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## Ethics Issues In Cloning: To Clone Or Not To Clone

Human cloning and the ethics behind it have been an issue that has come up over the years, especially with the advancement in science and technology. The people speaking for both sides of the issue have many reasons to clone or not to clone. I feel that given the right circumstances and under certain guidelines, cloning would be helpful and an advancement in our future. There are many reasons why cloning would be beneficial to human society, like reproducing organs for transplants, allowing people who otherwise couldn't have children the ability to reproduce and being able to use stem cells to potentially cure diseases and disorders that many suffer from. With that being said there are many reasons it is not ethical and raises many moral questions as to how we categorize a cloned human or its personhood. Lastly, the major concern arises as to who are we to "play God". Many people feel that it is not up to us to scientifically create another human being. While cloning raises many questions on human rights and ethical issues, it also would help advance our society in many ways under certain laws and guidelines.

Human cloning is defined by the American Medical Association (AMA) as 'the production of genetically identical organisms via somatic cell nuclear transfer. Somatic cell nuclear transfer refers to the process which the nucleus of a somatic cell of an existing organism is transferred into an oocyte from which the nucleus has been removed' In other words, cloning is the method of producing a human with the exact DNA as its donor. You take an egg and remove its nucleus, which contains the DNA/genes. Then you take the DNA from an adult cell and insert it into the egg, either by fusing the adult cell with the enucleated egg, or by a sophisticated nuclear transfer. The reconstructed egg is then stimulated electrically or chemically to try to make it start to divide and become an embryo. To a clone an organ, a stem cell must be produced and then used to a clone that specific organ. Cloning does not produce an exact copy of the person being cloned. It only copies the DNA/genes of the person and creates a duplicate genetically. He or she will grow up in a different environment than the clone, with different experiences and different opportunities making different decisions. Genetics does not define a person and their personality. While the majority of scientists oppose human cloning that results in a live birth, also known as reproductive cloning, many support therapeutic cloning. Therapeutic cloning is where researchers extract stem cells from 4-day-old embryos. Human embryonic stem cells are master cells that can grow into almost any tissue in the body.

In February 1997, Ian Wilmut and his colleagues at Roslin Institute in Scotland were able to clone a lamb named Dolly. This made the possibility of cloning a human became more real. Before this happened, cloning was thought to be impossible and something out of a science fiction novel, but now there is living proof that the technology and knowledge to clone animals exist. Questions began to arise within governments and scientific organizations and they began to respond. People wanted to know if a human could be cloned and how would that work in our society? They also had to look at the complicities of cloning and the genes and cells used to clone. It is believed if adult cells were used to create an individual then they would technically be born at an adult age and possibly a shorter life span, which continues to raise more ethical questions. The only way to really know would be to continue to clone animals and see what works and what does not.

There are many reasons, all ethical issues aside that would make a good argument for cloning.

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Cloning would enable couples who were infertile after their first child to have a second child, perhaps a younger twin to the child they already have. This example has a very good argument. Many couples have various difficulties when trying to have children, and sometimes it is impossible for couples to have children because they are infertile. Cloning would allow for these couples to be able to have a child. Also, occasionally a woman is born without a uterus or has other complications and cannot produce eggs, she can have a child of her own using her own DNA or her husband's while having a surrogate carry the child. Cloning will allow them to have a child or many children that have the genetic pattern of both of the parents. Another positive reason for cloning is that research can progress. It is hard to say what we can learn from cloning if cloning is not allowed. We can learn enough to produce human organs without having to produce human beings. We may develop technology to allow for easier genetic testing and fixing problems such as genetic issues, deformities, spinal cord injuries, cancer and many more. Cloning organs for organ transplants is one of the major practical reasons that cloning should be allowed. There is always a high demand for organs. Others talk of just wanting to clone an organ to replace a defective organ. Many people feel that since hundreds of leftover embryos are discarded every week by in-vitro fertilization clinics, so why not use them for research that could lead to treatments for diseases like Alzheimer's, Parkinson's and diabetes? Rejuvenation is also a key argument for advocates of cloning. Human cloning may one day reverse heart attacks. Some scientists believe that by injecting cloned healthy heart cells into damaged heart tissue will lead to healing of the heart. By combining the technology for cloning and the technology for growing human stem cells, conditions like Alzheimer's disease, Parkinson's disease, and degenerative joint disease may be curable. The possibilities are endless and may be left undiscovered if human cloning is banned.