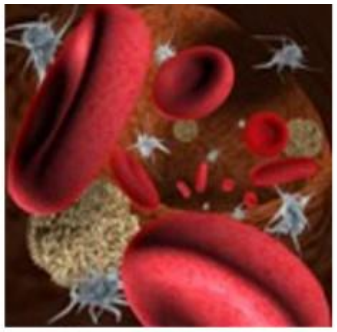


- Hematocrit Values
  - — Hematocrits below normal can point to……
    - ✓ Anemia
    - ✓ Current bleeding
  - — Hematocrits above normal can point to…..
    - ✓ Dehydration
    - ✓Polycythemia



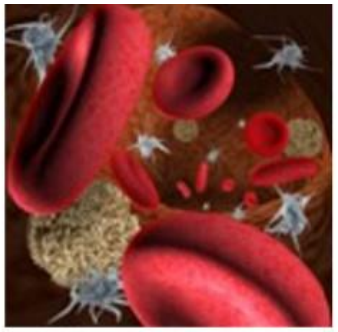
- In a healthy person the hematocrit should be equal to the hemoglobin multiplied by 3.
- Example: If you have a hemoglobin of 15 g/dL your hematocrit should be around 45%.

Performing a Microhematocrit



- Performing a Microhematocrit
  - — The sample of blood can be collected from a capillary puncture or from an EDTA tube collected from a venipuncture.
  - — Capillary blood should be collected into a heparinized capillary tube.
  - — All blood needs to be mixed thoroughly.
  - — Clay can be used to seal the capillary tube or self sealing tubes can be used instead.
  - — Sealed tubes need to be centrifuged in a microhematocrit centrifuge.

Reading a Microhematocrit



- Reading a Microhematocrit
  - — You can determine the percent of RBCs in the sample by using a microhematocrit reader.