

# Understanding Blood Tests & Blood Diagnostics

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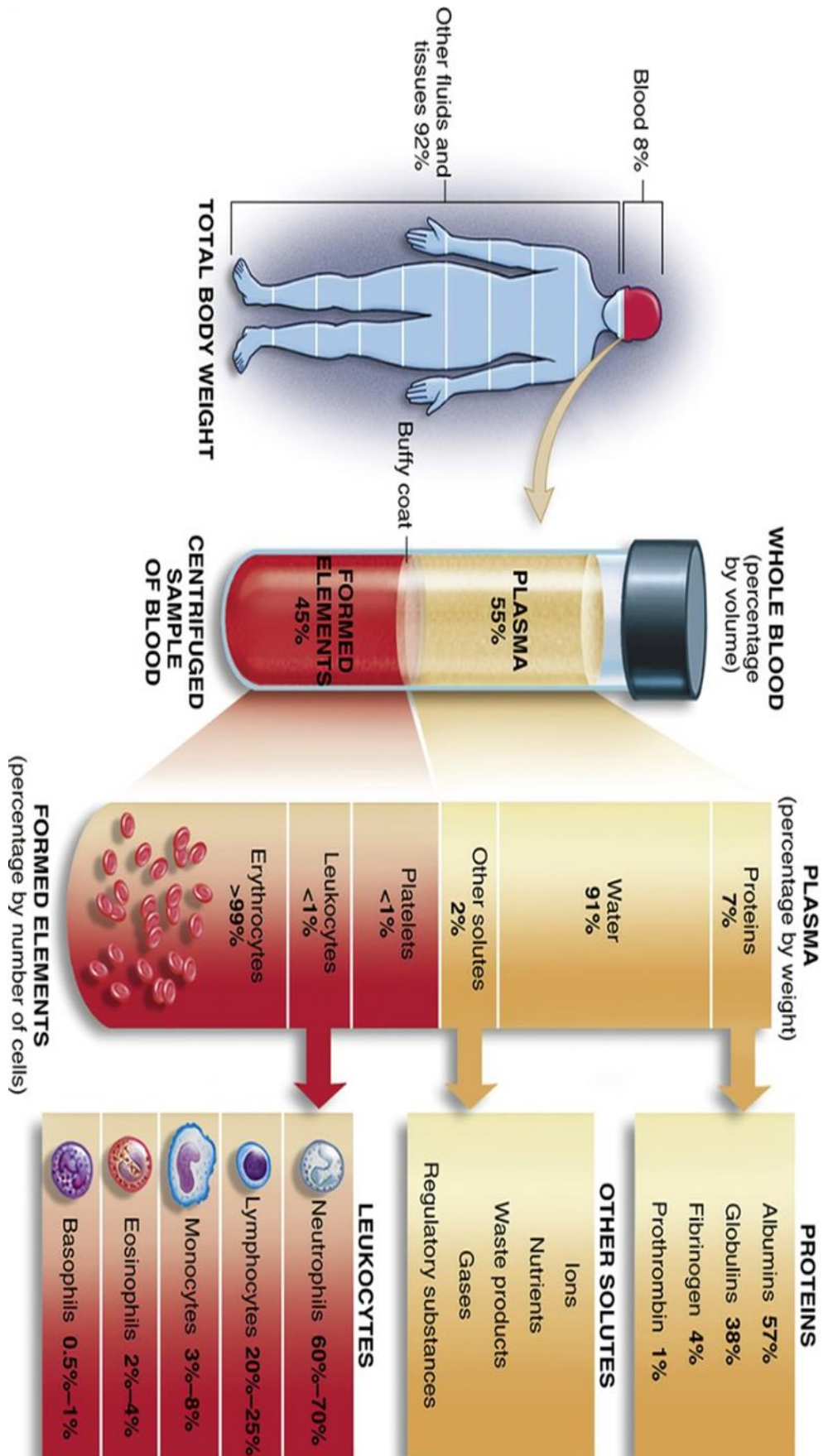
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## Aims & Objectives

- Clarification of terminology
- Understanding of blood components
- Medical reasons behind the blood tests
- Why the blood tests are important

## Blood Physiology

- The Haematologic System is made up of the Blood, the Spleen, Bone Marrow, and the Liver.
- Haematology is the study of blood. and all its components.
- Blood delivers oxygen and nutrients to all tissues, removes wastes, and transports gases, blood cells, immune cells, antibodies, and hormones throughout the body.
- The Haematological system manufactures new blood cells through a process called Haematopoiesis



## Why use a blood test?

- Allows the clinician to get a overall view of your physical well-being.
- Shows how different organs within your body are working
- Used as a marker for disease progression and a variety of health conditions e.g. Diabetes, Cancer & Heart disease
- Can be used to diagnose if a person is a risk of developing a condition hereditary or otherwise
- Can be used to aid in the prevention of the development of long-term conditions
- Checks to see if medications are working properly

## Common tests & abbreviations

- Full Blood Count .....
- Red Blood Cells .....
- White Blood Cells .....
- Platelets .....
- Haemoglobin .....
- Haematocrit .....
- Urea & Electrolytes .....
- Liver Function Tests .....

## Normal Parameters of routine tests

## Abnormal levels what they show

### Mini Quiz questions –

1. What does RBC mean?
2. What does Hb stand for?
3. Meaning of U & E's?
4. What is an FBC?
5. Name one reason for a blood test?

## Basal Metabolic Panel (BMP)

## Women's Health Bloods

## Comprehensive Metabolic Panel - CMP

### Mini Quiz

1. Name one of the components a BMP checks for
2. What can an abnormal level of blood urea indicate
3. Name one test that can be used in blood testing for diabetes
4. In women's health name one hormone that can be tested in the blood
5. A high level of Alkaline Phosphate (ALP) can indicate what potentially

## Cholesterol – HDL/LDL

## Thyroid Function Tests

## Cardiac Biomarkers – leave a gap for notes

### Mini Quiz

1. Is HDL a good or bad lipid in cholesterol testing
2. What could a high level of Triglycerides show
3. Name one function of the Thyroid gland
4. What could an abnormal level of Thyroid hormones indicate
5. Creatine Kinase (CK) can be in your blood following injury to what within your body



## Sexually Transmitted Diseases (STI's)

## Coagulation Blood Tests

## DHEA Sulfate Serum Tests

## C- Reactive Protein Tests – CRP

### Mini Quiz

1. What does a coagulation test monitor
2. What could a high level of DHEA – sulfate serum test show in women
3. What could a high level of DHEA- sulfate serum test show in men
4. Where is the C-reactive protein made
5. What could a C-reactive protein test indicate

## References & Further Reading

- [en.wikipedia.org/wiki/Reference ranges for blood tests.](https://en.wikipedia.org/wiki/Reference_ranges_for_blood_tests)
- Brunner and Suddarth's Text of Medical Surgical Nursing.
- Cardiovascular, Circulatory & Haematologic Function. Twelfth Edition, pp. 908. Lippincott, Williams & Wilkins: PA.
- J.H Green Basic Clinical Physiology 3<sup>rd</sup> edition.