Histological Slide Preparation

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preparation of tissue for histological slide:

- Fixing tissue.
- Embedding tissue.
- Sectioning the specimen.
- Basic Staining technique.

1-Fixing tissue:

- The specimens are delivered to the Histology Laboratory immediately after the autopsy.
- The tissue is labeled with an identifying Medical Examiner’s case number and is placed in plastic capsules or cassettes.
- The fixative used to preserve tissue and maintenance life like structure and prevent decomposition .

2- Embedding

- **Preparation:** Cut (1Cm.) of specimen and put in cassette, then the cassette is placed in a 10% **formalin** fixative solution,(24-48 hours).
- **Tissue processing**: dehydration, clearing, infiltration and blocking.
  - dehydrate the specimen with ascending series of alcohol(70%-90%-100%).
  - clearing with organic solvent e.g. (xylene)which removes alcohol then allowed infiltration by paraffin wax.
  - Length of processing depends on size and density of specimen (hours to overnight).
- **Blocking**: remove the cassette and put it on warm plate, then the specimen removed with warm forceps and placed in the mould and filled with wax.

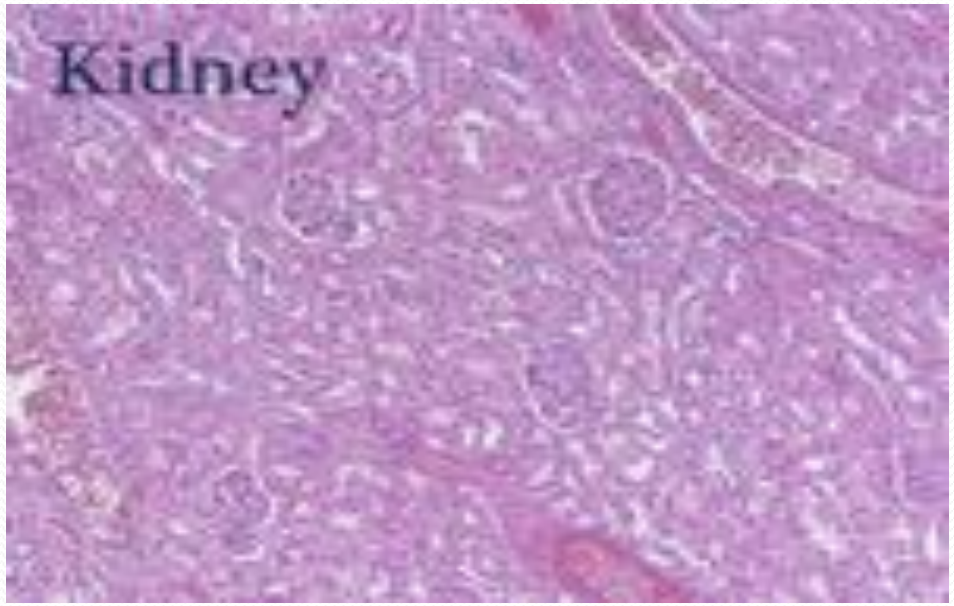
3- Sectioning the specimen:

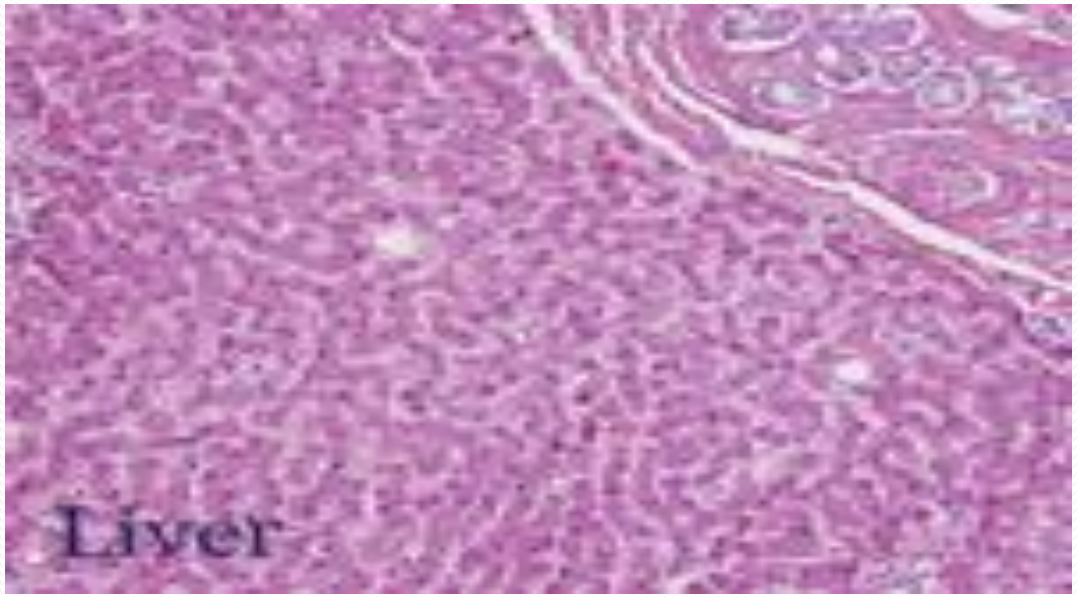
- Using rotary microtome to cut the specimen into (3-10micron).
- Float ribbon (tissue)on warm water to flatten then lifts the paraffin ribbon on the microscopic glass slide .
- Allow to dry at 37C.to ensure section to adhere to slide.

4-Staining:

- Rehydration: descending series of alcohol (100%-90%-70%).
- Rinse with tab water.
- Staining with basic stain e.g. hematoxylin and eosin, the hematoxylin staining the nuclei blue (10 min.), then the slide wash with tab water to neutralized the ph.
- Using eosin to stain the cytoplasm, collagen and muscle fiber.
- Dehydrate the slide with alcohol and use the xylene (15min.) to removed the traces of alcohol.
- Mounting the slide by using (DPX) then put the cover slip.

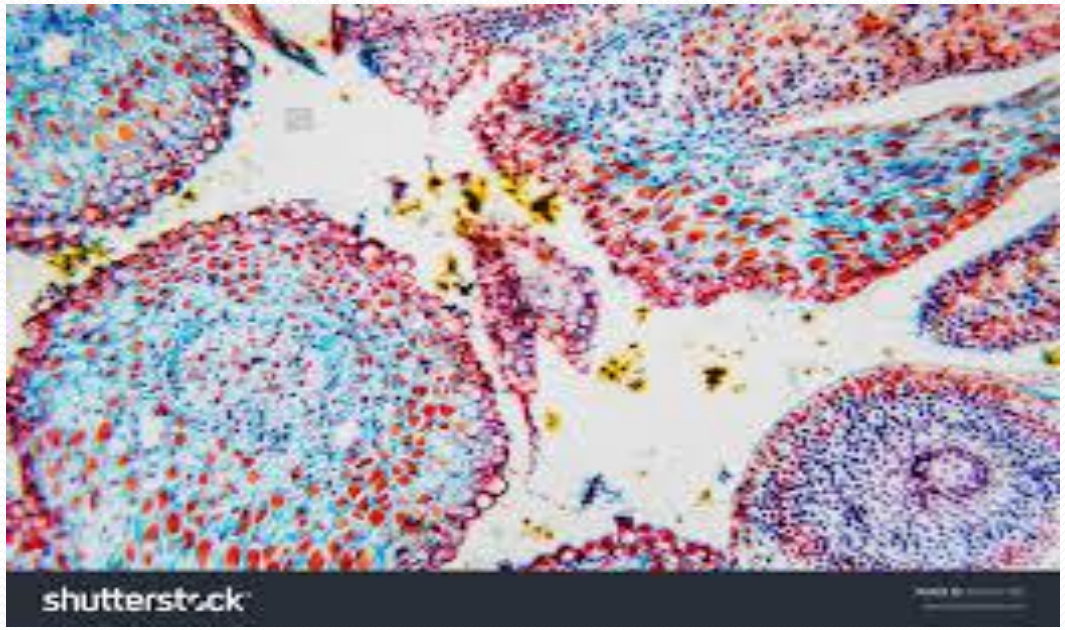
Basic Stain





Special Staining

- Special staining can be used for specific purposes.
- Special stains are used to determine bacteria, virus, fungi, intercellular, and intracellular structures.
- E.g. Masson Trichrom stain and Silver stain.



Signing Out

- The last step includes entering the case into the computer database and printing the labels.