

Joint Committee on Medical Genetics

The Royal College of Physicians

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The Royal College of Pathologists

The Human Tissue Act 2004: an assessment of the Act and its implications for the specialties of clinical and laboratory genetics

Alison Hall*, Anneke Lucassen*, Gail Norbury, Heather Skirton, Alastair Kent, John Crolla

(A working party of the Joint Committee on Medical Genetics)

*** This document was written by Alison Hall (Public Health Genetics Unit, Cambridge) with significant input from Anneke Lucassen.**

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Executive Summary

- 1. The Human Tissue Act 2004 (the Act) came into force on 1st September 2006. It is concerned with the removal, storage and use of cellular material and makes consent a legal requirement in specific circumstances.**
- 2. In this document we use 6 hypothetical case scenarios to examine different aspects of how the Act is likely to affect genetic medicine.**
- 3. We discuss how the regulation imposed upon the use of DNA by the common law and professional guidelines is likely to interact with the regulation imposed upon cellular material by the Act.**
- 4. We also examine how the Act is likely to impact upon related areas of legislation such as regulation of information and exercise of the Coroner's authority.**
- 5. Since the Act also makes it unlawful to carry out certain activities without a licence, we set out the requirements for and actions required to obtain a licence.**

Introduction

This document was produced by a working party of the Joint Committee on Medical Genetics (JCMG) to provide some practical guidance on the changes in clinical and laboratory practices prompted by the Human Tissue Act (2004). It combines a summary of the terms and definitions that appear in the primary legislation with a number of recognisable clinical and laboratory genetics case scenarios, in order to examine the likely impact of the Act on both areas of practice. The case scenarios are discussed in the context of the final Codes of Practice and Guidelines issued by the Human Tissue Authority (HTA) as at 8th September 2006. It concludes with an overview of the Act's requirements for licensing and an examination of how these might apply to clinical genetics services and genetics laboratories. The document is intended to complement the more general guidance given in the JCMG's "Consent & Confidentiality in Genetics Practice".

It should be recognised that the conclusions and opinions expressed by the authors do not have any status in law, but are provided in good faith and in the context of our understanding of the Human Tissue Authority's current guidance. We are hopeful that ongoing dialogue between the clinical genetics sector and the Human Tissue Authority will ensure that the legislation is implemented in a proportionate manner that is compatible with good clinical practice.

What is the Human Tissue Act 2004?

The Human Tissue Act (the Act) regulates the storage and use of **relevant material** from the living and the removal, storage and use of relevant material from the dead for **Scheduled purposes** with **appropriate consent**. It also requires certain activities to be licensed by the Human Tissue Authority from 1 September 2006.

The Act is significant for clinical genetics because it establishes a statutory framework where previously common law or professional guidelines applied and it also addresses the use of material for the benefit of relatives. However there remain clinical genetic activities that are not governed by the Act. This document outlines some changes to clinical practice that the Act will require using hypothetical cases and discussion. We also examine how clinical genetic activities are likely to develop in response to these changes, and highlight areas of possible confusion or interpretation which require wider and more extensive debate. We start with an examination of the basic terminology in the Act.

What is relevant material?

Relevant material means material other than gametes, which consists of or includes human cells. The definition *excludes* embryos outside the human body (which are already regulated by the Human Fertilisation and Embryology Act 1990) and nail and hair from the living. Extracted DNA is therefore also excluded.

What are scheduled purposes?

Scheduled Purposes exclude the use of relevant material for diagnosis and treatment (which remain covered by common law), but include the use of one person's material for the benefit of another. The Act only regulates relevant material used for the purposes set out in Schedule 1. Relevant material used for other purposes is excluded from the remit of the Act.

Part 1: Purposes generally requiring consent where the material is from the living or the deceased

1. Anatomical examination
2. Determining the cause of death
3. Establishing after a person's death the efficacy of any drug or other treatment
4. Obtaining scientific or medical information about a living or deceased person which may be relevant to any other person (including a future person)
5. Public display
6. Research in connection with disorders or the functioning of the human body
7. Transplantation

Part 2: Purposes requiring consent where the tissue is taken from a deceased person

8. Clinical audit
9. Health related education or training
10. Performance assessment
11. Public health monitoring
12. Quality assurance

What is appropriate consent?

The Act identifies who may give appropriate consent:

| | |
|---|---|
| Living competent adult or competent child willing to make a decision | His or her consent |
| Living child (incompetent, or competent but unwilling to make a decision) | Consent of a person with parental responsibility ¹ |
| Deceased child | His or her consent, if competent, or if none, the consent of a person with parental responsibility or if none a qualifying relative |
| Deceased adult | <ol style="list-style-type: none">i. His/her consent before deathii. If none, consent of a nominated representativeiii. If none, the consent of a qualifying relative |

The Act sets out a hierarchical list of qualifying relatives. Consent or refusal from somebody at the top of the list takes priority over someone further down. Where the donor has appointed somebody as their nominated representative, he or she is at the top of the hierarchy.

| |
|---|
| Spouse or partner Parent or child Brother or sister Grandparent or grandchild Child of a brother or sister Stepfather or stepmother Half brother or half sister Friend of longstanding |
|---|

Who is responsible for obtaining that consent?

Although the Act provides that appropriate consent be obtained – this does not mean that everyone removing, storing or using relevant material must personally obtain consent. That would be impracticable. The Act allows one person to rely upon consent obtained by another provided that s/he has a

¹ No automatic right of parental responsibility is conferred upon unmarried fathers unless there is a formal legal agreement or the birth is jointly registered.

reasonable belief that consent has been obtained. There is no definition of 'reasonable belief' in the Act – but this could include relying explicitly upon appropriate consent obtained by another in certain circumstances or by ensuring that robust systems, which are regularly reviewed, are in place to provide that assurance.² There is no requirement in the Act to obtain explicit evidence of consent and a move towards such a practice would, we believe, be impracticable. Where licence applicants rely on others to procure tissue, applicants are required to demonstrate that the process of obtaining consent complies with the Act and codes of practice.

How does the HT Act regulate DNA analysis?

It creates an offence of holding **bodily material** with the intention of analysing the DNA within it without **qualifying consent** that will apply to the whole of the UK³.

The Act establishes that a person commits an offence if:

- He has any **bodily material**
- Intending that the **human DNA** within it be analysed without **qualifying consent** and
- That the results of the analysis be used otherwise than for an **excepted purpose**

What is bodily material?

Bodily material means material that has come from a human body and consists of or includes human cells. Unlike relevant material – it includes gametes and hair and nail from the living. Like relevant material it excludes embryos outside the body and extracted DNA, but the provisions of the Act apply to the processing and storage of bodily material from which that DNA is extracted.

Certain types of material are excluded from the definition of 'bodily material' such as:

- All existing holdings⁴ of **anonymised** material.
- Material which is more than 100 years old

What is qualifying consent?

Qualifying consent is the same as Appropriate Consent – except that the hierarchy of qualifying relatives does not apply to consent given for DNA analysis. This is a pragmatic solution to the fact that genetic relatedness may not be the same as social relatedness. A different term is used for the consent

² Human Tissue Authority, Code of Practice on Consent Para 13. at [http://www.hta.gov.uk/db/documents/2006-07-04 Approved by Parliament - Code of Practice 1 - Consent.pdf](http://www.hta.gov.uk/db/documents/2006-07-04%20Approved%20by%20Parliament%20-%20Code%20of%20Practice%201%20-%20Consent.pdf) accessed 3.8.06

³ The rest of the Act is limited in territorial scope and applies only to England, Wales and Northern Ireland.

⁴ See section HTA 45(2)(b) and page 10.

required for DNA analysis to distinguish it from the consent required for the removal, storage and use of relevant material.

What is an excepted purpose?

The Act provides that material can be analysed for certain purposes without qualifying consent, without committing an offence.

These include:

- Medical diagnosis and treatment of the person whose body made the DNA
- Testing done under the authority of the coroner/procurator fiscal
- The prevention and detection of crime
- The analysis of existing holdings of identifiable material for a Scheduled Purpose⁵
- The analysis of bodily material from the living for research provided that it is de-identified and has research ethics committee approval.

What is DNA analysis?

The Act does not define DNA analysis. Any direct method of analysing DNA is covered by the offence – but it is less clear whether a technique which establishes the structure of DNA by indirect methods is also covered.

Case Notes:

The language of the Act is complicated and often impenetrable for clinicians so we have attempted to highlight its implications for practice using several hypothetical, but realistic, scenarios.

Case 1: Consent

Child A is referred for assessment of developmental delay and dysmorphic features. Peripheral blood is sent for chromosome studies and because specific dysmorphic features are listed on the request card, further investigations such as MLPA or array-CGH studies may be performed. The laboratory reports a normal male karyotype 46,XY and no apparent sub-telomere rearrangements with MLPA. The fixed cell suspension is usually stored for less than a year in case:

(a) additional FISH tests are requested by the referring clinician or

⁵ This means that they still come within the scope of the Codes issued by the Human Tissue Authority. For example, the HTA Code on Consent refers those contemplating genetic research on existing holdings to the following sources of advice:

ACGT Advice to Research Ethics Committees (1998)

<http://www.dh.gov.uk/assetRoot/04/10/41/56/04104156.pdf> (accessed 3.8.06)

MRC Guidance on Human Tissue and Biological Samples for use in Research: Operational and Ethical Guidelines (2001) http://www.mrc.ac.uk/pdf-tissue_guide_fin.pdf accessed 3.8.06

MRC Research Using Human Nervous System Material: Interim Guidance (2003)

These publications identify the potential for harm (e.g. discrimination from insurers or employers) with the 'genetic' nature of the test rather than its predictability. Some question the validity of this approach.

- (b) abnormal array-CGH results are obtained which require confirmation by FISH testing.

DNA is also extracted from the sample and stored for future clinical tests.

The removal of blood from the living, and testing for medical diagnosis and treatment are activities and purposes falling outside the Act. Both continue to be regulated by the common law. Generally it will be sufficient for the person giving consent to understand the broad nature of the material being taken, the purpose for its removal and significant risks involved. In this case, because A is an incompetent child, consent has been sought by the clinician from the child's parents (because they have parental responsibility) for taking and testing blood for treatment and diagnosis.

Discussion

Clinical genetics is dominated by clinical diagnosis and treatment – which is not regulated by the Act. Neither is DNA, once extracted from cellular material, regulated by the Act. Here the primary purpose of the tests is diagnosis and treatment of the affected child. However where cellular material is stored or used for purposes regulated by the Act such as obtaining scientific or medical information about one person which may be relevant to any other, such as for prenatal diagnosis of future children, then the Act applies. We anticipate that procedures adopted to satisfy the Act may eventually be adopted more generally, particularly since the passing of the Act reflected a changing climate in public opinion on consent.

What are the requirements of the Act?

Where the Act applies, there must be appropriate or qualifying consent.

The issue for laboratory workers here is that the source of the request is important. Clinical geneticists often have close working relationships with laboratories and may develop joint protocols on handling and storage of samples. They are likely to have greater practical knowledge of operating procedures and protocols. However, many requests (approximately 2/3 of total) come from specialities outside clinical genetics. In these cases, the laboratory worker may be less confident that appropriate or qualifying consent has been obtained for purposes outside treatment and diagnosis – such as the use of bodily material for the benefit of another family member or for research, and there may have been less detailed examination of the possible implications of testing. In general, clinical geneticists will obtain consent for future storage (primarily for diagnostic use), potential use for the benefit of family members and potential use in research studies because all these are routinely necessary as part of their service to families. Other specialities may not have obtained such explicit consent. It will therefore be important to highlight the importance of obtaining adequate consent to all referring clinicians. Although the Act does not, in general, prescribe the form of the consent for purposes governed by the Act (i.e. whether it is verbal or written)⁶,

⁶ It does prescribe that the consent is written in cases of public display and anatomical examination

we envisage a general move towards more formalised consents and processes.

If the Act applies, regardless of the source of the referral, the laboratory worker will be committing an offence if s/he knows that appropriate or qualifying consent has not been obtained. However, a reasonable belief that appropriate or qualifying consent has been obtained is sufficient to provide the lab worker with a defence.

Emerging good practice for material (including extracted DNA) held for clinical diagnosis and treatment

The Act brings into focus the need to clarify and justify current practice and to identify areas that require additional examination not only to comply with the Act but also to develop good practice in related areas. For example, the retention, storage and use of DNA falls outside the Act (which only regulates whole cells) – but good practice may dictate a consistent approach to obtaining consent regardless of whether fixed cell suspensions or extracted DNA are to be processed by laboratories. In the past, clinicians may not always have made it clear to patients that cell suspensions or extracted DNA are likely to be stored for future diagnostic testing. This standard laboratory practice has been developed with the patient's best interests in mind to avoid the need to seek new samples and consents every time a new or refined diagnostic test becomes available. We envisage that in the future – this practice will be made more explicit and consent for future storage routinely obtained by clinicians such as that envisaged by the code of practice on consent.

This requirement may have resource implications reflected in increased time taking consent and providing an explanation of diagnostic and non-diagnostic uses.

The immediate priority is to address the requirements of the HT Act namely the need for:

- Better communications between specialities as to protocols*
- More consistency between specialities as to consent taking*
- Better IT systems*

Are there any differences between the consent requirements for human material from the living and the dead?

Material from the dead is more comprehensively regulated than material from the living (i.e. living at the point of separation). No consent is required when material from the living is used for purposes in Schedule 1 Part 2 including audit and education or training. This includes the use of remnant tissue surplus to diagnosis or treatment. However, consent is required for any purpose in Schedule 1 Part 1 whether it derives from somebody who is living or dead.

However, the Act provides that even if the samples were taken when the person was alive, if the donor died an adult, and failed to make a decision as

to how those samples could be used, consent to use for Schedule 1 Part 1 purposes can be given by the highest ranking qualifying relative⁷.

Case 2: Access to samples from family members

Man B is referred to genetics services for assessment of his family history of colorectal cancer (CRC). His father, paternal uncle and paternal half brother have all died from CRC in their 40s. The reported family history is confirmed by histology reports in the father and half brother. The geneticist attempts to obtain tissue blocks from both individuals so that microsatellite instability testing and immunohistochemistry can be performed which might indicate which of several genes may be mutated in this family. The father's blocks have been destroyed but the half brother's blocks are located. However, the pathologist will not release them without appropriate consent.

Discussion

Although one of the Scheduled Purposes of the Human Tissue Act is concerned with obtaining information, the Act itself does not regulate access to information. This is regulated by the common law and the Data Protection Act 1998 (for the living), and the Access to Health Records Act 1990 (for the dead). The latter provides that personal representatives and any person who may have a claim arising out of the patient's death may have access subject to certain conditions. Professional guidelines recognise that although the duty of confidentiality survives death, it may be breached where justified by potential benefit to others.

Access to B's relative's tissue blocks is governed by Human Tissue Act. If the blocks were obtained before the Act came into force on 1 September 2006, they will be existing holdings and the consent provisions of the Act will not apply since they are held for an excepted purpose⁸. If blocks are obtained after 1 September 2006 they will require appropriate consent if they are held for scheduled purposes, and qualifying consent if material is held for the purpose of DNA analysis. It is not clear whether some indirect methods of DNA analysis such as immunohistochemistry require qualifying or appropriate consent. This distinction is important because if cellular material is used to create a new stain or antibody test – but is not classified as DNA analysis – then consent would be needed from the highest ranking member of the hierarchy who may not be genetically related to B. Those who have an interest in the outcome of the analysis because of their relatedness (such as B's half brother being 8th in this list) would not be able to override a refusal from a person higher up the ranking⁹. This discrepancy is potentially problematic and clarification from the Human Tissue Authority will be required as to what type of consent is required where indirect testing may yield information about DNA relevant to other family members. We favour a flexible case sensitive approach that acknowledges the potential benefit to family members that may arise from indirect DNA testing.

⁷ If the sample is bodily material for human DNA analysis, then consent may be given by any qualifying relative not just those of highest rank.

⁸ See page 10.

⁹ However in other circumstances, the Codes of practice recognise that the legal hierarchy may be waived in exceptional cases – such as where a family member vehemently disagrees with a higher-ranking member that transplantation should proceed.

Does the Act provide for exceptions to the use of relevant material?

There are a number of exceptions for certain uses or categories of relevant material that would otherwise be regulated by the Act. These include:

- Existing holdings
- Certain types of material used for research
- Imported material
- Material more than 100 years old

What are existing holdings of relevant material?

Relevant material or the body of a deceased person held on 31 August 2006 (the day before the Act came into force) can be used and stored without appropriate consent. Whilst there are no statutory requirements for appropriate consent where existing holdings are used for research – the Consent code establishes certain additional requirements that the Human Tissue Authority will seek to enforce. Breach of these requirements (as in all breaches of the codes) will not constitute a criminal offence but may be taken into account in respect of licensing. Some of these follow well-established principles of medical research (such that research should be ethically approved and that the potential benefits must outweigh any potential harm to donors). Guidance directs the researcher to justify the use of material for which consent has not been obtained or which is unidentifiable. S/he must also be satisfied that there is no evidence that the samples have been obtained unethically¹⁰.

What about existing holdings of bodily material held for DNA analysis?

Existing holdings of identifiable cellular material held for the purpose of DNA analysis are exempted from the Human Tissue Act if they are used for a Scheduled Purpose. In the context of DNA analysis only existing holdings that are **not identifiable** are exempted entirely from the scope of the Act.

Are there exemptions for the use of relevant or bodily material for research?

Anonymised¹¹ relevant material from the living can be used for research projects that have approval from research ethics committees without appropriate consent. Similar exemptions apply to bodily material held for DNA analysis. The Consent code clarifies that the researcher should not have information identifying the source of the material (nor be likely to obtain such information). This does not prevent links being retained to patient or clinical records¹² provided that they do not contain information giving direct patient identification. The Disposal Code clarifies that if research material is coded, the sample will be regarded as non identifiable provided the researcher does

¹⁰ Human Tissue Authority, Code of practice on Consent para 114-115. Good practice demands that these considerations are also followed where material is used in clinical practice.

¹¹ The Codes of practice define anonymisation as 'a procedure to ensure that.. all necessary steps are taken to prevent identifying the person from whose body the material has come'.

¹² Links can be coded. See Code of practice on Consent Para 28.

not seek to link the sample with the patient¹³. It may be difficult for some types of research to comply with these requirements for de-identification particularly in research involving very rare genetic conditions where the clinician may also be carrying out research.

Case 3: Consent to research

Fixed cells and DNA have been stored from case A on the basis that further tests may be requested by the clinician. A trainee clinical scientist is looking for a cohort of patients with idiopathic developmental delay where fixed cells and DNA have been stored for testing using array CGH. He has applied to the LREC for permission to use anonymised residual clinical samples.

Discussion

Material held for ongoing clinical diagnosis and treatment falls outside the Act. Qualifying consent is only needed if the primary purpose of the continued storage is one of the purposes listed in Schedule 1 Part 1 (including research unless it uses de-identified material and has the approval of a REC). Moreover, since the sample is from a living donor, it may be used for the purposes in Schedule 1 Part 2 without consent – such as audit, education and training and public health monitoring. However, genetics is a rapidly evolving field in which there is substantial fluidity between clinical diagnosis and research. New technologies are constantly in development, and as part of that development process may be applied to existing diagnostic samples to identify novel mutations. However it may sometimes be difficult to determine the boundaries between research and an extension of clinical diagnosis and treatment, particularly where diagnostic samples are used to develop specific and evolving technologies such as array CGH that are capable of clinical application, and where research techniques are used to ‘hone’ a clinical diagnosis.

Because the boundaries between research and clinical uses are often blurred - clinical geneticists may routinely seek consent for the application of research or quasi research protocols to clarify any findings in the event of an ambiguous result from a clinical test.

The definition of research in the codes of practice to the Act does not readily apply to this context. This defines research as:

‘concerned with creating new knowledge by addressing clearly defined questions with systematic and rigorous methods. It is about testing innovations or discovering the right thing to do, e.g. finding out whether new treatments work and whether certain treatments or models of service delivery work better than others. Research forms the basis of nationally agreed clinical guidelines and standards and is designed to establish best practice’.

In practice, the fact that a molecular test is listed in the UKGTN directory¹⁴ is illustrative (but not determinative) that the test is for clinical diagnosis rather

¹³ Human Tissue Authority, Code of practice on the removal, storage and disposal of human organs and tissue Para 52.

¹⁴ UKGTN directory at <http://www.geneticstestingnetwork.org.uk/gtn/>

than research¹⁵. Cytogenetic and molecular cytogenetic tests are not currently covered by UKGTN.

Implications for practice

The consent code of practice suggests that patients should be told of any implications the research use of their sample may have and told whether the consent is specific or generic¹⁶. They should also be told if their research samples will or could be used in the commercial sector, including commercial pharmaceutical companies indicating the range of activities and the researchers involved¹⁷.

In the context of clinical diagnosis and treatment – it is impracticable and unnecessary to seek the patient's consent to testing outside the NHS. In a research environment, information provided to patients (verbal or written) should clarify that genetic testing is sometimes carried out by laboratories that are outside the NHS.

Are there any other exceptions to the requirement for consent?

In some circumstances where it is difficult or impossible to obtain appropriate or qualifying consent, the Act provides for the Human Tissue Authority (or Scottish Court of Session) to deem consent instead. They include situations in which there is a potential benefit to others (whether they be family members or the public generally). They include:

- The use of material from those lacking capacity to consent to some types of research, transplantation or where use is broadly in the donor's best interests. Regulations prescribing the scope of this power have been published.¹⁸
- The use of material to yield scientific or medical information which may be of benefit to others where the donor cannot be traced or is not responding despite reasonable efforts being made to help him decide. The basis for this direction is that the donor is living, has not refused consent or is incompetent and that the prospective use can be justified on the basis of its desirability for another person¹⁹
- The post mortem testing of material which may pose a serious and urgent threat to public health²⁰

The Act prescribes the circumstances in which the Human Tissue Authority or Court of Session may deem consent – although in time, regulations clarifying the requirements for each type of deemed consent will be made. In the meantime – applications can be made direct to the HTA or Court of Session.

¹⁵ This is because certain tests in common usage before the directory was compiled are excluded from UKGTN dossiers. Moreover, at any one time, significant numbers of new 'diagnostic' tests are only available from research laboratories pending amendment of the directory. The status of such tests in this context is unclear.

¹⁶ Including generic consents such as 'any future research project which has ethical approval', Consent code of practice at Para 79.

¹⁷ HT Act, Consent code of practice at Para. 80.

¹⁸ The Human Tissue Act 2004 (Persons who Lack Capacity to Consent and Transplants) Regulations 2006 are available at <http://www.opsi.gov.uk/si/si2006/20061659.htm> accessed on 14.7.06

¹⁹ The power to make these regulations is set out in the HT Act. These regulations are not made as at 8.9.06

²⁰ Again, these regulations are not made as at 8.9.06.

What should I do if I am unsure whether a purpose requires consent or not?

No offence is committed if you have a reasonable belief that the HT Act does not apply to the proposed activity. A reckless disregard for the Act's requirements would not constitute a defence. For example, it is sometimes difficult to distinguish between different uses – some of which will require consent and some will not. So, research using tissue from the living will require consent, whereas clinical audit and health related education and training would not. Whilst the Act does not define each scheduled purpose – there is a glossary attached to each code of practice²¹ that provides relevant definitions.

Case 4: The scope of consent for genetic testing

Woman C is seen by a neurologist who suspects a particular aetiology and sends a request to the genetics laboratory to look for a mutation in gene X.

DNA is extracted and stored and the tests show no mutation in Gene X. Two months later, a paper is published showing that patients with a phenotype very similar or identical to that seen in this patient may also be related to mutations in Gene Y. Following further discussions with the referring clinician, the laboratory performs this test and reports a causative mutation in Gene Y.

Discussion

The storage and use of extracted DNA falls outside the Act. Had the material been stored in the form of cellular material rather than extracted DNA, the wording of the initial request might have been important in determining whether or not subsequent testing for the causative mutation in Gene Y could proceed. Since the initial request to 'look for a mutation in gene X' is made for the purpose of clinical diagnosis and treatment and subsequent testing confirming the causative mutation in Gene Y is an extension of the clinical process of securing a diagnosis, the terms of the consent are not governed by the Act but by the common law.

Implications for practice

Breadth of consent

This example demonstrates the difficulties of framing the request for consent appropriately and highlights the importance of not seeking consent that is unduly specific – consent should allow subsequent diagnostic testing which may help to explain clinical findings. If tests for gene Y are only available within a research setting, there may be concern that consent to research is needed. We take the view that if the primary purpose of testing is for clinical diagnosis of the person whose body made the DNA, then this use falls outside the Act and qualifying consent to research is unnecessary.

²¹ Human Tissue Authority, Code of Practice on Consent pages 30-35 available at [http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 1 - Consent.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%201%20-%20Consent.pdf) (accessed 3.8.06)

Sometimes, different assumptions are made by those obtaining the consent and those using the sample as to whether appropriate or qualifying consent is required, such as when a prospective use is represented by the person making the referral as for clinical treatment and diagnosis, when in fact it is for research. This distinction may be blurred where the clinician is also the researcher, particularly in the context of rare genetic diseases²².

What procedures must be in place so that I can establish that appropriate/qualifying consent has been obtained?

The codes of practice suggest a requirement for robust procedures. This may be difficult to satisfy in practice if IT systems are fragmented or if information sharing is not well developed between institutions. The Connecting for Health programme is likely to impact upon IT systems in unforeseen ways. In particular, the ability of donors to place sensitive information within a virtual 'sealed envelope' may impose electronic barriers to information sharing that could interfere with these procedures. It is not yet clear how such conflicts will be managed.

Are there model forms available?

Suggested draft consent forms are annexed to the consent and confidentiality guidance published by the Joint Committee on Medical Genetics²³. These forms are not universally adopted by all genetics services. The Human Tissue Authority is to publish model consent forms but these are not yet available. Of course, a valid consent does not require the completion of a consent form – provided that the consent process provides the person consenting with sufficient information to make a decision. As a matter of good practice, that decision should be recorded in writing.

What about material held for coroners post mortems?

In general, anything done under a coroner's authority is excluded from the scope of the Act. This means that if a post-mortem is carried out under the coroner's authority that post-mortem does not require appropriate consent²⁴.

What consents must be sought for the use of that material once the coroner's authority has expired?

Consent is required for the continued retention of material once the coroner's investigation is complete²⁵. This is managed by requiring the coroner to notify

²² For more discussion see GIG, Oxford GKP and The Ethox Centre 'Research and Rare Genetic Differences: Frequently Asked Questions' 2005. This suggests that 'because of the blurred boundaries between clinical investigations and research, consent can appear to be a difficult issue for some REC's'... and because family members tend to share a desire to secure a diagnosis for the condition affecting the family, 'consent has to be open ended with regard to the genes to be analyzed'.

²³ Joint Committee on Medical Genetics, Consent and Confidentiality June 2006 available at <http://www.rcpath.org/resources/pdf/GeneticsConsentAndConfidentiality-JCMGreportJul06.pdf> This form adopts a more restrictive approach than the HT Act including a provision that material be anonymised if used without consent. This provision is not required by the Act which provides for certain uses of identifiable bodily material without consent (including clinical audit, education and training etc).

²⁴ However, post-mortems are required to be licensed by the Human Tissue Authority.

²⁵ The Coroner's (Amendment) Rules 2005 No.420 came into force on 1 June 2005.

certain individuals²⁶ that material is being preserved and to select various options for its ultimate disposal²⁷. The Human Tissue Act applies as soon as the coroner's authority lapses. Clarification is needed as to whether:

- The existing hierarchy applied by the coroner (prescribed by the Coroner's Amendment Rules) takes precedence over the hierarchy established by the Human Tissue Act
- If no such consent to future uses has been sought by the coroner, whether it is the coroner's responsibility to seek consent under the Human Tissue Act once the coroner's authority has lapsed or whether this should/can be delegated to the pathologist or even the researcher given that there can be particular sensitivities around repeated requests for consent in these circumstances
- In the event of disagreement between relatives – which list of relatives takes priority²⁸

How much information must be given to ensure that the consent is valid?

With limited exceptions – the Act does not stipulate the form consent should take²⁹. However, the codes of practice amplify the requirements for consent and set out the relevant law and professional guidance. They clarify that for consent to be valid it must be given voluntarily by an appropriately informed person who has capacity to agree to the proposed use of the material. Whilst there is consensus that the amount of information provided should be proportionate to the exposure to potential harms caused by the activity, opinions are divided as to how much information is needed to ensure that a person is appropriately informed. In the context of clinical care, the law provides that it is enough that the person giving consent understands the broad nature and purpose of the consent.

Are consent forms that give consent for more than one scheduled purpose acceptable?

There is a distinction between recording consents to multiple scheduled purposes on a single form (thus streamlining the consent process) – and providing for a broad or generic form of consent that can be applied to multiple scheduled purposes. The Consent Code recommends that consent should be generic where appropriate and suggests that consent could be obtained for all scheduled purposes where appropriate³⁰. A broad form of

²⁶ The obligation is to notify any **one** of spouse or partner, parent, child, any personal representative of the deceased and any other relative who has notified the coroner of his desire to attend (or be represented at) the post-mortem examination.

²⁷ These options include disposal by a pathologist, return to a relative or personal representative who requests it, continued retention of the material or use for medical research or other purposes.

²⁸ The draft Coroners' Bill introduced in June 2006 proposes reforms to the basis upon which material is retained and used for coroners' purposes. New proposals include a statutory time limit for holding material under the coroners authority and changes to the training and organisational structure of coroners.

²⁹ Consent is required to be evidenced in writing when material is to be used for public display or anatomical examination, HTA s.2 (4) – (6) and 3(3) – (5).

³⁰ HTA Code of Practice on Consent, Para. 90 available at:

http://www.hta.gov.uk/db/documents/2006-07-04_Approved_by_Parliament_-_Code_of_Practice_1_-_Consent.pdf accessed on 3.08.06

consent may be acceptable in certain circumstances such as where the form of consent is 'for use in any future research project approved by a research ethics committee'. The Code also recommends that those taking consent are proactive in seeking consent to multiple specified scheduled purposes – such as when post-mortem consent is given to both transplantation and research.

Do forms of consent need to explicitly provide for a separate consent for genetic testing or DNA analysis?

No. Whilst the Act makes it an offence to have any bodily material intending to analyse the DNA within it without qualifying consent, it does not elaborate on what form of consent is acceptable. Neither does the Act require that explicit consent be obtained for DNA or other genetic analysis provided that consent to the removal, storage or use of relevant material for scheduled purposes has been given. However the Consent Code³¹ suggests that as a matter of good practice the decision to seek separate consent should be grounded in relevant professional guidance. The Medical Research Council recommends that where material is to be used solely for research – it is good practice to seek separate consents for DNA analysis. This is not universally adopted in practice. This seems to be because the boundary between genetic testing and non-genetic testing can be difficult to define. For example, a clinical biochemistry test such as cholesterol can be as informative about a DNA mutation and vice versa a DNA test may give no hereditary information. The MRC guidance was also written at a time when DNA tests were much rarer than they are now.

Discussion

The codes do not clarify whether the Human Tissue Authority consider that it is appropriate to obtain a single generic consent for DNA analysis for all scheduled purposes. Certainly, professional guidance endorsed by the Human Tissue Authority in other contexts suggests that non-specific consent to 'carrying out of any and all gene tests' is not acceptable. It may be that a generalised consent form is more justifiable in circumstances where the proposed uses of the analysis carry generalised risks, (such as potential disclosure of confidential information) than where the analysis is likely to carry a specific risk (such as confirming a diagnosis or risk susceptibility)³².

Points to consider:

- In the absence of specific guidance on this point from the Human Tissue Authority or from case law, clinicians and researchers need guidance as to how broad a consent is legally and ethically justifiable. This applies to direct and indirect genetic analysis.*
- Most existing advice seems to envisage a face-to-face encounter between clinical geneticist/client or researcher/research subject where a dialogue about consent can take place. This model is not applicable*

³¹ HTA Code of Practice on Consent, Para. 116 available at: [http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 1 - Consent.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%201%20-%20Consent.pdf) accessed on 3.8.06

³² Personal communication from Professor Peter Furness, Vice Chair of the Royal College of Pathologists.

to large scale epidemiological secondary research or (sometimes) to laboratory use

The JCMG consent and confidentiality document goes some way to clarify the position but it was drafted before the Human Tissue Authority was established and does not refer to secondary legislation arising from the Act such as the codes of practice and regulations, or to the Mental Capacity Act 2005. The Department of Health is likely to review its guidance on consent and the common law to take account of these legislative changes.

Is it ever permissible to store/use bodily material from one family member for the benefit of another?

The Act provides that qualifying consent is required for bodily material to be used for obtaining scientific or medical information about a living or deceased person which may be relevant to any other person (including a future person). Qualifying consent is required where samples from one family member are analysed to provide information that may be used for the benefit of another, perhaps where it is combined with prenatal genetic testing, or to assess asymptomatic older siblings.

The HT Act does not regulate the sharing of information between relatives where confidentiality may be legitimately breached (as sanctioned by common law and professional guidelines) if it is likely to prevent serious preventable harm. So the Act does not prevent a pre-existing test result (obtained for the purpose of clinical diagnosis and treatment) relating to one family member being used for the benefit of another provided that use can be justified. However if there is no pre-existing test result available, (such as where the donor has refused to be tested or the original blocks have been lost), where a competent person vetoes the analysis of his or her bodily material for the benefit of another family member – this must be respected even if it is likely to cause serious injury or death. However the Act does make provision for deemed consent in circumstances where the donor of the material cannot be traced or reasonable efforts have been made to get the donor to decide whether to consent to use for that purpose, provided that that analysis is in the interests of another person and there is no reason to believe that the donor has died, refuses consent or lacks capacity³³.

Case 5: Using material for the benefit of family members

Woman D has disease Z confirmed by a causative mutation in Gene Z. It becomes apparent that there are several other members of this family, E and F, living in other parts of the country, who could have this same condition and other laboratories request samples of D's DNA or human material to act as a positive quality control for predictive testing of these relatives.

Use of DNA as 'positive quality control' in mutation screens

³³ Regulations concerning lack of capacity are available at <http://www.opsi.gov.uk/si/si2006/20061659.htm> (accessed on 13.7.06). The other regulations have not yet been made.

The usual clinical scenario would be for DNA to be extracted from Woman D's sample for her own clinical diagnosis and treatment – and surplus DNA stored for future diagnostic use and for the benefit of relatives. It may be important to compare D's DNA with that from E and F to clarify the presence of mutations at primer binding sites and to confirm a diagnosis in E and F. This is described as 'positive quality control'³⁴. If D's DNA were requested by other laboratories to confirm clinical diagnoses in E and F – no offence would be committed under the HT Act because no bodily material would be held. D's DNA could be used for mutation screening even if D had not given her explicit consent for this purpose. Subsequent use and disclosure of information obtained from the sample is not regulated by the HT Act but by the Data Protection Act 1998 and the common law (see under case 2). Although it was not standard practice to ask for consent for future use as positive control in the past as a matter of good practice many clinicians are now seeking such consent at the time of taking the sample, sometimes specifically, sometimes as part of general consent for the sample to be used for the benefit of relatives. Where consent has not been given to use as a positive control laboratories may remove individual identifying details from samples as a means of minimising the risk of disclosing the identity of the source of the sample.

Use of bodily material as a source of DNA for 'positive quality control' in mutation screens

In the very rare case where bodily material (in the form of whole cells) is required for storage and processing for use as a positive control the safer interpretation is that this requires consent from the source of the tissue on the basis that the presence of the mutation in gene Z is a pre-requisite for selecting that person as a control. Otherwise laboratories operate within the Act if they use existing holdings of material for positive quality control (held before the Act came into force on 1 September 2006) with individual identifying details removed. Others suggest that since the prospective use is essentially to ensure the sensitivity and specificity of a diagnostic test to be used for an affected family member, no information exchange occurs in any objective sense and qualifying consent is not needed.

This situation is somewhat distinct from the testing of remnant tissue for quality assurance of equipment or procedures without consent (a purpose in Schedule 1 part 2). Guidance from the Department of Health on consent suggests that NHS Bodies should have an active policy of advising patients of such uses, including quality assurance, which is defined in general terms as the systematic monitoring and evaluation of a project, service or facility to ensure that the standards of quality are being met.

What can I do if I get no response from my requests for consent?

Case 6: The non-responding relative

Woman G is referred for assessment of her strong family history of breast cancer. She is informed that accurate predictive testing in her case requires

³⁴ This is because polymorphisms at the primer binding sites (private to that particular family) might result in a false negative test. See Kuschel B et al, Genes Chromosome Cancer 2001 31 96-8.

the finding of a causative mutation in an affected relative. G attempts to contact her estranged sister whom she knows had a mastectomy for breast cancer at the age of 35. G's sister does not respond. G asks whether her sister's sample could be tested for the familial mutation so that she herself can have a predictive test.

Discussion

If the sister cannot be traced, or fails to respond to repeated requests for consent to the use of this material – then those likely to benefit from this mutation screen may apply to the Human Tissue Authority for deemed consent to test for the benefit of G. If the sample is held in the form of extracted DNA then access would be covered by the common law on consent. If G's sister has had bodily material taken for diagnostic testing – but for whatever reason has decided not to go ahead – then the decision to let G access the material to obtain genetic information will not be straightforward. It may be that obtaining information confirming a diagnosis for G will simultaneously clarify a diagnosis for G's sister. There is an extensive literature on the right not to know of a diagnosis. Proceeding without consent in such circumstances will be problematic and careful consideration would need to be made of the implications for G's sister, especially if there are management ramifications for her³⁵.

What should I do if I am uncertain whether the Human Tissue Act regulates a particular activity or not?

Ignorance of the Act and its requirements is no defence to the offences contained within it. The Act establishes a licensing system, which in its preliminary stages, relies upon self-assessment by individuals who have an operating knowledge of the Act, its codes and regulations, (identified as Designated Individuals). Specific enquiries can be directed to the HT Authority at enquiries@hta.gov.uk

The Human Tissue Act establishes the requirement for licences for certain activities. What are these activities?

Licences are required for the following activities:

- Carrying out an anatomical examination and storing anatomical specimens
- Post mortem examination
- Removing relevant material from a deceased person for a scheduled purpose (except for anatomical examination, post-mortem examination and transplantation)
- Storing any relevant material for use for a scheduled purpose (from the living or deceased)
- Storing the body of a deceased person for a scheduled purpose
- Use of a body or relevant material from such a body for public display

³⁵ Lucassen Kaye JME (in press). Available on <http://jme.bmjournals.com/preprint/ecurrent.dtl>

Are there any exceptions to the requirement to hold a licence?

Regulations provide for certain exceptions to the requirement to hold a licence³⁶. These include the use of:

- Relevant material from the living for most scheduled purposes excluding anatomical examination, research and transplantation
- Relevant material from the living for transplantation of an organ or part organ subject to a maximum storage period of 48 hours
- Relevant material from the living for qualifying research (i.e. research using material from the living which has research ethics committee approval in accordance with section 1(9)(a))
- For analysis for a scheduled purpose other than research – where the material has been sent from and will be returned to licensed premises e.g. tissues from perinatal post mortems for cytogenetic and DNA testing from a referring licensed pathology department

Discussion

*Tissues used for providing diagnoses (peripheral blood and **tissue biopsies from the living**, and fixed cell suspensions) are often discarded once the testing is complete and the report issued. However, these materials can be stored for audit, teaching and quality assurance purposes without a licence. The storage duration is not dictated by the Act. Rather - practice varies between labs and is governed by storage capacity, the nature of the material (i.e. whether clinically significant or not) and good practice guidelines³⁷. In practice therefore, the main licence implication for clinical genetics is where bodily material is held for unspecified future research (particularly relevant to cancer genetics).*

Can I obtain a generic licence or do I need separate licences for each activity?

The Act provides for licences to be site, person and purpose specific. Separate licences will therefore be required for each licensable activity. The HT Authority have identified five separate sectors covering all the licensable activities prescribed by the Act for which separate licence fees will be payable. These are:

- Anatomy (and related activities)
- Pathology (post-mortem and related activities)
- Public display
- Research
- Storing tissue for human applications

This means that each sector specific application may cover more than one licensable activity. For example, a pathology application covers 3 licensable

³⁶ The Human Tissue Act 2004 (Ethical Approval, Exceptions from Licensing and Supply of Information about Transplants) Regulations 2006 available at <http://www.opsi.gov.uk/si/si2006/20061260.htm> [accessed on 14.7.07]

³⁷ Such as guidance from the RCPATH: The Retention and Storage of Pathological Records and Archives 3rd Edition <http://www.rcpath.org/resources/pdf/G031-RetentionAndStorage-Sept05.pdf>

activities for all scheduled purposes (excluding anatomical examination and transplantation). A research application covers 1 licensable activity (namely the storage of relevant material) for 8 scheduled purposes³⁸.

Licences may be structured in a number of different ways. Examples are:

- To provide for separate designated individuals to be responsible for separate activities within the same site³⁹ each of which will operate under separate licences.
- To provide for designated individuals to supervise a number of 'persons designated' for different activities. This delegation is only acceptable if each of those activities are regulated by standard operating procedures and are under the supervision of one designated individual.

How do I apply for a licence and what does the licensing process involve?

The application procedure requires submission of a self-assessment compliance report⁴⁰ for each broad area of activity. This system encourages applicants to measure their own progress against sector-specific standards on a numerical and qualitative basis. Separate licences are also required for separate sites, defined generally as sites with differing postcodes/less than 10 min walk apart.

Each compliance report submitted by 31st August 2006 should identify the licence holder and the "Designated Individual" plus any "Persons designated" to be named on the licence to work under/with the DI. The HTA will issue a deemed licence to allow the applicant to practice lawfully whilst the application is evaluated. Once evaluated the HTA will offer a licence normally for 3 years but subject to conditions. The DI is obliged to acknowledge/accept the licence or make any appeal within 28 days.

During September 2006, applications will be processed and substantive licences offered. It will be an offence to carry out any licensable activity without a licence after this date. Those who contravene these requirements are liable to up to three years imprisonment and/or a fine.

What will it cost?

The Human Tissue Authority published its interim fee structure on 1 August 2006⁴¹. Separate annual fees are payable for anatomy, pathology, public

³⁸ i.e. 4 general purposes covering establishing after death the efficacy of a drug/treatment, obtaining information that may be relevant to any other person including future person, public display and research, and 4 covering purposes in Schedule 1 Part 2 for which consent is needed to use material from the deceased – (i.e. clinical audit, education/training, public health and quality assurance).

³⁹ Subject to a suggested limit of four activities per D.I.

⁴⁰ These reports are available at

http://www.hta.gov.uk/licensing/guide_to_licensing_and_application/compliance_report_licence_application.cfm which also contains additional sector specific advice.

⁴¹ Available at

http://www.hta.gov.uk/search.cfm?FaArea1=CustomWidgets.content_view_1&cit_id=93&useCache=false accessed 3.8.08

display, research and storing tissue for human application. Licences are to be issued for an initial period of three years and the annual fee of £6000 is payable for each sector (except for the storage of tissue for human application), but is subject to variation – if the number of applications varies significantly from HTA estimates because applicants merge their holdings. Concessions are made for satellite sites and for small permanent collections displaying less than 20 exhibits.

Licences for storage of tissue for human application operate somewhat differently - a reduced fee operates where the establishment is already accredited (e.g. by the MHRA) or has had a recent inspection or where the site operates as the satellite site of another (i.e. it is operating under standard operating procedures and sharing supervision from the same Designated Individual (DI)). The licence structure for tissues and cells ranges from £750 to £4500 (with the fee for a satellite site being £250).

A separate fee is payable for each compliance report submitted (rather than per licence) and fees are payable annually for the duration of the licence (normally 3 years). The annual fee includes the costs of site inspection if needed. The HT Authority has invited tenders from external sources to perform these site inspections for most sectors. In the first instance the theme of the inspections will be focussed on consent. The HT Authority has found it difficult to fix their fee structure because of the difficulty in identifying potential licence applicants. For this reason, fees are subject to change in future years.

Who is a Designated Individual (DI)?

The DI is the person legally responsible for ensuring that activities are carried out to a satisfactory standard, by suitably trained individuals, and that necessary requirements are complied with (e.g. use of suitable practices and compliance with licence conditions)⁴². HT Authority guidance suggests that the person might be a Head of Department/clinician/scientist or manager – who has active responsibility for supervising and managing licensed activities (particularly developing and implementing quality management systems). They should have day to day operational knowledge⁴³ but also the authority to manage and implement change. They are also required to have knowledge and understanding of the HT Act and relevant Codes of Practice.

The requirement for operational knowledge of a sector means that a single DI is unlikely to hold more than 4 licenses. A relatively large Trust may have a DI for each area of Pathology, Transplant, Research, Anatomy and Public Display, and each DI may be assisted by a small number of PDs⁴⁴.

Who is the licence holder?

The licence holder must have some managerial capacity in the establishment – but unlike the DI is not required to supervise the activities. The HT Authority suggests that suitable candidates are a corporate body such as the NHS

⁴² Human Tissue Act, section 41(1) and Human Tissue Authority Guide to Licensing for Designated Individuals and Licence Holders p. 10.

⁴³ The HT Authority may deem applications for DI to be unsuitable if the individual does not have appropriate day to day operational knowledge

⁴⁴ Under this model, DI's are responsible for complying with the licence and liable for breaches. Contrast the system for animal licences for which designated individuals are not personally liable for breaches.

Trust or Chief Executive. Naming a corporate body as the licence holder reduces administration if there are changes in personnel. The process also requires a suitable named contact (such as the secretary to the Chief Executive) to be named in the application.

Who should apply for these licences?

Applications must be submitted, and declarations completed, by the proposed DI and licence holder.

Who is the 'Person Designated as a person to whom the licence applies'?

Difficulties arise if activities are carried out at multiple sites – because the licences are required to be site specific. Separate licences are required if a licensed activity is to be carried out at more than one place (i.e. different streets or different postal codes)⁴⁵. However, licence applications from multiple premises operating under one governance structure, one set of standard operating procedures and being supervised by the same DI may be streamlined provided that Designated Individuals can demonstrate that they have day to day operational knowledge of the activities at **each** site⁴⁶. A single application for multiple licences should name the DI, together with a Person/s Designated at each site who has responsibility for directing and assisting the DI in the governance of activities at those sites. These individuals do not have the legal duties of the DI but are required to 'direct' others in relation to the HT Act. In the context of therapeutic licences these could be the processing or quality manager. It is not enough for the PD merely to be authorised by the DI.

What constitutes a satellite site?

Guidance from the HT Authority suggests that establishments that carry out licensable activities under the supervision of the same DI using the same Standard Operating Procedures must also have formal links with the main establishment (such as holding a contract with them)⁴⁷. The establishment address should be the main site even if the application is on behalf of satellite sites⁴⁸. The HT Authority suggests that a satellite establishment 'would normally undertake only one of the activities or the hub'. Larger establishments providing more complex services may justify having their own DI on site.

What happens if there is a change of personnel or premises?

A form must be submitted to the HT Authority to substitute a different DI or licence holder in the event of change of staff or incapacity or to notify minor

⁴⁵ However, different buildings on one site may be regarded as being 'the same place'. Decisions are to be made on a case-by-case basis. HT Authority, Guidance to DI and licence holders p. 35 at [http://www.hta.gov.uk/db/documents/2006-03-](http://www.hta.gov.uk/db/documents/2006-03-01_Guide_to_licensing_for_DIs_and_LHs_final_PDF.pdf)

[01_Guide_to_licensing_for_DIs_and_LHs_final_PDF.pdf](http://www.hta.gov.uk/db/documents/2006-03-01_Guide_to_licensing_for_DIs_and_LHs_final_PDF.pdf).

⁴⁶ See section on satellite sites.

⁴⁷ See sector specific application guidance at <http://www.hta.gov.uk/licensing.cfm> They also suggest that the DI makes regular visits – normally twice a year.

⁴⁸ HT Authority, Application Guidance to Pathologists, p. 31

changes to premises. Major changes such as the addition of a new licensed activity or significant changes to premises will necessitate a new licence.

What are the consequences of not having a licence by 1 September 2006?

Establishments carrying out any licensed activities are required to be licensed by 1 September 2006. In practice this means that they need to have filed a compliance report in each and every applicable area prior to 1 September 2006 to obtain a deemed licence⁴⁹. The Human Tissue Authority does not intend to issue deemed licences in respect of applications made after 31 August 2006. This means that institutions relying upon applications made after that date may either have to suspend their licensable activities pending the issuing of a formal licence⁵⁰ by the Human Tissue Authority or, where applicable, such as in the case of relevant material held for research, will have to transfer their material to an organisation which does hold a licence. In theory, any person operating without a licence will be personally liable to a fine and or imprisonment (although the HT Authority have confirmed that they intend to be a proportionate regulator and that if an application is received late – that they are unlikely to take immediate legal action⁵¹).

Are there any exceptions to the requirement to hold a licence?

Regulations⁵² providing for exceptions to the requirement for a licence have been made. These are discussed above. Storage licences are **only** needed where relevant material from the living is to be used:

- for anatomical examination
- for transplantation if the material is to be stored for 48 hours or more and the material is not an organ or part organ
- for research (other than qualifying research⁵³)

Storage licences are **generally** needed for the storage of relevant material from the deceased **except** where the person storing it is intending to use it for:

- qualifying research
- where the material has been transferred from licensed premises to other premises for analysis for any other scheduled purpose other than research and will be returned to the licensed premises when the analysis is completed.

There may well be some overlap in licences/scheduled purposes and the HT Authority may advise in some circumstances that an additional licence is not

⁴⁹ The HT Authority have clustered linked activities to streamline the licence application process – for example, in relation to pathology, the storage of a body of a deceased person, making a post-mortem and removing material from that body for a scheduled purpose are linked.

⁵⁰ It is not clear how long this period of suspension is likely to be.

⁵¹ See Human Tissue Authority Licensing FAQ's at http://www.hta.gov.uk/about_hta/faqs/licensing_faqs.cfm

⁵² The Human Tissue Act 2004 (Ethical Approval, Exceptions from Licensing and Supply of Information about Transplants) Regulations 2006 available at <http://www.opsi.gov.uk/si/si2006/20061260.htm> accessed 3.8.06.

⁵³ Qualifying research is defined as ethically approved research using de-identified material from the living (under section 1(9) of the HT Act) or specific research for which such ethical approval is pending.

required e.g. some storage of material used for research may be covered by a pathology licence.

What is the status of material held once such a research project has ended?

Once a project has ended, a licence for continued storage of material previously held as part of a research project will be needed unless the material is an existing holding⁵⁴.

Will the licensing process involve an inspection?

The Human Tissue Authority plan to issue substantive licences based on two inspections. The Phase One inspection (which applies to all licence applications) is desk based and will be carried out by HT Authority staff. Phase Two inspections (required to obtain additional visual or oral evidence to inform licence conditions) are likely to be outsourced in most sectors⁵⁵ to suitable agencies not yet finalised by the HT Authority. In the longer term, Phase Two site visits are likely to be carried out on a random sample of applicants from each sector to inform processes and as an aid to good practice.

Will the licensing process require changes to current practices?

The requirement for licensing is likely to cause:

- Rationalising storage (subject to postcode/site restrictions). NHS trusts may wish to limit the number of small collections requiring separate licences such as where multiple research teams hold material that does not qualify for a relevant exemption (if REC approved research projects have expired);
- NHS Trusts may consider introducing or rationalising standard operating procedures so that multiple premises qualify for reductions in licence fees. This may be difficult – since the activities are so varied that it may be impossible to identify a single individual who is capable of supervising activities across sectors. Some duplication of licence applications and licence fees may be unavoidable;
- One of the responsibilities of the DI is to ensure that staff are suitably trained. Training manuals, records and personal development plans could constitute evidence of this requirement. Contracts of employment may also need to be amended to reflect the requirement for DI's to be legally responsible for licence compliance;
- Audits will need to be conducted to confirm consent is recorded and the traceability of material from receipt to use/disposal;

⁵⁴ I.e. any relevant material held the day before the HT Act comes into force. If the material is bodily material held for DNA analysis – the HT Act provides that it must be de-identified (HTA s. 45(2)(b)).

⁵⁵ Responsibility for Phase Two inspections for anatomy and public display are to be retained by the HT Authority.

- Institutions will need to ensure that where samples are sent to unlicensed premises for testing, that remnant samples are returned to licensed centres and records maintained in order to satisfy the requirements of the regulations;
- Longer-term goals include updating and ensuring compatibility between IT/documentation systems.

Are any other forms of accreditation to be taken into account?

The HT Authority's approach to licensing is likely to build upon the infrastructure established by existing accreditation⁵⁶. The compliance reports request evidence of a variety of different forms of accreditation.

Note: MHRA/CPA/JACIE accreditation provides sufficient evidence of compliance for some specific areas (for example, evidence of governance and quality systems used in pathology and research sectors) provided that applicants are confident that their establishment is fully compliant (in which case they can submit a self-assessment score of 4 and omit certain sections of the form)⁵⁷.

Licence conditions

Each licence will have as many as 30 conditions attached. These may be statutory (required by the Act), standard (applying to all licences of a certain type) and additional (specific to a licence). If conditions are imposed – the Designated Individual has 28 days after notification to make representations concerning the licences. These conditions are designed to be helpful rather than punitive.

I receive referrals from many different sources. Are there any processes or procedures, which I can apply to ensure that I am not in breach of the law?

In order to avoid potential breaches of the law – it would be prudent to establish and keep records of the following:

- Standard operating procedures where appropriate
- Robust and audited information governance systems (ensuring accurate tracking of samples and consents)
- Attendance of DI's and licence holders at HT Authority workshops
- Staff training

Are there particular rules applying to different types of human material

Certain categories of material are excluded from the scope of the Act. These include sub-cellular material (including DNA) since it does not consist of or

⁵⁶ For example the Research Compliance report seeks information about accreditation by the CPA, ISO/9000 and Investors in People at p. 14

⁵⁷ Application guidance for the pathology sector p. 43.

include human cells. Material created outside the body is also excluded from the Act⁵⁸.

Solid tissue?

Solid tissue consisting of or including human cells are regulated by the HT Act unless they are existing holdings.

Fixed cell suspensions?

Generally, the HT Act does not distinguish between different classes of material except in relation to transplantation and trafficking. However, the common law establishes limited property rights over some types of sample – particularly where preparation of the material is complex and technically challenging. Case law has determined that certain types of pathological process including fixation by formaldehyde constitutes sufficient work and skill to justify conferring a property right over that tissue on the part of the pathologists⁵⁹.

Cell lines

Established cell lines are excluded from the Act – Whilst the HT Act does not regulate the removal of blood from the living⁶⁰ it does apply to the storage and use of that blood for any scheduled purpose (such as research) that is inherent in the process of establishing the cell line, such as treatment and purification of the blood.

Extracted DNA?

Whilst the storage and use of sub-cellular material including DNA is not regulated by the Human Tissue Act, the process of extracting DNA from cells **is** covered by the Act if that extraction is for a scheduled purpose. Extraction of DNA for clinical diagnosis or treatment is not a purpose regulated by the Act.

Conclusion

The DNA analysis provisions in the Act were prompted by the suggestions made by the Human Genetics Commission that there should be a criminal offence of 'DNA theft' for 'non-medical purposes'⁶¹. The Human Tissue Act goes further than the HGC envisaged – and may profoundly affect areas of clinical genetics and research.

It is no surprise, given the fact that the primary purpose of the Human Tissue Act was to provide reassurance to those outraged by the retention of organs

⁵⁸ HT Act 2004 s. 54(7)

⁵⁹ In the leading case of *AB and others v Leeds Teaching Hospital NHS Trust and another* (2004) EWHC 644 (QB) Mr Justice Gage ruled that where part of the body has been the subject of the application of skill (such as dissection or preservation) this may confer some common law rights of possession to that material.

⁶⁰ This is regulated by the common law.

⁶¹ Human Genetics Commission 'Inside Information: Balancing interests in the use of personal genetic data' (2002) Para 3.60

and tissues without consent, that the main impact of the Act will be on the scope, specificity and method of recording consent. The Act and supporting codes of practice will have significant implications for clinical genetics. We hope that the requirement for qualifying consent will lead to more systematic and comprehensive consent taking and recording with a more unified approach adopted across specialities and we expect a move towards obtaining explicit consent for the storage, use and retention of tissue for all relevant Scheduled Purposes, using a broad form of consent where appropriate. Those working in the field of clinical genetics have established expertise in this area and are well versed in the clinical and ethical difficulties raised.

The Act will also require more robust systems for recording and transferring consent information between those who take consent from patients or research subjects – and those who rely upon that consent when they store or use the material (such as pathologists or laboratory scientists). For those in the field – the main difficulties will be in knowing when the Act does not apply. For example – where diagnostic genetic tests first enter into clinical use – they will develop from a research tool for which qualifying consent will be required to a diagnostic test for which qualifying consent will not be required. It will not always be straightforward to determine where the boundaries of clinical and research use lie. Similarly – there may be some indirect tests that effectively establish a person's DNA structure – for which qualifying consent is required, notwithstanding their clinical relevance to those who are genetically related. We foresee some structural changes too: in the short term, we foresee that the exclusion of DNA from the HT Act may promote DNA rather than tissue banking and a move towards larger tissue banks with standardised operating procedures.

The Human Genetics Commission was clear that their proposal for an offence of 'DNA theft' should not compromise either patient care or research. Professional groups and regulators must try to work together to ensure that patient care and research is not compromised in the process of implementing this legislation.

Acknowledgements

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Other sources of information:**Human Tissue Act:**

<http://www.opsi.gov.uk/acts/acts2004/20040030.htm>

Explanatory notes:

<http://www.opsi.gov.uk/acts/en2004/2004en30.htm>

Brief Guide to the Human Tissue Act (Department of Health)

<http://www.dh.gov.uk/assetRoot/04/10/36/86/04103686.pdf>

JCMG**Consent and confidentiality document**

- <http://www.rcpath.org/resources/pdf/GeneticsConsentAndConfidentiality-JCMGreportJul06.pdf>

Human Tissue Authority

<http://www.hta.gov.uk/>

Regulation/licensing pages**Compliance reports:**

- Anatomy: http://www.hta.gov.uk/db/documents/2006-07-19_Designed_Anatomy_Compliance_Report_on_the_website_v3.pdf
- Pathology: http://www.hta.gov.uk/db/documents/2006-07-19_Designed_Pathology_Compliance_Report_on_the_website_v3.pdf
- Public display: http://www.hta.gov.uk/db/documents/2006-07-06_Designed_Public_display_Compliance_Report_on_the_website_amended.pdf
- Research: http://www.hta.gov.uk/db/documents/2006-06-28_Designed_Research_Compliance_Report_on_the_website_amended.pdf
- Storage for human application (under EU Directive on Tissues and Cells): http://www.hta.gov.uk/db/documents/2006-06-28_Designed_Storage_of_tissue_Compliance_Report_on_the_website_amended.pdf

Application guidance:

- Anatomy: http://www.hta.gov.uk/db/documents/2006-06-13_Application_guidance_anatomy.pdf
- Pathology: http://www.hta.gov.uk/db/documents/2006-06-13_Application_guidance_pathology.pdf
- Public display: http://www.hta.gov.uk/db/documents/2006-07-10_Application_guidance_public_display.pdf
- Research: http://www.hta.gov.uk/db/documents/2006-06-13_Application_guidance_research.pdf
- Storage for human application (under EU Directive on Tissues and Cells)
 - Application forms
 - Guidance on designated individuals and licence holders http://www.hta.gov.uk/db/documents/2006-06-13_Application_guidance_storage_of_tissue.pdf

Codes of practice

Final codes available at:

- **Consent:**
[http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 1 - Consent.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%201%20-%20Consent.pdf)
- **Donation of organs, tissue and cells for transplantation:**
[http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 2 - Donation of Solid Organs 200607133233.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%202%20-%20Donation%20of%20Solid%20Organs%20200607133233.pdf)
- **Post mortem examination**
[http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 3 - Post Mortem.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%203%20-%20Post%20Mortem.pdf)
- **Anatomical examination**
[http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 4 - Anatomy.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%204%20-%20Anatomy.pdf)
- **Removal, storage and disposal of human organs and tissue**
[http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 5 - Removal.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%205%20-%20Removal.pdf)
- **Donation of allogeneic bone marrow and peripheral blood stem cells for transplantation**
[http://www.hta.gov.uk/db/documents/2006-07-04/Approved by Parliament - Code of Practice 6 - Bone Marrow and PBSC 200607134731.pdf](http://www.hta.gov.uk/db/documents/2006-07-04/Approved%20by%20Parliament%20-%20Code%20of%20Practice%206%20-%20Bone%20Marrow%20and%20PBSC%20200607134731.pdf)

In addition draft guidance is available on Public Display (awaiting Parliamentary approval) and Import and Export (subject to consultation)

- **Public Display**
http://www.hta.gov.uk/search.cfm?FaArea1=CustomWidgets.content_view_1&cit_id=108&useCache=false
- **Import/Export**
[http://www.hta.gov.uk/db/documents/2006-09-25/Import export Code of Practice consultation version pdf.pdf](http://www.hta.gov.uk/db/documents/2006-09-25/Import%20export%20Code%20of%20Practice%20consultation%20version%20pdf.pdf)

Other Human Tissue Authority documents

- **Rationale document**
[http://www.hta.gov.uk/db/documents/2006-07-05/Branded Rationale Document for First Six Codes Final 2 .pdf](http://www.hta.gov.uk/db/documents/2006-07-05/Branded%20Rationale%20Document%20for%20First%20Six%20Codes%20Final%202.pdf)