



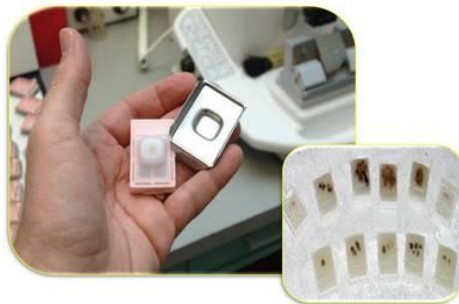
TISSUE SECTION CUTTING IN HISTPATHOLOGY

1. Introduction

Microtomy or tissue section cutting is the technique of making the very thin slices of tissue specimens for the microscopic examination to identify the abnormalities or atypical appearance in the tissue (if present) and also for the study of various components of the cells or tissues.

After embedding the tissue and preparing the block, microtomy is the next step.

Remove cassette from mould

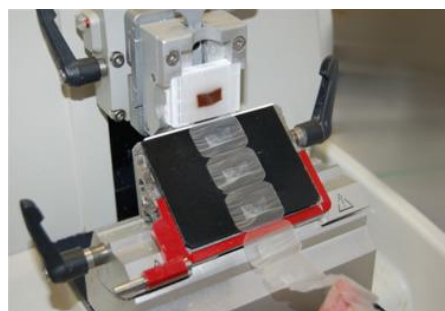


Block now ready for sectioning (microtomy)

2. Procedure

a) Trimming the Tissue

- Trimming of the tissue is needed to expose the tissue piece within the paraffin wax for cutting. The block is fixed in the chuck of the microtome, and the paraffin is cut till the tissue is fully exposed



b) Cooling the Block

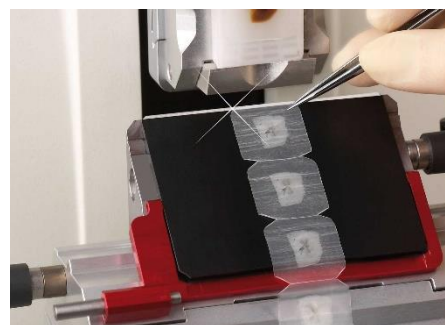
- After the initial trimming, the blocks are kept for cooling for 15–20 min.





c) Cutting the Block Properly

- The block is fixed in the chuck of the microtome. The cutting surface of the block should be parallel to the knife. The angle of clearance should be only 2–5° to have good section. The tissue in the block is cut by gentle, smooth, and slow stroke. The ribbon-like tissue sections are produced. The tip of the ribbon is held by forceps, and the end part of the ribbon is removed from the knife edge by brush.



d) Floating the Ribbon

- The ribbon of the tissue is floated in the water bath, and this removes fat and any wrinkling of the t/s. With the help of the forceps, the individual sections are separated from each other. The temperature of the water bath should be constantly maintained below the melting point of the paraffin wax.



e) Picking Up the Tissue

- The slide is placed vertically within the water bath in front of the tissue, and when the tissue is touched, the slide is withdrawn vertically from the water. The tissue pickup process must be gentle and smooth



f) Drying the Section

- The slide containing the picked-up section is kept in slide rack. The slides are now kept in hot oven to get dry.



Reference

- <https://www.leicabiosystems.com/knowledge-pathway/an-introduction-to-specimen-preparation/>
- University of Medical Technology, Department of Medical Technology, Histopathology Practical Manual Handbook