



Royal Berkshire
NHS Foundation Trust

Tissue blocks and slides

Information for families about
what happens to human samples
removed at post mortem

When you give consent for a hospital post mortem you also have the option to agree to the taking of samples of fluids, such as blood, and small samples of cells and tissue. The main purpose of taking these samples is to make diagnoses, but it is also possible to donate these samples to the hospital for other purposes.

Handling tissues, blocks and slides would also apply to Coroner's post mortems once jurisdiction has ended.

If you have any questions after reading this information, please contact your named nurse or one of the contact numbers listed at the end of this leaflet.

Why are blocks and slides made?

Although some information can be obtained from looking directly at organs in a post mortem examination, often the only way to understand what is going on is to look at part of an organ under the microscope.

Examination of the cells that make up an organ may provide valuable information about the progress of any disease or injury leading to death and whether any treatment has been working. This may explain why a patient died and help everyone better understand the cause of death. Knowing what went wrong may also help to improve the treatment given to other patients with the same condition.

Some diseases can run in a family – genetic disease – and looking at slides can be important for other members of the family – including for children not yet conceived.

How are blocks and slides made?

Small pieces of organs are removed and placed in small, usually plastic, boxes. These boxes are normally about 20mm (less than one inch) square and about 5mm (under one quarter of an inch) thick. Even so, substantial parts of small organs from very small babies – even whole organs in exceptional cases – may be within one box. The tissue is chemically treated to remove water, which is replaced with wax. These tissue 'blocks' become hard, so that thin slices can be cut with a sharp knife. These 'sections' are very thin – ten times thinner than a hair. They are then placed on glass slides and stained with special dyes to enable the cells to be examined under a microscope. More than one slide may be made from a block. These techniques are no different to those used to examine tissue from live patients.

Why are blocks and slides kept?

Sometimes, a post mortem shows new or unexpected information about the patient's health problems. The feedback provided by post mortem examinations helps to improve all doctors' practice for the benefit of patients in the future.

Pathologists also regularly review each other's practice – including reviewing slides on an anonymous basis – to ensure that high professional standards are maintained – this is called clinical audit.

When a new disease or health problem emerges examination of tissue on a wide scale may provide clues about how and why the disease emerged – and how to tackle it. That is how medical knowledge progresses through research.

Ways of examining tissues improve year on year. In cases of genetic disorders, looking back to the tissue of deceased family members may help make a diagnosis in other living members of the family so they then receive the right treatment.

Slides are regularly used in teaching to enable doctors, and particularly pathologists, to be trained effectively. They need to know what range of abnormalities can be present in the tissues so that future cases can be diagnosed correctly.

In all these ways, the taking of tissue blocks and slides – and their retention in the hospital's pathology archive – can benefit the deceased patient's family and the wider community by improving diagnosis, treatment and the understanding of health problems. They make up an important part of the medical records kept by the NHS and their use in teaching and research helps to advance medical science for the good of all. The taking of tissue blocks and slides and their retention is normal practice.

How are blocks and slides kept?

Blocks and slides are labelled with a unique number, which enables the patient from whom they were taken to be identified. However those slides used in clinical audit and teaching – and in some research studies – are rendered anonymous and cannot be linked back to the original patient in order to preserve confidentiality. Most blocks and slides are kept in drawers in cabinets designed specifically for this purpose. They are kept safely and securely in hospitals or research laboratories.

Are these blocks and slides being kept legally?

Blocks and slides are taken as part of the hospital post mortem process only with relative's consent. However, blocks and slides may also be taken for a Coroners' post mortem (which does not require relative's consent).

Following a Coroners' post mortem, the blocks and slides must be retained as long as they have any bearing upon determining the cause of death, including the resolution of any legal proceedings relating to the death. If blocks and slides are retained, a Coroner's Officer will contact the relatives and ask for their wishes in relation to donation or disposal.

Following a hospital post mortem, performed with the agreement of relatives, their consent, or otherwise, to the retention of organs or blocks and slides, and their wishes in relation to donation or disposal, will be followed.

What happens now?

Because of the concerns of relatives in the past, it has been decided that blocks and slides should be returned for respectful disposal if the relatives want to do this.

Alternatives to returning this material to relatives for burial or cremation are:

- Return them to the deceased's body prior to funeral (may delay funeral arrangements)
- Return them later for disposal by the family.
- Or relatives may ask the hospital to respectfully dispose of the blocks and slides.

Useful numbers

- Royal Berkshire NHS Foundation Trust switchboard Tel: 0118 322 5111
- Royal Berkshire NHS Foundation Trust Research and Development Tel: 0118 322 8140
- Royal Berkshire Hospital Mortuary 0118 322 7743 (Mon-Fri 8am-4pm excluding Public Holidays)
- Royal Berkshire Hospital Bereavement Department 0118 322 7059 (Mon-Fri 8am-4pm)
- Human Tissue Authority Tel: 0207 269 1900

Leaflet adapted from the Retained Organs Commission leaflet (April 2001).