

Say no to human cloning

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 Occasional Paper 10, 25 September 2006

1. Introduction

Most Australians have probably heard of stem cells, but most may be unaware of the speed with which the federal government is moving to dismantle all barriers to the creation and commercial exploitation of human embryos in the laboratory. This paper briefly explains what stem cells are, reviews recent developments, outlines likely future moves, and suggests what concerned citizens can do to stop harmful legislation and regulation from being introduced to Australia.

2. What are stem cells and why are they important?

Stem cells occur in humans and animals. Unlike other body cells (such as muscle, blood or nerve cells), stem cells are unspecialised and capable of proliferating (dividing and renewing themselves for long periods); and can differentiate into various specialised cell types. There are two main types of stem cell.

Embryonic stem cells are extracted from the inner cell mass of the blastocyst (a preimplantation embryo of 30-150 cells) and grown in a laboratory. Stem cells that have proliferated for six or more months are known as pluripotent, and those that appear genetically normal are referred to as an “embryonic stem cell line.” Batches of these can be frozen (as in IVF) and later used for further culture and experimentation. When undifferentiated stem cells are allowed to clump together they may spontaneously differentiate to form muscle cells, nerve cells and many other types of cells.

Scientists are learning how to manipulate stem cells (such as by inserting particular genes) and the laboratory environment (e.g. by modifying the chemical composition of the culture medium in which the cells grow) to force the stem cells to differentiate into a specific cell type. Scientists may one day be able to transplant the resulting tissue into patients suffering from injuries and illnesses such as Parkinson’s disease, Alzheimer’s disease, type 1 diabetes, spinal cord injuries, muscular dystrophy, cystic fibrosis and heart disease, as well as blood transfusion, bone marrow transplantation, and reversal of vision and hearing loss.

However, a patient’s immune system may identify the new tissue as foreign and attack it (as happens with some organ transplants). A solution is to use therapeutic cloning (or somatic cell nuclear transfer – SCNT) to grow tissue that would not be rejected. SCNT can be used to remove the nucleus of an egg cell, replace it with a cell from the patient’s body, and grow an embryo in the laboratory in order to harvest stem cells having the genetic makeup of the patient. Tissue grown from these cells would not be rejected by the patient’s immune system, but the procedure results in the death of the embryo.

Adult stem cells usually maintain and repair the type of tissue in which they are found, but under certain conditions may differentiate to yield other specialised cell types. Adult stem cells from bone marrow have been used in transplants for 30 years. Scientists are searching for ways to grow and manipulate adult stem cells in the laboratory to treat injuries and illnesses, as an alternative to embryonic stem cell therapies. Adult stem cells can be extracted without killing the donor.

Embryonic germ cells are similar to embryonic stem cells but normally develop into sperm and eggs, and can only be extracted from a foetus older than eight weeks from conception. The procedure results in the death of the foetus. Like embryonic stem cells, embryonic germ cells can be grown for over two years in the laboratory, but typically only survive 70-80 cell divisions. Unlike embryonic stem cells, embryonic germ cells do not appear to generate tumours when implanted in the body.

3. What's happened in Australia?

A prohibition on human cloning

In 2002, the Australian Parliament passed two Acts, the *Prohibition of Human Cloning Act 2002* and the *Research Involving Human Embryos Act 2002*. These established a strict regulatory framework to prohibit certain practices including human cloning, and to regulate, through the National Health and Medical Research Council, research involving human embryos created through assisted reproductive technology.

A three-year moratorium on stem cell research

In 2002 the Australian Parliament also imposed a three-year moratorium on human embryonic stem cell research. This expired in April 2005, and the federal government failed to obtain the agreement of the states to extend the moratorium for another three years. The Premiers of Queensland and Victoria were especially opposed to such an extension, arguing that it would stifle their biotech industries. The moratorium had banned Australian research on "spare" IVF embryos, and its expiration means that stem cell research on human embryos created by IVF is now legal in Australia.

A major review of the 2002 legislation

On 17 June 2005, the former Minister for Ageing, Julie Bishop, appointed a six-member committee to conduct independent reviews of Australia's *Prohibition of Human Cloning Act 2002* and the *Research Involving Human Embryos Act 2002*. Retired Federal Court judge, the late Hon John Lockhart AO QC, chaired the committee. The Committee reviewed the legislation, reported to the Council of Australian Governments on 19 December 2005, and tabled its [reports and recommendations](#) in Parliament.

The Committee made 54 recommendations. Some of these were procedural while others sought to overturn the intent of the 2002 Acts and move substantially down the path toward total deregulation. Generally the report recommended sweeping reform of the current legislative regime.

For example, while the Lockhart Review recommended a continued prohibition on *reproductive cloning* (Rec. 2), it also recommended changes to Australian law allowing interspecies fertilization for research purposes (Rec. 17); the creation of human embryo clones for research, training and clinical application (so-called *therapeutic cloning*, Rec. 23); creation of human embryos and human embryo clones by means other than fertilisation of an egg by a sperm (Rec. 25); and the creation of human embryos using the genetic material from more than two people (Rec. 26); and in general the proposal to allow destructive research on embryos up to 14 days after fertilisation.

Thus the Lockhart Review Committee recommended significant and far-reaching changes to existing legislation. In hindsight this is not surprising given that at least half of the Committee members had previously publicly stated their support for human cloning. What was not revealed is that, of the 1035 submissions received by the Committee, more than 80 per cent opposed any change to the prohibition on human cloning.

A draft Bill to allow human cloning and a conscience vote

In June 2006 the federal Cabinet voted to ignore the recommendations of the Lockhart Committee to end the ban on therapeutic cloning, but Prime Minister John Howard bowed to backbench pressure and later promised a conscience vote on any legislation to come before parliament. On 14 September Democrat Senator Natasha Stott Despoja introduced the [Somatic Cell Nuclear Transfer \(SCNT\) and Related Research Amendment Bill 2006](#), cosponsored by Labor's Ruth Webber. Liberal Senator Kay Patterson has indicated that she will introduce a similar Bill, which will probably take the place of the Stott Despoja Bill.

4. What's next?

The federal government has set up a Senate Committee [Inquiry](#) into the Legislative Responses to Recommendations of the Lockhart Review. It appears that the Committee has eight members, of whom at least five support the full implementation of the Lockhart Review Committee's recommendations. Of the five, all are women. The Senate Inquiry will receive public submissions until 4 October 2006, and will conduct public hearings in several cities in the last week of October. The Committee is required to table its report in Parliament by 27 October. This probably means that the report will be substantially written before the conclusion of public hearings.

It is likely that the Senate will debate the Stott Despoja Bill (or another similar Bill that replaces it) during the first week of November 2006. The battle will be decided in the Senate and any debate or vote in the House of Representatives will be practically irrelevant.

5. Why you should be concerned

Senator Natasha Stott Despoja [argues](#) that "it would be unethical not to invest in research which offers hope to so many sufferers." The Centre for Christian Ethics recognises the importance of finding cures for debilitating and terminal illnesses, but also recognises that the deliberate creation and destruction of human embryos for research purposes is reprehensible and avoidable.

The most urgent reason for concern is the short period in which debate on proposed legislation can take place. As noted above, it is likely that public debate, parliamentary debate and voting will all be over within six weeks from today (i.e. by about 7 November 2006).

There are several compelling reasons for the opposition to human cloning laws. For example, human embryos are clearly human life and it can be argued on both ethical and theological grounds that they should not be genetically manipulated or "harvested" for stem cells. This is arguably the most important issue in the current debate. The Lockhart Review Committee emphatically opposed this view, [claiming](#) (p. 12) that

a human embryo clone created to extract stem cells is not intended to be implanted, but is created as a cellular extension of the original subject. The committee therefore agreed with the many respondents who thought that the moral significance of such a cloned embryo is linked more closely to its potential for research to develop treatments for serious medical conditions, than its potential as a human life.

The Committee thus concluded that it was acceptable to destroy an embryo created in a laboratory on the basis of the intention for which it was created rather than on the basis of its intrinsic status. Such a view is explicitly moral and it could be argued that the Committee was not competent to make such declarations.

Second, there is the slippery-slope argument: if we permit therapeutic cloning today, the next frontiers are likely to be reproductive cloning of humans, human-animal chimeras and other more exotic – or alarming – laboratory experiments. Only four years ago there was consensus in Australia, enshrined in federal legislation, that human cloning was not lawful. Four years later, agents of cloning reform have almost succeeded in having the legislation radically rewritten. Similarly, the apparent consensus against proceeding with human embryonic stem cell research, evidenced by the moratorium in 2002, has been eclipsed.

Third, there has been no major scientific advancement in the field since 2002 to warrant these proposed changes; indeed the two most prominent so-called "breakthroughs" have both been proved to be either fraud or misinformation (the Korean human cloning [fraud](#), and the recent false [announcement](#) that biologists had developed a technique for extracting human embryonic stem cells from an embryo without destroying it).

Fourth, federal politicians, government bureaucrats and research scientists are clearly under strong pressure from commercial interests and state governments to allow commercial exploitation of assisted reproductive technologies (ART) using human clones. The current debate is not about finding cures for diseases such as Parkinson's but a new generation of assisted reproductive technologies and perhaps positive eugenics.

Another reason for concern is what arguably amounts to a deliberate strategy of misinformation and selective reporting. This is evident in some aspects of the Lockhart report, as noted above. It is also evident in the following ways:

- Some politicians, academics and media commentators imply that the opposition to human cloning is religiously based, or is driven by Roman Catholic theology, whereas in reality opposition comes from people of various Christian denominations, other religious faiths and people of no particular religious affiliation or religious conviction.
- Experts such as the Members of the Lockhart Committee, and the government's Chief Scientist, are quoted in the media and academic literature as the only reputable authorities on issues relating to stem cells and cloning. In fact there is a range of expert views both in Australia and internationally, some of which strongly oppose the sweeping reforms recommended by the Lockhart Review Committee.
- Pro-cloning advocates seek to separate stem cell research from human cloning, and draw attention to potential health benefits from stem cell research, when in fact embryonic stem cell research is already legal in Australia. The core issue is the legalisation of destructive research on cloned human embryos, with the only major boundary being a reluctance to allow cloned human embryos to be implanted in women and grown to full term – a boundary likely to be exceeded if the radical reformers have their way.
- The key goal of at least some pro-cloning advocates is not therapeutic cloning but significant advances in assisted reproductive technologies (ART), and this is fraught with ethical and theological dilemmas. There is a danger that a legitimate focus on human cloning in the current debate is a red herring that will detract attention from the equally important issue of an ethically and theologically appropriate approach to ART.

A related issue is the ownership, by corporations, of human embryos created in the laboratory. This raises issues in law, justice, ethics and theology. Further, as Nicholas Tonti-Philippini observed recently,

A major area of concern is that stem cell lines, once created, are not subject to regulation in Australia because they are not considered human tissue and the couple whose embryos were the source lose all control once the stem cells are harvested. There is nothing to stop a private IVF service investing in and sharing its embryonic stem cell lines with, for instance, a cosmetic company to make rejuvenating face creams" ([Age, 4 Sep 2006](#)).

Another issue is the ethics of harvesting women's eggs, since scientists will require a large number of eggs to conduct research on human embryo clones. This will have an adverse impact on women's health and may lead to pressure on some women to seek to sell their eggs – or be coerced into relinquishing their eggs, as has already happened in Korea.

Finally, the Committee of Inquiry includes Senator Stott Despoja, who is standing in for Senator Lyn Allison, and Kay Patterson, whose draft Bill has not yet been made public. This appears to be an unusual move that decreases the likely objectivity of the Committee's deliberations.

6. What you can do

Urge Senators to vote against the Bill

It is vitally important that individuals and groups make the best use of the short time available to lobby Senators, encouraging them to vote against the Bill. The debate on human cloning will be decided in the Senate. It is important that Senators are made aware that there will be electoral consequences to their decision, and that a large number of voters oppose human cloning. The best way to contact Senators is by hand-written letter, perhaps using some of the points made in this paper. In particular, ensure that you convey to Senators that *you oppose the creation of human embryos with the intention of destroying them for research*. Senators' contact details are available [here](#).

Sign petitions against the draft legislation

The proposed changes to the law on human cloning are significant. Once enacted, it will be virtually impossible to stem the biotech tide. Australian citizens should carefully consider the issues raised by the debate on human cloning, and if convinced that these sweeping reforms should be opposed, sign one of the several petitions against human cloning that are circulating. Also seek to spread the word through your social networks so that the largest possible number of people have access to papers such as this one, and have the opportunity to sign up and send a united message to the Senate. See the websites listed below for suggestions on how to have your say.

7. Where to go for more information

Recommended articles:

- Tony Abbott, “[What’s changed about cloning in only four years?](#)” *Sydney Morning Herald*, 30 Aug 2006
- Eric Pavlat, “[How to talk to Democrats about stem cell research](#),” *Crisis Magazine*, Sep 2006. Note: this article is aimed at US politics, not Australian Democrats, but includes arguments against stem cell research.
- James L. Sherley, “[To clone or not to clone](#)” interview with Sherley, an associate professor of biological engineering at the Massachusetts Institute of Technology, on MercatorNet, 6 Dec 2005.
- Melinda Tankard Reist, “[Turning human beings into commodities](#),” *ABC Perspective*, 15 Apr 2004.

Recommended websites:

- Australians for Ethical Stem Cell Research - <http://www.cloning.org.au/index.html>
- Australian Christian Lobby, “[How to lobby against human cloning](#)”
- Australian Christian Lobby, “[Make a stand – No human cloning](#)”

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