



Introduction to **Human Anatomy**

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Definition of Anatomy

- “Anatomy is the branch of biology that tells us about the structure of living things”.
- “Science which deals with the structure & system of the human body”.
- “The science of the shape & structure of organisms & their parts”.

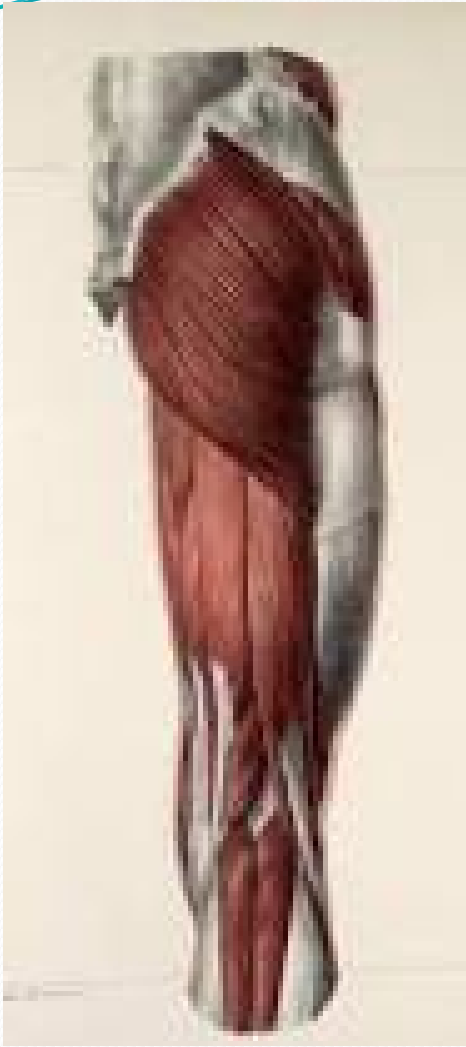
Definition of physiology

- “It is a study which deals with the function of the body”
- “Study of functions in living matter is called physiology”

Branches of Anatomy

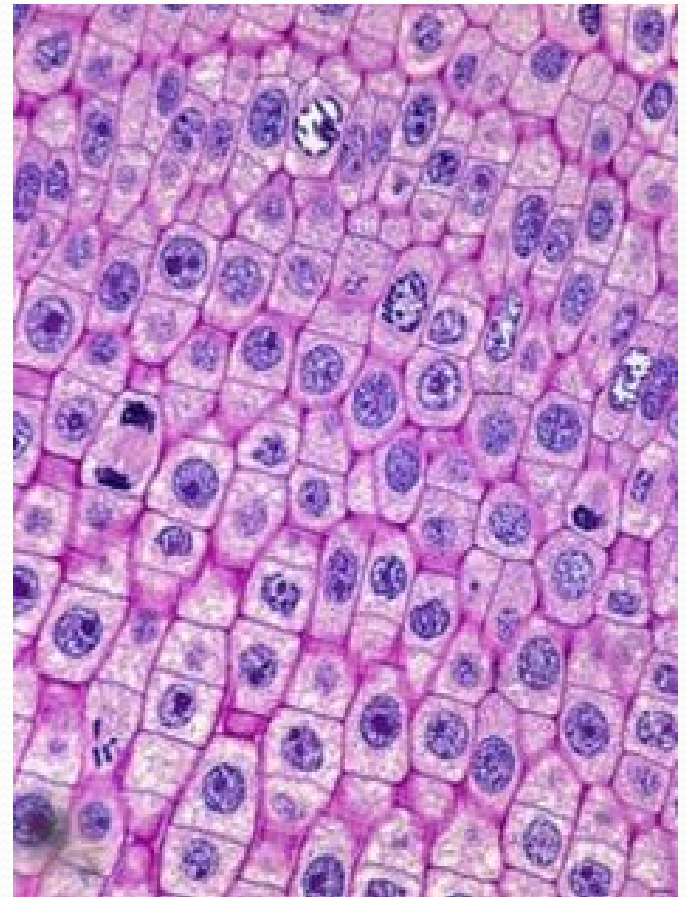
Gross Anatomy(Naked eye vision):

- Gross anatomy is the study of “Macroscopic” details of human body structure. Because gross anatomy is concerned only with macroscopic details, therefore it does not require the aid of any instrument.
- Generally gross anatomy is studied on dead bodies because you cannot dissect a living human just to study anatomy; Therefore it is also known as “cadaveric anatomy”.



Histology (Microscopic vision) :

- Histology means the “Microscopic” study of tissues of human body. Histology is a branch of microscopic anatomy & deals only with the microscopic structure of tissues.
- Different tissues combine to form organ & organs are the units of organs system.
- So, for the structural & functional details of the organs & organ system, It is necessary to have adequate knowledge of histology.



Embryology (Birth information)

- It is also known as developmental anatomy.
- “It is concerned with the study of development of an embryo from a single cell to a complete human being.”
- Embryology provides details of the prenatal & postnatal developmental changes in the body & the mechanics by which these changes occur.

Pre Natal Life

Ovum:

- Fertilization-1st Week

Embryo:

- 2nd -8th Week

Faetus:

- 3rd month-10th month

Post Natal Life

➤ **New Born**

Birth to 2nd Week

➤ **Infancy**

3rd week-1 year

➤ **Childhood**

2-6 years (early childhood)

6-10 Years(middle childhood)

10-12 Years (late childhood)

➤ **Adolescence**

20-60 Years

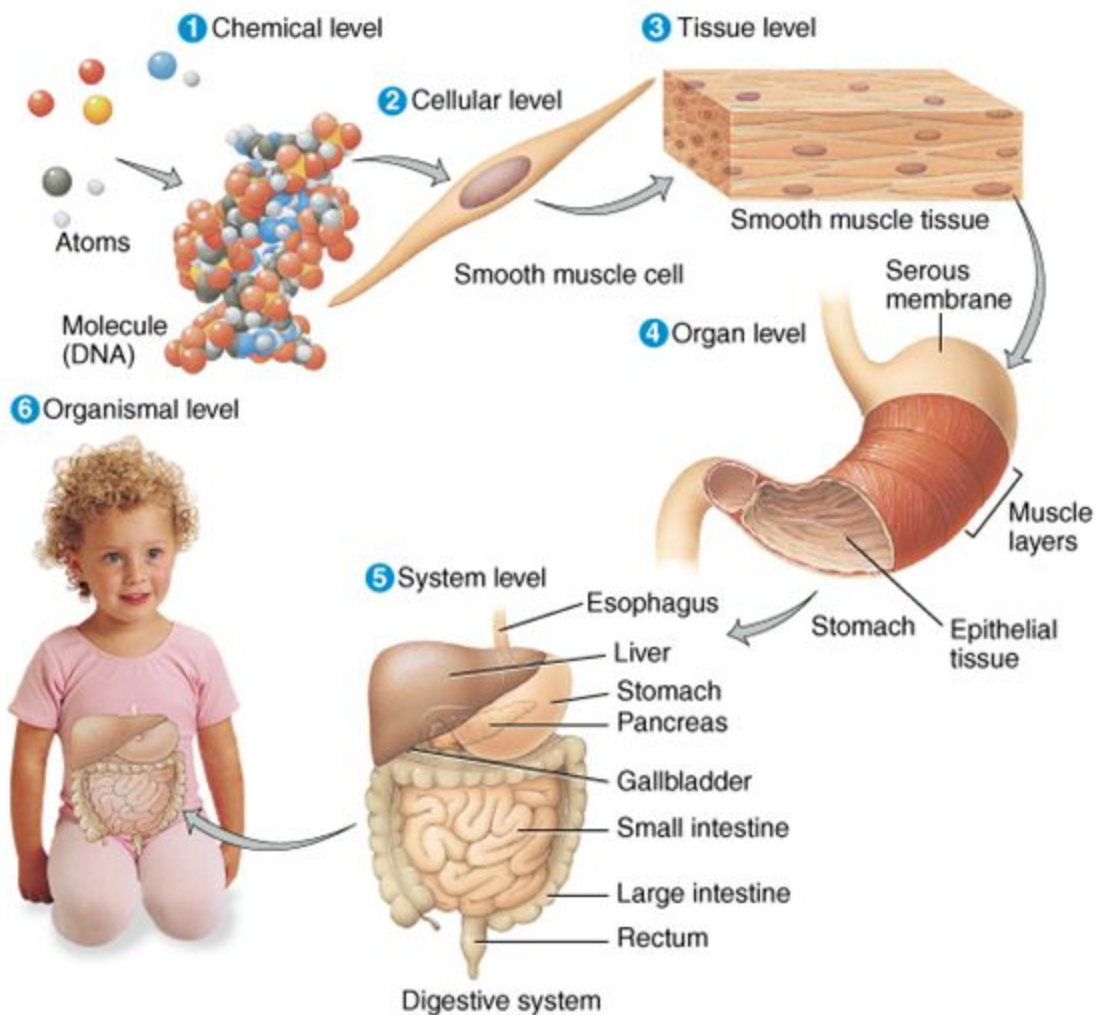
➤ **Old Age**

60-After

Human Body is Made up of :

- Cells
- Tissue
- Organs
- System
- Body

Levels of Organization

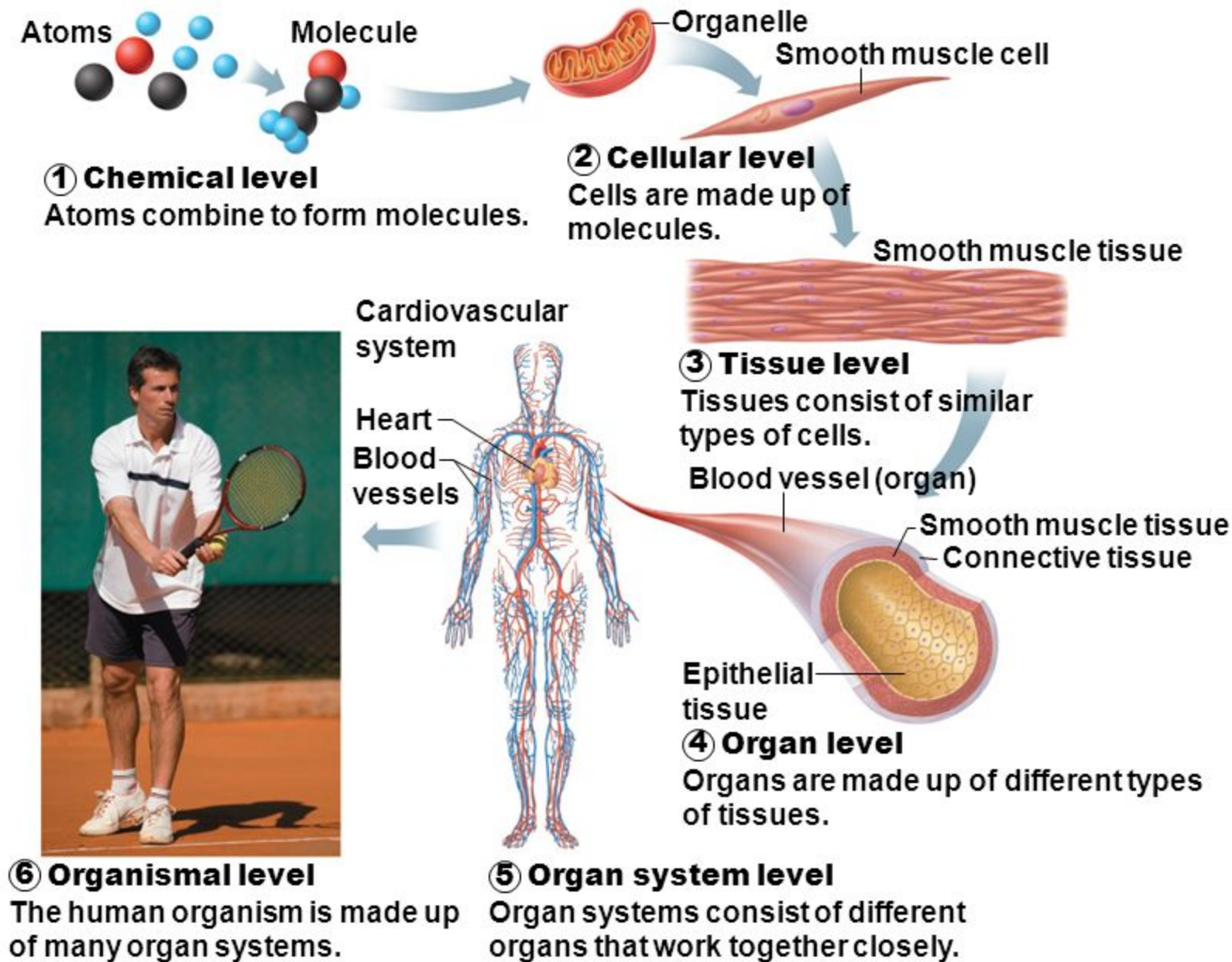


- Chemical
- Cellular
- Tissue
- Organs
- System Level
- Organismic Level

Level of Structural Organization Of The Body

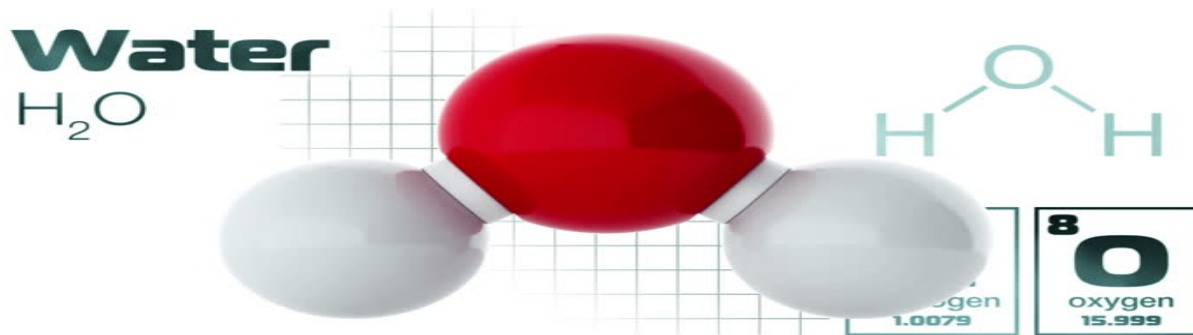
- The human body has different structural levels of organization.
- Starting with atoms, molecules, compounds & increasing in size And then complexity to cells, tissues, organs & the system that make up the complete organism.

Figure 1.1 Levels of structural organization.



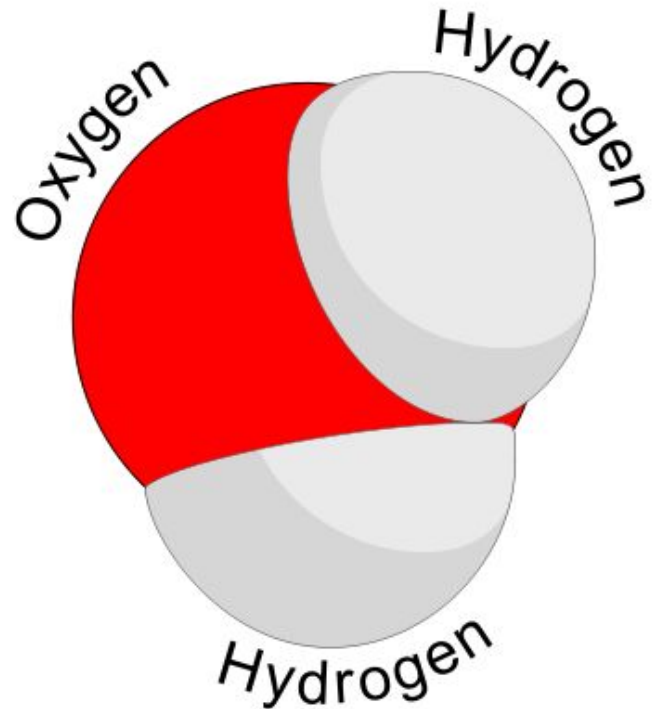
Atoms, Molecules & Compounds

- At its simplest level, the body made up of atoms.
- The most common elements in living organism are Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus & Sulphure.



Atoms, Molecules and Compounds

- *Why is water important to living things?*
- A **molecule** of water would be the smallest unit that would have the essential properties of water.
- An **element** is a substance that cannot be broken down into simpler substances. (ex: Hydrogen and Oxygen)



References

- http://botit.botany.wisc.edu/botany_130/mitosis/Allium.html
- www.drjayeshpatidar.blogspot.in
- www.drjayeshpatidar.blogspot.out
- www.HelthHype.com
- www.Shutterstock.com
- Pearson_Education.Inc,(2006 & 2010)
- www.exploringnature.org.com