

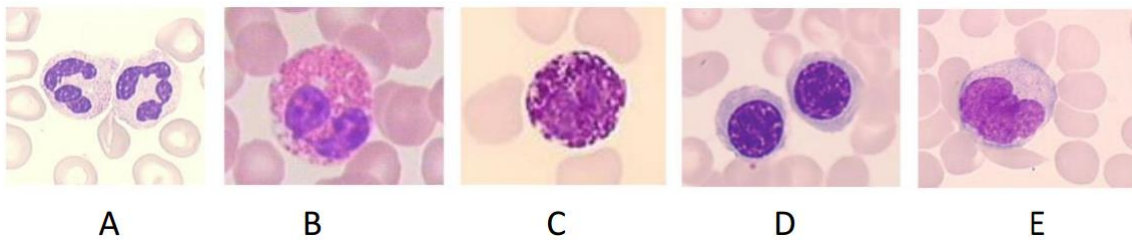
Immunology English Practical Session 3

Exercise 1:

- Explain how the immune system perceives elements in its environment (such as microorganisms, whether pathogenic or not) and recognizes the elements that disturb its homeostasis and must therefore be destroyed.
- Give the name of the receptors of adaptive immune system cells for pathogens and their nature.
- What is an antigen?
- What is an epitope?
- What are the factors that influence immunogenicity?

Exercise 2:

Several organs, cells, and substances participate in the course of the immune response. Given the following immune cells:



Based on the above figures, complete the table below and indicate the essential roles of each cell in the innate immune response.

Identified Cell	Origin	Cellular Roles
A		
B		
C		
D		
E		

Exercise 3:

After a finger injury, the following signs are observed:

- The area surrounding the wound becomes red and painful.
- Healing may occur after a few days, but sometimes an abscess containing pus forms.

Microscopic examination of a drop of pus shows numerous bacteria and neutrophilic granulocytes (neutrophils).

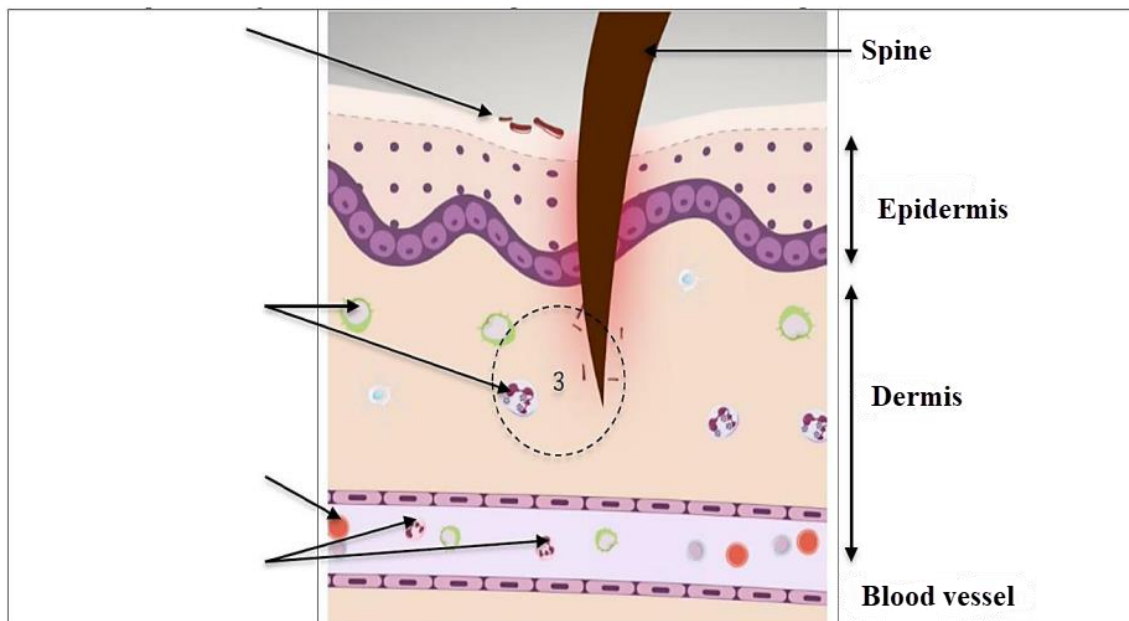
1. Explain the presence and abundance of bacteria.
2. The neutrophils contain bacteria. Explain their presence inside the neutrophils and recall the phenomenon involved.

Exercise 4:

Natural killer (NK) lymphocytes destroy tumor cells and cells infected by viruses in a non-specific manner.

- Explain how, following a viral infection, these lymphocytes are activated in the body.
- Explain the mechanisms of attack.

Exercise 5:



1. Complete the captions: An injury breaks the natural barrier of the skin.
2. What is the role of **sentinel cells**, which are the first to take action?
3. Complete the captions: The attachment of a sentinel cell to a bacterium.
4. What is the consequence of this attachment? Give an example.
5. What are the **clinical signs** characteristic of the inflammatory reaction, and what are their causes?
6. Which cells intervene next? How?