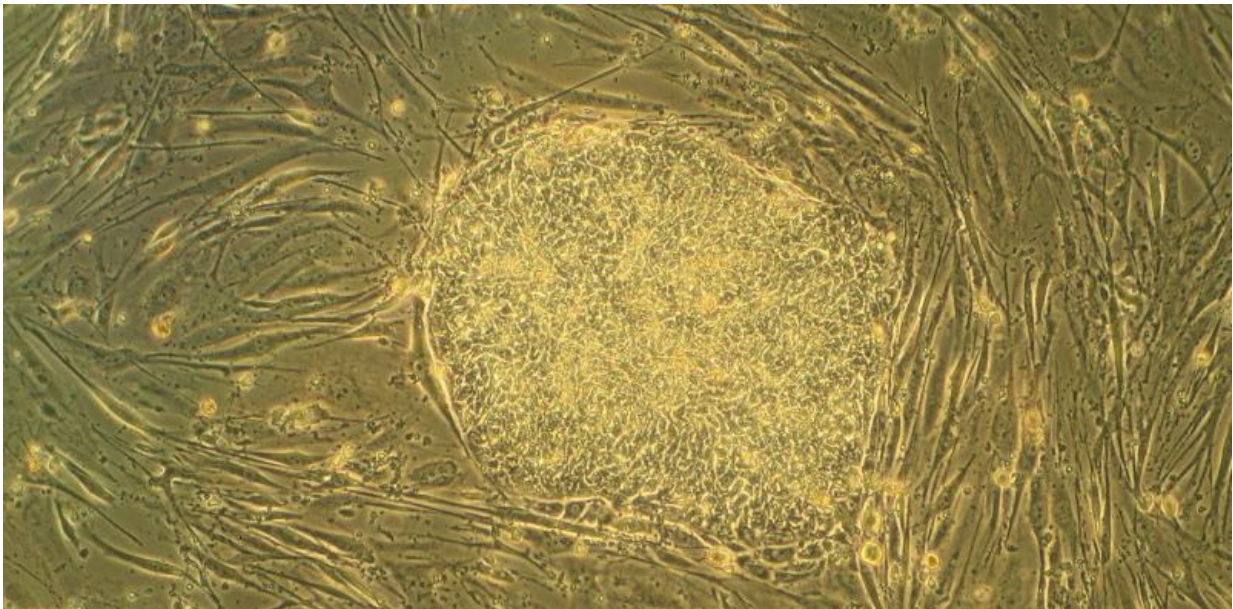


# The issues around the use of human foetal tissue

August 17 2015, by Simon Woods

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Credit: Ryddragyn

Based on the furore [currently engulfing the US](#), you might imagine that the use of foetal tissue is illegal. But in fact the collection and use of cells obtained from a human foetus following miscarriage or abortion has a long history in medical science.

However, the US has a very long and established tradition of collecting and using human foetal [tissue](#) for scientific purposes. The Carnegie

Collection, founded in 1914, contains thousands of human foetuses and gives its name to the [Carnegie stages](#) that chart foetal development.

It is legal in the US to [use foetal tissue for research](#), something overseen by the [National Institute of Health](#). There have been intermittent but sometimes violent protests against the practice due to its association with abortion, itself a controversial issue in the US. Now secret footage of a doctor from Planned Parenthood (a nationwide family planning clinic) apparently discussing the sale of foetal tissue has raised the issue, and tempers, once more.

## **When only human genetic material will do**

Foetal tissue is important for many promising fields of [medical research](#). It's now well-known that genetics holds the key to understanding normal and abnormal human biology, from congenital diseases, to cancer and almost all major human diseases and impairments. [Developmental genetics](#) research, which studies how genes control the earliest stages of human growth, is an important area.



Come on, let's split. Credit: ekem/RWJMS IVF Program

Some developmental genetics research can be conducted using non-human animals such as mice, but the most accurate and usable data comes from using human tissue. In order to progress, such genetic research needs human foetal tissue obtained from miscarriages or abortions. Sometimes these are referred to as post-implantation tissue to distinguish it from surplus embryos from IVF fertility treatments.

## **Powering cures for disease**

Foetal tissue is also key as a source of stem cells, and for such things as the experimental use of foetal brain cells for treatments of conditions such as Parkinson's disease and dementia. Human foetal tissue has played an important role in the development of contraception and artificial reproductive therapies, and foetal kidney cells were used to develop the polio vaccine that won the [1954 Nobel Prize in Medicine](#).

Developmental genetics seeks to identify the genes that are active at particular stages of human development. This not only improves the general knowledge of the role of genes, but also our understanding of the cause of major birth defects, of conditions that occur in later life, and those that can only be studied using human tissue.

## Legal evolution

Of course using foetal tissue is a sensitive issue, and has always been strictly controlled and regulated in the UK. This began with the Peel Code of Practice in 1972, which was superseded by the [Polkinghorne Guidelines](#) in 1989.

One of the ethical concerns was that the use of foetal tissue for treating serious diseases would lead to an increased demand for tissue and potentially influence a woman's decision to terminate a pregnancy. So the guidelines included a key principle that consent to donate foetal tissue for research must be obtained after the woman has decided to terminate her pregnancy and that she cannot specify the use to which the tissue is put.

Scandals such as at Alder Hey, where in 2001 medical researchers were found to have [illegally harvested organs and tissue](#) from dead children, caused a public outcry. Following a review, the government passed the Human Tissue Act 2004, which created the [Human Tissue Authority](#) as an oversight body and made illegal collection and use of human tissue an

offence.

The act does not regard foetal tissue as distinct from the other tissue from a woman donor, so the use of foetal tissue for research must comply with the same law and guidance that applies to all human tissue. A similar approach is taken in other nations including the US, despite the views of certain protest groups. Anti-abortion campaigners see foetal tissue research as unethical, even though foetal tissue obtained from miscarriages, rather than abortions, can assist research into miscarriage and congenital abnormality.

## **An ongoing ethical debate**

Part of the controversy in the US is due to the issue of selling foetal tissue for profit. Buying and selling of human tissue is often seen as ethically challenging, even by those who are generally in favour of its use in medical research. The concern here is that buying and selling human tissue commodifies human beings and diminishes human value and dignity.

In the UK, as in many countries, donating tissue – whether for research or as blood, bone marrow or organ donors – is regarded as a moral act, an act of altruism and good citizenship. Many wish to see that remain free of monetary gain. But human tissue is already involved in many commercial transactions of one kind or another, such as sale of blood and tissue products to healthcare services. Perhaps most controversial is the interest shown in foetal tissue by the cosmetics industry.

There ought to be a wider and more informed debate about the use of all [human tissue](#) in research, because a lack of transparency will only stand in the way of proper ethical reflection on the practices that underpin such important aims as medical research.

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