

Human Reproductive Cloning:

The views of the British Fertility Society

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British Fertility Society Factsheet



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There are two main reasons to consider 'cloning' a human embryo. The first is nuclear transfer for stem cell derivation ('therapeutic cloning'), making exact copies of diseased cells and tissues for experiments that may help us to understand and treat human disease.

The second is 'reproductive cloning', which means an attempt to create a human as nearly as possible identical to the original.

The British Fertility Society supports nuclear transfer and stem cell derivation for the understanding and eventual treatment of disease. The Society does not support any attempt at reproductive cloning.

What is cloning?

- Cloning an embryo involves transfer of the nucleus - which contains the DNA - of any normal cell (except egg or sperm) in the body, into a human egg (oocyte) from which the original nucleus has been removed. This cell is then activated (no sperm involved) to divide. Stem cells are then isolated from the blastocyst (an early stage of embryo development) a few days later.
- In reproductive cloning this blastocyst would be transferred to a woman's uterus in the hope that it would develop into a child.

Has anyone tried reproductive cloning?

- Reproductive cloning has been used in many animals and the first successful reproductive cloning experiment produced Dolly, a sheep.
- We know of no evidence to support claims of pregnancies or children in humans with this technique.
- Human 'clones' do exist in the form of identical twins but the way in which these clones are derived is quite different.

Why doesn't the BFS support human reproductive cloning?

- We know of no reason to try to clone a human other than curiosity and believe that any consequences would be disastrous.
- We do know that experiments in many animal species suggest that there is a significant risk of harm occurring to the cloned embryo or young.
- Dolly the sheep seemed to age prematurely and developed arthritis and lung disease before she was put down.
- In most cases of animal cloning work the pregnancies terminate in miscarriages. Some 90% of fetuses will abort and many of these will occur late in the pregnancy.
- Many cloned fetuses have shown gross abnormalities of development and it seems that this is a consequence of an inability to control their own growth.
- Those young which have survived have a high rate of abnormality such as failure of organs to develop, increased birth size and disease of liver and kidney.
- We believe that the likelihood of any development of a normal cloned fetus is minimal and, in the light of current evidence from animal research, we feel that any attempt to reproduce a human clone would be irresponsible.

Further Reading

- Lorraine Young 2003 Scientific hazards of human reproductive 'cloning' Human Fertility 6, 59-63
Overview: http://www.fertility.org.uk/news/pressrelease/03_08-cloning_warning.html
- Human Genome Product Information. Cloning Fact Sheet
http://www.ornl.gov/sci/techresources/Human_Genome/elsi/cloning.shtml
- Human Cloning: Science Fiction or Reality
<http://www.bioteach.ubc.ca/Biomedicine/HumanCloning/>
- The National Academies 2002 Scientific and Medical Aspects of Human Reproductive Cloning. National Academy Press, Washington DC
- House of Lords 2002 Stem Cell Research – Report
<http://www.publications.parliament.uk/pa/ld200102/ldselect/ldstem/83/8301.htm>

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