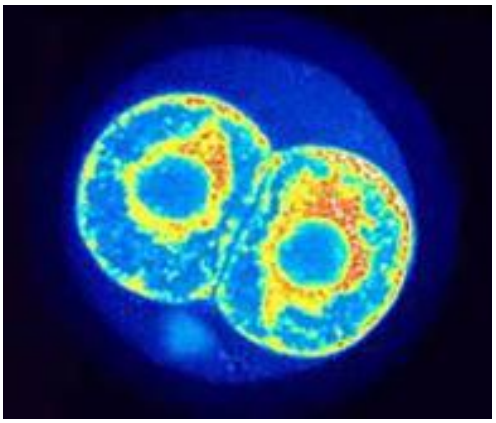
Leaflet on Embryo Research

In 3rd Year Core RMPS you will be completing investigations into the moral issues of Capital Punishment and Domestic Abuse.

Use the information on the following worksheets to create a leaflet to explain the moral issues involved in Embryo Research. You should include:

- Information about the issue
- Three religious views on the issue
- The Humanist view on the issue
- Your own viewpoint on the issue

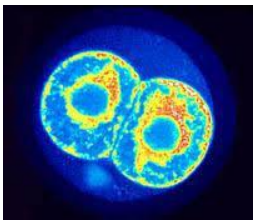
You should return the leaflet to Patricia.Brown@leith.edin.sch.uk by 19/6/20.



The Treatment of Embryos

What is an embryo?

An embryo is formed when one of the spermatozoa from among many millions successfully penetrates the outer wall of the egg. The spermatozoa and the egg then join together, share DNA and begin the process of the development of the embryo. This is known as the 'moment of conception', and from this point onwards the embryo contains all the genetic material required to become a walking, talking, breathing, heart-beating human being.



The embryo starts to divide into two – **2 – 4 – 8 – 16 – 32 – 64 – 128…..** Up until 14 days the cells in the embryo are called stem cells and they have the ability to develop into any part of the body in future. At 14 days the embryo is about 2mm in length. After 14 days the stem cells begin to specialise ready to become different body parts – the heart, eyes, ears etc.

Q. 1. How is an embryo formed?
Q. 2. What does the embryo contain from the moment of conception?

Why is the treatment of embryos a moral issue?

Since 1990, within the UK, the HFEA (Human Fertilisation and Embryology Authority) have permitted research to be carried out on embryos of up to 14 days old.

Some people argue that embryo research is morally wrong because they believe:

- that life begins at conception
- that the embryo has the same rights as a human being
- that it could lead to 'designer babies'

Some people argue that embryo research is morally acceptable because:

- they believe life does not begin until a later stage in pregnancy
- it can help more babies to be born healthy
- it can help scientists find out the causes and cures for diseases

Q. 3. What has the HFEA allowed since 1990?
Q. 4. Why do some people argue embryo research is morally wrong?
Q. 5. Why do some people think that embryo research is morally acceptable?

Where do the 'spare embryos' that are used for embryo research come from?

The **'spare embryos'** used for embryo research are the embryos which are left over after a woman has received ***in vitro*** **fertilisation (IVF)** treatment to help her to become pregnant.

Q. 6. Where do the **'spare embryos'** that are used for embryo research come from?

This treatment is known as **IVF.** The woman is prescribed drugs which make her produce a lot of eggs at once – on average 12 are produced. A doctor takes the eggs out of the woman and each egg is placed in a separate glass dish in a laboratory. The doctor then adds sperm to the eggs to produce embryos. The strongest of the embryos, the ones most likely to survive are then put back into the mother's womb to hopefully develop into foetuses. As it is common for more than one fertilised egg to be used, this IVF treatment often results in multiple births – twins, triplets, quadruplets etc. Babies born as a result of this treatment are called **test-tube babies,** as the egg was fertilised in a test-tube rather than in the mother's body.

The couple can decide what to do with the 'spare embryos' that are not implanted in the mother's womb during IVF treatment. They can be:

- disposed of immediately
- frozen, stored in tanks of liquid nitrogen and then defrosted when the couple want further children
- frozen and then donated to another infertile couple
- frozen and then donated to medical research

Q. 7. What four things can couples do with their 'spare embryos'?

In the UK the maximum storage time for storing embryos is normally 10 years, although women in certain circumstances can store their embryos for up to 55 years. The average cost for storing embryos is £170 - £400 per year.

Q. 8. What is the standard maximum storage time for storing embryos in the UK?

Religious Views on the Treatment of Embryos

In the UK scientists are allowed to carry out research on embryos of up to 14 days old. Religions have different views on this. Even within one religion followers can hold different views.

Christianity

The Roman Catholic Church teaches that the embryo is fully human from the moment of conception, and that the embryo is a sacred (holy) gift from God. They are therefore against using embryos for research purposes. The Roman Catholic Church has stated: "Respect for the dignity of the human being excludes all experimental manipulation or exploitation of the human embryo."

However, The Church of Scotland, a Protestant Church, recognises the potential benefits of embryo research under certain circumstances. The Church of Scotland has stated: "Embryo stem cell research might be permitted up to 14 days, using supplies of IVF embryos, but only for a very good reason. "

Q. 9. What are the two different Christian views on using embryos for scientific research?

Islam

All Muslims believe that only Allah can create and destroy life. However, some Muslims disagree about when life starts. Some Muslims believe life starts at conception and so it is morally wrong to destroy embryos, while others believe that an embryo does not have a soul until the later stages of its development and so research on an embryo up until 14 days old is morally acceptable.

Q. 10. What are the two different Muslim views on using embryos for scientific research?

Q. 11. Use Google to find out what one of the following religions teaches about Embryo/Stem cell research and write a short paragraph about its views.

Judaism

Hinduism

Sikhism

A Humanist (Non-Religious) View on the Treatment of Embryos

Humanists are people who form their views on moral issues through gathering evidence rather than by following 'religious authority'. Humanists do not believe in a God or Gods.

The Humanist view on the treatment of embryos is influenced by the fact that that they do not believe in the 'sanctity of life', or that life starts at conception at day one. As a result of this they:

- **agree that research can take place on embryos up to 14 days old**
- **agree with the use of PDG - Pre-implantation Genetic Diagnosis (choosing the healthiest embryos) following on from IVF treatments if the benefits outweigh the drawbacks**

The Strengths of this View

- **It allows research which could lead to new treatments and cures for a wide range of illnesses such as Cystic Fibrosis**
- **It could reduce the number of babies born with painful genetic conditions**
- **It could allow parents to use PDG to have a 'saviour sibling'**

The Weaknesses of this View

- **It could enable parents to genetically modify their embryo for cosmetic reasons resulting in 'designer babies' and a 'genetic underclass'**
- **It does not give the embryo the same right as a fully developed human being**
- **People who live with a disability or medical condition could feel that it devalues them**

Q. 12. What is the Humanist view on the treatment of embryos?
Q. 13. Give at least two strengths and two weaknesses of this view.
Q. 14. Which of the two views on the treatment of embryos do you agree with more – the Christian Roman Catholic View or the Humanist view? Give reasons for your answer.