Approved: May 6, 2002
Date

MINUTES OF THE HOUSE FEDERAL & STATE AFFAIRS COMMITTEE

The meeting was called to order by Chairperson Doug Mays at 1:40 p.m. on February 7, 2002 in Room 313-S of the Capitol.

All members were present except: Representative Candy Ruff, Excused

Committee staff present: Mary Torrence, Revisor of Statutes
Shelia Pearman, Committee Secretary

Conferees appearing before the committee: Representative Mary Cook
David Prentice, Ph.D.
Wesley J. Smith, Lawyer/Author
Jessica Welch

Others attending: See attached list

Chairman Mays opened the hearing on **HB 2737 - Destructive Human Embryo Research Act.** Representative Cook sponsored this bill which would make it unlawful to knowingly conduct destructive research with human embryos. She stated this legislation is patterned after the legislation currently pending in Congress. (Attachment #1)

Ms. Welch urged the committee to support **HB 2737** to stop human cloning and any destructive embryonic research. Despite a family disease which has alleged potential to benefit from this type of research, she stated creating human embryos for the purpose of research produces a moral dilemma taking funding away from adult stem cell research which have provided more immediate returns. (Attachment #2)

Dr. Prentice cited destructive human embryo research is unnecessary for medical progress inasmuch as less morally problematic alternatives exist thereby avoiding the ethical quandary of destroying some human beings for the potential benefit of others. forms of research which holds advances of significant kinds. He emphasized it is the committee's responsibility to make laws based on morality. (Attachment #3)

Mr. Smith stated this bill as well as **HB 2736** is important relative to research. He stated an embryo is human life, whether derived from fertilization or cloning and destructive embryonic research will lead to the dehumanization and objectification of human life. He urged the committee to support **HB 2737** because adult stem cell research offers great hope without the moral cost. (Attachment #4)

Written testimony was submitted by Mike Farmer, Kansas Catholic Conference Executive Directory, who reiterated the need to pass laws prohibiting destructive embryonic stem cell research cited by Dr. Prentice and Mr. Smith. He stated when American political life becomes an experiment on people rather than for and by them, it will no longer be worth conducting. (Attachment #5)

Written testimony was also submitted by Dr. Katherine Schooley, a Wichita Neonatologsist, stating "conceived human beings should have the right to a full life, and no one should selectively remove that life for the benefit of another life. Once we begin doing this on embryos, the next logical path would be do this on premature infants, or older children." (Attachment #6)

The hearing on **HB 2737** was closed.

The committee meeting adjourned at 2:55 p.m. The next scheduled meeting is February 11, 2002.

# House Federal and State Affairs Committee
## Guest List

**DATE:** 2/7/02

| | |
|---|---|
| Sara Ann Anderson | Maria Sanchez |
| Krisha Zerger | Jessika Workman |
| Heidi Fowler | Debbie Shinkle |
| Becky Esau | Deanna Bennett |
| Tammy Montayne | Marla Jubenege |
| Mireille NGASSAM | Dany Delay |
| Candice Drake | Alaina Nesmith |
| Shelley Garrett | Tiffany M. Waddell |
| Betty Nickell | Jill Ellinger |
| Staci Phillips | Mike Farmer |
| Melanie McGill | Jamie Zinke |
| Ann Nadoria | Jamie Lyon |
| Carol Moore - Bethel College | Justin Ricker |
| Fort Scott Community College | Jennifer Ochs - Conklin Consulting |
| Joan LaRue | |
| Marcia Masters | |

# House Federal and State Affairs Committee
## Guest List

DATE: 2/7/02

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| Donna Helen Martin | |
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Destructive Embryonic Research.

February 7, 2002

Mr. Chairman, thank you for the opportunity to allow me to introduce experts to the committee members on the important issue of destructive embryonic research, which **HB 2737** addresses. It is so important to have the whole truth and nothing but the truth when we are discussing experimentation with human life.

As you are aware, this issue does not have anything to do with abortion, as abortion was decided by law in regards to the woman's body.

We must be careful of scientists who are drawn by the power of being able to direct the future of humanity. Some are willing to change terminology to avoid the science. Despite the intentions claimed by those who predict breathtaking cures with embryos, there needs to be a calm but sensible judgment which shows the moral gravity of some of the methods being discussed and the actual success of the research. Manufacturing a human is a terrible human rights abuse and manipulating terms is a sign that scientists are trying to evade an ethical responsibility.

Scientific textbooks explain that human life begins when there is complete genetic information. Throughout that person's lifetime, nothing more is added and nothing is taken away. After that, human life ceases only when the person dies a natural death, or is killed. Human life cannot be legitimately divided into stages in which one stage is more "human" than another stage. There is no other logical place you can draw the line, except when there is complete and self-directed genetic information. Any other definition of human life would be extremely problematic.

If human life is ordered, society will never be the same. Our genetics will be molded and changed to agree with what the rest of society believes to be acceptable. If that changes or something goes wrong, the new life will be thrown away. The people who are alive today will be graded and compared to those that can be created.

If we allow human cloning or embryonic research to go forward without question or debate, the floodgates will be opened and the devaluation of human life will vastly increase. The culture of death will accelerate at a much greater pace than it ever has before, and life will be considered as property, and those lives that are not deemed as "worthy" or "adequate" will be destroyed.

From a sheer economical point of view, as a business decision, the opportunity cost should be measured. When a business evaluates how best to utilize resources, the "opportunity cost" must first be determined. Every dollar spent on one investment takes away that dollar that could have been used for a different investment. Allocating resources to cloning or embryonic research takes away funding needed for the adult stem cell studies, which has already shown tremendous success. Adult stem cell research has returns that are immediate, and the time value of money does not need to be calculated as with embryonic research.

There is always a limited amount of resources (money, scientists, etc.). That is why we must allocate these resources to the research that gives us the greatest return in the shortest period of time. Adult stem cells are cheaper, easier to attain, do not have the tumor risks or the tissue rejection factor, and are currently curing diseases in human patients today. There are also no ethical considerations to be taken into account. Everyone will benefit from this research.

I have a special interest in this legislation. My family has Huntington's Disease. It is a terrible, tragic and devastating disease. It is a disease that is often not talked about because of the terrible stigma attached to it. I am pleased to have my daughter here today to tell you a little bit about it. She is showing great courage with her testimony.

# Destructive Embryonic Research

Mr. Chairman, thank you for allowing me to testify today. My name is Jessica Welch and I am in support of **HB2736** and **HB2737**. Our state should ban human cloning and stop any destructive embryonic research.

I have great interest in this legislation because, in my family, we have Huntington's Disease. It is a devastating, degenerative brain disorder for which there is no treatment and no cure. It affects the ability to walk, talk, think and reason.

It is a tragic disease with the movements of Parkinson's, the mental degradation of Alzheimer's (only much worse), and the physical degeneration of Multiple Sclerosis.

Early symptoms include depression, mood swings, forgetfulness, clumsiness, involuntary twitching and lack of coordination. As the disease progresses, concentration and short-term memory diminish. Involuntary movements of the head, trunk and limbs increase. Walking, speaking and swallowing abilities deteriorate.

This is a family disease. People with Huntington's are often verbally and physically abusive to family members, and the suicide rate is extremely high. My dad committed suicide a few years ago.

Eventually the person is unable to care for him or herself. Death follows from complications such as choking, infection or heart failure. The HD patient can be in a nursing home for 10 or more years.

I am at-risk for this disease. So are my brother and sister. We each have a 50-50 chance of getting HD and the age of onset is usually around 35. I am 25. If I get the disease, each of my children will have a 50-50 chance of getting the disease.

I saw my dad deteriorate with this disease. The person with Huntington's becomes totally dependent on others for their care. Huntington's Disease has an overwhelming effect on the lives of entire families, emotionally, socially and economically.

We need a cure. We are desperate for a cure.

But, creating human embryos for the purpose of research does not provide an answer for my family. I do not believe it is morally right to demand that someone else must give up his or her life for me.

Money used for embryonic research takes away funding needed for the adult stem cell studies, which has already shown incredible success. Adult stem cell research has returns that are immediate. Embryonic stem cell research is only based on theory and scientists who are only speculating. Every dollar that goes towards embryonic research is a dollar taken away from the adult stem cell studies. We need cures that will be morally acceptable and we need them quickly. We need them now.

Adult stem cells are cheaper, easier to attain, do not have the tumor risks or the tissue rejection factor, and are curing diseases in human patients today. Everyone will benefit from this research.

Scientists have been promising HD patients for years that they are on the verge of a cure. They have heralded the use of fetal tissue for 10 years in experimentation that has had no success. In fact, experiments with Parkinson's patients have produced nightmarish and tragic results that were irreversible. In one case, the cells grew hair and fingernail tissue in the patient's brain, killing him. In another study, the condition of 15 percent of the patients was irreversibly worsened, and "the patients writhed and jerked uncontrollably." (The New York Times, March 8, 2001).

Please ban destructive embryonic research. It is not right to destroy lives. The end does not justify the means. Thank you for your attention.

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Testimony of Dr. David A. Prentice, Ph.D.
Professor of Life Sciences, Indiana State University
Adjunct Professor of Medical and Molecular Genetics, Indiana University School of Medicine
Founding Member, Do No Harm: The Coalition of Americans for Research Ethics

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Kansas State Legislature
House Federal & State Affairs Committee
Hearing on Destructive Embryonic Research, HB2737
February 7, 2002

Mr. Chairman, distinguished Members of the Committee, thank you for the opportunity to testify today regarding destructive human embryo research.

Stem cells have been proposed as a promising way to treat degenerative diseases such as heart disease, stroke, diabetes, Parkinson's and Alzheimer's disease.

In medical ethics, "therapeutic research" is defined as research that could provide therapeutic benefit to the individual subjected to research risks. Destructive embryo research is not therapeutic for the embryo—the embryo is destroyed as a potential source of tissue.

Destroying human life for the potential benefit of others is unethical. Whenever society has decided to use one group of humans in such a utilitarian fashion, it has given that group of humans a lesser value. We have seen this in the past, and now reject such devaluing of human life. It turns human life into a commodity, creating a caste system of lesser humans for scientific sacrifice, what the renowned biochemist Erwin Chargaff calls "a kind of capitalist cannibalism." To whom will we choose to assign value? Who will benefit and who will decide? The real question which much be addressed: Is the young human a person or a piece of property?

A stem cell has two chief characteristics: (1) it continues to grow and produce more of itself, maintaining a pool of cells, and (2) given the right signal it can form a particular differentiated tissue. Various sources of stem cells exist, including embryonic stem cells, adult (or tissue) stem cells, umbilical cord blood, and placenta. The source that has garnered the most press coverage has been embryonic stem cells. Taken from the very early embryo (5-7 days after conception for humans), these cells purportedly can be grown forever in culture, and can form any tissue. However, the young human embryo must be destroyed in the process of harvesting the embryonic stem cells.

Destructive human embryo research is unnecessary for medical progress. Theoretically the embryonic stem cells from the early human embryo would be used to generate tissues for transplant into patients. However, the promises put forth for therapeutic use of embryonic stem cells are not supported by the scientific literature, and numerous promising non-embryonic alternatives, including adult stem cells, umbilical cord blood stem cells, and placental stem cells, can provide the therapies about which embryonic stem cell advocates can only speculate.

When we carefully examine the promises, premises, and published data regarding embryonic stem cells, the claims for embryonic stem cell advantages over adult stem cells are unsubstantiated, and remain speculative, a fad. There are no current clinical treatments based on embryonic stem cells, and in fact very few published successes using animal models of disease. Indeed, those who work with embryonic stem cells even have difficulty obtaining pure cultures of specific cell types in the laboratory dish. For example, an Israeli group reported this past summer that they had obtained insulin-secreting cells from human embryonic stem cells. While this might initially sound like a potential treatment for diabetes, what the popular press did not report, and what was revealed by the scientific paper, was that only 1% of the cells in the culture dish secreted insulin. The remaining 99% of the cells were a mixture of other cell types, including nerve, muscle, a few beating heart cells, and also cells which continued to proliferate. Those growing cells point out another problem with embryonic stem cells—the potential for tumor formation. Proponents of embryonic stem cell research readily admit that when injected, embryonic stem cells tend to form tumors. In a report in January 2002 on the possibility that embryonic stem cells could treat Parkinson's disease in rats, 20% of rats injected with embryonic stem cells died from tumors formed in their brains. A treatment which kills one-fifth of the patients is not very promising. And this past summer, a group from the Whitehead Institute reported that embryonic stem cells are genomically unstable, meaning that the expression of their genes is unstable. This might in fact explain why there is such difficulty in obtaining pure cultures and why they tend to form tumors.

Too often a false choice has been put forth—that we must either destroy embryos or allow patients to die. However, there are other choices and alternatives, in particular adult stem cells. Those who say adult stem cells are not a valid alternative are relying on obsolete, outdated information. A wealth of scientific papers published over the last few years documents that adult stem cells are a much more promising source of stem cells for regenerative medicine. They do show capacity to generate virtually all adult tissues. Most, if not all, tissues appear to contain stem cells, or can be formed from stem cells from other body tissues. Even fat has been found to contain stem cells that can be transformed into other tissues. Frankly, this could constitute an unlimited supply of stem cells. In point of fact, any time someone has looked in a tissue for stem cells, they have found them. Adult stem cells are easy to find and easy to isolate.

Many published references now also show that adult stem cells can multiply almost indefinitely, providing sufficient numbers for clinical treatments. Adult stem cells have been shown to be effective in treating animal models of disease, including such diseases as diabetes, stroke, Parkinson's disease, and heart disease. Moreover, adult stem cells are already being used clinically to treat many diseases, including various cancers, autoimmune diseases such as multiple sclerosis, lupus, and arthritis, and anemias including sickle cell anemia. Adult stem cells are being used to form new cartilage, grow new corneas to restore sight to blind patients, treat stroke patients, and repair damage after heart attacks. The patient's own stem cells can be used for the treatment, preventing the problems of immune rejection, and there is no tumor formation. More scientists now admit that adult stem cells will be the ones to provide therapeutic benefits to patients. Attached to my written submission I have provided an abbreviated list of references regarding scientific advances in adult stem cell research for the Committee. An extensive reference list can be found at the web site of Do No Harm (http://www.stemcellresearch.org).

Given the significant negatives associated with embryonic stem cells, and the proven successes of adult stem cells, there is no valid medical reason to destroy human embryos to obtain

embryonic stem cells. Less morally problematic alternatives do exist, thus avoiding the ethical quandary of destroying some human beings for the potential benefit of others.

In summary, destructive human embryo research is unethical, and unnecessary. There are no valid or compelling grounds—ethical, scientific, or medical—to proceed with such research.

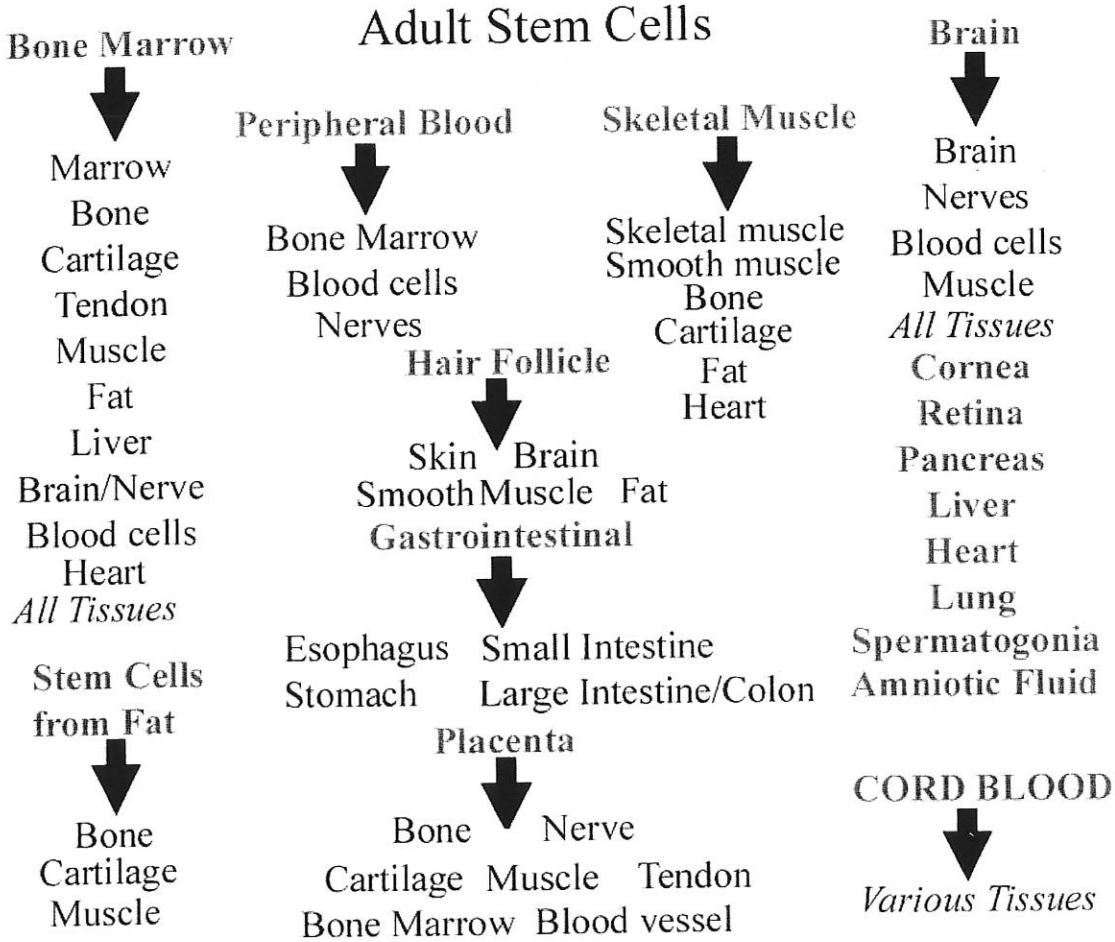
Mr. Chairman, distinguished Members, I thank you for the opportunity to provide testimony on this important issue, and I would be pleased to answer any questions.

**Selected References Documenting the Scientific Advances in "Adult" Stem Cell Research (Post-Natal or Tissue Stem Cells, not derived from embryos)**

**Adult stem cells show pluripotent capacity in generation of virtually all adult tissues**

A single adult bone marrow stem cell (multipotent adult progenitor cell) can form all body tissues and proliferate indefinitely in culture.
Westphal SP; "Ultimate stem cell discovered"; *New Scientist*; Jan 23, 2002
A single adult bone marrow stem cell could repopulate the bone marrow of mice. Formed functional marrow and blood cells, and also differentiated into liver, lung, gastrointestinal tract, and skin, as well as heart and skeletal muscle.
*Reference*: Krause DS *et al.*; "Multi-Organ, Multi-Lineage Engraftment by a Single Bone Marrow-Derived Stem Cell"; Cell 105, 369-377; May 4, 2001
Adult stem cells from brain can grow into a wide variety of organs—heart, lung, intestine, kidney, liver, nervous system, muscle, and other tissues.
*Reference*: Clarke *et al.*; "Generalized potential of adult neural stem cells"; Science 288, 1660-1663, June 2, 2000.

**Post-Natal (non-embryonic) Stem Cells and their Known or Possible Derivatives**
(not an all-inclusive list)

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**Adult stem cells can multiply almost indefinitely, numbers sufficient for clinical treatments**

*References*: Westphal SP; "Ultimate stem cell discovered"; *New Scientist*; Jan 23, 2002
Reyes M *et al.*; "Purification and ex vivo expansion of postnatal human marrow mesodermal progenitor cells"; *Blood* 98, 2615-2625; Nov 1, 2001
Krause DS; "Multipotent human cells expand indefinitely", *Blood* 98, 2595; Nov 1, 2001
Gilmore GL *et al.*; "Ex vivo expansion of human umbilical cord blood and peripheral blood CD34(+) hematopoietic stem cells"; *Experimental Hematology* 28, 1297-1305; Nov 1 2000
Colter D *et al.*; "Rapid Expansion of recycling stem cells in cultures of plastic-adherent cells from human bone marrow"; Proc. Natl. Acad. Sci. USA 97, 3213-3218; March 28, 2000

**Adult stem cells are effective in treating animal models of disease.**

**Diabetes**—Pancreatic stem cells grown in culture formed insulin-secreting islets. When injected into diabetic mice, the mice survived without further need of insulin injections.
***Reference*:** Ramiya VK *et al*, "Reversal of insulin-dependent diabetes using islets generated *in vitro* from pancreatic stem cells," *Nature Medicine* 6, 278-282, March 2000.
**Stroke**—Adult bone marrow or umbilical cord blood stem cells, delivered intravenously to brain tissue which has suffered stroke damage in rats, provide therapeutic benefit after stroke. The cells appeared to "home" to sites of damage.
***References*:** Chen J *et al.*, "Intravenous administration of human umbilical cord blood reduces behavioral deficits after stroke in rats," *Stroke* 32, 2682-2688; November 2001
Chen J *et al.*, "Therapeutic benefit of intravenous administration of bone marrow stromal cells after cerebral ischemia in rats," *Stroke* 32, 1005-1011; April 2001
**Heart Disease**—Bone marrow stem cells injected into heart or which migrate to site of heart damage can regenerate heart tissue.
***References*:** Orlic D *et al.*, "Mobilized bone marrow cells repair the infarcted heart, improving function and survival," *Proceedings of the National Academy of Sciences USA* 98, 10344-10349, August 28, 2001
Jackson KA *et al.*, "Regeneration of ischemic cardiac muscle and vascular endothelium by adult stem cells," *Journal of Clinical Investigation* 107, 1395-1402; June 2001
Orlic D *et al.*, "Bone marrow cells regenerate infarcted myocardium," *Nature* 410, 701-705; April 5, 2001
Kocher AA *et al.*, "Neovascularization of ischemic myocardium by human bone-marrow-derived angioblasts prevents cardiomyocyte apoptosis, reduces remodeling and improves cardiac function," *Nature Medicine* 7, 430-436; April 2001.

**Current Clinical Uses of Adult Stem Cells**

- **Cancers**—Lymphomas, multiple myeloma, leukemias, breast cancer, neuroblastoma, renal cell carcinoma, ovarian cancer
- **Autoimmune diseases**—multiple sclerosis, systemic lupus erythematosus, juvenile rheumatoid arthritis, rheumatoid arthritis, scleroderma, scleromyxedema, Crohn's disease
- **Anemias** (incl. sickle cell anemia)
- **Immunodeficiencies**—including first successful human gene therapy
- **Bone and cartilage deformities**—treating children with osteogenesis imperfecta
- **Corneal scarring**-generation of new corneas to restore sight
- **Stroke**—neural cell implants in clinical trials
- **Repairing cardiac tissue after heart attack**
- **Skin**—grafts; growth from hair follicle stem cells, after plucking a few hairs from patient

## Quotes from proponents of human embryonic stem cell research

•"Rarely have specific growth factors or culture conditions led to establishment of cultures containing a single cell type."
"Furthermore, there is significant culture-to-culture variability in the development of a particular phenotype under identical growth factor conditions."
"[T]he possibility arises that transplantation of differentiated human ES cell derivatives into human recipients may result in the formation of ES cell-derived tumors."
Reference: Odorico JS, Kaufman DS, Thomson JA, "Multilineage differentiation from human embryonic stem cell lines," *Stem Cells* 19, 193-204; 2001

•In this study researchers used human ES cells, and added mixes of growth factors in an attempt to get specialized cell types formed in culture. While partially differentiated cells formed, no specific tissues were derived. The authors note, "The work presented here shows that none of the eight growth factors tested directs a completely uniform and singular differentiation of cells."
Reference: Schuldiner M *et al.*; "Effects of eight growth factors on the differentiation of cells derived from human embryonic stem cells"; *Proc. Natl. Acad. Sci. USA* 97, 11307-11312; Oct. 10, 2000

•"For PSCs [pluripotent stem cells] to be of practical use, methods to generate large numbers of homogeneous cell types must be developed."
Reference: Shamblott MJ, Axelman J, Littlefield JW, Blumenthal PD, Huggins GR, Cui Y, Cheng L, Gearhart JD; "Human embryonic germ cell derivatives express a broad range of developmentally distinct markers and proliferate extensively in vitro"; *Proc Natl Acad Sci USA* 98, 113-118; Jan 2 2001
In a report on this study from UniSci News Report, Jan 7 2001
"We thought from the first that problems would arise using hPSCs [human pluripotent stem cells] to make replacement tissues," says molecular biologist Michael Shamblott, Ph.D. The early-stage stem cells are both difficult and slow to grow. "More important," says Shamblott, "there's a risk of tumors. If you're not very careful when coaxing these early cells to differentiate – to form nerve cells and the like -- you risk contaminating the newly differentiated cells with the stem cells. Injected into the body, stem cells can produce tumors."

•"[M]urine ES cells have a disturbing ability to form tumors, and researchers aren't yet sure how to counteract that. And so far reports of pure cell populations derived from either human or mouse ES cells are few and far between--fewer than those from adult cells."
"'Bone marrow stem cells can probably form any cell type,' says Harvard's [Douglas] Melton."
Reference: Gretchen Vogel, "Can Adult Stem Cells Suffice?", *Science* 292, 1820-1822, June 8, 2001

•"The epigenetic [gene expression] state of the embryonic stem cell genome was found to be extremely unstable."
Reference: Humpherys D *et al.*; "Epigenetic instability in ES cells and cloned mice"; *Science* 293, 95-97; July 6, 2001

# Statement in Support of Legislation to Prohibit Cloning

**We, the undersigned, support legislation to prohibit the cloning of human embryos for either medical experimentation or for giving birth to a human being. Although we may differ in our views regarding reproductive issues, we agree that a human embryo should not be cloned for the specific intention of using it as a "resource" for medical experimentation or for producing a baby. Moreover, we believe that the market for women's eggs that would be created by this research will provide unethical incentives for women to undergo health-threatening hormone treatment and surgery.**

**We are also concerned about the increasing bio-industrialization of life by the scientific community and life science companies and shocked and dismayed that clonal human embryos have been patented and declared to be human "inventions". We oppose efforts to reduce human life and its various parts and processes to the status of mere research tools, manufactured products, commodities and utilities. We are also deeply troubled that at present there is no legal or ethical framework in place to regulate the accelerated commercial exploitation of this research.**

**We are mindful of the tragic history of social eugenics movements in the first half of the 20th century, and are united in our opposition to any use of biotechnology for a commercial eugenics movement in the 21st century.**

| First Name | Last Name | Title | Organization |
|---|---|---|---|
| Stanley | Aronowitz | | The Graduate Center, CUNY |
| Benjamin | Barber | Kekst Professor of Civil Society | University of Maryland, Democracy Collaborative |
| Susan E. | Bell | A. Myrick Freeman Professor of Social Sciences | Bowdoin College - Dept of Sociology and Anthropology |
| Philip L. | Bereano | | University of Washington, Dept of Technical Communication |
| Wendell | Berry | | |
| Rajani | Bhatia | Coordinator | Committee on Women, Population and the Environment |
| Norman | Birnbaum | Professor Emeritus | Georgetown University |
| Madeline | Boscoe | | Canadian Women's Health Network |
| Fritjof | Capra | Director | Center for Ecoliteracy |
| Erwin | Chargaff | Professor Emeritus of Biochemistry | Columbia University |
| Harvey | Cox | Professor of Divinity | Harvard University |
| Phyllis | Creighton | Research Associate, Faculty of Divinity | Trinity College, University of Toronto |
| Irene W. | Crowe | President | Pettus Crowe Foundation |
| Herman | Daly | Professor | University of Maryland |
| Alice J. | Dan | Director, Center for Research on Women and Gender; Professor, College of Nursing and School of Public Health | University of Illinois at Chicago |
| Kristin | Dawkins | Vice President | Institute for Agriculture and Trade Policy |
| Margrit | Eichler | Director, Institute for Women's Studies and Gender Studies | New College - University of Toronto |
| Matthew | Fox | President | University of Creation Spiritual |
| Elizabeth | Fox-Genovese | Eleonore Raoul Professor of the Humanities | Emory University |
| Eugene D. | Genovese | | |
| Todd | Gitlin | Professor of Culture, Journalism and Sociology | New York University |
| Donna | Haraway | Professor | University of California at Santa Cruz |
| Debra | Harry | Executive Director | Indigenous Peoples Council on Biocolonialism |
| Paul | Hawken | Director | Natural Capital Institute |

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| First Name | Last Name | Title | Organization |
|---|---|---|---|
| Hazel | Henderson | Author | |
| Martha R. | Herbert | Pediatric Neurologist | Massachusetts Gen Hospital; Harvard Medical School |
| Ruth | Hubbard | Professor Emeritus | Harvard University |
| Deborah | Kaplan | Executive Director | World Institute on Disability |
| Anne S. | Kasper, PhD | First Chair, Board of Directors | National Women's Health Network |
| Naomi | Klein | Journalist and Author "No Logo" | |
| David | Korten | President | People-Centered Development Forum |
| Sheldon | Krimsky | Professor | Tufts University-Urban and Environmental Policy |
| Michael | Lerner | Editor | Tikkun Magazine |
| Judith | Levine | Author and Activist | |
| Abby | Lippman | Professor | McGill University |
| Norman | Mailer | Writer | |
| Jerry | Mander | President | International Forum on Globalization |
| Charles | Margulis | Greenpeace Genetic Engineering Campaign | Greenpeace |
| Jacob | Needleman | Professor of Philosophy | San Francisco State University |
| Stuart | Newman | Professor of Cell Biology and Anatomy | New York Medical College |
| Rina | Nissim | Naturopath and Author | |
| David | Noble | Professor of History | York University |
| Judy | Norsigian | Executive Director | Boston Women's Health Book Collective |
| Cheri | Pies, MSW DrPH | Associate Dean for Student Affairs | University of California, Berkeley |
| Barbara | Pillsbury, PhD | Vice President | International Health & Development Associates |
| Marcus | Raskin | Co-founder of Institute for Policy Studies | Institute for Policy Studies |
| Susan M. | Reverby | Professor of Women's Studies | Wellesley College |
| Jeremy | Rifkin | President | Foundation on Economic Trends |
| Mark | Ritchie | President | Institute for Agriculture & Trade Policy |
| Theodore | Roszak | Professor of History | California State University, Hayward |
| Margie | Schaps | Executive Director | Illinois Women's Health Coalition |
| Juliet | Schor | Professor of Sociology | Boston College |
| Lillian | Shirley | Director | Multnomah County Health Department |

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| First Name | Last Name | Title | Organization |
|---|---|---|---|
| Evelyne | Shuster, PhD | Board Member of Global Lawyers and Physicians | University of Pennsylvania |
| Huston | Smith | Professor | Syracuse University |
| Wesley J. | Smith | Author / Consumer Advocate | |
| Margaret O'Brien | Steinfels | Editor | Commonweal |
| Maureen | Sullivan | Assistant Professor, Department of Sociology | Northern Illinois University |
| Marty | Teitel, PhD | President | Council for Responsible Genetics |
| Nancy M. | Theriot | Professor and Chairperson, Women's Studies | University of Louisville |
| Leonore | Tiefer, PhD | Clin Assoc Prof of Psychiatry | New York University School of Medicine |
| Maria Isabel Ibarrola | Uriarte | General Coordinator | CIDHAL, A. C. |
| Judy | Wicks | President | White Dog Café |
| Patricia | Williams | | |
| Susan | Yanow | Director | Abortion Access Project |
| Quentin D. | Young, MD | Former President of the American Public Health Association | American Public Health Association |
| Howard | Zinn, PhD | | |

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Human Cloning: Unsafe, Unethical, Unnecessary

- Proposed cloning bans do not prohibit or hinder any vital or viable medical research.
  - Allowed—cloning of DNA, molecules, cells other than human embryos, tissues, organs, plants, animals other than humans.
  - No current federal funds for human cloning, none in foreseeable future.
- No evidence that cloning is necessary or useful for medical treatments.
  - Alternatives to embryonic stem cells, such as adult stem cells, are more successful, more promising.
  - Claims for embryonic stem cell advantages are unsubstantiated in the scientific literature.
  - Most scientists no longer feel it is possible or practical to treat patients with cells derived from cloned embryos.
- Creates a class of humans who exist only as means to achieve the ends of others.
- Human beings have the right not to be created as objects of experimentation.
- Human embryo cloning places women at risk and exploits women—necessity of large numbers of human eggs
  - High-dose hormone therapy and surgery used to obtain eggs risks the donor's health and future reproductive success
  - Enormous numbers of eggs required will lead to commercial exploitation of disadvantaged women in U.S. and internationally
- Banning only implantation of embryos is unenforceable—will lead to reproductive cloning
- Cloning represents commodification, commercialization of human life.
- Confuses kinship and parent-child identity.
- Possible reproduction of living or deceased persons without their knowledge or consent.
- Cloning will be a gateway to genetic manipulation and control of human beings.

# Destructive Embryonic Research

Good Morning. My name is Wesley J. Smith. I am an attorney, author, and consumer advocate. I have attached my biography to my testimony. I am here today to testify in support of **HB2737**.

For more than eight years I have been deeply engaged in public policy debates over the most important bioethical issues our nation and our states face. These include the attack on the sanctity of life and Hippocratic medical values in bioethics, assisted suicide, proper end of life medical treatment, and most recently, cloning and embryonic stem cell research. My approach to my work is entirely secular, which I believe is appropriate to the creation of public policy in a nation governed by the rule of law.

I appear today to urge you to outlaw all destructive embryonic stem cell research (ESCR) in the State of Kansas. I will not address the science of these issues, but the ethics, morality, and politics with which you will have to contend.

First, let me set out the stakes of this debate. With human cloning and embryonic stem cell research, we face perhaps the most fundamental issue that any legislative body will ever confront: **Does human life have intrinsic value simply and merely because it is human.** If the answer is yes, then our public policy surrounding the issues of cell therapy will outlaw the cloning of human life and destructive embryonic research. This would not mean an end to research but rather, would actually permit researchers in Kansas to focus exclusively on the incredible scientific potential presented by adult stem cells and alternative sources, such as the stem cells found in umbilical cord blood. I will discuss this issue later in my testimony.

## The Politics of the Debate

The politics of this debate have often blurred vital distinctions and definitions. Such tactics must not be allowed to govern the public policy of the nation or the states.

**1. Abortion is irrelevant**:

One of the most unfortunate aspects of media coverage of the debate over cloning and ESCR is that the media has confused it with the abortion debate. But the issue of abortion is **utterly irrelevant** to the issues of ESCR and human cloning. Whether one agrees or disagrees with abortion, the reason it is legal is that the law has determined that a woman should not be forced to do with her body that which she does not wish to do, e.g. gestate and give birth should she become pregnant. **But in the issues of human cloning and destructive embryonic research, there is no woman being forced to do anything with her body.** Thus, any references to abortion or the politics of abortion are entirely misplaced in this debate. The decision whether or not to outlaw human cloning or ESCR should not be viewed through a distorting abortion prism.

**2. ESCR will lead to the dehumanization and objectification of human life**: With destructive embryonic research, we risk transforming human embryos to the status of a natural resource with the value of penicillin mold. This is not paranoia. Last October of Geron Corp. a California biotech company, issued a press release announcing a research breakthrough in embryonic stem cell research. Notice the company's utterly dehumanizing description of the import of their discovery: "The finding greatly facilitates the development of **scalable manufacturing processes** to enable commercialization of hES (human embryonic stem) cell-based **products**." (Emphasis added.)[1] I urge this committee to ponder the morality and the potential consequences of deriving a manufactured product processed from the destruction of human life.

**3. ESCR is the gateway to human cloning**: Most researchers believe that medical therapies using embryonic cell lines will require cloning. The reason is that embryonic stem cells will probably trigger an immune reaction in the patient—unless the cells are genetically compatible with the patient's own body. Cells derived from fertilized embryos created for invitro fertilization procedures are thus unlikely to be of any clinical benefit. The point of ESCR is thus to perfect techniques to be used in human cloning research and to desensitize people to destroying one human life to benefit another. And since it could lead to the creation of embryos for the purpose of destroying them—both through fertilization and cloning—it urgent that Kansas outlaw this immoral form of research.

**4. An Embryo is human life, whether derived from fertilization or cloning:** A primary tactic of those who wish to go full speed ahead with ESCR is to claim that an early embryo isn't really human life. Here are just a few examples of this disingenuous advocacy:

> A. The Myth of the Pre-Embryo: One of the most pervasive arguments made by promoters of human cloning—as well as embryonic stem cell research (ESCR)—is that embryos younger than two weeks development are really "pre-embryos." There is just one problem with that assertion: there is no such thing as a pre-embryo.
>
> Don't just take my word for it. Princeton biologist and cloning enthusiast, Lee M. Silver, admitted in his book *Remaking Eden: Cloning and Beyond in a Brave New World,* that the term pre-embryo has "been embraced wholeheartedly…for reasons that are political, not scientific." He further states that the term "is useful in the political arena—where decisions are made about whether to allow early embryo (now pre-embryo) experimentation…"[2]
>
> Or turn to basic embryology. The authors of the textbook, *Human Embryology & Teratology* (3rd ed.) (New York: Wiley-Liss, 2001), have refused to recognize the existence of a "pre-embryo," because:
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> > (1) It is ill-defined; (2) it is inaccurate …; (3) it is unjustified because the accepted meaning of the word embryo includes all of the first 8 weeks;

[1] Press Release, "Geron Grows Tem Cells Without Mice Feeder Cells," Geron Corp., October 1, 2001.
[2] Lee M. Silver, Remaking Eden: Cloning and Beyond in a Brave New World, (1997, Avon Books, New York, NY), p. 39.

(4) it is equivocal because it may convey the erroneous idea that a new human organism is formed at only some considerable time after fertilization; and (5) it was introduced in 1986 'largely for public policy reasons. ...[3]

We thus see that "pre-embryo" is merely an advocacy term employed by cloners and supporters of destructive embryonic research to obfuscate the truth: research on early embryos—whether the embryo is formed by fertilization or through cloning—destroys human life.

B. An embryo is really just a cell: A more recent attempt to strip the humanity from the clone claims that the embryo clone is nothing more than dividing somatic cells that are no different in kind or nature than the cells you lose everyday in your shower.

But that simply isn't true. As any embryology textbook will state, a developing human life is called an embryo for the first eight weeks of its existence. After that, until birth, it is called a fetus. Moreover, an embryo is not the same as a cell that you destroy when you brush your teeth. Rather, an embryo is a distinct organism, with its own genetic makeup and gender. That is science. To state otherwise is to engage, perhaps, in metaphysical musings as to the meaning of that human life, but to deny that a human embryo is human life is just plain wrong.

**5. Adult/Alternative Stem Cells Offer Great Hope Without the Moral Cost**

One of the great underreported aspects of the debate over ESCR and cloning are the many amazing breakthroughs that have occurred in using adult stem cells or other sources, such as those found in umbilical cord blood, in crafting future medical therapies. Here is a very partial list.

- As originally reported late last year in the medical journal *Blood*, Dr. Catherine M. Verfaillie and other researchers at the Stem Cell Institute, University of Minnesota, have discovered a way to coax an adult cell found in the bone marrow to exhibit many of the attributes that supposedly make embryonic stem cells irreplaceable to the development future "miracle" medical therapies. While there is still much research to be done, "multi-potent adult progenitor cells (MAPCs) appear to be versatile, that is, capable of transforming into different types of tissues. (In a culture dish, the cells can be coaxed into becoming muscle, cartilage, bone, liver, or different types of neurons in the brain.) They are also malleable, meaning they can do so relatively easily. They also exhibit the "immortality" valued in embryonic cells, that is to say, they seem capable of being transformed into cell lines that can be maintained indefinitely. At the same time, these adult cells do not appear to present the acute danger associated with embryonic stem cells: the tendency to grow uncontrollably causing tumors or even cancers.[4]

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[3] Ronan O'Rahilly and Fabiola Muller, *Human Embryology & Teratology*, Third Ed. (2001, Wiley-Liss, New York, NY), p. 88.

[4] *Boston Globe*, "Adult Bone Marrow Eyed as Source of Stem Cells," January 24, 2002.

- On July 19, 2001, The *Harvard University Gazette* reported that mice with Type 1 diabetes (an autoimmune disorder) were *completely cured* of their disease using adult stem cells. This was accomplished by destroying the cells responsible for the diabetes, at which point, the animals' own adult stem cells regenerated the missing cells with healthy tissue. Dr. Denise Faustman told the *Gazette*, that if the therapy works out in humans "we should be able to replace damaged organs and tissues by using adult stem cells, thus eliminating, at least temporarily, the need to harvest and transplant stem cells from embryos and fetuses."[5]
- On June 15, 2001, the *Globe and Mail* (Canada) reported a wonderful story that could provide great hope to people with spinal injuries. Israeli doctors injected paraplegic Melissa Holley, age 18, who became disabled when her spinal cord was severed in an auto accident. After researchers injected her with her own white blood cells, she regained the ability to move her toes and control her bladder. This is the exact kind of therapy that embryonic stem cell boosters only *hope* they can begin to achieve in ten years. Yet, is has been accomplished in the here and now.[6]

Human immune systems have already been restored using umbilical cord stem cells. People with severe heart disease are being treated with experimental therapies using adult stem cells. These are advances that supporters of embryonic sources of such therapies only hope to have available in ten years. A complete listing of such advances would consume many hours. But this much is true: we can achieve tremendous advances in medical research without sacrificing our morality or resorting to destroying human life to achieve those desired ends. I urge the committee to research this issue further by contacting the Do No Harm Coalition. http://www.stemcellresearch.org.

**6. The States Need to Take the Lead:** There is no federal statute that outlaws destructive embryonic research. Federal law merely forbids using taxpayer money to engage in such research (the Dickey Amendment). Nor are any attempts contemplated, as far as I know, at the federal level. It is thus up to the states. So far, 9 states have banned destructive research in their jurisdictions: Louisiana; Maine; Massachusetts Michigan; Minnesota; N. Dakota; Pennsylvania; Rhode Island; and, S. Dakota. Kansas will offer important national leadership by entering its name to this important list.

## The Stakes in the Debate

The debates about embryonic research and its first cousin, human cloning, could not be more important. At stake is whether the law should permit the most radical research enterprise ever undertaken. Bluntly stated, the **biotech industry is determined to make vast profits from the creation and destruction of human life**.

Kansas can help prevent this disturbing agenda by outlawing research that destroys human embryos.

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[5] *Harvard University Gazette*, "Adult Stem Cells Effect a Cure," July 19, 2001.
[6] *Globe and Mail*, "Paraplegic Regains Movement After Cell Procedure," June 15, 2001.

Kansas Catholic Conference

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February 7, 2002

***TESTIMONY IN FAVOR OF HB 2737***

Representative Doug Mays, Chairman
House Federal and State Affairs Committee

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to testify this afternoon in favor of HB 2737. My name is Mike Farmer and I am the Executive Director of the Kansas Catholic Conference.

As I stated in my testimony yesterday in front of this committee, I believe that Dr. Prentice and Mr. Smith have given irrefutable arguments for this committee and this legislature to pass laws prohibiting all human cloning and destructive embryonic stem cell research.

Paraphrasing from a statement issued by the U.S. Catholic Bishops in 1998, as we tinker with the beginning, the end and even the intimate cell structure of life, we tinker with our own identity as a free nation dedicated to the dignity of the human person. When American political life becomes an experiment on people rather than for and by them, it will no longer be worth conducting. We are arguably moving closer to that day. Today, when the inviolable rights of the human person are proclaimed and the value of life publicly affirmed, the most basic human right, the right to life, is being denied or trampled upon, especially at the more significant moments of existence.

When we place no value on life at its onset, then it is no wonder our respect for life is diminished in its later stages. I ask you to please vote this bill favorably out of committee.

Thank you.

House Fed. &
State Affairs
Date 2/7/02
Attachment No. 5
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February 6, 2002

Honorable Mary Pilcher Cook
Representative
Kansas State House of Representatives
Kansas State Capitol Building
Topeka, Kansas 66612

Dear Representative Cook,

I have had multiple concerns about the direction that reproductive activity has gone. As medical progress continues, we have developed medical procedures and technologies that raise significant ethical issues. These issues have moved such that now we may enter a period of complete artificial reproduction of human beings, through cloning. This procedure in my opinion is repulsive, because it manipulates the human genes to such an extent that we may see severely abnormal outcomes. Although the media has projected the successful cloning of animals, the numbers of animals that were cloned with severe birth defects has not been fairly represented.

We have the capability of diagnosing many (but not all) birth defects through prenatal ultrasound. We will undoubtedly be seeing more birth defects by manipulating the human genes at conception, thus we will need to deal with these consequences. The process of abortion applied to these cases may lead to selective termination for some birth defects, thereby legitimizing this procedure. We will be kidding ourselves that cloning would only be used for the good of human kind. Many birth defects are not necessarily obvious prenatally or even in the immediate newborn period.

I am a neonatologist,, that is a pediatrician who specializes in the care of ill newborns. I have practiced medicine for 23 years, and I continue to be amazed at the pitfalls of prenatal or early newborn diagnosis of several defects. Many neurological problems are manifest only after a period of time, allowing infant development to take place. Cardiac defects are still frequently diagnosed post natally as well. I have had numerous cases whereby kidney defects were suspected prenatally, only to find that the baby has functional kidneys at birth and no reason for any special intervention. Behavioral and developmental problems are suspected of being caused by mildly abnormal changes in the brain, and these may not be obvious for several years. The overall effect would be difficult for many parents to handle, particularly since they expect the medical field to "produce" perfect children for them. This may eventually lead to unwanted children, and create a whole new social problem for our communities.

As far as stem cell harvesting, I feel very much opposed to destroying a human embryo for "spare parts". Whether we destroy an embryo or a fully mature adult for "spare parts", is deplorable. Conceived human beings should have the right to a full life, and no one should selectively remove that life for the benefit of another life. Once we begin doing this on embryos, the next logical path would be do this on premature infants, or older children. There would be no way to stop logical thinking in this direction. There are so many people who have fertility problems and would very much like to raise any child that they get. The adoption process is such that there are many more parents wanting children than there are infant's or children available for adoption.

Sincerely,
signed.
Katherine Schooley, MD
Specialist in Neonatology
8 N. Sandlewood
Wichita, Kansas 67230
316 733-7606

House Fed. &
State Affairs
Date 2/7/02
Attachment No. 6
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