

Histopathology

What happens to my sample?





The journey from surgery to diagnosis

1. Post-surgery

- After surgery your sample is placed in a labelled sample pot containing a preservative called formalin and sent to the laboratory.
- This is called fixation



2. Fixation

- Sample fixation depends on the size of the specimen.
- Small samples can be rapidly fixed but large samples can take 48 hours to be suitably fixed.



3. Dissection

- Small sections of your specimen are sampled, cut into very thin pieces and put into a uniquely labelled tissue cassette.



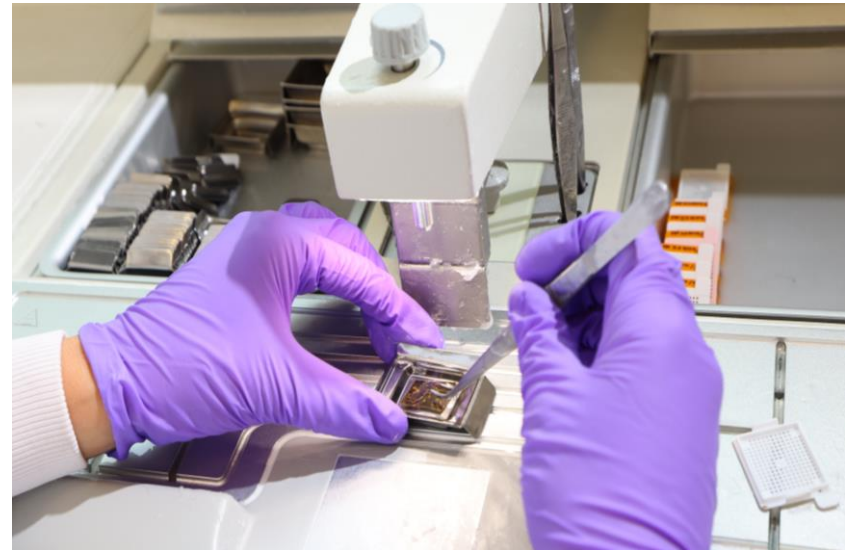
4. Processing

- The cassettes are placed on a tissue processor which dehydrates the tissue and infiltrates it with molten paraffin wax.



5. Embedding

- After processing the tissue pieces are embedded into molten paraffin wax and allowed to solidify on a cold plate.



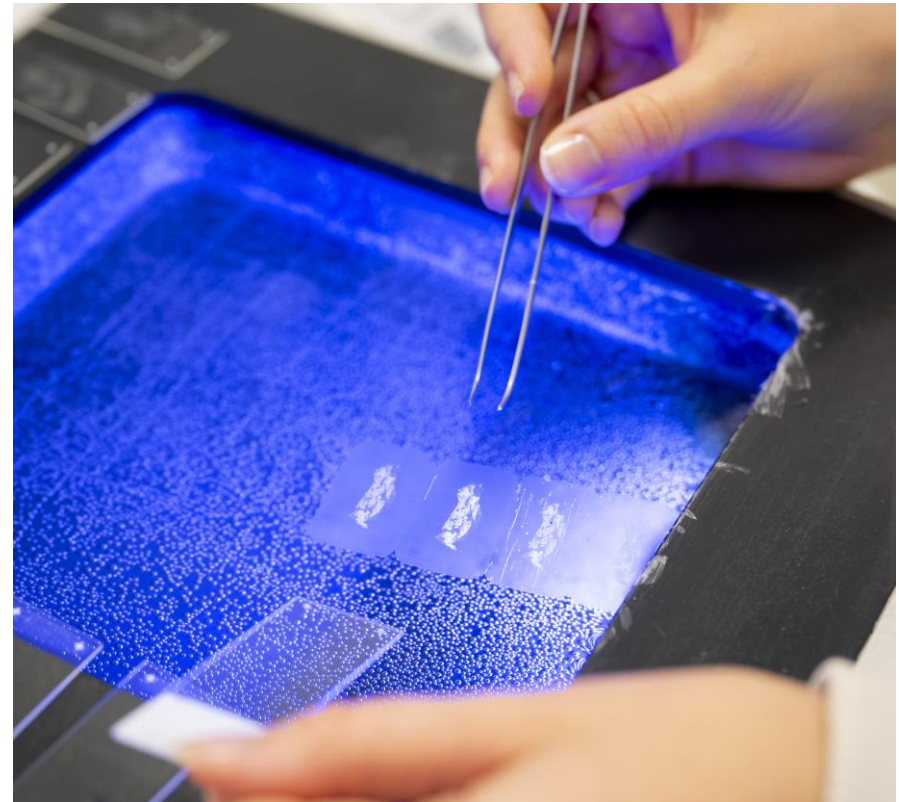
6. Sectioning

- Extremely thin sections of these blocks are cut using a machine called a microtome.



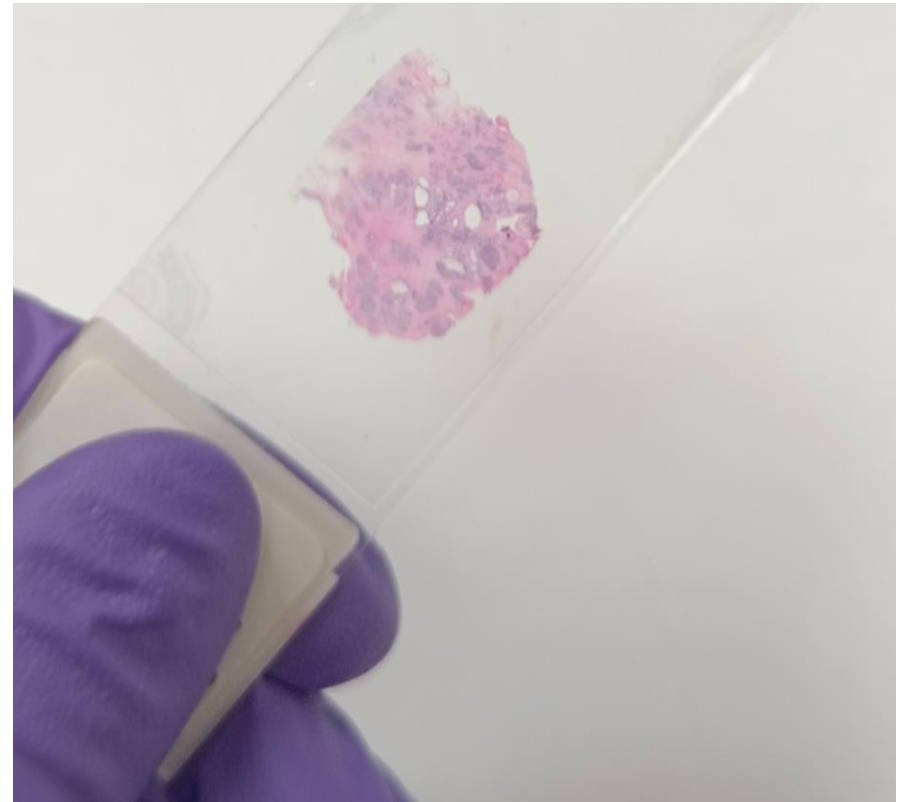
7. Embedding

- These sections are floated out on a water bath and picked up on a glass slide.



8. Staining

- The sections are then stained using two dyes, haematoxylin and eosin, which stain different tissue elements, and then are covered with a glass coverslip.



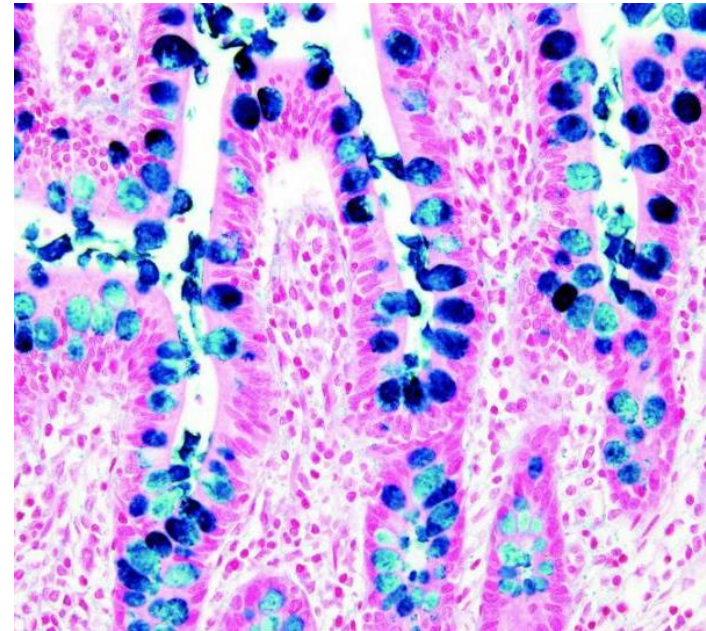
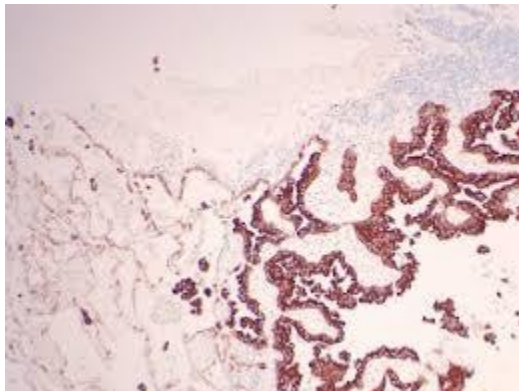
9. Microscopy

- The sections are then looked at using a microscope by a pathologist who will make a diagnosis based on the cellular detail in the slides



10. Other stains

- Sometimes stains using chromatic dyes and antibodies are used to help make a diagnosis.



11. Getting your results

- The length of time it takes to get your results depends on the urgency of the result, the size of the sample and the amount of further tests that are required in order to get a complete diagnosis.
- You will be told the results by your clinician; we are not permitted to give information to you directly.



12. What happens to my sample?

- Any remaining tissue (not made into a paraffin block) is kept for 4 weeks after the final diagnosis is made and then discarded as clinical waste.
- The paraffin blocks and glass slides used for diagnosis are kept for 30 years.



13. What happens to my sample?

- Sometimes we will use tissue from the diagnostic archive for research. We are licensed to do this by the Human Tissue Authority (License number 12193).
- If we do use your tissue, it will be completely anonymised and will only be used on approved research applications.



14. What happens with my personal information?

- In order to make a complete diagnosis the pathologist needs to know any relevant medical information relating to the sample that we receive.
- This information is kept secure at all times in line with the Trust Data protection policy
- This information is stored for 30 years on a secure server as part of your diagnostic history.



15. What happens with my information?

- For more information about how we handle your personal data please see our Privacy policy.
- [Privacy - Newcastle Hospitals NHS Foundation Trust \(newcastle-hospitals.nhs.uk\)](https://www.newcastle-hospitals.nhs.uk/privacy)
- Please be assured we will never share your information with anyone else without getting your permission.
- If you wish to see any information we have about you, a written request will need to be sent to the Trust Subject Access Request team, at the Freeman Hospital.

