



قسم تقنيات الاشعة
المرحلة الاولى
المحاضرة الخامسة
فسلجه عملي

* Red blood cell count RBCS

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* A red blood cell count

- * A red blood cell count/ is a blood test that tells you how many red blood cells (RBCs) you have.
- ** Other name /erythrocyte count.
- ** Red blood cells contain a substance called haemoglobin, which transports oxygen around the body.
- ** The amount of oxygen that's delivered to your body's tissues depends on the number of red blood cells you have

* normal range for an RBC count?

- *** The normal RBC range for men is (4.7 to 6.1) million cells per microliter (mCL).
- *** The normal RBC range for women (is 4.2 to 5.4) million/ microliter mCL.
- *** The normal RBC range for children is (4.0 to 5.5) million/ microliter mCL.

*Purpose of test

- *1. The test is almost always a part of a complete blood count (CBC) test
- *2. RBC count can be used to help diagnose blood-related conditions, such as iron deficiency anaemia (where there are less red blood cells than normal).

* Factors affecting R.B.C number

* Physiological factors

- * 1. Age, gender, activity, nutrition, pregnancy and lactation.
- * 2. In very high areas, the number of R.B.C increases due to the lack of oxygen

* Pathological factors

- * 1. Anemia.
- * 2.. Leukemia
- * 3. Erythropoietin hormone disorder
- * 4. Polycythaemia red blood

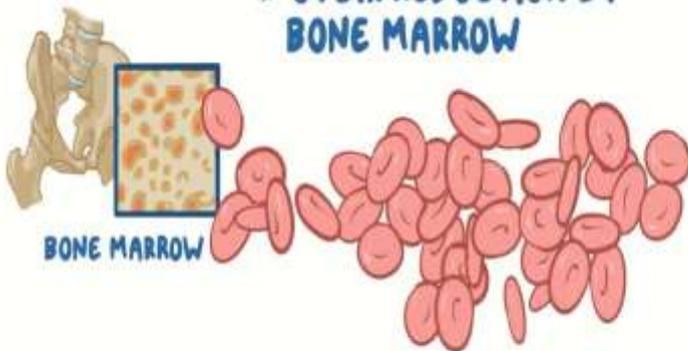
* Polycythaemia

- * Polycythaemia/ is an increase in the number of red blood cells as a result of infection of the bone marrow with cancer, which stimulates it to produce red blood cells, and its symptoms include redness of the face

POLYCYTHEMIA VERA

* INCREASED BLOOD CELL LEVELS

* OVERPRODUCTION BY BONE MARROW



*Material

- * 1. Haemocytometer
- * 2. Red blood cells pipette
- * 3. Isotonic diluting fluid(**Hayem's Fluid**)
- * 4. Lancet,
- * 5. blood
- * 6. cotton
- * 7. alcohol

*Hayem's Fluid

- * Hayem's Fluid) / isotonic to the Red blood cells and does not cause any damage to it.
- * which preserve and fix the Red blood cells.
- **The composition of Hayem's diluting Fluid:**

COMPONENTS	QUANTITY
Mercuric Chloride	0.25 grams
Sodium sulfate	2.5 grams
Sodium chloride	0.5 grams
Distilled water	100 ml

* Purpose of Hayem's Fluid)

- * 1. The benefit of using this solution is that it is a neutral solution that dilutes the blood and prevents its dissolution and prevents the phenomenon of sedimentation
- * . 2. Sodium sulfate / has an effect on preventing coagulation
- * . 3. Mercury chloride / is considered as an Acts as antiseptic sterilizer

pipete of red blood cell



Hayem's Fluid



* haemocytometer chamber



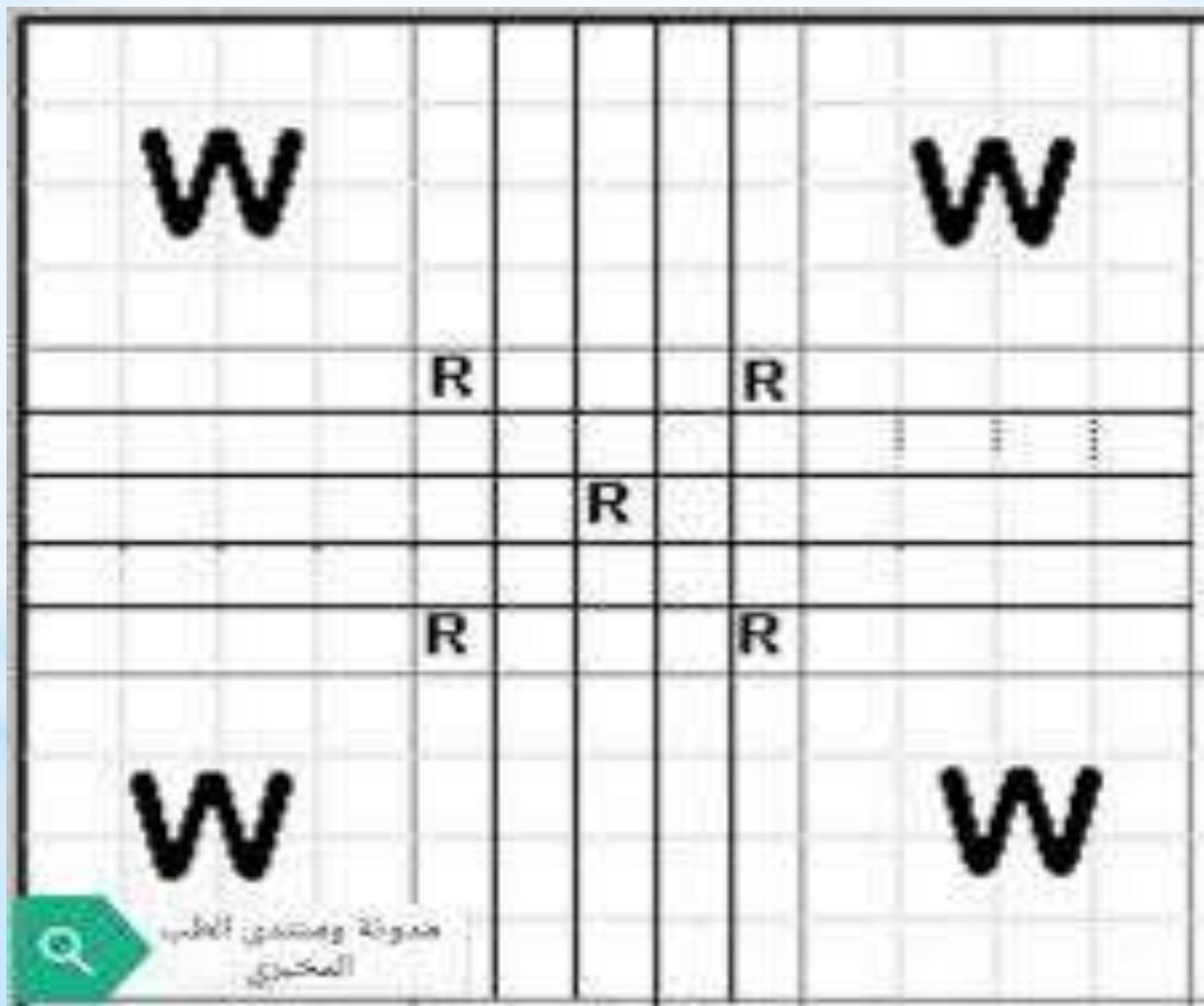
* procedure

- * 1. Take 3.98 ml of RBC diluting fluid in a Clean, Dry Test tube.
- * 2. add 20 μ l of Blood Specimen to the tube containing diluting fluid.
- * 3. Mix well for few minutes and ready your Hemocytometer / Neubauer's Chamber
- * 4. put cover slide on Neubauer's Chamber
- * 5. put sample of mixing fluid on Neubauer's Chamber
- * 6. under microscope count red blood cell (Calculate the five squares of the center square for counting red blood cells)
- * 7. write reported

*calculate

Sum of 5 squares x 10000

=N x 10000



W

W

R

R

R

R

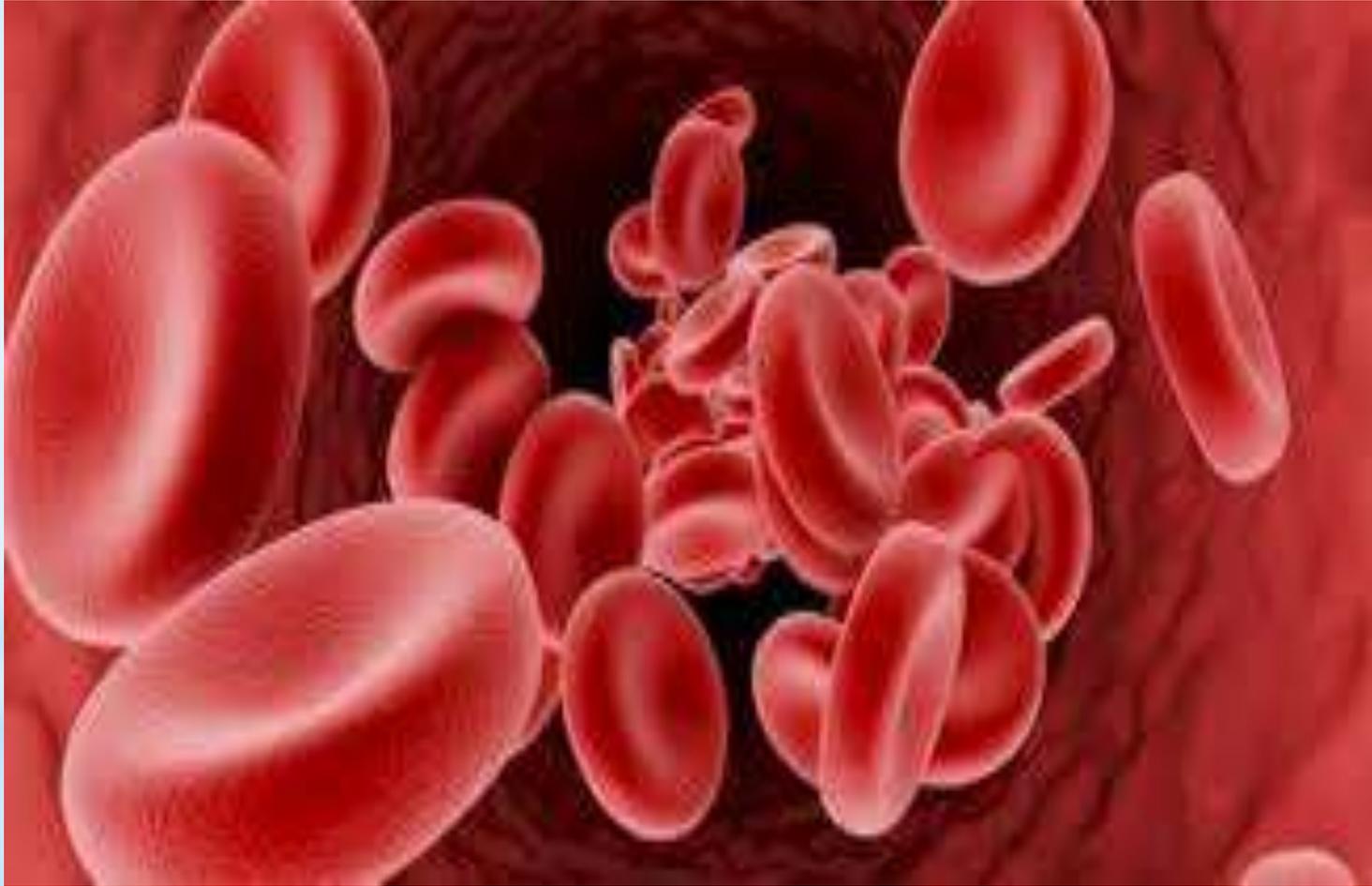
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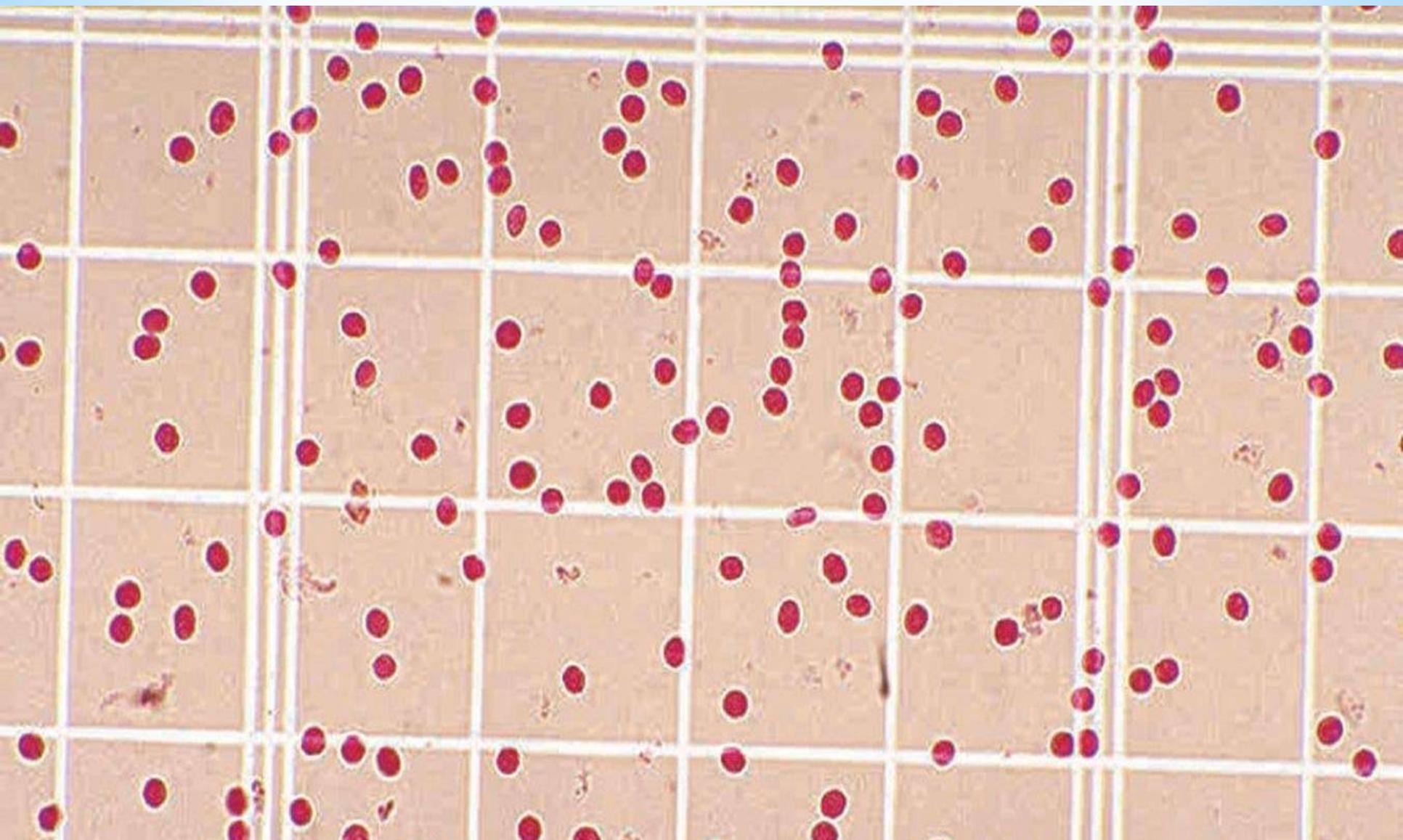
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مجموعة أوراق العمل
الخطوط





A white, hand-drawn style thought bubble sticker is pinned to a brown corkboard. The sticker has a scalloped, cloud-like border and a small tail at the bottom. Inside the bubble, the words "Thank you!!" are written in a bold, black, sans-serif font. The word "Thank" is on the top line, and "you!!" is on the line below it, slightly indented to the right.

Thank
you!!