



**Centurion**  
**UNIVERSITY**

*Shaping Lives...*  
*Empowering Communities...*



**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

# **INTRODUCTION TO THE HUMAN BODY**

**Suman Kumar Mekap**  
**Asst. Professor (Pharmacology)**  
**CUTM, Bhubaneswar**



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Learning Objectives

- ❑ What is the difference between anatomy and physiology?
- ❑ What are the different levels of organization?
- ❑ What differentiates living things from non-living things?
- ❑ What is homeostasis?
- ❑ What are the components of a feedback mechanism?
- ❑ Explain anatomical body positions, directional terms used for location of a body organ in relation to other organs?

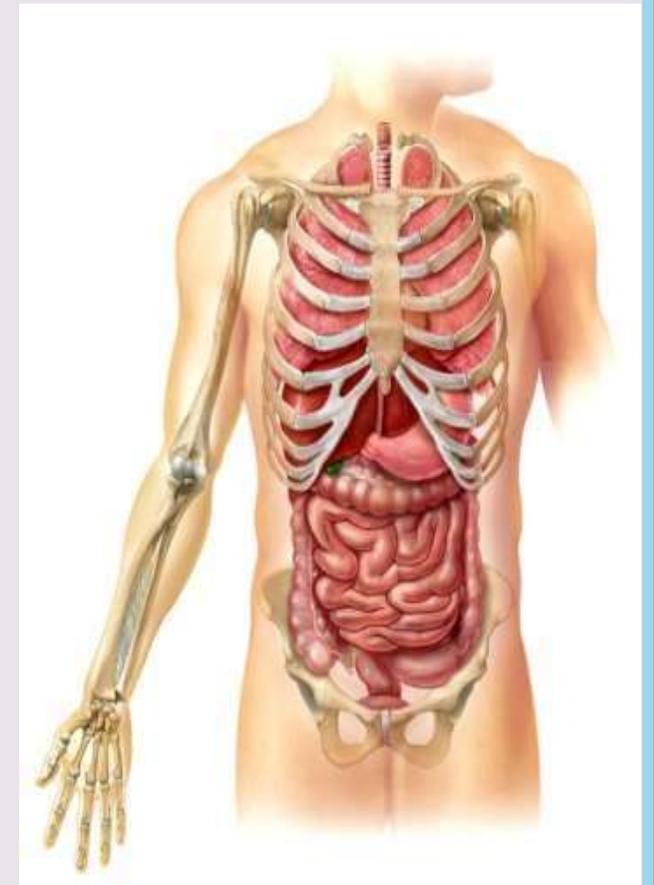


**Centurion**  
**UNIVERSITY**

*Shaping Lives...  
Empowering Communities...*

# Anatomy and Physiology

- ◆ Anatomy is the study of body structure.
  - science of structure
  
- ◆ Physiology is the science of body functions.
  - science of body functions



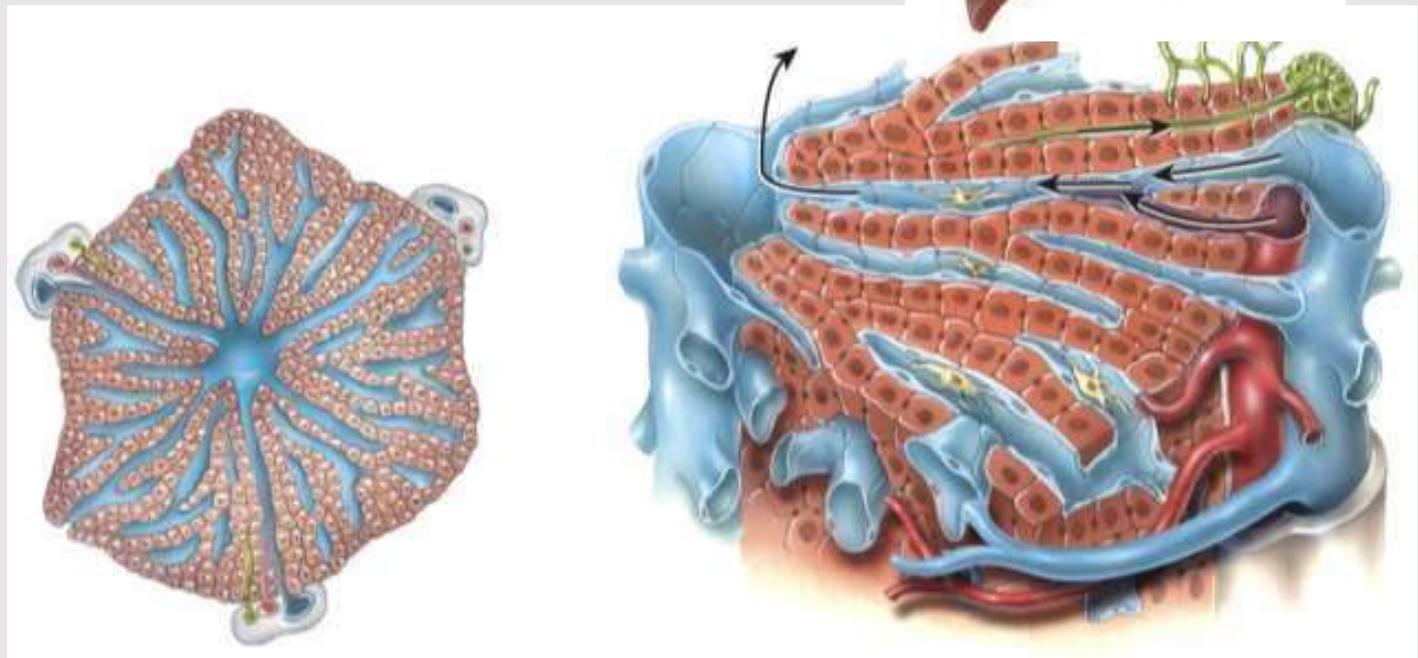
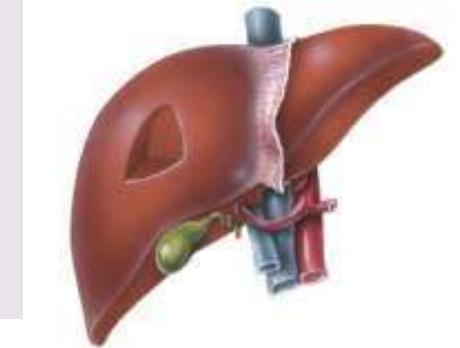


Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Anatomy and Physiology

## Structure mirrors function



This *structure* is the liver, which has the *function* of filtering blood and producing bile. Can you see how the function is determined by the structure, and vice versa?



**Centurion**  
**UNIVERSITY**  
*Shaping Lives...  
Empowering Communities...*

# Subdivisions of Anatomy

- **Surface Anatomy** is the study of form and markings of the body surface, often explored through visualization or palpation (without any “cutting”).
- **Gross Anatomy** is the study of anatomical structures visible to unaided eye. After making the appropriate surface marking in the prior picture, the gross dissection proceeds through “cutting.”



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Subdivisions of Anatomy

- **Gross Anatomy can be studied by two general approaches:**
  - **Systemic** approach (Systemic Anatomy):
  - **Regional** approach (Regional Anatomy)



Centurion  
UNIVERSITY

Shaping Lives...  
Empowering Communities...

# Subdivisions of Anatomy

## Developmental anatomy

is the study of the fertilized egg developing into its adult form.( For e.g., Embryology)

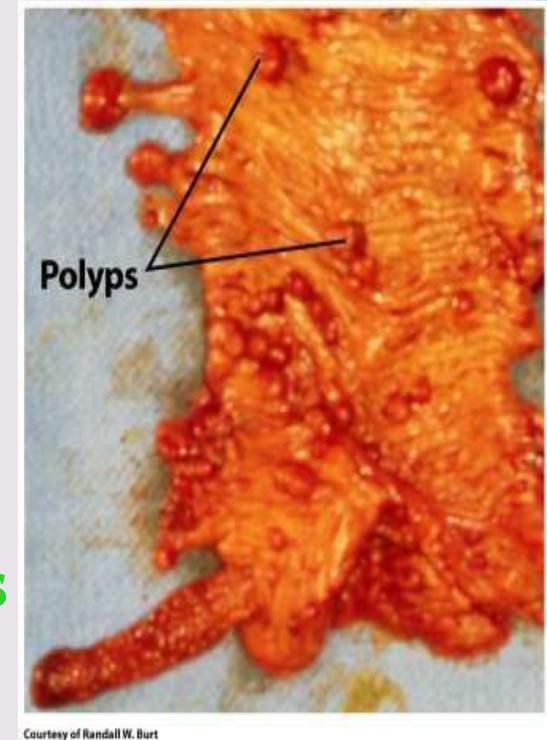




Centurion  
UNIVERSITY  
*Shaping Lives...  
Empowering Communities...*

# Subdivisions of Anatomy

- **Histology** is the study of **tissues**.
- **Cytology**, like histology, uses a microscope, but restricts the study to individual **cellular structures**.
- **Pathology** is the study of anatomical changes due to **disease**.



Courtesy of Randall W. Burt



**Centurion**  
**UNIVERSITY**

*Shaping Lives...*  
*Empowering Communities...*

# Clinical Connection

An autopsy is a postmortem (after death) examination of the body and internal organs performed by a pathologist.