

THE USE OF HUMAN TISSUE SAMPLES: WHEN AND WHERE TO APPLY FOR ETHICAL REVIEW

Staff and students of the University of Oxford regularly undertake work that requires the use of tissue samples from healthy human volunteers.

Collection of human tissue samples (including, but not restricted to, blood, urine, saliva and faeces) presents potential risks to the health and safety of both the donor and the person taking or using the sample, and to regulatory requirements. The risks are the same, regardless of whether samples are collected from patients or healthy volunteers. The same risk assessment and safety procedures should, therefore, be followed, and consideration must be given to the health and safety of all involved, and to important ethical issues and regulatory requirements that may arise.

When planning work with tissue samples from human volunteers, it is important to consider both of the following:

- the requirement for ethical review/approval to collect, use and/or store human material
- the need to meet Human Tissue Authority (HTA) regulations for the storage of human material

Is ethical review required?

Ethical review and approval should be obtained for the taking and/or use of human tissue samples, except in the following cases:

- where, as part of their training or employment, students/staff are being taught how to take blood (phlebotomy training), and the blood will not subsequently be stored or used for another purpose;
- where samples will be used for evaluation or assessment of established diagnostic devices or in-vitro diagnostic kits then destroyed (performance assessment);
- where material is used in a programme for systematic monitoring/evaluation of a project, service or facility to ensure that standards of quality are being met (Quality assurance);
- where the tissue sample is being used in research laboratories as a reagent – e.g. as a source of feeder cells for maintenance of cell lines or clones, or substrate for growth of virus stocks (i.e. no knowledge is being derived from the tissue itself);
- where blood is to be taken as part of a practical class and will not subsequently be stored or used for another purpose;
- where the tissue is an established in-house or commercially available cell line

In such cases, consent should still be obtained from the donor, but if the sample is being taken for any of the above purposes, this use will not require formal review and approval by either a University or NHS Research Ethics Committee (REC).

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In some cases, tissue is taken from colleagues. If such tissue is taken for any of the above non-research purposes, staff and students should follow the guidance provided on the [University Occupational Health website](#).

For research involving the taking of urine, saliva, stool and/or venous blood samples from healthy adult volunteers, University researchers should adhere to [CUREC Approved Procedure 24 \(AP24\)](#) when seeking ethical review/approval and conducting the research.

Human Tissue Authority Guidelines on 'Relevant Material'

The HTA requires 'relevant material' for research to be held under the governance of either NHS ethical approval or an HTA licence.

It is therefore important to first establish whether the human tissue samples would be considered 'relevant material' under the [Human Tissue Act 2004](#). The Human Tissue Act 2004 is an act of the UK Parliament applying to England, Northern Ireland and Wales, which consolidated previous legislation and created the Human Tissue Authority to "regulate the removal, storage, use and disposal of human bodies, organs and tissue."

The definition of relevant material in the Act is:

Section 53: Relevant material:

1. *In this Act, "relevant material" means material, other than gametes, which consists of or includes human cells.*
2. *In this Act, references to relevant material from a human body do not include embryos outside the human body, or hair and nail from the body of a living person.*

Please contact the University's Human Tissue Governance group for advice regarding the use and storage of human tissue samples for research: hta_help@admin.ox.ac.uk

Examples of relevant material (taken from the [HTA website](#))

The fundamental concept of relevant material is that if a sample is known to contain even a single cell that has come from a human body, then the sample should be classified as relevant material.

1. Specifically identified relevant material

This includes material such as bodies, organs and tissues, consisting largely or entirely of cells, and clearly identifiable.

2. Processed material

Where a processed material is generally agreed – as a result of the process – to leave it always either cellular or acellular, then the presumption should be that all examples should be regarded as such. The HTA would rely on an assurance that the process in question had been carried out. Under this category, plasma or serum, for example, will not be regarded as relevant material provided the process is demonstrated to render them acellular. Note that if the process used to separate plasma is intended to generate platelet-poor or platelet-rich plasma (as opposed to platelet-free), then there may still be cells within the plasma, making it relevant material.

3. Bodily waste products (including excretions and secretions)

The HTA considers bodily waste should normally be regarded as relevant material. The Act's wording is clear and reflects the possibility that even a single cell can be subject to an activity such as research. There will be cases where a person believes that material, intended for a scheduled purpose, is actually acellular. In such cases, the HTA can be approached for advice.

4. Cell deposits and tissue sections on microscope slides

In general, cell deposits or tissue sections on microscope slides are considered to constitute relevant material. This is because such deposits or sections are likely to contain whole cells, or are intended to be representative of whole cells.

For more detail on whether specific materials fall within the definition of 'relevant material' under the Human Tissue Act, please refer to the [Human Tissue Authority website](#).

Where to apply for ethical review

Which committee must review research proposed depends on a combination of whether the tissue samples are considered 'relevant material', and the subsequent processing/storage of the samples. The chart below provides a guide.

Where NHS Research Ethics Committee review is **required**, documents first must be submitted to the Sponsorship group of the [Research Governance, Ethics and Assurance \(RGEA\) team](#), who will confirm whether the University can act as Sponsor of the research.

There are some types of study that can be reviewed by the MS IDREC or the Oxford Tropical REC (OxTREC). Importantly, ethical review/approval from one of these Committees is essential for the use of tissue samples in research where they are not categorised as 'relevant material'.

Applications should be made on the [CUREC form for research using only previously collected biological samples](#).

The following information, coupled with the flow chart on the next page, should help you decide which review route to follow. However, as this is not always a clear-cut decision, please contact either the [MS IDREC or OxTREC Secretariat](#) or RGEA for advice as necessary.

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Sample type	Example	Ethical Review Process stages	HTA Licence Required?
Any samples from patients (where research is conducted in the UK)	Biopsy from someone with cancer	Departmental Review (if required) University as Sponsor (via RGEA) NHS Research Ethics Committee (REC - via IRAS)	No, provided samples are stored under NHS REC approval, and destroyed at end of study
Any samples from patients (where research is conducted in the UK or the EU with Local Ethical Approval)		Will depend on the circumstances under which the tissue is being used. Contact RGEA for advice.	Yes, for storage in the UK if brought here. Samples must be registered on one of the University's HTA licences before shipping to the UK
Any samples from patients (where research is conducted outside the UK and the EU)	Faeces from someone infected with typhoid	OxTREC ethical review Local Ethics Committee in Country where research is being conducted	Yes, for storage in the UK if brought here. Samples must be registered on one of the University's HTA licences before shipping to the UK
Cellular samples from healthy volunteers used in research and destroyed on day taken (i.e. not stored at all)	Blood taken to conduct a whole blood count for research data purposes	Departmental Review (if required) MS IDREC or OxTREC (refer to flow chart below)	No
Cellular samples from healthy volunteers taken and DNA/RNA extracted as soon as possible (within a maximum of 7 days) to render acellular. Only DNA/RNA used/stored for research.	Blood drawn into Tempus tubes for RNA extraction	Departmental Review (if required) MS IDREC or OxTREC (refer to flow chart below)	No

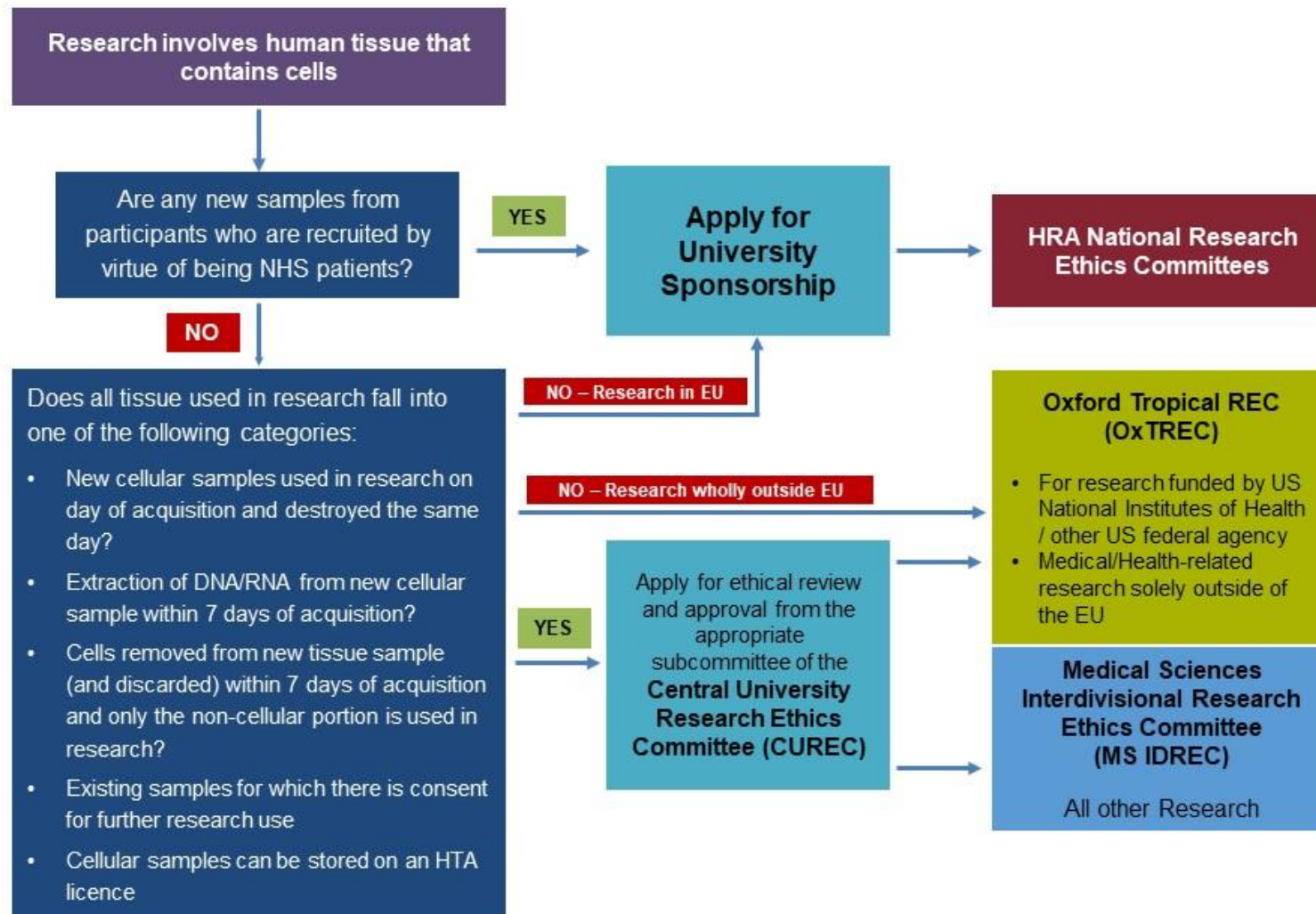
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Sample type	Example	Ethical Review Process stages	HTA Licence Required?
Cellular samples from healthy volunteers taken and rendered acellular as soon as possible (within a maximum of 7 days) with only acellular material being used/stored for research.	Blood collected and processed to obtain acellular plasma	Departmental Review (if required) MS IDREC or OxTREC (refer to flow chart below)	No
Cellular samples from healthy volunteers taken and/or being stored in order to perform research on the cells, where the site <u>does not have access to an HTA licence</u> (storage for longer than 24 hours)	Cells viably cryopreserved from fresh blood samples, Buffy coats, or leucocyte cones	Departmental Review (if required) University as Sponsor (via RGEA) NHS REC (via IRAS)	Samples cannot be held on an HTA licence in this case, hence why NHS REC approval is required
Cellular samples from healthy volunteers being stored in order to perform research on the cells, where the samples are registered on an <u>HTA licence</u> (storage for longer than 24 hours)	Cells viably cryopreserved from fresh blood samples, Buffy coats, or leucocyte cones	Departmental Review (if required) MS IDREC	Yes – samples must be stored on HTA-licensed premises and be registered on one of the University HTA licences before they are acquired

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Sample type	Example	Ethical Review Process stages	HTA Licence Required?
Previously collected cellular samples (excluding cell lines) purchased from a commercial company or NHS Blood & Transplant (NHSBT)	Buffy Coats or leucocyte cones	Departmental Review (if required) MS IDREC (if samples can be registered on an HTA licence) NHS REC (via IRAS) where HTA licencing is not possible	Yes – samples must be stored on HTA-licensed premises and be registered on one of the University HTA licences before they are received by the researcher. If licencing not possible, then NHS REC approval required instead
Samples obtained under the ethical approval of a research tissue bank (RTB).	Colorectal tumours fresh frozen are sought from a tissue bank for a specific project	Relevant tissue bank will comment on feasibility of project (whether they have suitable samples) RTB Access Committee procedure As long as the research tissue bank has approval to release samples under the generic ethical approval of the biobank, there is no need for the researcher to apply for additional REC review or hold the samples on HTA licenced premises	Research Tissue Banks are registered under HTA licences; provided the samples are obtained under the ethical approval of the research tissue bank, there is no need for separate HTA licensing.

Where to apply for ethical review





Central University Research Ethics Committee (CUREC)

Best Practice Guidance 15_Version 3.3

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Further Information

Medical Research Council (MRC) ethics series - [Human Tissue and Biological Samples for Use in Research: Operational and Ethical Guidelines](#)

[CUREC Approved Procedure 24](#) for studies involving taking urine, saliva, stool and/or venous blood samples from healthy adult volunteers

[University Occupational Health website](#)

[University of Oxford Human Tissue Governance website](#)

[Human Tissue Authority Code of Practice for Research](#)

[Governance Arrangements for \(NHS\) Research Ethics Committees](#)