



PRACTICAL HISTOLOGY 1 - FIRST COURSE

LAB -9- Specialized connective tissue

Sawa University

جامعة ساوة الاهلية

College of health and medical techniques

كلية التقنيات الصحية والطبية

Department of Medical Laboratories

قسم تقنيات المختبرات الطبية

First stage

المرحلة الاولى

محاضرة رقم 9

الجانب العملي

Lecture No. 1

Practical

تدريسي المادة : م.م هبه صاحب صادق

Aims of lecture :-

- DESCRIBING ITS COMMON STRUCTURAL COMPONENTS, AND EXPLAINING HOW ITS STRUCTURE RELATES TO ITS DIVERSE FUNCTIONS, SUCH AS SUPPORT, PROTECTION.

Specialized connective tissue

```
graph TD; A[Specialized connective tissue] --> B[Blood]; A --> C[Cartilage]; A --> D[Bone];
```

Blood

Cartilage

Bone

2. Specialized connective tissue:

—A. Blood:

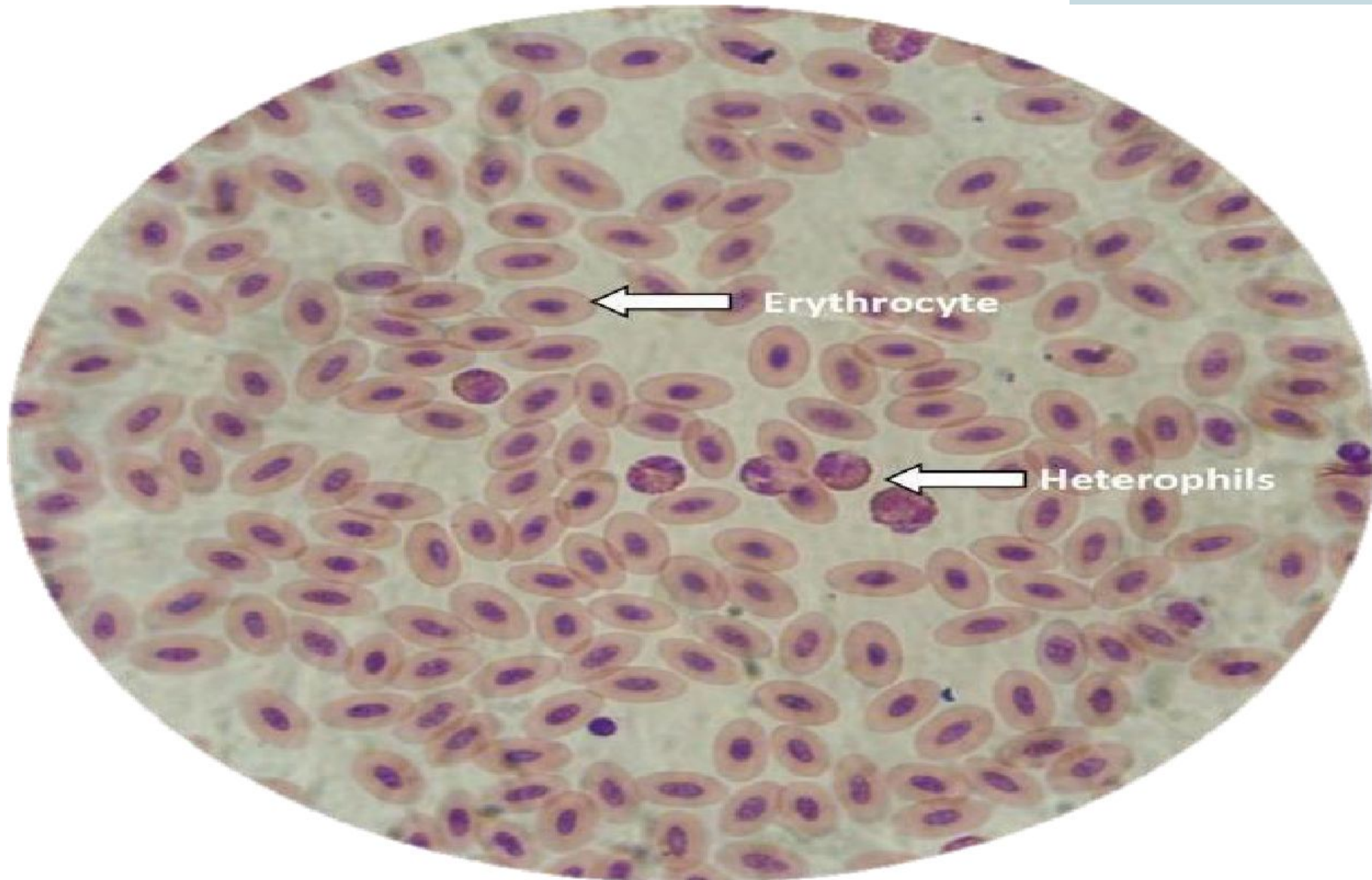
Blood is a specialized connective tissue in which cell are suspended in fluid extracellular material called plasma. That consists of three major types of cells: red blood cells (erythrocytes), white blood cells (leukocytes), and platelets (thrombocytes).

Blood components

1. **Plasma:** Constitutes the extracellular matrix of blood.

Composed of 90% water and 8–9% protein.

2. **Erythrocyte** (red blood cells): These cells are non-nucleated, biconcave discs that are filled with hemoglobin.



3. Leukocytes are nucleated cells and are subdivided into granulocytes or a granulocytes , depending on the presence or absence of granules in their cytoplasm.

A- Granulocytes

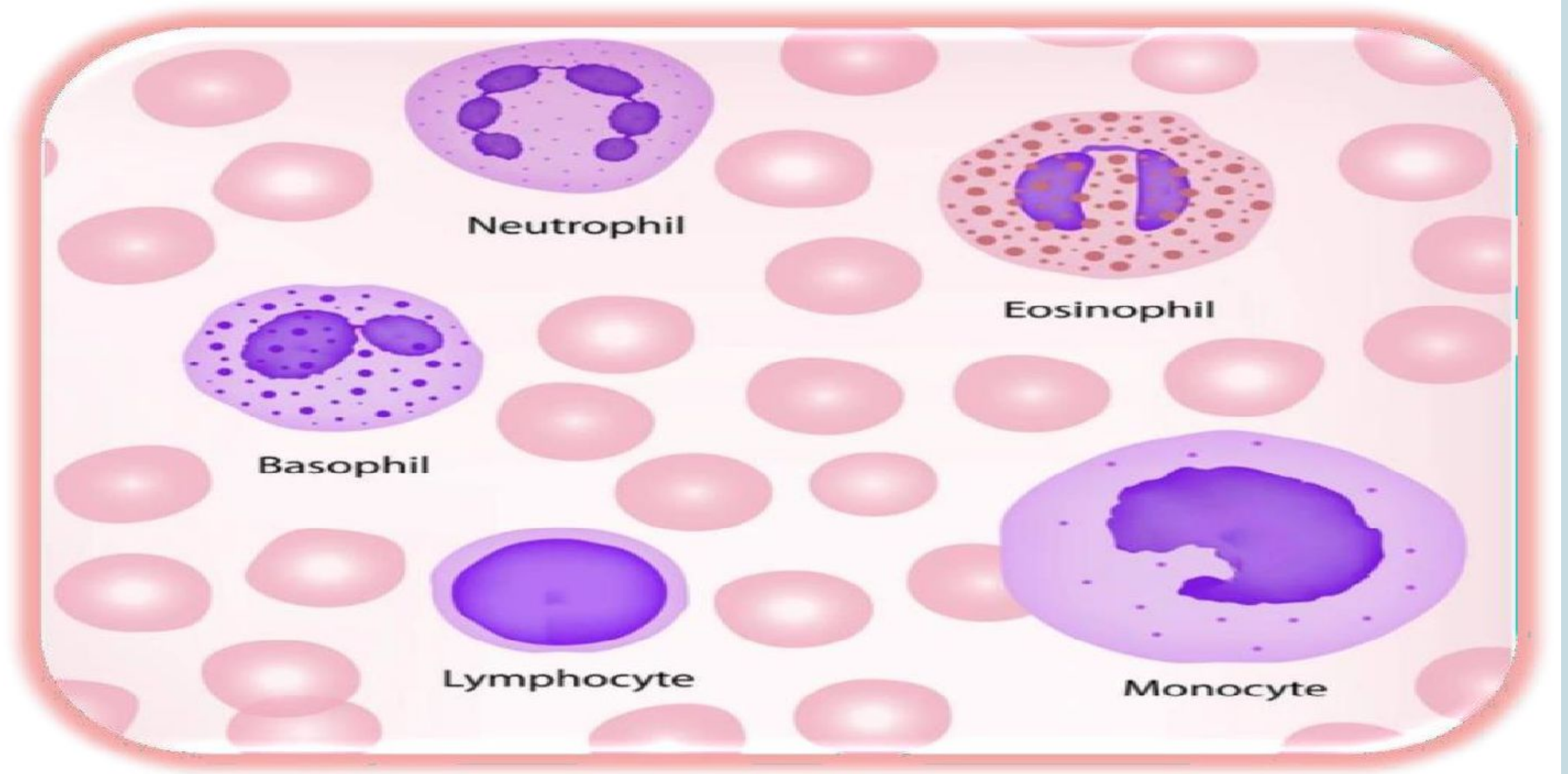
□ **Neutrophil:** This granulocyte has very tiny light staining granules (the granules are very difficult to see). The nucleus is frequently multi-lobed.

□ **eosinophil:** has large granules which are acidophilic and appear pink (or red) in a stained preparation. The nucleus often has two lobes.

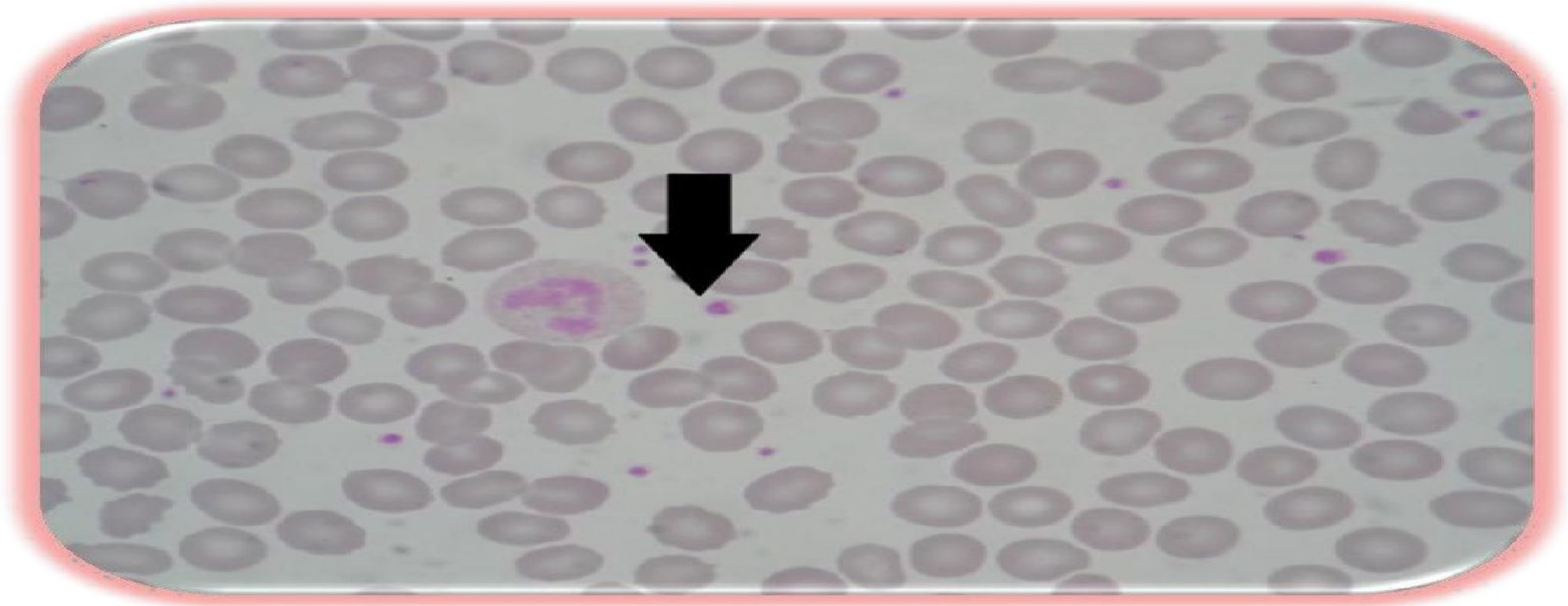
□ **Basophil:** The basophilic granules in this cell are large, stain deep blue to purple, and are often so numerous they mask the nucleus.

B- A granulocytes

- **Lymphocyte:** The lymphocyte is a granular cell with very clear cytoplasm which stains pale blue. Its nucleus is very large for the size of the cell and stains dark purple.
- **Monocyte:** This cell is the largest of the leukocytes. The nucleus is most often "U" or kidney bean shaped.



4. Platelets or thrombocytes: are the smallest formed elements that are found in the blood. They are non-nucleated cytoplasmic fragments of megakaryocytes



Questions

- ❖ What is connective tissue
- ❖ What are the three types of fibers found in connective tissue
- ❖ Is blood considered a connective tissue
- ❖ Which connective tissue forms the framework of organs like the liver and spleen

References

- Pathologic basis of diseases, A57 edition, 2012.

Any questions?

*Thank
You*