Necropsy of the Mouse
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1. Live animals can be exsanguinated or perfused before autopsy.
2. External examination of the general condition of the animal (state of nutrition and body development, presence of skin alterations, anomalies and the lesions of the natural orifices, fur condition, any superficial lesions).
3. Macroscopic examination of the abdominal cavity and the position, form, size, colour and consistence of the internal organs.
4. Consider indications of a pathological condition like adhesions, the abundant presence of liquids in the abdominal cavity and inflammatory or neoplastic processes.
4. Extraction of tissues and organs is performed according to their susceptibility to degenerative processes.
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**General:**

1. In order to avoid the progression of post-mortem degeneration processes, the necropsy must be carried out as soon possible.

2. These degenerative and putrefactive processes manifest with variable speeds and intensities depending on the specific resistance of a tissue.

3. In case the autopsy cannot be carried out immediately, it is important to store cadavers in a cold atmosphere (+ 2°C to +4°C) as soon as possible after death.

4. The most susceptible tissues are the covering epithelia of the gut and the bone marrow, then the liver, spleen and kidneys, while the muscles, fibrous tissues, skin, and bones appear more resistant.
5. Organ specimens should be fixed without delay, usually in 10% buffered formalin (3.6-4.0% formaldehyde).
6. The heart, kidneys and testis should be divided in two halves with a median cut so that the fixative can be absorbed more quickly.
7. The amount of the fixative should be about 10x of the volume of the specimen.
8. The treatment of the sections in the fixative should not exceed 24 or 48 hours and for final storage transferred into 70% EtOH.
9. As protein molecules become cross-linked by formalin, an extended treatment will reduce the quality of tissues for further examination (immunohistochemistry).
10. Observations made during the post-mortem examination should be transcribed immediately, preferably on appropriate forms (like the position, the shape, the colour and the consistency of the organs, the normal or pathological content of some hollow organs et cetera).
Frozen sections

1. Fresh specimen without fixative treatment.
2. Freezing on dry ice or in liquid nitrogen immediately after tissue extraction.
4. Storage in liquid nitrogen or in a freezer at -80°C.
Guide to the Necropsy of the Mouse

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Origin of Figures: Pathbase
Position of the mouse for Autopsy
Location of superficial and deep lymph nodes

from T. B. Dunn, 1954, courtesy of the Author
Diagram of location of mouse mammary glands

Murphy E.D., chapter 27 in E.L. Green Ed., "Biology of the Laboratory Mouse"
Opening the abdominal wall and spleen extraction
Stomach and gut extraction
Liver, kidney, and ureter extraction
Uterus removal and testis extraction
Opening of the thoracic cavity, lungs, heart, and thymus observation

Thymus
Skin opening for skull observation

Observation of eyes and Harderian glands
Opening of the skull and Brain extraction
Observation of the hypophysis after brain removal