

PRIMER ON STEM CELLS AND HUMAN CLONING WHAT REALLY ARE THE FACTS?

Much [but not all] of the following information on stem cells, what they are and what they do, comes from the National Institutes of Health website – (<http://stemcells.nih.gov/>). Quotations from 1 and 2 below are from the NIH website on stem cells [Stem Cell Basics].

1. What are stem cells and where are they found in the body?

Stem cells “are unspecialized cells capable of renewing themselves through cell division...” “In some adult tissues, such as bone marrow, muscle, and brain, discrete populations of adult stem cells generate replacements for cells that are lost through normal wear and tear, injury, or disease.” Stem cells are found in human embryos, umbilical cord blood and currently are found in adult tissues which include brain, bone marrow, peripheral blood, blood vessels, skeletal muscle, skin, teeth, heart, gut, and liver.

2. How are adult stem cells used to help people?

“Research on adult stem cells has generated a great deal of excitement. Scientists have found adult stem cells in many more tissues than they once thought possible. This finding has led researchers and clinicians to ask whether adult stem cells could be used for transplants. In fact, adult hematopoietic, or blood-forming, stem cells from bone marrow have been used in transplants for 40 years. Scientists now have evidence that stem cells exist in the brain and the heart. If the differentiation of adult stem cells can be controlled in the laboratory, these cells may become the basis of transplantation-based therapies.”

3. What diseases are currently being treated by human embryonic stem cells?

None! There is not one study showing that any person has been helped with human embryonic stem cells! Supporters of embryonic stem cells had many opportunities to show the benefits of human embryonic stem cells, but produced nothing. Those who opposed using embryonic stem cell research showed the many benefits to humans from adult and cord blood stem cells. Adult stem cells and cord blood stem cells help thousands of people each year. Some researchers complain they could make progress with human embryonic stem cells if only they could get funding and get their hands on live human embryos from in-vitro fertilization clinics. However, destroying new human lives for experimentation is immoral and unethical, and it is clear that the advances these researchers seek can probably be done better and sooner with adult stem cells.

4. What is human cloning and what has human cloning to do with the stem cell debate?

Human cloning is the term used by scientists to describe the process of creating new life by making duplicates of biological material. The cloning technique used to clone Dolly the sheep is called “somatic cell nuclear transplantation”. This is the same technique for cloning a human being. The process involves removing the nucleus of an unfertilized egg and replacing it with the nucleus of a somatic cell. [A somatic cell is any cell of the human body, except sperm or ovum cells (called germ cells). Thus, your skin cell is a somatic cell and contains in its nucleus the 46 chromosomes that you received from your mother (23 chromosomes) and your father (23 chromosomes) that make you unique.] The unfertilized egg with the now transplanted nucleus is stimulated by an electrical stimulus to make it start to divide and grow and if it does begin to grow, it is a live human being. As Frankensteinian and unnatural as this is, a new human life will be created by human cloning. Researchers in Illinois seek human cloning because they know that cloning will produce human embryos and they can take the stem cells from these embryos (which will kill these new human lives).

Visit ICL-Life.com to see how adult stem cells are treating over 100 diseases.