

HUMAN TISSUES IN RESEARCH AND DONATING YOUR BODY

Why use human tissues?

Research on human cells and tissues is providing valuable new insights into the processes that underlie human health and disease.

Species differences

The bodies of humans and other animal species work in subtly different ways, right down to the cellular level. In lab tests of a promising new cancer drug, TRAIL, it was found to kill human liver cells but was harmless to monkey and mouse liver cells.

Replacement of animal experiments

Donating tissues to research can help medical progress and may help to replace animal research. The severe shortage of human organs available for transplants has resulted in extensive research to use animal organs for this purpose, involving much animal suffering. Pig heart valves are already transplanted into patients, and donated human heart valves can directly replace the use of pig valves from specially bred and slaughtered pigs. Human heart valves are used in preference to animal ones when possible, but there is still a shortage of human valves.

TISSUE AND ORGAN DONATION EXPLAINED

Tissue banks

Some hospitals have their own tissue storage facilities for supplying in-house researchers with specific tissue types. If you are undergoing treatment at a hospital you can always ask if such facilities exist and if your tissues can be used.

A few hospitals and research institutes have their own tissue banks where you can register your desire to leave your body or organs for research after death. See the contact details at the end of this information sheet. Most will only accept tissue on a local basis but a few operate nationwide.

Brain banks

A number of brain banks exist around the country that collect and store tissue for research into serious neurological disorders such as Alzheimer's, Parkinson's disease and multiple sclerosis. It is possible to arrange to leave your brain to these banks, and several produce information packs for donors. There is a severe shortage of non-diseased

brains at most of these banks and donations are urgently needed. See the contact addresses in the list below.

Transplants

There is a long established and well-organised, nationwide system of collecting whole organs, bone, skin and eye tissue for use in transplants. However, some donated tissues and organs that prove unsuitable for transplant may instead be supplied for research purposes, with the permission of the donor or next-of-kin. If you wish tissues from your body to be used in research after death, you should consider registering as an organ donor [1].

At present the health care system prioritises organs and tissues for transplantation first, before research.

Leaving your body for training doctors

Medical students learn anatomy by dissecting human cadavers and there is a shortage of donor bodies for training doctors. To arrange to leave your body to a medical school for use in training doctors you should contact the Human Tissue Authority at Finlaison House, 15-17 Furnival Street, London EC4 1AB. Tel: 020 7972 4551 for further details. Or visit their website at www.hta.gov.uk/donations.cfm

ANSWERS TO SOME OF YOUR QUESTIONS

Can I leave my body to the Dr Hadwen Trust for research?

No. We do not have facilities to store or distribute donated tissues.

Can I ensure that my body is used in research?

There is no 100% guarantee that your body will ultimately be used in research. This will depend on a number of factors impossible to predict, including where, when and how you die. For example, death from an infection may make it impractical to collect or use your tissues. The facilities available to preserve your body will be an important factor, as tissues need to be collected very quickly, usually within a few hours of death. You can help to ensure that your body is used in research by following the *Important Steps* listed overleaf.

Can I ensure that my tissues are used in humane research to replace animals?

No, but scientists needing tissues for research are quite likely to resort to using animal tissues if human tissue is not readily available. By providing a supply of human tissue, you will be helping to prevent the killing of animals in laboratories for tissues, as well as contributing to medical research.

How will donating my body affect the funeral arrangements?

Usually organs and tissues are collected by specially trained hospital staff within a matter of hours of death. Your body is returned and your family should be able to make normal funeral arrangements without any undue delay.

IMPORTANT STEPS YOU NEED TO TAKE

It is vitally important that you inform your next-of-kin of your wishes. Although the wishes of the deceased should be carried out, your next-of-kin are likely to be asked for consent for your tissues to be used in medical research. We recommend that you discuss the issue with your family, your doctor and the executors of your Will. It can be of great comfort to some people to know that they are carrying out their loved-one's wishes.

Investigate the possibilities now. Tissues deteriorate rapidly after death and quickly become unusable. Organs need to be collected within 4 - 6 hours of death, although some tissues may be collected up to 48 hours after death. Because time is of the essence, you should explore the possibilities in advance and register your willingness to donate tissues with a hospital or tissue bank where possible. Don't leave this for your next-of kin to organise, as this is likely to be too late.

Consider registering with the NHS Organ Donor Register and carrying a donor card. In the event of your death, your organs will be considered for transplant first, and failing this they can be used in research. An increase in the availability of human organs would reduce the demand for animal organs and tissues for both transplant and research.

Ask your local hospital. If you are having a biopsy taken or you are about to undergo an operation, you can ask the hospital if your tissues can be used in research. Whether this is possible or not will depend on what research is taking place locally that

requires the type of tissue taken from you, and availability of tissue banking facilities.

CONTACT ADDRESSES

1. Organ Donor Register

Telephone the organ donor line on 0845 6060 400 or register online at www.uktransplant.org.uk. Organ donor cards may be available at your local pharmacy or doctor's surgery.

2. Brain Bank for Autism & Related Development Research

A brain bank collecting both healthy and autistic brains to facilitate research into autism. Pre-registration possible online. Brain Bank for Autism & Related Development Research, North Lea House, 66 Northfield End, Henley-on-Thames, Oxfordshire RG9 2BE. Phone for emergency donation: 0800 089 0707. Register online at: www.brainbankforautism.org.uk

3. Brains for Dementia Research

A collaboration by the Alzheimer's Society, the Alzheimer's Research Trust and the MRC to improve the supply of brains for dementia research and networking five leading brain research centres at Oxford, London, Cardiff, Newcastle and Manchester. Brains for Dementia Research Coordinating Centre, Wolfson Centre for Age Related Diseases, King's College London, St Thomas' Street, London, SE1 1UL Tel: 020 7848 8377. Email: bdr.office@kcl.ac.uk. Website: brainsfordementiaresearch.org.uk

4. Bristol University

Bodies can be bequeathed specifically for research purposes or for training of student doctors. Bequest Office, Dept of Anatomy, University of Bristol, Southwell Street, Bristol BS2 8EJ. Tel: 0117 928 7415. Website: www.bristol.ac.uk/anatomy/bequests/

5. Ethical Tissue, Bradford

Collects and supplies a range of human tissues for biomedical research. Collection is from patients coming into hospital for treatment and from healthy volunteers. Ethical Tissue, ICT Bioincubator, Tumbling Hill Street, University of Bradford, West Yorkshire, BD7 1DP. Tel: 0127 423 5897 Email: enquiries@ethicaltissue.org. Website: ethicaltissue.org

6. Keratec Eye Bank

Eye bank and corneal research laboratory run by the charity Keratec, at St George's Hospital in London. Eyes are obtained from donors in the St George's NHS Trust Hospital group. The Keratec Eye Bank, St George's, University of London, Cranmer Terrace, London, SW17 0RE.

Tel: 020 8672 1238. Email: eyebank@sghms.ac.uk

7. MRC Brain Bank for Neurodegenerative Disease

Collects human brain tissue, both healthy and diseased, for research into neurological disorders. Donor information packs available. The Brain Bank Coordinator, PO Box 65, Institute of Psychiatry, 4 Windsor Walk, London, SE5 8AF.

Tel: 020 7848 0290. Email: Brainbank@iop.kcl.ac.uk

8. Leeds Tissue Bank

Collects post-mortem tissue for research, especially cancer and orthopaedic research. Consent forms and instructions are available online at:

www.gift.leeds.ac.uk/index.html

Or contact Leeds Tissue Bank, Room 4.12, Section of Pathology and Tumour Biology, Wellcome Trust Brenner Building, St. James's University Hospital, Leeds, LS9 7TF.

Tel: 0113 343 8508. Email: medpath9@leeds.ac.uk

9. UK Multiple Sclerosis Tissue Bank

Brain tissue can be bequeathed by donors with or without MS. Tissue from healthy non-MS brains needed. Information packs, donor cards and newsletter available. The UK Multiple Sclerosis Tissue Bank, Division of Neuroscience and Mental Health, Imperial College London, Hammersmith Campus, Du Cane Road. London, W12 0NN.

Tel: 020 7594 9734. Email:

ukmstissuebank@imperial.ac.uk

10. Queen Square Brain Bank for Neurological Disorders

Collects post mortem brain for research into neurological disorders, including Parkinson's disease, dementia and others. Tissues are supplied to researchers worldwide. Newsletter and a donation consent form available from: Susan Stoneham Administrator, Queen Square Brain Bank, Institute of Neurology, 1 Wakefield Street, London, WC1N 1PJ.

Tel: 020 7837 8370. Email: qs-bb@ion.ucl.ac.uk

11. Parkinson's Disease Society Tissue Bank

Accepts donations of brain tissue from patients with or without Parkinson's disease and other movement disorders. Tissue from healthy 'control' individuals is especially needed. Donations accepted from across the UK. Information packs and donor cards available from PDS Tissue Bank at Imperial College, Division of Neuroscience and Mental Health, Burlington Danes Building, Imperial College London, 160 Du Cane Road, London, W12 0NN.

Tel: 020 7594 9732. Email: pdbank@imperial.ac.uk

12. Newcastle Brain Tissue Resource

Collects post mortem brain from healthy older people and patients with neurological disease. There is a registration system in place for those aged 65 and over.

Newcastle Brain Tissue Resource, Institute for Ageing and Health, Newcastle University Campus for Ageing and Vitality, Newcastle upon Tyne, NE4 5PL. Contact the Research Nurses on Tel: 0191 248 1231 or 0191 248 1229. Email: nbtr@ncl.ac.uk

13. South West Dementia Brain Bank

Collects brain tissue from dementia and non-dementia brains. Donations possible.

Contact the SWD Brain Bank Administrator, Dementia Research Group, The John James Building, Frenchay Day Hospital, Frenchay Hospital, Bristol, BS16 1LE.

Tel: 0117 340 3070. Email:

Laura.E.Palmer@bristol.ac.uk

14. Medical Training

You can leave your body to a local medical school for use in teaching human anatomy to student doctors. To obtain a list of medical schools and further detail, contact the Human Tissue Authority, Finlaison House, 15-17 Furnival Street, London EC4 1AB.

Tel: 020 7211 3400. Website: www.hta.gov.uk

All information correct at time of printing. The DHT accepts no responsibility for the accuracy of any information given in this document.

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