

## Testicles 'are stem cell source'

**The cells in a man's testicles may be able to do a lot more than just make sperm - they could provide any cell type in his body.**

German and UK research suggests that sperm cells can be coaxed into stem cells with similar properties to those found in the embryo.

The study, in *Nature*, raises hopes eventually of a supply of "repair tissue" for other parts of the body.

However, a UK expert said it was too early to draw firm conclusions.

Any ability to transform cells taken from an adult back into stem cells, and then onwards into a wide variety of tissue types, offers the chance of "personalised treatment" for patients.

Resulting brain, bone, or heart cells could be injected with no fear of rejection by the body's immune system.

It would also avoid the ethical controversies surrounding the use of cells taken from embryos.

The research project, which involved scientists from King's College London, used 22 different samples taken either from biopsies or from medical castrations.

From these, they extracted a type of cell called the "sperm precursor cell" - a type of adult stem cells with a fixed role - to become a sperm cell.



Stem cells can turn into many types of tissue

**“ An answer to how these testis-derived pluripotent cells can be used will have to be left dangling a little longer ”**

Professor Robin Lovell-Badge  
National Institute for Medical Research

These were then manipulated chemically in the laboratory into a state more similar to cells found in the embryo, which can go on to produce all the cell types in the body.

### Male benefits

However, it is as yet unclear whether the cells could one day be safely used in humans.

Professor Robin Lovell-Badge, a stem cell specialist from the Medical Research Council National Institute for Medical Research, said: "The DNA in the stem cells in the testes lacks some important modifications that regulate the activity in certain genes, and this may affect the ability of the reprogrammed cells to make specific mature tissue types.

"The same cells are also the likely origin of testicular tumours, so will the reprogrammed cells be entirely normal?"

He added: "An answer to how these testis-derived pluripotent cells can be used will have to be left dangling a little longer."

He pointed out that as the donors would be all male, women could not hope to benefit from similar procedures.

Professor Chris Mason, from University College London, added: "Whilst much too early to predict the true impact of this particular paper, it is however, highly likely to add to the growing ground-swell of first-class research that will eventually lead to real benefits for patients, the NHS and to the UK economy."