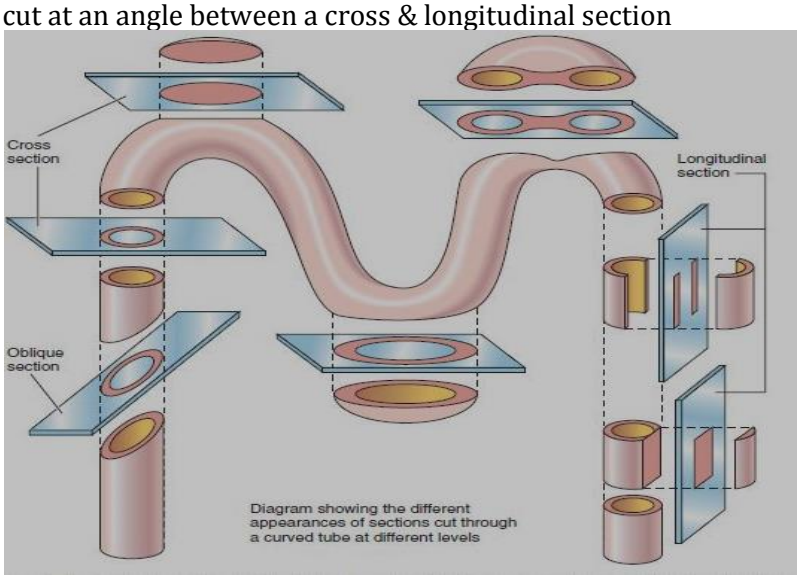
Histological slide preparation

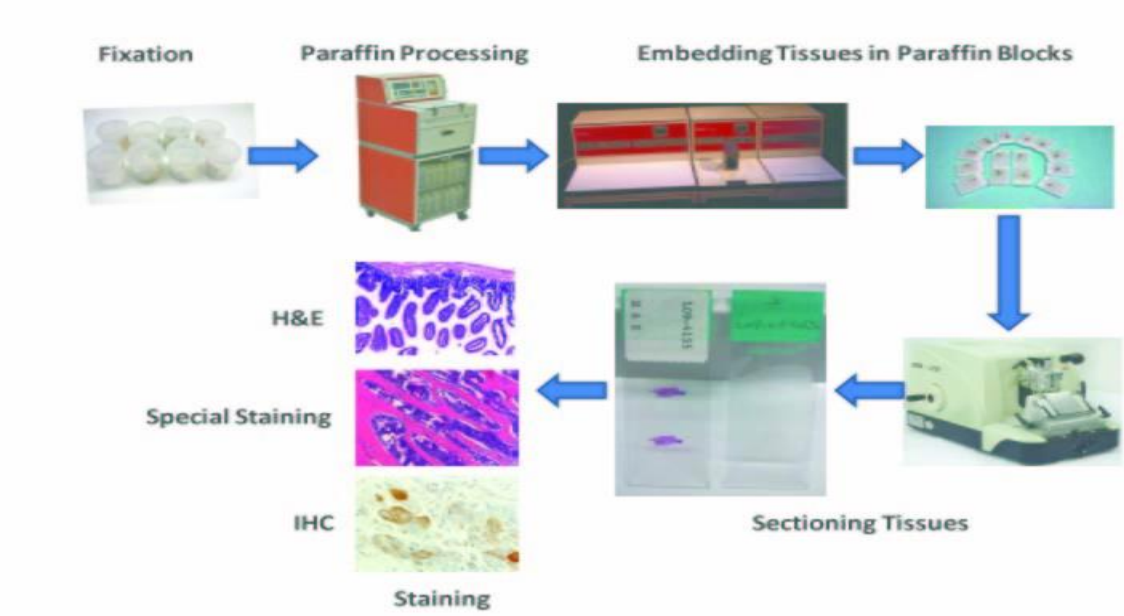
Types of Tissue Sections

- **Longitudinal section**
  Tissue cut along the longest direction of an organ
- **Cross section**
  Tissue cut perpendicular to the length of an organ
- **Oblique section**
  Tissue cut at an angle between a cross & longitudinal section



Tissue preparation Steps

A small block of tissue, harvested from an anesthetized or newly dead subject:



1-processing

a. Fixation:

Is preservation of tissue in its original state by using fixatives like 10% formalin, formosaline, Bouins solution and neutral buffer formalin.

b. **Dehydration**:

Is removing of water from the sample (tissue section) by a graded series of alcohols: (70%-75%-90%-95%-100%).

c. **Clearing**

The tissue section is immersed in xylene, which makes the tissue transparent.

2. **Infiltration and Embedding:**

To be able to view thin sections of the tissue under a microscope, the tissue infiltrates by melted paraffin wax then puts in oven for some hours.

Then the tissue must be embedded into a small receptacle containing paraffin and allowed to cool, forming a **paraffin block**.

3. **Sectioning**

The Block Sliced into 5- to 10-μm thin **sections** using a **microtome** whose very sharp blade .

4. **Rehydration**

The sections are transferred to adhesive-coated glass slides in water bath, the paraffin is removed from the section by a xylene bath, and the tissue is **rehydrated** by the use of a graded series of alcohols (reversed in order when dehydration took place).

5. **Staining**

The rehydrated sections are **stained** with various water-soluble dyes **Hematoxylin and eosins (H&E) are** the most common stains used in normal histologic preparations.

Hematoxylin stains the acid components of cells and tissues a bluish color, and eosin stains the basic components of cells and tissues a pinkish color.