

**SNS COLLEGE OF ALLIED HEALTH SCIENCE**  
Affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai



**DEPARTMENT OF OPERATION THEATRE AND ANESTHESIA**  
**TECHNOLOGY**

**COURSE NAME : 1131 - BASIC SCIENCES - PATHOLOGY**  
**UNIT : 1. CELLULAR ADAPTATION, CELL INJURY AND CELL DEATH**  
**TOPICS : INTRODUCTION TO PATHOLOGY**

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# INTRODUCTION TO PATHOLOGY

- The word PATHOLOGY is derived from two Greek words-  
**‘Pathos’ meaning suffering and ‘logos’ meaning study.**
- Pathology is a study of the structural, biochemical and functional changes in cells, tissues and organs that underlie disease.



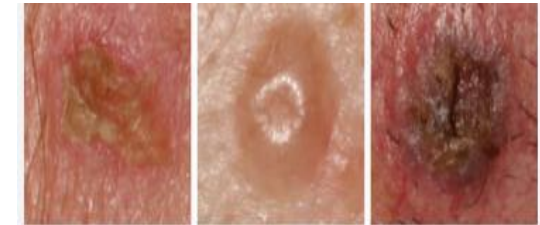
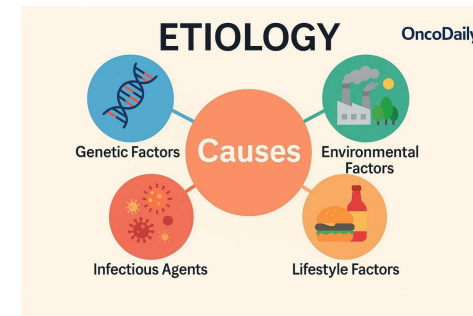
# HEALTH AND DISEASE

- **‘Health-** complete physical, mental and social well being, not merely an absence of disease.
- **‘Disease-** is expression of discomfort due to structural or functional abnormality.
- **‘Illness-** is the reaction of individual to disease in the form of symptoms.



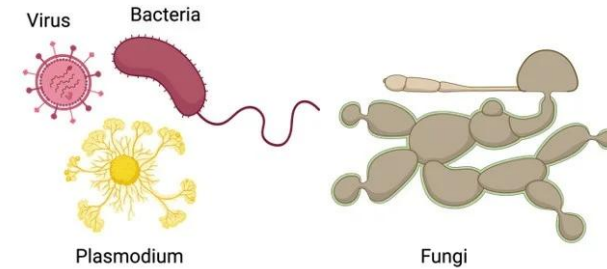
# TERMINOLOGY IN PATHOLOGY

- **'Patient'** is a person affected by the disease.
- **'Lesion'** is characteristic changes in tissue and cells.
- **'Morphology'** is examination of diseased tissue.
- **'Etiology'** is the cause of the disease.

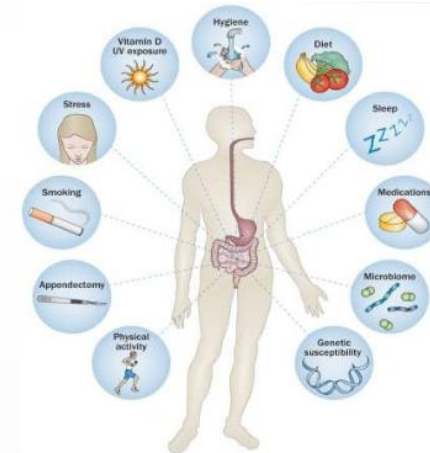


# TERMINOLOGY IN PATHOLOGY

- **‘Pathogenesis-** is the mechanism by which the disease is produced.
- **‘Physical signs-** are the functional implications of the disease felt by the patient.
- **Earlier concept of disease-** it was the outcome of ‘curse’ or ‘evil’ eye of spirits.



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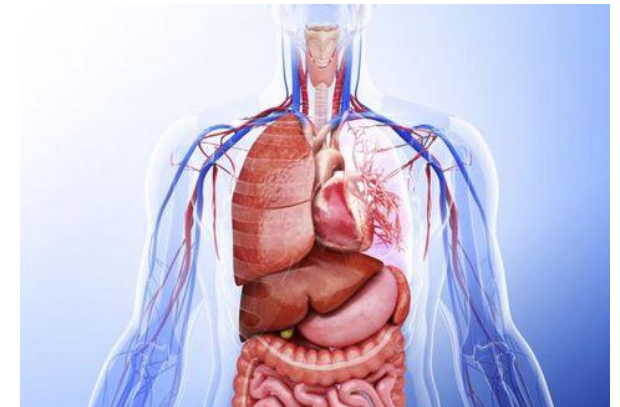
# SUBDIVISIONS OF PATHOLOGY

Pathology is broadly divided into two categories:

1. General pathology
2. Systemic pathology

**General pathology**-deals with general principle of disease. E.g inflammation ,cancer, ageing.

**Systemic pathology**-Study of disease pertaining to the specific organs and body systems.





# SUBDIVISIONS OF PATHOLOGY

.It is further divided in to following branches....

## 1. HISTOPATHOLOGY

a. gross or macroscopic examination

b. microscopic examination

It is further divided in to

–a. Surgical pathology

–b.Forensic pathology

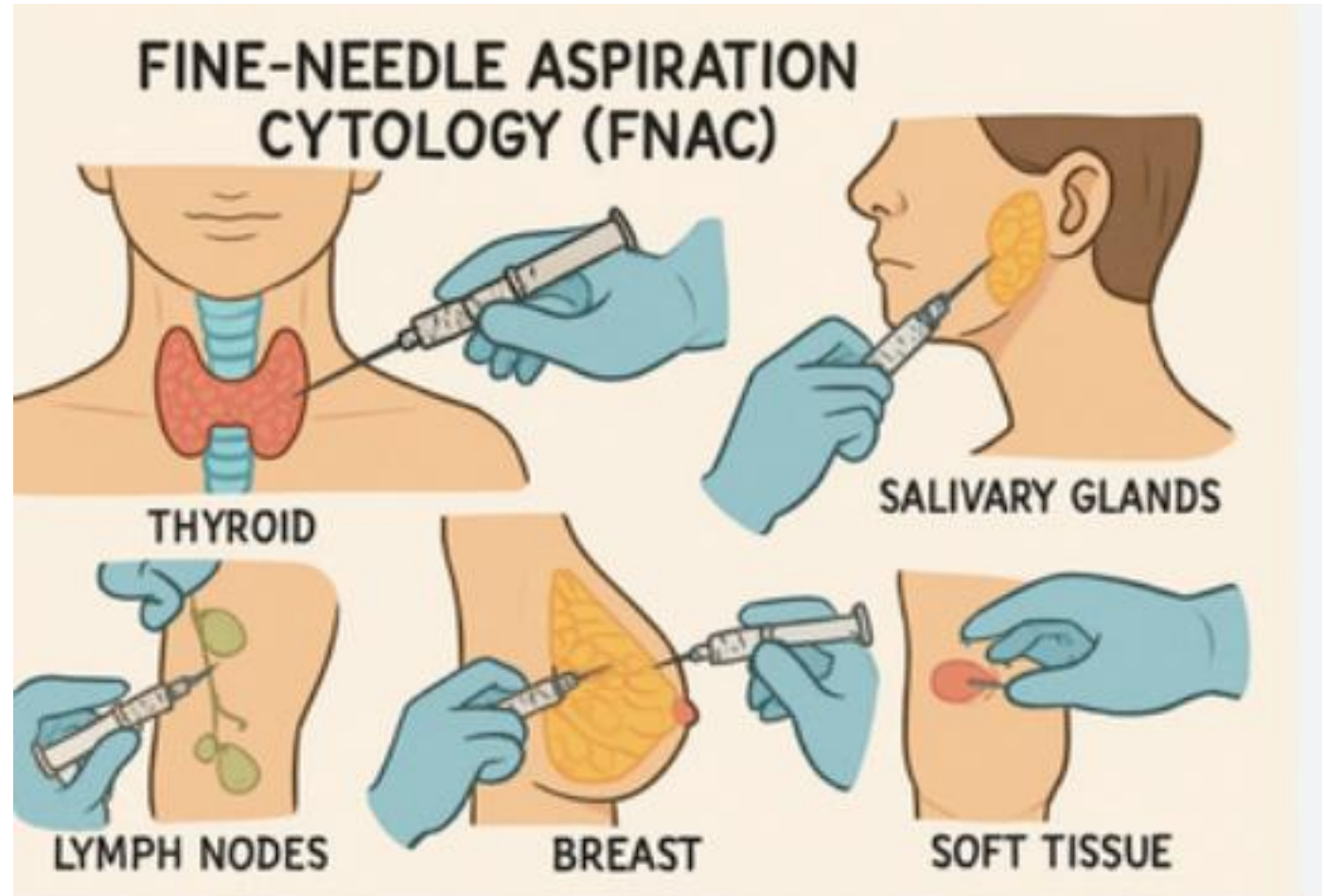


# SUBDIVISIONS OF PATHOLOGY

## 2. CYTOPATHOLOGY

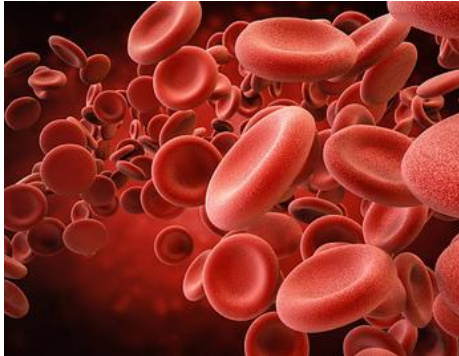
Exfoliative cytology

FNAC



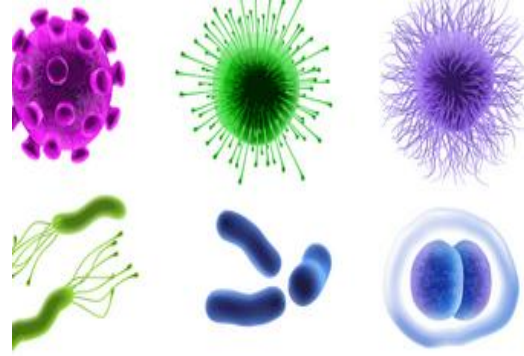


# SUBDIVISIONS OF PATHOLOGY



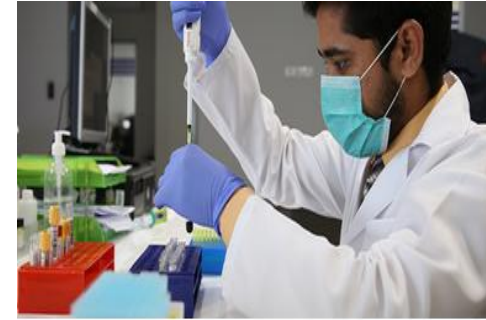
## HEMATOLOGY

deals with the disease of blood and blood related components.



## MICROBIOLOGY

4. MICROBIOLOGY-deals with the study of microorganisms.



## CHEMICAL PATHOLOGY

5. CHEMICAL PATHOLOGY-analysis of biochemical constituent of blood, urine, semen, CSF etc.

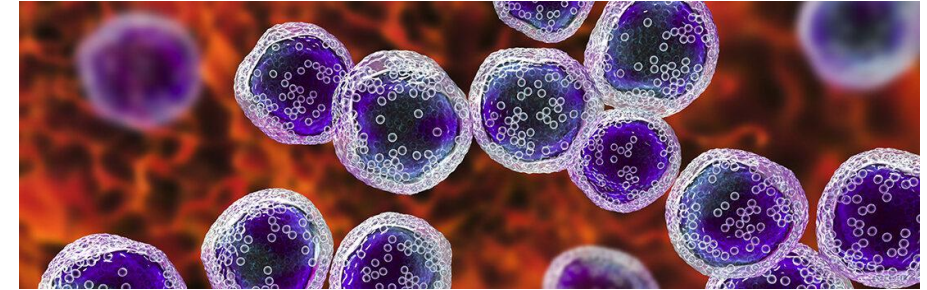


## IMMUNOLOGY

6. IMMUNOLOGY-detection of abnormalities in the immune system of the body.

# SUBDIVISIONS OF PATHOLOGY

- **EXPERIMENTAL PATHOLOGY**-study of disease in experimental animal.
- **GEOGRAPHIC PATHOLOGY**-study of diseases in populations in different parts of world.
- **MEDICAL GENETICS**-it deals with the relationship between heredity and disease.
- **MOLECULAR PATHOLOGY**-Detection and diagnosis of abnormalities at the level of DNA



# SUMMARY

- Pathology is the study of disease - its causes, mechanisms, and effects on body cells and tissues.
- Health means complete physical, mental, and social well-being; disease is any structural or functional abnormality.
- Key terms: Etiology, Pathogenesis, Lesion , Morphology.
- Pathology is divided into General and Systemic.
- Main branches include Histopathology, Cytopathology, Haematology, Microbiology, and Molecular Pathology.

# REFERENCE

## Books

- Kumar V, Abbas AK, Aster JC. Robbins & Cotran Pathologic Basis of Disease. 10th ed. Philadelphia: Elsevier; Elsevier; 2021. (Chapter 1: The Cell as a Unit of Health and Disease & Chapter 2: Cellular Responses to Stress and Toxic Insults).
- Mohan H. Textbook of Pathology. 8th ed. New Delhi;; Jaypee Brothers Medical Publishers; 2019. (Chapter 1: Introduction to Pathology).

## Websites

- <https://www.pathologyoutlines.com> (excellent free resource with detailed chapters on basic concepts).

# THANK YOU