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107TH CONGRESS, 1st Session | HOUSE OF REPRESENTATIVES | REPORT 107–170

HUMAN CLONING PROHIBITION ACT OF 2001

JULY 27, 2001.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. SENSENBRENNER, from the Committee on the Judiciary, submitted the following

R E P O R T

together with

DISSENTING VIEWS

[To accompany H.R. 2505]

[Including cost estimate of the Congressional Budget Office]

The Committee on the Judiciary, to whom was referred the bill (H.R. 2505) to amend title 18, United States Code, to prohibit human cloning, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

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The technical amendments (stated in terms of the page and line numbers of the introduced bill) are as follows:

89–006

Page 2, line 12, strike "exisiting" and insert "existing".

Page 3, line 14, strike "who" and insert "that".

Page 3, line 15, strike "section" and insert "title".

PURPOSE AND SUMMARY

H.R. 2505, the "Human Cloning Prohibition Act of 2001," amends title 18, United States Code, by establishing a comprehensive ban on human cloning and prohibiting the importation of a cloned embryo, or any product derived from such embryo. Any person or entity that is convicted of violating this prohibition is subject to a fine or imprisonment of not more than 10 years, or both. In addition, H.R. 2505 provides a civil penalty of not less than $1,000,000 for any person who receives a monetary gain from cloning humans. However, H.R. 2505 does not prohibit the use of cloning technology to produce molecules, DNA, cells, tissues, organs, plants, or animals.

BACKGROUND AND NEED FOR THE LEGISLATION

Cloning, which literally means to make a copy, is the asexual reproduction of a precise genetic copy of a molecule, cell, tissue, plant, or animal. The word "cloning" can be used as a generic term to describe several different techniques of cloning. Molecular cloning refers to the copying of DNA fragments. For example, the human gene for insulin has been cloned into bacteria to produce insulin for the treatment of diabetes. In addition, human cells are routinely cloned to study cancer or genetic diseases.

The cloning technique that could possibly allow for the production of individuals who are genetically identical to an already existing individual is known as "somatic cell nuclear transfer." This is the procedure that was used to clone Dolly the sheep in 1996, the first mammal ever to be cloned from an adult cell. Somatic cell nuclear transfer involves taking a mature but unfertilized egg, removing or deactivating its nucleus, and introducing a nucleus obtained from a specialized (somatic) cell of another adult organism. The egg is chemically treated so that it begins to behave as if fertilization has occurred. Once the egg begins to divide, the embryo is transferred to a female's uterus to initiate pregnancy. Since almost all the hereditary material of a cell is contained within its nucleus, the re-nucleated egg and the individual into which it develops are genetically identical to the organism that was the source of the transferred nucleus.

The announcement of the birth of Dolly brought into sharp focus the future possibility of cloning human beings along with all its inherent moral, ethical, and legal implications. The National Bioethics Advisory Commission (NBAC) was ordered to review the legal and ethical issues involved in the cloning of human beings and delivered its recommendations in June 1997. The NBAC agreed that the creation of a child by somatic cell nuclear transfer is scientifically and ethically objectionable because: 1) the efficiency of nuclear transfer is so low and the chance of abnormal offspring is so high that experimentation of this sort in humans was premature; and 2) the cloning of an already existing human being may have a negative impact on issues of personal and social well being

such as family relationships, identity and individuality, religious beliefs, and expectations of sameness.

Currently, no clear regulations exist in the United States that would prevent a private group from attempting to clone a human being. The Food and Drug Administration (FDA) has announced that it has the authority to regulate human cloning, but that authority has been questioned by many experts and remains unclear today. According to the FDA, that authority comes in part from the Public Health Service (PHS) Act, which gives FDA the power to regulate "biological products" that are used to treat medical conditions. The FDA asserts that a human somatic cell clone (a cloned human embryo) is a "biological product" intended to treat a medical condition, that condition being infertility.

The FDA also says it can regulate human cloning under the Food, Drug and Cosmetic (FD&C) Act because human somatic cell clones fall under the definition of "drugs." That act defines drugs as "articles (other than food) intended to affect the structure or any function of the body." According to the FDA, a human somatic cell clone is an "article" that affects the structure and function of a woman's body by making her pregnant and would be subject to investigational new drug application requirements under the FD&C Act.

With recent reports that otherwise reputable scientists and physicians plan to produce the first human clone and no clear regulations in place, it has become imperative that Congress act to prevent this ethically and morally objectionable procedure.

Several other nations and international organizations have also enacted laws or issued policy statements prohibiting the cloning of human beings. Argentina, Australia, Belgium, Canada, China, Denmark, France, Germany, Israel, Japan, Norway, Peru, Slovakia, South Korea, Spain, Sweden, Switzerland, and the United Kingdom already have laws or have announced plans to pass laws prohibiting the cloning of human beings. In addition, the Denver Summit of Eight, the Council of Europe, the World Health Organization, UNESCO's International Bioethics Committee, the European Commission, and the Human Genome Organization have called for a worldwide ban on the cloning of human beings.

The possible production of a human clone raises a host of ethical questions. Cloning entails producing a person with a particular genetic code because of the attractiveness or usefulness of a person with that code. In this sense, by allowing human cloning, we are possibly legitimizing in principle the entire enterprise of designing children to suit parental or social purposes.

It must also be recognized that any attempt at cloning a human being would be experimentation on the resulting child-to-be. Each experiment runs a high risk of failure. In all the animal experiments, fewer than 2 to 3 percent of all cloning attempts succeeded. Not only are there fetal deaths and stillborn infants, but many of the so-called "successes" are in fact failures. As has only recently become clear, there is a very high incidence of major disabilities and deformities in cloned animals that attain live birth. Attempts to clone human beings carry massive risks of producing unhealthy, abnormal, and malformed children.

It is well within Congress' power and perogative to restrict or prohibit the means used by researchers that threaten interests in

which the citizens of this country have a legitimate concern. As the National Bioethics Advisory Commission 1997 report pointed out, "(b)ecause science is both a public and social enterprise and its application can have a profound impact, society recognizes that the freedom of scientific inquiry is not an absolute right. . . ."

Some opponents of the bill would rather see a ban that would only prohibit cloning when there was an intent to initiate a pregnancy and would still allow scientists to clone human embryos for experimental purposes. This approach to prohibiting cloning would be much less effective and would inevitably turn out to be unenforceable. Once cloned embryos were produced and available in laboratories, it would be virtually impossible to control what was done with them. Stockpiles of cloned human embryos could be produced, bought and sold without anyone knowing it. Implantation of cloned embryos, a relatively easy procedure, would take place out of sight. At that point, governmental attempts to enforce a cloning ban would prove impossible to police or regulate. Creating cloned human children necessarily begins by producing cloned human embryos. The only effective way to prevent this is to prohibit all human cloning.

Opponents of a complete ban on human cloning also argue that H.R. 2505 would have a negative impact in the field of stem cell research. Testimony given before the Committee does not support this argument. Cloning human embryos for the sole purpose of destroying them for their stem cells is unnecessary because of the successes that scientists have had with adult stem cells. Adult stem cells are already being used successfully for therapeutic benefit in humans. This includes treatments associated with various types of cancer, to relieve systemic lupus, multiple sclerosis, rheumatoid arthritis, anemias, immunodeficiency diseases, and restoration of sight through regeneration of corneas. Furthermore, initial clinical trials have begun to repair heart damage using the patient's own adult stem cells. Adult stem cells are making good on what are only promises of embryonic stem cells.

Few issues have ever created such a unified public opposition as the possibility of producing human beings who are genetically identical to an already existing individual. Cloning experiments produced 277 stillborn, miscarried or dead sheep before Dolly was successfully cloned. That failure rate, which has remained steady since 1997, is not acceptable for human beings. H.R. 2505, by banning human cloning at any stage of development, provides the most effective protection from the dangers of abuse inherent in this rapidly developing field. By preventing the cloning of human embryos, there can be no possibility of cloning a human being.

HEARINGS

H.R. 2505 is substantially similar to H.R. 1644 which the Committee's Subcommittee on Crime held 2 days of hearings on June 7, 2001, and June 19, 2001. The Subcommittee on Crime also heard testimony on a related bill, H.R. 2172, at those hearings. H.R. 2505 includes minor changes to the definitions of H.R. 1644 that clarify the term "human cloning" and specifies that the mental culpability standard for violating the criminal statute is "knowingly." Also, the sections on Congressional findings and the sense of Congress contained in H.R. 1644 are not included in H.R. 2505. Testimony was

received from eight witnesses, representing eight organizations. The witnesses were: Dr. Leon R. Kass, Professor of Bioethics, The University of Chicago; Dr. David A. Prentice, Professor of Life Sciences, Indiana State University; Dr. Daniel Callahan, Director of International Programs for The Hastings Center; Robyn S. Shapiro, Esq., Professor of Bioethics, the Medical College of Wisconsin; Alex Capron, Esq., Professor of Law and Medicine, University of Southern California, School of Law; Dr. Jean Bethke Elshtain, Professor of Social and Political Ethics, The University of Chicago; Gerard Bradley, Esq., Professor of Law, Notre Dame Law School; Dr. Thomas Okarma, President and CEO of the Geron Corporation.

COMMITTEE CONSIDERATION

On July 19, 2001, the Subcommittee on Crime met in open session and ordered favorably reported the bill H.R. 2505, by a voice vote, a quorum being present. On July 24, 2001, the Committee met in open session and ordered favorably reported the bill H.R. 2505 with technical amendments by a recorded vote of 18 to 11, a quorum being present.

VOTE OF THE COMMITTEE

1. An amendment in the nature of a substitute was offered by Mr. Schiff. The amendment would ban the use of human cloning techniques with the intent to initiate a pregnancy, would provide a 5-year sunset provision, and would preempt any State law prohibiting human cloning techniques that is not already in effect on the date of enactment of this bill. The amendment was defeated by rollcall vote of 11 to 19.

ROLLCALL NO. 1

	Ayes	Nays	Present
Mr. Hyde		X	
Mr. Gekas		X	
Mr. Coble		X	
Mr. Smith (Texas)		X	
Mr. Gallegly		X	
Mr. Goodlatte		X	
Mr. Chabot		X	
Mr. Barr		X	
Mr. Jenkins		X	
Mr. Hutchinson		X	
Mr. Cannon		X	
Mr. Graham		X	
Mr. Bachus			
Mr. Scarborough			
Mr. Hostettler		X	
Mr. Green		X	
Mr. Keller		X	
Mr. Issa		X	
Ms. Hart		X	
Mr. Flake		X	
Mr. Conyers			
Mr. Frank	X		
Mr. Berman			
Mr. Boucher			
Mr. Nadler	X		
Mr. Scott	X		
Mr. Watt	X		
Ms. Lofgren	X		

ROLLCALL NO. 1—Continued

	Ayes	Nays	Present
Ms. Jackson Lee	X		
Ms. Waters	X		
Mr. Meehan			
Mr. Delahunt			
Mr. Wexler	X		
Ms. Baldwin	X		
Mr. Weiner	X		
Mr. Schiff	X		
Mr. Sensenbrenner, Chairman		X	
Total	11	19	

2. An amendment was offered by Ms. Lofgren and Mr. Conyers to insert language at the end of the bill that states: "Nothing in this act shall prohibit research or therapies using human pluripotent stem cells derived from human embryos." The amendment was defeated by rollcall vote of 11 to 18.

ROLLCALL NO. 2

	Ayes	Nays	Present
Mr. Hyde		X	
Mr. Gekas		X	
Mr. Coble		X	
Mr. Smith (Texas)		X	
Mr. Gallegly		X	
Mr. Goodlatte			
Mr. Chabot		X	
Mr. Barr		X	
Mr. Jenkins		X	
Mr. Hutchinson		X	
Mr. Cannon		X	
Mr. Graham		X	
Mr. Bachus			
Mr. Scarborough			
Mr. Hostettler		X	
Mr. Green		X	
Mr. Keller		X	
Mr. Issa		X	
Ms. Hart		X	
Mr. Flake		X	
Mr. Conyers			
Mr. Frank	X		
Mr. Berman			
Mr. Boucher			
Mr. Nadler	X		
Mr. Scott	X		
Mr. Watt	X		
Ms. Lofgren	X		
Ms. Jackson Lee	X		
Ms. Waters	X		
Mr. Meehan			
Mr. Delahunt			
Mr. Wexler	X		
Ms. Baldwin	X		
Mr. Weiner	X		
Mr. Schiff	X		
Mr. Sensenbrenner, Chairman		X	
Total	11	18	

3. An amendment was offered by Ms. Jackson Lee to add a new section 302(e) that states" "Nothing in this section restricts the use of in vitro fertilization, the administration of ovulation induction drugs, or other medical procedures to assist individuals in becoming parents through any form of sexual reproduction." The amendment was defeated by rollcall vote of 10 to 17.

ROLLCALL NO. 3

	Ayes	Nays	Present
Mr. Hyde		X	
Mr. Gekas		X	
Mr. Coble		X	
Mr. Smith (Texas)		X	
Mr. Gallegly		X	
Mr. Goodlatte			
Mr. Chabot		X	
Mr. Barr		X	
Mr. Jenkins		X	
Mr. Hutchinson			
Mr. Cannon		X	
Mr. Graham		X	
Mr. Bachus			
Mr. Scarborough			
Mr. Hostettler		X	
Mr. Green		X	
Mr. Keller		X	
Mr. Issa		X	
Ms. Hart		X	
Mr. Flake		X	
Mr. Conyers			
Mr. Frank	X		
Mr. Berman			
Mr. Boucher			
Mr. Nadler	X		
Mr. Scott	X		
Mr. Watt	X		
Ms. Lofgren	X		
Ms. Jackson Lee	X		
Ms. Waters	X		
Mr. Meehan			
Mr. Delahunt			
Mr. Wexler	X		
Ms. Baldwin	X		
Mr. Weiner			
Mr. Schiff	X		
Mr. Sensenbrenner, Chairman		X	
Total	10	17	

4. An amendment was offered by Mr. Scott to insert at the end of the bill a sunset provision whereby none of the prohibitions of the bill would be in effect 5 years after the date of enactment. The amendment was defeated by voice vote.

5. An amendment was offered by Mr. Scott to insert language at the end of the bill that would provide an exemption to the prohibitions of the bill for the importation of any product derived from an embryo if such product is unable to develop into a full human being. The amendment was defeated by voice vote.

6. An amendment was offered by Mr. Scott to insert language at the end of the bill that would provide an exemption to the prohibitions of the bill for a woman who receives an embryo in her uterus

if such activity was performed with the intent to initiate a pregnancy. The amendment was defeated by voice vote.

7. Final Passage. The motion to report favorably the bill, H.R. 2505, was agreed to by a rollcall vote of 18 to 11.

ROLLCALL NO. 4

	Ayes	Nays	Present
Mr. Hyde	X		
Mr. Gekas	X		
Mr. Coble	X		
Mr. Smith (Texas)	X		
Mr. Gallegly	X		
Mr. Goodlatte	X		
Mr. Chabot	X		
Mr. Barr	X		
Mr. Jenkins	X		
Mr. Hutchinson			
Mr. Cannon	X		
Mr. Graham	X		
Mr. Bachus			
Mr. Scarborough			
Mr. Hostettler	X		
Mr. Green	X		
Mr. Keller	X		
Mr. Issa	X		
Ms. Hart	X		
Mr. Flake	X		
Mr. Conyers		X	
Mr. Frank		X	
Mr. Berman			
Mr. Boucher			
Mr. Nadler		X	
Mr. Scott		X	
Mr. Watt		X	
Ms. Lofgren		X	
Ms. Jackson Lee		X	
Ms. Waters		X	
Mr. Meehan			
Mr. Delahunt			
Mr. Wexler		X	
Ms. Baldwin		X	
Mr. Weiner			
Mr. Schiff		X	
Mr. Sensenbrenner, Chairman	X		
Total	18	11	

Committee Oversight Findings

In compliance with clause 3(c)(1) of rule XIII of the Rules of the House of Representatives, the Committee reports that the findings and recommendations of the Committee, based on oversight activities under clause 2(b)(1) of rule X of the Rules of the House of Representatives, are incorporated in the descriptive portions of this report.

Performance Goals and Objectives

H.R. 2505 does not authorize funding. Therefore, clause 3(c) of rule XIII of the Rules of the House of Representatives is inapplicable.

NEW BUDGET AUTHORITY AND TAX EXPENDITURES

Clause 3(c)(2) of House rule XIII is inapplicable because this legislation does not provide new budgetary authority or increased tax expenditures.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

In compliance with clause 3(c)(3) of rule XIII of the Rules of the House of Representatives, the Committee sets forth, with respect to the bill, H.R. 2505, the following estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 27, 2001.

Hon. F. JAMES SENSENBRENNER, Jr., *Chairman,*
Committee on the Judiciary,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 2505, the Human Cloning Prohibition Act of 2001.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contacts are Lanette J. Walker (for Federal costs), who can be reached at 226–2860, Shelley Finlayson (for the State and local impact), who can be reached at 225–3220, and Paige Piper/Bach (for the private-sector impact), who can be reached at 226–2940.

Sincerely,

DAN L. CRIPPEN, *Director.*

Enclosure

cc: Honorable John Conyers Jr.
Ranking Member

H.R. 2505—Human Cloning Prohibition Act of 2001.

H.R. 2505 would prohibit any person or entity from performing or attempting to perform human cloning, participating in the human cloning process, or shipping or importing an embryo produced by human cloning. Anyone prosecuted and convicted under H.R. 2505 would be subject to both criminal and civil fines and up to 10 years in prison. Collections of criminal and civil penalties are recorded in the budget as governmental receipts (revenues). Criminal fines are deposited in the Crime Victims Fund and spent in subsequent years. Because H.R. 2505 could affect direct spending and receipts, pay-as-you-go procedures would apply. Based on information from the Department of Justice, CBO expects there is little likelihood that many cases would be prosecuted under the bill. Therefore, CBO estimates that enacting this legislation would have a negligible effect on receipts and direct spending.

H.R. 2505 would impose an intergovernmental and private-sector mandate as defined in the Unfunded Mandates Reform Act (UMRA) because it would prohibit public and private entities from performing human cloning as defined in the bill. According to government and industry sources, there is limited, if any, human

cloning currently being performed by public or private entities. CBO, therefore, estimates that the bill would impose minimal costs on State, local, or tribal governments, or the private sector. Thus, the direct costs of the mandate would not exceed the thresholds established by UMRA ($56 million for intergovernmental mandates and $113 million for private-sector mandates in 2001, adjusted annually for inflation).

The CBO staff contacts for this estimate are Lanette J. Walker (for Federal costs), who can be reached at 226–2860, Shelley Finlayson (for the State and local impact), who can be reached at 225–3220, and Paige Piper/Bach (for the private-sector), who can be reached at 226–2940. This estimate was approved by Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

CONSTITUTIONAL AUTHORITY STATEMENT

Pursuant to clause 3(d)(1) of rule XIII of the Rules of the House of Representatives, the Committee finds the authority for this legislation in article I, section 8 of the Constitution.

SECTION-BY-SECTION ANALYSIS AND DISCUSSION

Section 1: Short Title

Section 1 of the bill states the short title of the bill as the "Human Cloning Prohibition Act of 2001."

Section 2: Prohibition on Human Cloning

Section 2 amends title 18, United States Code, by inserting after chapter 15, a new chapter 16—Human Cloning. The new chapter 16 is comprised of two sections, numbered 301 and 302.

Section 301 defines the terms "human cloning," "asexual reproduction," and "somatic cell" as used in the bill.

Section 302 establishes a prohibition on human cloning. Section 302(a) states that it shall be unlawful for any person or entity, public or private, in or affecting interstate commerce, knowingly, to perform or attempt to perform human cloning, to participate in an attempt to perform human cloning, or to ship or receive for any purpose an embryo produced by human cloning or any product derived from such embryo.

Section 302(b) provides that it shall be unlawful for any person or entity, public or private, knowingly to import for any purpose an embryo produced by human cloning, or any product derived from such embryo.

Section 302(c) states that any person or entity that is convicted of violating the prohibition on human cloning shall be fined or imprisoned not more than 10 years, or both. If such person or entity derived a pecuniary gain from the violation, then they would also be subject to a civil penalty of not less than $1,000,000, and not more than an amount equal to the amount of the gross gain multiplied by 2, if that amount is greater than $1,000,000.

Section 302(d) emphasizes that nothing shall restrict areas of scientific research not specifically prohibited by this bill, including research in the use of nuclear transfer or other cloning techniques to produce molecules, DNA, cells other than human embryos, tissues, organs, plants, or animals other than humans. This section also

makes a clerical amendment to the table of chapters for part I of title 18, United States Code.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (new matter is printed in italics and existing law in which no change is proposed is shown in roman):

TITLE 18, UNITED STATES CODE

* * * * * * *

PART I—CRIMES

* * * * * * *

Chap.		Sec.
1.	**General provisions**	**1**
	* * * * * * *	
15.	**Claims and services in matters affecting government**	**281**
16.	***Human Cloning***	***301***

* * * * * * *

CHAPTER 16—HUMAN CLONING

Sec.
301. Definitions.
302. Prohibition on human cloning.

§ 301. Definitions

In this chapter:

(1) HUMAN CLONING.—The term "human cloning" means human asexual reproduction, accomplished by introducing nuclear material from one or more human somatic cells into a fertilized or unfertilized oocyte whose nuclear material has been removed or inactivated so as to produce a living organism (at any stage of development) that is genetically virtually identical to an existing or previously existing human organism.

(2) ASEXUAL REPRODUCTION.—The term "asexual reproduction" means reproduction not initiated by the union of oocyte and sperm.

(3) SOMATIC CELL.—The term "somatic cell" means a diploid cell (having a complete set of chromosomes) obtained or derived from a living or deceased human body at any stage of development.

§ 302. Prohibition on human cloning

(a) IN GENERAL.—It shall be unlawful for any person or entity, public or private, in or affecting interstate commerce, knowingly—

(1) to perform or attempt to perform human cloning;

(2) to participate in an attempt to perform human cloning; or

(3) to ship or receive for any purpose an embryo produced by human cloning or any product derived from such embryo.

(b) IMPORTATION.—It shall be unlawful for any person or entity, public or private, knowingly to import for any purpose an embryo produced by human cloning, or any product derived from such embryo.

(c) PENALTIES.—

(1) CRIMINAL PENALTY.—Any person or entity that violates this section shall be fined under this title or imprisoned not more than 10 years, or both.

(2) CIVIL PENALTY.—Any person or entity that violates any provision of this section shall be subject to, in the case of a violation that involves the derivation of a pecuniary gain, a civil penalty of not less than $1,000,000 and not more than an amount equal to the amount of the gross gain multiplied by 2, if that amount is greater than $1,000,000.

(d) SCIENTIFIC RESEARCH.—Nothing in this section restricts areas of scientific research not specifically prohibited by this section, including research in the use of nuclear transfer or other cloning techniques to produce molecules, DNA, cells other than human embryos, tissues, organs, plants, or animals other than humans.

* * * * * * *

MARKUP TRANSCRIPT

BUSINESS MEETING

TUESDAY, JULY 24, 2001

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The Committee met, pursuant to notice, at 10:03 a.m., in Room 2141, Rayburn House Office Building, Hon. F. James Sensenbrenner, Jr. (Chairman of the Committee) presiding.

Chairman SENSENBRENNER. The Committee will be in order. A working quorum is present.

The next item on the agenda is markup of H.R. 2505, the Human Cloning Prohibition Act of 2001.

[The bill, H.R. 2505, follows:]

I

107TH CONGRESS
1ST SESSION

H. R. 2505

To amend title 18, United States Code, to prohibit human cloning.

IN THE HOUSE OF REPRESENTATIVES

JULY 16, 2001

Mr. WELDON of Florida (for himself, Mr. STUPAK, Mr. KERNS, and Mr. KUCINICH) introduced the following bill; which was referred to the Committee on the Judiciary

---

A BILL

To amend title 18, United States Code, to prohibit human cloning.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Human Cloning Prohibition Act of 2001".

SEC. 2. PROHIBITION ON HUMAN CLONING.

(a) IN GENERAL.—Title 18, United States Code, is amended by inserting after chapter 15, the following:

1 **"CHAPTER 16—HUMAN CLONING**

"Sec.
"301. Definitions.
"302. Prohibition on human cloning.

2 **"§ 301. Definitions**

3 "In this chapter:

4 "(1) HUMAN CLONING.—The term 'human
5 cloning' means human asexual reproduction, accom-
6 plished by introducing nuclear material from one or
7 more human somatic cells into a fertilized or
8 unfertilized oocyte whose nuclear material has been
9 removed or inactivated so as to produce a living or-
10 ganism (at any stage of development) that is geneti-
11 cally virtually identical to an existing or previously
12 exisiting human organism.

13 "(2) ASEXUAL REPRODUCTION.—The term
14 'asexual reproduction' means reproduction not initi-
15 ated by the union of oocyte and sperm.

16 "(3) SOMATIC CELL.—The term 'somatic cell'
17 means a diploid cell (having a complete set of chro-
18 mosomes) obtained or derived from a living or de-
19 ceased human body at any stage of development.

20 **"§ 302. Prohibition on human cloning**

21 "(a) IN GENERAL.—It shall be unlawful for any per-
22 son or entity, public or private, in or affecting interstate
23 commerce, knowingly—

1 "(1) to perform or attempt to perform human
2 cloning;
3 "(2) to participate in an attempt to perform
4 human cloning; or
5 "(3) to ship or receive for any purpose an em-
6 bryo produced by human cloning or any product de-
7 rived from such embryo.
8 "(b) IMPORTATION.—It shall be unlawful for any per-
9 son or entity, public or private, knowingly to import for
10 any purpose an embryo produced by human cloning, or
11 any product derived from such embryo.
12 "(c) PENALTIES.—
13 "(1) CRIMINAL PENALTY.—Any person or enti-
14 ty who violates this section shall be fined under this
15 section or imprisoned not more than 10 years, or
16 both.
17 "(2) CIVIL PENALTY.—Any person or entity
18 that violates any provision of this section shall be
19 subject to, in the case of a violation that involves the
20 derivation of a pecuniary gain, a civil penalty of not
21 less than $1,000,000 and not more than an amount
22 equal to the amount of the gross gain multiplied by
23 2, if that amount is greater than $1,000,000.
24 "(d) SCIENTIFIC RESEARCH.—Nothing in this sec-
25 tion restricts areas of scientific research not specifically

1 prohibited by this section, including research in the use
2 of nuclear transfer or other cloning techniques to produce
3 molecules, DNA, cells other than human embryos, tissues,
4 organs, plants, or animals other than humans.".
5 (b) CLERICAL AMENDMENT.—The table of chapters
6 for part I of title 18, United States Code, is amended by
7 inserting after the item relating to chapter 15 the fol-
8 lowing:

"16. Human Cloning ..... **301".**

○

Chairman SENSENBRENNER. The Chair recognizes the gentleman from Texas, Mr. Smith, the Chairman of the Subcommittee on Crime, for a motion.

Mr. SMITH. Mr. Chairman, the Subcommittee on Crime reports favorably the bill, H.R. 2505, and moves its favorable recommendation to the full House.

Chairman SENSENBRENNER. Without objection, H.R. 2505 will be considered as read and open for amendment at any point. The Chair recognizes the gentleman from Texas to strike the last word.

Mr. SMITH. Thank you, Mr. Chairman.

The manufacture of cloned human beings alarms an overwhelming majority of Americans. A recent Time/CNN poll found that 90 percent of all Americans are opposed to cloning humans.

The theoretical ability to clone humans has raised profound ethical and legal issues. Testimony before the Crime Subcommittee revealed that there are a growing number of individuals who claim they can and will clone a human being.

Currently, no Federal regulations exist in the United States that would prevent a private group from attempting to create a human clone. The Food and Drug Administration has asserted that it has the authority, but legal scholars doubt whether this claimed authority would stand up to challenge.

The bill would prevent experimental procedures that the National Bioethics Advisory Commission call scientifically and ethically objectionable. The NBAC unanimously concluded that given the state of science, quote, "any attempt to create a child using somatic cell nuclear transfer, whether in the public or private sector, is uncertain, and its outcome is unacceptably dangerous to the fetus, and therefore, morally unacceptable." End quote.

H.R. 2505 prohibits all human cloning, which is the only way to insure that the ban is effective. If we were to allow human embryos

to be cloned, it would be impossible to control what is done with them.

As Dr. Leon Katz testified at a hearing, stockpiles of cloned human embryos could be produced, bought and sold without restrictions. Implantation of cloned embryos, a relatively easy procedure, would inevitably take place.

Chairman SENSENBRENNER. The Committee will be in order, and the gentleman from Texas, I guess, will—should speak more directly into the mike.

Mr. SMITH. Excuse me. I thought I was.

As Dr. Leon Katz testified at a hearing, stockpiles of cloned human embryos could be produced, bought and sold without restrictions. Implantation of cloned embryos, a relatively easy procedure, would inevitably take place. Attempts to enforce a cloning ban would prove impossible to monitor.

H.R. 2505 is similar to H.R. 1644, on which the Subcommittee held two hearings. Changes were made to the bill to incorporate technical modifications to the definition of human cloning, and to state that the mental culpability standard for violating the prohibition on human cloning is "knowingly." Also, the sections on congressional findings and the sense of congress were removed, since these comments were more appropriate for a Committee report. All the testimony taken by this Committee on H.R. 1644 applies equally to H.R. 2505.

Mr. Chairman, during our hearings, we learned that any experiment runs a high risk of failure. In all the animal experiments, fewer than 2 to 3 percent of all cloning attempts succeeded. There were numerous fetal deaths and stillborn infants. Based on these experiments, cloning human beings also carries massive risk of producing unhealthy, abnormal and malformed children. The only way to prevent this from happening is to adopt the restrictions on human cloning set forth in H.R. 2505.

As Professor Bradley testified at one of our hearings, the only effective way to prohibit human reproductive cloning is in fact to prohibit all human cloning.

Mr. Chairman, I urge my colleagues to support the bill, and yield back the balance of my time.

Chairman SENSENBRENNER. The gentleman from New York, Mr. Nadler. For what purpose do you see recognition?

Mr. NADLER. Can I ask a point of information before striking the last word?

Chairman SENSENBRENNER. The gentleman will state his point.

Mr. NADLER. Just one clarification. It's been generally held that there are two types of cloning, one to produce a——

Chairman SENSENBRENNER. Could the gentleman speak into the mike, please?

Mr. NADLER. I'm sorry. It's been generally stated—point well taken. It's been generally stated that there are two types of cloning, one to try to reproduce a human being, the other to produce perhaps stem cells for whatever purpose. They have been given different names. I forget what they are. Is this to ban both of them or just to produce a person?

Mr. SMITH. This bill would ban all human cloning. And I want to make the distinction, and perhaps I'll be able to make it in more detail later on, that this is a different debate from stem cell re-

search. And we can go into that in a few minutes, but this is to ban all human cloning on the principle——

Mr. NADLER. Can you define——

Mr. SMITH [continuing]. That if you allow any human cloning——

Mr. NADLER. And you define cloning as anything that would produce a cell as stated here?

Mr. SMITH. Human cloning is defined as anything that would produce a human if the process were to continue.

Mr. NADLER. Human embryo. A human—a human—a new cell which was capable of developing into an organism even if it doesn't go any further than that?

Mr. SMITH. That's correct.

Mr. NADLER. Okay. Thank you. Now, move to strike the——

Chairman SENSENBRENNER. The gentleman from Michigan moves to strike the last word, and is recognized for 5 minutes.

Mr. CONYERS. Thank you, Mr. Chairman and Members of the Committee. This may be known as the part of the meeting this morning in which we try to play doctor, and that's bad news for American patients.

I don't think we can believe that anyone can schedule a single hearing and markup on this legislation and be on the verge of banning one of the promising medical technologies to come along in more than a generation. For you see, folks, the bill before us is so sweeping, that it would not only ban reproductive cloning, but all uses of nuclear cell transfer for experimental purposes as well.

This would stop ongoing studies designed to help persons suffering from diabetes, stroke, Parkinson's disease, heart disease, spinal cord injury, right in its tracks. Even if the Administration—and I'm hoping that they will—does the right thing and funds stem cell research, under this bill, it would be next to impossible to implement any successes at the private level because it bans the importation of life saving medicine from other countries if it has anything to do with experimental cloning. This means that if another nation's scientists develop a cure for cancer, it would be illegal for persons living in this country to benefit from the drug. May we have more compassion, please?

Now, if those who really want to do something on this and wanted to do something about cloning, about the problem of reproducing real live people, then they would join with us in passing legislation to criminalize reproductive cloning. There is broad bipartisan support, I can tell you, on both sides of the aisle for such a proposition, and we could come together to do something most people would want instead of any posturing and using up time on measures which have very little chance of being passed into law.

And so I thank you for permitting this statement, Mr. Chairman.

Chairman SENSENBRENNER. Without objection, all Members' opening statements may be placed in the record at this point.

[The statement of Mr. Barr follows:]

PREPARED STATEMENT OF THE HONORABLE BOB BARR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

Research in the field of embryology and genetics has expanded threefold in the past decade. New advances in in-vitro fertilization and genetic screening are leading to many new procedures, and has made human embryo cloning possible.

The practice of either embryo splitting or nuclear replacement technology, deliberately for the purposes of human reproductive cloning, raises serious ethical issues we, as policy makers, must address.

The ability to produce an exact genetic replica of a human being, alive or deceased, carries with it an incredible responsibility. Beyond the fact the scientific community has yet to confirm the safety and efficacy of the procedure, human cloning is human experimentation taken to the furthest extreme. In fact, the National Bioethics Commission has quite clearly stated the creation of a human being by somatic cell nuclear transfer is both scientifically and ethically objectionable.

Mr. Chairman, I would like to further address the issue of "therapeutic cloning," that is, cloning of embryos for the purpose of scientific research. There is nothing humanitarian or compassionate about creating and destroying human life for some theoretical, technical benefit that is far from established. To create a cloned human embryo solely to harvest certain cells is just as abhorrent as cloning a human embryo for implantation.

Certain scientists and self-serving organizations have regaled us with the infinite possibilities cloned embryos have for the treatment of infertility, for the development of therapies used to cure disease, or even for the production of organs for transplantation. These, however, are all mere theories. In reality, not one disease has been cured, nor one treatment developed based on this technology. Furthermore, there is abundant evidence that alternatives to this procedure already exist. Stem cells, which can be harvested from placentas and umbilical cords, even from human fat cells, have yielded far more results than embryonic stem cells.

I fully support Doctor Weldon's effort to ban human embryonic cloning. I have cosponsored his original bill, H.R. 1644, the Human Cloning Prohibition Act. Nothing scientifically or medically important would be lost by banning embryonic cloning; ethically, we would lose much; and indeed, at this time, there is no clinical, scientific, therapeutic or moral justification for pursuing such a dangerous course.

Chairman SENSENBRENNER. Are there amendments? The gentleman from California, Mr. Schiff. Do you have an amendment?

Mr. SCHIFF. Yes, Mr. Chairman, I have an amendment at the desk.

Chairman SENSENBRENNER. The clerk will report the amendment.

The CLERK. Amendment in the Nature of a Substitute to H.R. 2505, offered by Mr. Schiff. Strike all after the enacting clause, and insert the following: Section I, Short Title. This Act may be cited as——

Mr. SCHIFF. Mr. Chairman, request consent to waive the remainder of the reading.

Chairman SENSENBRENNER. The clerk is passing out the wrong amendment, so would the clerk please read and have the staff pass out the correct amendments?

The CLERK. Human Cloning Prohibition Act of 2001. Section 2(a), Prohibition on Human Cloning. (a) In General. Title XVIII, United States Code, is amended by inserting after chapter 15 the following. Chapter 16, Human Cloning.

Chairman SENSENBRENNER. Without objection, the amendment is considered as read and open for amendment at any point.

[The amendment follows:]

AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2505

OFFERED BY MR. SCHIFF

Strike all after the enacting clause and insert the following:

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the "Human Cloning Prohi-
3 bition Act of 2001".

4 **SEC. 2. PROHIBITION ON HUMAN CLONING.**

5 (a) IN GENERAL.—Title 18, United States Code, is
6 amended by inserting after chapter 15 the following:

7 **"CHAPTER 16—HUMAN CLONING**

"Sec.
"301. Definitions.
"302. Prohibition on human cloning.

8 **"§ 301. Definitions**

9 "In this chapter, the term 'human somatic cell nu-
10 clear transfer technology' means transferring the nuclear
11 material of a human somatic cell into an egg cell from
12 which the nucleus has been removed or rendered inert.

13 **"§ 302. Prohibition on human cloning**

14 "(a) IN GENERAL.—It shall be unlawful for any
15 person—

1 "(1) to use or attempt to use human somatic
2 cell nuclear transfer technology, or the product of
3 such technology, to initiate a pregnancy or with the
4 intent to initiate a pregnancy; or
5 "(2) to ship, transport, or receive the product
6 of such technology knowing that the product is in-
7 tended to be used to initiate a pregnancy.
8 "(b) RULE OF CONSTRUCTION.—This section may
9 not be construed as applying to any of the following:
10 "(1) The use of somatic cell nuclear transfer
11 technology to clone molecules, DNA, cells, or tissues.
12 "(2) The use of mitochondrial, cytoplasmic, or
13 gene therapy.
14 "(3) The use of in vitro fertilization, the admin-
15 istration of fertility-enhancing drugs, or the use of
16 other medical procedures to assist a woman in be-
17 coming or remaining pregnant
18 "(4) The use of somatic cell nuclear transfer
19 technology to clone or otherwise create animals other
20 than humans.
21 "(5) Any other activity (including biomedical,
22 microbiological, or agricultural research or practices)
23 not expressly prohibited in subsection (a).
24 "(c) PENALTIES.—

1 "(1) CRIMINAL PENALTY.—Any person who vio-
2 lates this section shall be fined under this title or
3 imprisoned not more than 10 years, or both.
4 "(2) CIVIL PENALTY.—Any person who violates
5 any provision of this section shall be subject to, in
6 the case of a violation that involves the derivation of
7 a pecuniary gain, a civil penalty of not less than
8 $1,000,000 and not more than an amount equal to
9 the amount of the gross gain multiplied by 2, if that
10 amount is greater than $1,000,000.
11 "(d) PREEMPTION OF STATE LAW.—This section su-
12 persedes any State or local law that—
13 "(1) establishes prohibitions, requirements, or
14 authorizations regarding human somatic cell nuclear
15 transfer technology that are different than, or in ad-
16 dition to, those established in subsection (a); or
17 "(2) with respect to humans, prohibits or re-
18 stricts research regarding or practices constituting—
19 "(A) somatic cell nuclear transfer;
20 "(B) mitochondrial or cytoplasmic therapy;
21 or
22 "(C) the cloning of molecules, DNA, cells,
23 tissues, or organs;
24 except that this subsection does not apply to any State
25 or local law that was in effect as of the day before the

1 date of the enactment of the Human Cloning Prohibition
2 Act of 2001.
3 "(e) SUNSET.—This section does not apply to any ac-
4 tivity described in subsection (a) that occurs on or after
5 the expiration of the five-year period beginning on the date
6 of the enactment of the Human Cloning Prohibition Act
7 of 2001.".
8 (b) CLERICAL AMENDMENT.—The table of chapters
9 for part I of title 18, United States Code, is amended by
10 inserting after the item relating to chapter 15 the fol-
11 lowing:

"16. Human Cloning ..... 301".

Chairman SENSENBRENNER. And the Chair recognizes the gentleman from California, Mr. Schiff, for 5 minutes.

Mr. SCHIFF. Thank you, Mr. Chairman. Members, the base bill today is offered with the best of motivations. It is out of a desire to ban human cloning, a practice that we all agree ought to be banned. The question, as raised by today's hearing on this bill, is how broad that ban ought to be, whether it ought to ban not only human cloning for the purposes of reproduction, but also human cloning for the purposes of research.

There are two separate elements of research at stake here today: the benefit of stem cell research and the benefit of nuclear transfer embryonic stem cell research. And I want to talk very briefly about both. Stem cell research offers the advantage of undifferentiated cells—embryonic stem cell research, that is—undifferentiated cells that have the potential of turning into any type of cell. Adult stem cells as yet do not have that same capacity. Now, maybe they will in the future, but at this point they do not have that ability. With the benefit of embryonic stem cell research we have the opportunity to create cells of any type of the body to cure numerous illnesses and ailments that threaten lives of many around the country and around the world.

The benefit of nuclear transfer embryonic stem cell research is that in addition to all of the advantages of stem cell research, you have the additional advantage that by using the patient's own DNA, we can prevent rejection, we can avoid the necessity of im-

mune suppressant drugs and all of the detriment that that can bring to patients in terms of adverse side effects.

There are two arguments in favor of a broad ban, notwithstanding these research benefits. The first is that life begins with a fertilized egg, and as to that argument, it is very little subject to debate in this Committee. It's my experience that none of us have ever persuaded one another on that essential moral question, and I certainly won't try today.

The second argument, however, I think is more easy to discuss, and that is, it would make it more difficult to prevent reproductive human cloning if we fail to ban all of human cloning. And the fact of the matter is that where a person operates with an illicit motive, they will perform any type of cloning they choose.

The argument against the broad ban, I think, is more compelling, and that is that life is sacred for all, including those who are ill, and this very promising research has the opportunity of offering life to those who currently have no hope. Science has truly given us a vexing choice in this issue, a more promising therapy with more risk of abuse. But in my view we ought to bet on the best people in research, and not bet on those who would disregard our laws, and for that reason, I urge Members of the Committee to support a ban on human cloning that does not support a ban on research, and it is contained in the substitute. I yield back the balance of my time.

Chairman SENSENBRENNER. The gentleman from Texas, Mr. Smith.

Mr. SMITH. Mr. Chairman, I'm opposed to this amendment.

Chairman SENSENBRENNER. The gentleman's recognized for 5 minutes.

Mr. SMITH. Mr. Chairman, this amendment would make substantial and fundamental changes to the underlying bill. Specifically, the prohibition of human cloning would be changed from banning all human cloning, to only prohibiting human cloning with the intent to initiate a pregnancy. This approach is unenforceable. Once cloned embryos are produced and available in laboratories, I want to repeat, it is impossible to control what is done with them.

Stockpiles of cloned human embryos could be produced, bought and sold without restrictions. Attempts to enforce a cloning ban would prove impossible to monitor. Mr. Chairman, creating cloned human children necessarily begins by producing cloned human embryos. If we want to prevent the latter, we should prevent the former.

It has been argued that H.R. 2505 would have a negative impact on scientific research. This argument is unsupported, both by the language in the bill and by the testimony received by the Crime Subcommittee during two legislative hearings that we held. The language of the bill specifically states that nothing shall restrict areas of scientific research not specifically prohibited by this bill, including research into use of nuclear transfer or other cloning techniques used to produce molecules, DNA, cells other than human embryos, tissues, organs, plants or animals or other humans.

Mr. Chairman, I also want to point out that there are a number of individuals, including Senator Hatch, the Ranking Member of the Senate Judiciary Committee, who support stem cell research,

but also support a ban on human cloning. The National Institutes of Health, the NIH, and the National Bioethics Advisory Commission also have expressed serious concerns over creating embryos specifically for research purposes.

Finally, Mr. Chairman, let me quote from an editorial in the Washington Post, again showing the distinction between stem cell research and banning human clones. The Washington Post stated, quote: "It is not necessary to be against abortion rights or to believe human life literally begins at conception to be deeply alarmed by the notion of scientists purposely causing conceptions in a context entirely divorced from even the potential of reproduction." The Post went on to characterize the creation of embryos solely for research as unconscionable.

And so, Mr. Chairman, I want to urge my colleagues to oppose this amendment, and yield back the balance of my time.

Mr. CONYERS. Mr. Chairman.

Chairman SENSENBRENNER. The gentleman from Michigan, Mr. Conyers, recognized for 5 minutes.

Mr. CONYERS. Thank you, Mr. Chairman. I commend the gentleman from California for a very reasonable attempt to prohibit human cloning with prohibiting the ability to conduct viable, medical research. And I think the measure before us, H.R. 2505, bans reproductive cloning, and then goes further to ban necessary therapeutic research which could grant new hope to patients who have been told there is no cure for their illnesses.

Now, reproductive cloning to produce a pregnancy, I think, should be prohibited. But in prohibiting reproductive cloning, we do not need to exclude valuable research cloning that could lead to significant medical advances. And that's why I think this amendment really makes this measure palatable, because it narrows the prohibition and focuses on actions which would result in a cloned child by limiting the prohibition to cloning with the intent to initiate a pregnancy. This ensures that the cloning of humans is prohibited while the use of cloning for medical purposes is preserved.

And so I think—I think we've hit it right on the head here, and I commend Adam Schiff for this great contribution. I return any time left.

Chairman SENSENBRENNER. What purpose does the gentleman from Florida, Mr. Keller, seek recognition?

Mr. KELLER. I move to strike the last word, Mr. Chairman.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. KELLER. Mr. Chairman, I would oppose the amendment, and ask my colleagues to support the bill, the Human Cloning Prohibition Act of 2001 as is. I want to acknowledge the outstanding work on this bill done by my colleague from Florida, Dr. Weldon, who is with us today.

Recent reports have indicated that there are reputable scientists and physicians who have announced their intention to produce the first human clone, and this raises several ethical issues related to human cloning, even if there is some sort of research benefit. For example, one of the ethical questions: Will parents seek to clone children in order to provide tissues, organs or bone marrow for transplant into another child? Now, truly, that would benefit the

first child, but it raises a heck of a large ethical question with respect to the manner in which they do that, using that research.

I think it also has to be recognized that any attempt at cloning a human being would be experimentation on the resulting child to be. Each experiment runs a very high risk of failure. 98 percent of the cloning attempts with animals have failed, and there is a very high incidence of major disabilities and deformities in the cloned animals that do attain live birth.

This is a good bill. It provides appropriate and stiff penalties of a million dollars civil fines and 10 years in prison. I urge my colleagues to vote no on the amendment and yes on the original bill. I yield back.

Chairman SENSENBRENNER. For what purpose does the gentleman from New York, Mr. Nadler, seek recognition?

Mr. NADLER. To strike the last word, Mr. Chairman.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. NADLER. Mr. Chairman, let me start by commending Mr. Schiff for a very well thought out and very well designed amendment.

Mr. Chairman, this bill, as drafted, unfortunately combines two completely separate issues, and they are separate issues. One is cloning for the purpose of producing a pregnancy and producing another human being, and for the reason stated by Mr. Keller, there are real problems with that. First of all, the technology isn't developed and a lot of children would be born with terrible deformities and so forth, and it would be a moral horror to do that. Even were the technology developed, and one day it will be, I presume, it raises severe ethical problems, though I'm not sure that a 100 percent ban would be ethically desirable in any event. We need a lot of years yet to think that out. For example, if a married couple couldn't have a child, but could have a child if you took an egg from the woman and the—and used human somatic transfer to take the genes from the father—from the husband into the woman's egg, and then implant it in—implant it in her, whether that clone of the father, in effect, from that couple, would be so morally terrible, I'm not so sure that there's something wrong with that. But that's an issue that we don't have to face now. I don't have a problem with banning the whole—human reproductive cloning now with a 5 or 10-year take a look at it again once the technology is complete and we've thought these issues through more, because there might be some exceptions.

However, the idea of banning cloning as just to produce an embryo, a couple—defining an embryo as we do, as a few cells, I don't regard—many people don't regard—some religions do, some don't—an embryo as a human being. Now you're getting really into the ultimate right-to-life question, is an embryo a human being? I say no. I say it is not more—a fetus at some point becomes a human being, and we know all the questions about abortion. At one point this will become a human being. We all differ on that. But an embryo, as far as I'm concerned, as far as many religions are concerned, is not a human being, and I have no moral compunction about killing that embryo for therapeutic or experimental purposes at all.

And this says no human—no scientific research shall be banned except if it including—if it produces cells other than human embryos. What if you produce a human embryo? Let me give you an example. Let's assume someone has a terrible disease. It's a few years from now. We have better stem cell technology, and the way to cure that disease without risking rejection from autoimmune—without risking immune system rejection, is to take a cell from that person, clone it, get an embryo, take a stem cell out of that, develop new heart tissue to solve his heart disease. That may be the technology 10 or 15 years from now. Why should we ban that and ban the research for it? And the answer is, we should ban it only if you regard an embryo of 5 or 10 cells as a human being.

Now some right-to-life—I won't say extremists, because they're entitled to their view—some right-to-life purists regard that, some churches regard that. Others do not. I don't think we ought to be enacting bans on medical research and on medical practice that can have real therapeutic value and save lives because of our theological view. And this comes back—and it is intimately connected to the stem cell controversy, because the way to produce stem cells that don't have—and tissues derived from stem cells, where those tissues are heart tissues or pancreas or to solve whatever disease it may be, without the risk of rejection, may very well be through cloning from the very person who you're going to treat.

Mr. CONYERS. Could the gentleman yield?

Mr. NADLER. In one second. So to pass this extreme a bill, going right across the board, and ban all the research because of a fundamentalist view that an embryo, a few cells is the same as a human being, and, therefore, we'd rather let existing human beings die for lack of medical treatment, is something that I don't think we ought to engage in, and I commend the gentleman for the amendment, and I'll yield to the gentleman.

Mr. CONYERS. Oh, good. Well, I am just reassured that the gentleman if for the amendment. I just wanted to double check. Thank you very much.

Ms. LOFGREN. Would the gentleman yield?

Mr. NADLER. Yes, I'll yield.

Ms. LOFGREN. I just wanted to briefly state my agreement with a point made by the gentleman. We are a democracy here in the United States. We are not a theocracy. And I think that when we have issues such as this, where the religious in America are completely divided on what is required of us by our own religious beliefs, that it is not for the United States Congress to pick which religions are going to be adhered to and which are not in the direction of scientific research. So I believe that the gentleman's amendment draws the correct line.

Certainly, whatever the future may bring, there is no justification for human cloning to create a live birth at this point because of the inherent dangers. This is no dispute as to that fact now, and we need to go no further, and I yield back.

Chairman SENSENBRENNER. The time of the gentleman has expired. For what purpose the gentleman from Virginia seek recognition?

Mr. SCOTT. Move to strike the last word.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. SCOTT. Mr. Chairman, we received a letter from Ronald M. Green, Director of Ethics Institute, Chair of the Department of Religion at Dartmouth College. He is a bioethicist. He has been pPesident of the Society of Christian Ethics, the largest association of religious ethicists in the world, and Secretary of the American Academy of Religion, the professional association of educators in religion in the United States.

Mr. Chairman, in his letter he says that he wishes to draw your attention to devastating implications for medical science of H.R. 2505, the Human Cloning Prohibition Act of 2001. "In its current form, H.R. 2505 would make it unlawful to perform or attempt to perform human cloning in any form. This prohibition appropriately rules out reproductive cloning, the attempt to initiate a pregnancy through cloning and the view of the still unknown—in view of the still unknown risks to offspring produced by cloning, no responsible ethicist believes that we're ready to use nuclear transfer technology for reproductive purposes."

"However, as written, the bill would also prohibit several other very research directions of possibly great medical benefit. One of these is the new technology known as nuclear transfer for cell replacement or therapeutic cloning. An article that I co-authored in the Journal of the American Medical Association last December explains this technology."

"As the article makes clear, nuclear transfer for cell replacement would permit us to use immunologically compatible cells for tissue repair. There is no intention on the part of those researching this technology to clone a person. Using this technology, a child suffering from diabetes could receive a replacement set of insulin-producing cells. These would not be rejected by the child because they would be produced via nuclear transfer procedure from the child's own body cells. Neither would the implantation of these cells require the use of dangerous immunosuppressant drugs. Using this same technology, paralyzed individuals might receive a graft of nervous system cells that would restore spinal cord function, burn victims could receive their own skin tissue back for wound healing and so on."

"As presently drafted, H.R. 2505 will shut down this research in this country. This would represent an unparalleled loss to biomedical research and for no good reason. As the amendment to be introduced by Representative Adam Schiff makes clear, it is possible to prohibit reproductive cloning, an attempt to initiate a pregnancy, while allowing nuclear transfer research that aims only at producing immunologically-compatible cells for tissue replacement and repair or for other valid medical purposes."

"In January of this year, by an overwhelming vote, the British Parliament approved similar research. In that country the government not only permits nuclear transfer research for cell replacement, it funds it. In our own country private companies are willing to use their own resources to further this research. No one is seeking Federal support. However, neither should the Federal Government intervene at this time to prohibit such research."

Mr. Chairman, I'd like to introduce the entire letter and the article into the record.

Chairman SENSENBRENNER. Without objection.

[The material referred to follows:]

July 23, 2001

The Hon. F. James Sensenbrenner, Jr., Chairman
The Hon. John Conyers, Jr., Ranking Member
House Committee on the Judiciary
2138 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Sensenbrenner and Rep. Conyers:

I am a bioethicist whose special interest is ethical issues in human reproduction and genetics. In 1994, I served as a member of the Human Embryo Research Panel of the National Institutes of Health. I was the founding director of the Office of Genome Ethics at the NIH National Human Genome Research Institute. I have been president of the Society of Christian Ethics, the largest association of religious ethicists in the world, and Secretary of the American Academy of Religion, the professional association of educators in religion in the United States.

In 1998-99, I was a member of the American Association for the Advancement of Science's Working Group on stem cell technology. I currently head the Ethics Advisory Board for Advanced Cell Technology, a private company in Worcester, Mass., engaged in nuclear transfer ("cloning") research. The board is an independent body of ethicists, clinicians and scientists whose members have no economic stake in Advanced Cell Technology's research but who are knowledgeable of its scientific and medical implications.

I wish to draw to your attention the devastating implications for medical science of H.R. 2505, the "Human Cloning Prohibition Act of 2001." In its current form, H.R. 2505 would make it unlawful to "perform or attempt to perform human cloning" in any form. This prohibition appropriately rules out "reproductive cloning," the attempt to initiate a pregnancy through cloning. In view of the still unknown risks to offspring produced by cloning, no responsible ethicist believes we are ready to use nuclear transfer technology for reproductive purposes.

However, as written, the bill would also prohibit several other very research directions of possibly great medical benefit. One of these is a new technology known as "nuclear transfer for cell replacement" (or "therapeutic cloning"). An article that I co-authored in the *Journal of the American Medical Association* (JAMA) last December explains this technology. I enclose a copy of that article.

As the article makes clear, nuclear transfer for cell replacement would permit us to produce *immunologically compatible* cell lines for tissue repair. *There is no intention on the part of those researching this technology to "clone" a person.* Using this technology, a child suffering from diabetes could receive a replacement set of insulin-producing cells. These would not be rejected by the child because they would be produced, via a nuclear transfer procedure, from the child's

own body cells. Neither would the implantation of these cells require the use of dangerous immunosuppression drugs. Using this same technology, paralyzed individuals might receive a graft of nervous system cells that would restore spinal cord function; burn victims could receive their own skin tissue back for wound healing; and so on.

In the longer run, research in this direction may enable scientists to bypass the nuclear transfer step entirely. By learning how the eggs used in nuclear transfer are able to reprogram differentiated body cells to their earliest state, this research might achieve the dream of biomedical science: the direct reprogramming of adult body cells. If this research is allowed to go forward, victims of a heart attack might be able to receive new, healthy, immunologically compatible cardiac tissue generated directly from their own cells without having to utilize nuclear transfer techniques.

As presently drafted, H.R. 2505 will shut down this research in this country. This would represent an unparalleled loss to biomedical research, and for no good reason. As the amendment to be introduced by Rep. Adam Schiff makes clear, it is possible to prohibit reproductive cloning – the attempt to initiate a pregnancy – while allowing nuclear transfer research that aims only at producing immunologically compatible cells for tissue replacement and repair or for other valid medical purposes.

In January of this year, by an overwhelming vote, the British Parliament approved similar research. In that country, the government not only permits nuclear transfer research for cell replacement, it funds it. In our own country, private companies are willing to use their own resources to further this research. No one is seeking federal support. However, neither should the federal government intervene at this time to prohibit this research.

If H.R. 2505 is passed in its present form, the United States will turn its back on thousands or millions of sufferers of severe diseases. It will also become a research backwater in one of science's most promising areas. Please amend this bill in the ways that have been suggested to foster both ethics and science.

Respectfully,

Ronald M. Green
Director of the Ethics Institute
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The Ethical Validity of Using Nuclear Transfer in Human Transplantation

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THERAPEUTIC CLONING (OR CELL REPLACEMENT BY MEANS of nuclear transfer) is a new biomedical technology that has the potential to transform medicine. Therapeutic cloning involves the transfer of the nucleus from one of the patient's cells into an enucleated donor oocyte for the purpose of making medically useful and immunologically compatible cells and tissues (FIGURE).[1] Although the phrase "therapeutic cloning" has been most widely used in this context, we believe that it is misleading. "Cloning" brings to mind images of the replication of a single genome for reproductive purposes. In therapeutic cloning, however, no such replication is involved. For this reason, we prefer the term "cell replacement through nuclear transfer" (CRNT). In this article, we use both terms so that readers may become accustomed to the more technically accurate terminology. Moreover, because therapeutic cloning requires the creation and disaggregation ex utero of blastocyst stage embryos, this technique raises complex ethical questions.[2-4] While these questions must be addressed and understood, we believe that a counterbalancing and stronger ethical case can be made for therapeutic cloning research.

Scientific Background

In November 1998, researchers at the University of Wisconsin, Madison, and The Johns Hopkins University, Baltimore, Md, announced the development of the first immortal pluripotential human stem cell lines.[5,6] This research, which was hailed as the science "breakthrough of the year,"[7] followed more than 2 decades of research on stem cells in mice and other animal models. Animal research has suggested enormous therapeutic potential for this technology. Cardiomyocytes generated in the laboratory from murine embryonic stem cells have been transplanted into the hearts of dystrophic mice where they formed stable intracardiac grafts.[8] Mouse nerve stem cells have successfully reversed the progression of the equivalent of multiple sclerosis in mice and have restored function to the limbs of partially paralyzed rats.[9,10] These findings suggest that cell transplantation therapies using such stem cells might someday provide dramatic new strategies for the treatment for a host of disease conditions. These include diabetes, liver and heart disease, neurodegenerative disorders such as Parkinson disease and Alzheimer disease, osteoporosis, blood cell disorders, muscular dystrophy, and injury caused by burns and trauma. There also is the possibility that these cells could be used to reconstitute more complex tissues and organs, including blood vessels, bones, kidneys, and even hearts.[11]

If this research is to prove successful, many hurdles will have to be surmounted. Scientists will have to learn how to culture stem cells reliably in the laboratory and steer them toward development of the desired tissue types. It will have to be shown that these cells can be safely transplanted into the human body. Even if this is successful, major problems of immunological incompatibility and tissue rejection will remain. At present, the most promising sources of stem cells are early blastocyst-stage embryos or tissues derived from the gonadal ridge of aborted fetuses (embryonic germ cells). Incompatibility between these cells and the recipient may require the use of immunosuppression therapy. In the future, it may be possible to develop a wide variety of stem cell lines for transplantation and to select the lines that are most compatible with the donor. It also might be possible to manipulate the immunogenic factors in stem cell lines.

On a different front, recent research has shown that adult stem cells may be more plastic in their developmental potential than was previously thought[12-14] and are capable of generating a diversity of progenitor cells for different lineages.[15-17] Once the processes of cellular differentiation and dedifferentiation are better understood, it may be possible

See also p 3180.

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Financial Disclosures: Drs Lanza, Cibelli, and West are officers of Advanced Cell Technology, a biotechnology company involved in nuclear transfer and stem cell research, and all 3 hold stock options in Advanced Cell Technology, and patents on nuclear transfer and stem cell techniques.
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Controversies Section Editor: Phil B. Fontanarosa, MD, Executive Deputy Editor.

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to grow in vitro adult stem cells derived from the recipient's own tissues.

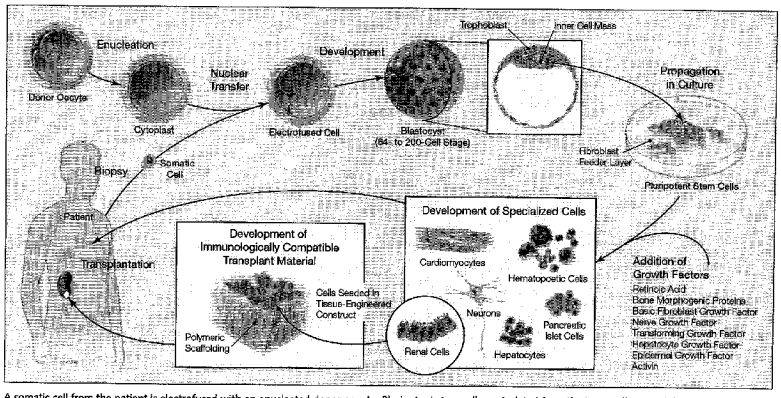
Nevertheless, recent results emphasize the value of multiple alternative technologies. It has been found that when embryonic germ cells are implanted into early mouse embryos, the tissues containing the cells develop abnormally, leading to oversized fetuses and skeletal deformations.[18] This suggests that these cells may have abnormal imprinting or are otherwise abnormal. As far as adult stem cells are concerned, it is unlikely that stem cells exist in the adult for all cell types and tissues. Where stem cells do exist, for example in the brain, it may not be practical to access them. In addition, the possibility of transdifferentiating adult stem cells—converting them into embryonic stem cells through direct cell reprogramming—seems remote at the present time and will require an understanding of the basic science by which DNA of a differentiated cell is reprogrammed into an embryonic state. Therefore, it is unclear whether any of the alternative research routes will achieve the desired therapeutic end in a timely manner.

Therapeutic cloning promises an "end run" around all these problems. Since the early successes in the creation of animals by nuclear transfer[19-21] and the celebrated cloning of Dolly in 1997,[22] somatic cell nuclear-transfer (SCNT) techniques have been successfully used to clone a range of mammalian species.[21,23-25] These successes suggest that it soon may be possible to produce viable human embryonic stem cell lines in this manner. Furthermore, because each of the cells in the resultant stem cell line contains the nuclear DNA of the somatic cell donor, the transplant tissues are very likely to be immunologically compatible with the donor. Used in this way, SCNT technology promises an expeditious route to dedifferentiation and reprogramming of a donor's adult cells. As a means of understanding cellular dedifferentiation, this research direction is invaluable. In the longer run, CNRT may prove to be only a transitional technology that is replaced by adult stem cell transdifferentiation. But far from devaluing cell activation research, this transitional role renders it even more important in the immediate future.[26]

Ethical Objections

Ethical objections to these technologies fall into 2 categories. The first, which pertains to all stem cell technologies using embryonic stem or germ cells, have to do with the manner in which these technologies appear to depend on the destruction of nascent human life, whether at the embryonic or fetal stages. The second set of objections is more specific to CRNT. Unlike much stem cell research, which can use spare embryos remaining from infertility procedures, CRNT requires the deliberate creation and disaggregation of a human embryo. Many people fear that this could lead to the "instrumentalization" of human life and the erosion of other research protections for human subjects. In addition, some worry that any cloning of a human embryo opens the door to the eventual cloning of a human being through the reproductive uses of this technology.

Figure. Procedure for Therapeutic Cloning



A somatic cell from the patient is electrofused with an enucleated donor oocyte. Pluripotent stem cells are isolated from the inner cell mass of the resulting blastocyst and then differentiated in vitro into genetically matched cells for transplantation. The cells also can be reconstituted into more complex tissues and organs using tissue engineering techniques.

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Most who oppose human stem cell research using embryonic stem or germ cells base their view on the position that human life, in a moral sense, begins at conception. Those holding this position believe that from conception onward, the early embryo is the moral equivalent of any human child or adult.[27,28] This means that an early embryo cannot ethically be used in research that risks its healthy survival. Embryonic stem cell research, which depends on the disaggregation of a human embryo, cannot meet this test. Because of embryonic stem cell research's close association with abortion, many holding this view also oppose embryonic germ cell research.

To most of those who hold this view, it does not matter that the embryos or fetuses used to produce cell lines are almost certain to be destroyed. They liken the embryo in these cases to a dying child or adult and believe that its circumstances call for enhanced, not reduced, research protections.[28] Most holding this view prefer research that aims at the development of adult stem cell lines, and they point to the promise of some recent results in this area. They also are willing to accept delays in the progress of stem cell research rather than permit the use of cell line sources that they regard as morally objectionable.[27,28]

Some who hold the view that life begins at conception come to a different conclusion in which the use of embryos remaining from infertility procedures is concerned. Although they lament the creation of too many embryos in infertility medicine or the practice of abortion, they believe that no useful purpose is served by refusing to use the cells or tissues made available in this manner. They also reason that it is unlikely that the use of these cells or tissues in research will encourage either the creation of spare embryos in infertility medicine or abortion, since there are independent reasons these practices occur. For example, in 1996, 3600 embryos unwanted by their progenitors were destroyed in compliance with British regulations.[29] Until the efficiency of infertility procedures is increased, couples will routinely produce more embryos than they can successfully transfer or donate for adoption. US regulations prohibiting women from benefiting from fetal tissue donations appear to have reassured many people that the permission for such donations does not itself encourage abortion.

This limited acceptance of embryonic stem or germ cell research vanishes, however, when an embryo must be created de novo for a stem cell research protocol, as in the case of nuclear transfer. This makes this research particularly unacceptable to all those who believe that life begins at conception. It might be argued that an egg activated by nuclear transfer is not a human "embryo" in the traditional sense of that term, because it is not the result of fertilization. It also might reasonably be maintained that cell replacement therapy does not involve the destruction of an embryo but only its transformation into an embryonic stem cell line. After all, even in normal pregnancy, many embryonic cells do not develop into a fetus or child but become placental material instead. Nevertheless, most who believe that life begins at conception will resist these arguments. They can be expected to extend their view to this entity as well as to the embryo created by nuclear transfer, on the grounds that its developmental potential is the same as a naturally fertilized egg. It is indicative of this way of thinking that existing federal regulations prohibiting federal funding of embryo research define the embryo as "any organism . . . that is derived by fertilization, parthenogenesis, cloning, or any other means from one or more human gametes."[30]

In addition to this large body of opponents, some who do not share the view that life begins at conception oppose any research in which embryos are deliberately created and destroyed.[31] These opponents fear the symbolic implications of the deliberate creation and destruction of a form of human life. They also worry that these practices could be the start of a "slippery slope" to the use of other classes of subjects in harmful research without their consent.

Replies to These Objections

Many people do not agree with the view that human life in a moral sense begins at conception. They hold a "developmental view" that sees prenatal life as increasing in moral weight over the course of a pregnancy and only reaching full equality with other human beings very late in pregnancy or at birth. Where the very early embryo is concerned, many considerations undermine the claim that it should be given substantial moral weight. Almost all views holding that human life begins at conception maintain that this is the moment when a new and unique human individual comes into being. However, because twinning and chimerism are still possible during the early stages of development,[32,33] it is doubtful that one can speak of human individuality at this time.[34-36] Developmental individuality, which is central to personhood, is not attained until the primitive body axis has begun to form and is associated with the morphogenetic migrations and proliferation of the mesoderm and notochord, known as gastrulation.

The early embryo's lack of organs also makes it unreasonable to believe that it is in any way capable of having thoughts, feelings, or experiences. This leaves the embryo's potential for development into a human being as the sole consideration justifying according it significant moral weight. It is not clear, however, how much this potential should count in justifying its protection. Most entities with potential to develop are not valued or treated in the same way as their developed form.[37] Eggs are not considered chickens and acorns are not considered oaks. The very high rate of early embryo loss also is relevant, with some estimates suggesting rates as high as 80% of all conceptions.[38] In most cases, the great majority of embryos will not develop into a human being. This loss rate reduces the force of the potentiality argument.

All these considerations support a developmental view that accords significantly lesser weight to the pregastrulation embryo and that justifies its use in research that could greatly benefit children and adults. Indeed, where research prom-

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ises sufficient therapeutic benefit, this view may even morally require such research. Nevertheless, since an early embryo has some capacity for development into a human being, it is reasonable to accord it a measure of moral respect not given to other human bodily cells or tissues. In this context, respect means that research must be justified in terms of its scientific validity and likely therapeutic benefit. It also means that the number of embryos used should be minimized consistent with the need for the scientific validity of the study. This rules out the use of embryos for such things as routine testing for toxins, but it would justify their use in cell replacement research.

Some who accept these conclusions in which the embryo itself is concerned might nevertheless resist the deliberate creation of embryos for research on stem cells or CRNT through nuclear transfer. Some holding this position are persuaded by the argument that such practices might lead to the "instrumentalization" or "commodification" of human life generally.[39] To some extent, this argument presumes that the early embryo is human enough to warrant prohibiting its use as a source of cells or tissues. However, this assumption is rejected by a developmental approach that refuses to accord significant moral weight to the embryo before gastrulation.

This leaves for consideration only the various explicit and implicit "slippery slope" arguments invoked here. Such arguments typically hold that a practice that is not objectionable in itself may nevertheless lead to others that are clearly wrong.[40] This can occur because the line between a pregastrulation and postgastrulation embryo is not clear enough to anticipate that it will be long respected. Or the slide can result because the attitudes and practices established by such research habituate people and prepare them psychologically or socially for other, more worrisome practices. On neither count, however, is there reason to think that permission to create and use embryonic stem cells in research or the development of CRNT will lead to the predicted harms. The line established by gastrulation and the appearance of the primitive streak is a clear one, as is the line between therapeutic and reproductive cloning. It is unlikely that researchers working in properly monitored environments will blur these distinctions. It is true that the techniques developed in CRNT research can prepare the way scientifically and technically for efforts at reproductive cloning. But a halt to research on CRNT will not stop scientists' intent on performing reproductive cloning and will only ensure that their efforts are even more risky than would otherwise be the case.

There also is no evidence that the use of embryos in research will lead to other human subjects abuses. Since 1990, Great Britain has permitted the use of embryos in research, including research involving the deliberate creation of embryos, and no such abuses have been recorded. On the contrary, it is reasonable to believe that where embryo research is permitted and monitored under carefully defined regulations, it is less likely that poor quality or ethically irresponsible research will occur.

All these matters lead to the conclusion that when its nature and purposes are understood, cell activation through nuclear transfer can command broad ethical support.

Legal Issues

Ten states have passed laws regulating and/or restricting research on human embryos, fetuses, or unborn children.[41] Some of these prohibitions arguably apply to CRNT. Since the embryo has no legal standing in US constitutional law, however, it is doubtful that these statutes could withstand constitutional review. At the federal level, the Dickey-Wicker amendment forbids federal funding of any research "in which an embryo or embryos are destroyed."[30] This appropriations amendment defines the embryo to include embryos reconstructed by nuclear transfer. In January 1999, the National Institutes of Health (NIH) legal counsel issued an opinion that the Dickey-Wicker amendment does not prohibit federal funding of research that "utilizes" embryonic stem cell lines so long as the actual derivation of these lines takes place under private auspices.[42] On August 25, 2000, following a period of public review, the NIH issued formal regulations reaffirming this "use versus derivation" distinction and specifying that the NIH will only fund research on stem cell lines derived from embryos remaining from infertility procedures, not those deliberately created for research purposes.[43] Given strong congressional opposition to any funding for research that involves human embryos, there is reason to doubt that these regulations will ever go into effect. But even if they do, they rule out research on cell replacement by nuclear transfer because this requires the deliberate creation and destruction of a "human embryo" as this is defined by the law.

These restrictive regulations apply only to federally funded research. At present, outside of those states where embryo research is banned, private sector research on embryonic stem cells and on cell replacement through nuclear transfer is not illegal. In the wake of Dolly, bills were introduced in Congress that ban both human cloning and cloning research.[44-46] However, none of these bills has passed into law. At least 6 states are considering cloning legislation that could potentially lead to the banning of CRNT.[47]

Also in the wake of Dolly, President Clinton called for a voluntary moratorium on any privately supported attempt to create a human being through cloning.[39] This appeal does not have the force of law and does not apply to cloning research in which there is no intent to produce a child. It also appears that cell replacement by nuclear transfer will soon be permitted in the United Kingdom, where the Chief Medical Officer's Expert Group has recently issued a report recommending that the Human Fertilisation and Embryo Authority (HFEA) modify its ban on human cloning to permit such research.[26]

For the United States at least, we believe that the legal status quo is probably the best alternative possible. Given congressional opposition to almost all human embryo research, it is unlikely that the NIH will soon be permitted to fund any

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research on human nuclear transfer. It also is unlikely that US scientists will see permissive unified public-private regulation in this area similar to the model of the UK HFEA. Although some have called for such uniform public-private regulation,[48] the divisiveness of anything touching on nascent human life in this country counsels against it. Such unitary regulations are likely to be held hostage to US abortion politics. It is sobering to recall that if present federal restraints had been extended to private sector embryonic stem cell research, none of the breakthroughs that mark this area would have occurred. Individuals who wish to see CRNT move forward, therefore, should probably resist efforts to extend the scope of existing state or federal laws to the private sector. The protection of gamete or embryo donors and the overall supervision of this research can be achieved through the existing tapestry of restraints that include the protections of civil law and professional standards of care, existing Food and Drug Administration regulations, oversight by institutional review boards when applicable, and guidelines provided by privately developed ethical advisory boards.[49] Relying on and reinforcing this framework of restraints is a more sound course than appealing for uniform federal guidelines that can only slow research or drive it overseas to more supportive legal environments.

Conclusion

Nuclear transfer is currently the most direct route to the development of cell replacement technologies that can prove of enormous medical benefit. Strong ethical arguments can be made that this research is not only ethically permissible but imperative. In the near future, those who favor this research should resist efforts to bring private sector research under state or federal control. Instead, they should work to reinforce and apply to it the existing framework for the protection of human subjects.

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Chairman SENSENBRENNER. Will the gentleman yield back?

Mr. SCOTT. Yes, sir.

Mr. CONYERS. Let's vote.

Chairman SENSENBRENNER. The gentleman from Michigan is suggesting that we vote. For what purpose does the gentleman from North Carolina seek recognition?

Mr. WATT. I move to strike the last word.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. WATT. Thank you, Mr. Chairman. Sometimes Members of Congress—and I guess everybody on this Committee knows that, but I'm not sure everybody in the public knows it—sometimes we're

just inadequate to deal with certain issues, and it's not because we are political. I think our intentions are good. And when I see a bill cosponsored by Mr. Weldon and Mr. Stupak and Mr. Kerns and Mr. Kucinich, which kind of represents the entire ideological spectrum of the Congress almost, it demonstrate how difficult an issue this is.

Depending on who you talk to, I was within minutes, or hours, or maybe days, of being a cosponsor of Mr. Weldon's bill myself. And I want to commend the work Mr. Weldon has done on this issue, taking the lead on it, and campaigning for it, and aggressively campaigning with me for his position.

In the final analysis, I decided that I didn't know enough about this area to really effectively cosponsor a bill, and that I needed to understand more about the bill. I vigorously opposed human cloning and oppose human cloning, vigorously oppose human cloning for the purpose of cloning people, cloning children, and—but I think I also, as vigorously, think that we ought not stifle medical advances if we can avoid doing so in an ethical way. And I think in the final analysis I became convinced, as in many, many other areas of the law, the law is made for people who will abide by it, and there will always be someone who will violate the law, and I'm not sure that you can ever write a law that is airtight enough to keep mal-intentioned individuals from violating the law.

So given that dilemma, I think Mr. Schiff probably has drawn a better balance on this issue. He has prohibited, in his amendment, what I believe vigorously ought to be prohibited. He has, it seems to me—although I am not adequate really to understand all of the medical technology and terms that either of these documents have introduced. It seems to me that he—his amendment would allow the continuation of research, stem cell research, and medical advances that I think we need to at least—at least leave ourselves open to at this point. And therefore, it is my intention to support Mr. Schiff's amendment.

Ms. JACKSON LEE. Would the gentleman yield? Would the gentleman yield?

Mr. WATT. If I have some time, I'm happy to yield.

Ms. JACKSON LEE. I thank the gentleman. I just briefly want to associate myself with your remarks about the difficulty of this question and the fact that Mr. Weldon has worked so hard on it. But I think that because we are exploring new grounds, important new ground, saving lives, providing opportunities for in vitro fertilization, and very important research, that we must be cautious in how we limit this important option, if you will. I think Mr. Schiff strikes a real balance. Support the legislation.

Mr. WATT. Mr. Chairman, might I reclaim and ask unanimous consent for 30 additional seconds?

Chairman SENSENBRENNER. Without objection.

Ms. JACKSON LEE. And I support the legislation. Yielding back to the gentleman.

Mr. WATT. I just want to reaffirm to Mr. Weldon, since he's here, and do it publicly, that my mind has not closed on this issue. I think it is an issue that we need more information about. I really wish, since I'm not on the Crime Subcommittee, that we had had some full Committee hearings on this issue, so that those of us who are really wrestling with it seriously, could have understood——

Chairman SENSENBRENNER. The gentleman's time has once again expired. For what purpose does the gentleman from Utah, Mr. Cannon, seek recognition?

Mr. CANNON. Thank you, Mr. Chairman. Actually, I am deeply reluctant to take time on this——

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. CANNON. I would just like to make a couple of points. First of all, there will always be violators of the law, but the law is a great teacher. And so I think we need to decide here where we are going to go.

Secondly, I don't believe this is a theological issue. I believe for Jews, for Catholics, and as a Mormon, the doctrine related to when life begins is clearly unclear. I think the Pope made that clear recently. But the foundation of American Government—and by the way, it's not a democracy, and that's particularly relevant here—the foundation of our Government is respect for the individual, and the problem we have is a lack of understanding when individuality begins. It seems to me that what we ought to be doing is erring on the side of protecting what may become an individual life. Granted, there are many, many benefits that may flow from this kind of research. The problem is that as you go down this slope, it is a slippery slope. While it's clearly not clear from most religions when life begins, whether that's at conception or some other time, there is no other point in the process that you can definitively say is the beginning of life. And therefore it seems to me that what we ought to be doing here is erring on the side of protecting those fundamental concepts that make America, which is respect for the individual.

Over time we can always come back and revisit this as we begin to understand more clearly how life begins, how life develops, but it seems to me that in the short term, we ought to be thinking in terms of principles and foundational concepts, and let knowledge develop over time, at which point we could revisit this issue. But once you——

Ms. LOFGREN. Would the gentleman yield?

Mr. CANNON. If we don't disallow cloning now, I don't believe we will have the opportunity to do that in the future.

And frankly, I would like to yield, but in deference to the Chairman, I would prefer to yield back the balance of my time.

Ms. LOFGREN. If the gentleman will yield, I'll take less time than striking the last word.

Mr. CANNON. I'd be happy to yield to the gentlewoman.

Ms. LOFGREN. I just wanted to respond to the gentleman, because I do think that—I was the one that mentioned that we should not be a theocracy here in the United States Congress, and I believe that quite strongly.

In terms of respecting the individual, you are correct, but what about the individual scientist who had to flee California and relocate from the University of California at San Francisco last week, relocate his science research in England because of what we are doing here in the United States Congress? What about respect for the individual who has Parkinson's disease or Alzheimer's disease or who is paralyzed and might have the opportunity to walk again if scientists were allowed to do this research? We're not talking

about a person. We are talking about what the scientists refer as cell replacement through nuclear transfer, an embryo that may not be nurtured and may not develop into a human being.

Now, I understand that different people with different religious views see that differently, and I respect that each of us, from our faiths, comes to a different conclusion about what that means. But what I think is important is that in the murky area that you have referred to, where people of good faith reach different conclusions about a 14-day developed embryo, where each cell—where the embryo could become two—could become triplets, that at that point for the Congress to step in and say the religions that have a view that that is a person are going to trump the religious views of those who do not——

Mr. CANNON. Reclaiming—reclaiming my time.

Ms. LOFGREN [continuing]. And we are going to impose that religious view on the scientists of America, I don't think that's respectful of the individual's——

Mr. CANNON. Reclaiming my time.

Ms. LOFGREN. Yes.

Mr. CANNON. This is not again a matter of religion, from my perspective. Certainly my religion is totally and completely unclear on this point. It is not, from my perspective, an issue of religion.

As to your scientist, who you would like to respect, I respect scientists as well, we are lawmakers and the law is a teacher. This is a grave responsibility, I will grant you that.

As to the person with Parkinson's, this is a tragedy. I think that a greater tragedy is potential in a course of action that could lead to a failure to be able to distinguish when an individual is an individual, and err—and therefore I would prefer to err on the side of safety at this point in time.

Thank you, Mr. Chairman, I yield back.

Chairman SENSENBRENNER. What purpose does the gentlewoman from California seek recognition?

Ms. WATERS. To strike the last word.

Chairman SENSENBRENNER. The gentlewoman is recognized for 5 minutes.

Ms. WATERS. Mr. Chairman, I would like to thank you for your patience and generosity in allowing those of us who want to take the time to at least express how we feel about these two bills.

I think all of us or most of us have real problems with human cloning, and would not support any reproductive cloning in any shape, form or fashion. However, I think the original bill that we are looking at, H.R. 2505, is flawed in that it is literally saying to us if a cure or remedy is developed through this process in some other country and we have something that could deal with Alzheimer's disease or diabetes or some of the other diseases that are literally devastating our society, we would not be able to use it, and I think that's unconscionable.

I have real questions about this whole area of cloning, and I do think that the Members of this Committee should have more information. It would have been great to have a full Committee hearing. It would be great to have briefings, and even an extended workshop of some kind to further understand in more detail what it is we are legislating. I'm not so sure that Mr. Schiff's substitute is

crafted in such a way that would give all of the protections that perhaps I would like to have at this time.

However, if I am to err in this—with this vote, I am going to err on the side of saving human beings. I am watching many Americans die—well, human beings period, but many Americans, people in my neighborhood, people in my city and in the State, people I've worked with, I've known, die from the devastating Alzheimer's, diabetes, and other kinds of disease, and cancer. And I just feel in an advanced society, we should know more, we should have advanced further in saving lives. It is just unreal that cancer continues to take as many lives as it is taking and destroying in this country. It seems to me that we should have advanced further than we have at this point.

And so even though I do have some questions still, I am going to err on the side of the kind of research that will help to stem the tide of the loss of life from what I think are preventable diseases.

And so I am pleased that you have given us the opportunity to express ourselves even though we have not a lot to add to the body of information, but simply to express our feelings about this. Thank you, Mr. Chairman. I yield.

Mr. SCHIFF. Would the gentlewoman yield?

Ms. WATERS. I will yield.

Mr. SCHIFF. Mr. Chairman, just for the purpose of, ask for unanimous consent to have admitted to the record a letter from a couple dozen universities, medical schools and research institutes in opposition to the base bill.

Chairman SENSENBRENNER. Without objection.

[The material referred to follows:]

The Honorable Dennis J. Hastert
Speaker
H-232 US Capitol Building
Washington, DC 20515

REGARDING: LEGISLATION TO BAN CLONING OF HUMAN BEINGS

July 23, 2001

Dear Speaker Hastert:

We are writing to express our opposition to The Human Cloning Prohibition Act, HR 2505/ 1644.

Let us be clear. We oppose reproductive cloning - the cloning of a human being. It is unsafe and unethical. We agree with the conclusions of the National Bioethics Advisory Commission (NBAC) that it is unacceptable for anyone in the public or private sector, whether in a research or clinical setting, to create a human child using somatic cell nuclear transfer technology.

However, H.R. 2505/1644 bans all uses of cloning technology, including those for research where a child cannot and will not be created. Therefore, this legislation puts at risk critical biomedical research that is vital to finding the cures for diseases and disabilities that affect millions of Americans. Diabetes, various cancers, HIV/AIDS, spinal cord injuries, ALS, strokes, cystic fibrosis, Alzheimer's disease, Parkinson's disease, and other illnesses are likely to benefit from the advances achieved by biomedical researchers using therapeutic cloning technology.

Moreover, HR 2505/1644 bans importation "of any product derived from a [cloned] embryo." This means that if therapeutic cloning technology is used to develop a cure for a disease, that cure will not be available to American patients.

We urge Congress to proceed with extreme caution and adhere to the ethical standard for physicians, "first do no harm." Congress must be sure that legislation only bans cloning to create a human being and does no harm to biomedical research, which can treat deadly and debilitating diseases. A ban on therapeutic cloning would do just that.

Please keep patients' concerns in mind as you proceed in analyzing this very complicated issue.

Sincerely,

Alliance for Aging Research
Alpha-1 Foundation
American Academy of Optometry
American Association for Cancer Research
American Association of Anatomists
American College of Medical Genetics
American Infertility Association
American Liver Foundation
American Physiological Society
American Society for Microbiology
American Society for Reproductive Medicine
American Society for Cell Biology
American Society of Hematology
Association of American Medical Colleges
Association of Professors of Medicine
Association of Subspecialty Professors
Bay Area Bioscience Center
Biotechnology Industry Organization
Coalition of National Cancer Cooperative Groups
Cure for Lymphoma
FRAXA Research Foundation
Genetic Alliance
Harvard University
Hope for ALS
International Foundation for Anti-Cancer Drug Discovery
International Patient Advocacy
James Driscoll, PhD
Joint Council for Allergy, Asthma, and Immunology
Juvenile Diabetes Research Foundation International
Kidney Cancer Foundation
Lymphoma Research Foundation of America
Medical College of Wisconsin
Mount Sinai School of Medicine
National AIDS Treatment Advocacy Project
National Caucus of Basic Biomedical Science Chairs
National Patient Advocate Foundation
Neurofibromatosis, Inc. Mass Bay Area
Project A.L.S.
Research! America
Resolve
Society for Women's Health Research
Texas Neurofibromatosis Foundation
WiCell Research Institute
Wisconsin Research Institute

cc: US House of Representatives

Mr. SCHIFF. I yield back, Mr. Chairman.

Chairman SENSENBRENNER. For what purpose does the gentleman from Illinois seek recognition?

Mr. HYDE. To strike the last word.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. HYDE. Thank you, Mr. Chairman.

This has been and will continue to be a fascinating subject, a profound subject, one of immense consequence, and I think at the center of the controversy is the embryo and what is an embryo? Clearly, if one is an advocate for abortion, one wishes to dehuman-

ize the embryo, dehumanize the fetus, and as a matter of fact, dehumanize a four-fifths born baby through partial-birth abortion. Definitions are important.

If on the other hand, you concede the embryo is human life, perhaps short of personhood, but it is human life, it's not animal, it's not vegetable, it's not mineral, it's human, it has the 46 chromosomes, 23 and 23, for a human entity, the question is: No matter how wonderful the purpose the research, may we create embryos, may we create what is human life by any reasonable scientific, not theological, definition? May we destroy that human life because our purpose is perhaps to help alleviate some medical condition?

I think it again depends on how we respect human life in whatever manifestation. It's tiny, it's microscopic, but what you're doing is creating embryos, and an embryo is human life, it is not a speck of dust, it is not cartilage or sinew. It is human life. And when you—no matter what the purpose of the research is, if you are destroying human life to get at that purpose, it seems to me that is a tradeoff that's unworthy.

The Chicago Sun Times, certainly not a pro-life organ, had an editorial that said it all. It says, "We can debate all day whether an embryo is or isn't a person, but it is unquestionably human life, complete with its own unique set of human genes that inform and drive its own development. The idea of the manufacture of such a magnificent thing as a human life purely for the purpose of conducting research, is grotesque at best whether or not it's federally funded."

So really the question is, do everybody's tax dollars, are they—is it appropriate to spend them doing research which creates human life in a petri dish, and then destroys that life to get at the stem cell? I say no. I say if we respect human life, no matter how tiny or how small or how vulnerable, or embryonic, we should reject cloning in all its manifestations, and I support the bill. Yield back.

Mr. FRANK. Mr. Chairman?

Chairman SENSENBRENNER. For what purpose does the gentleman from Massachusetts seek recognition?

Mr. FRANK. I yield to the gentleman from New York.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. NADLER. Thank you, Mr. Chairman.

First I want to comment on the—what—the remarks of the gentleman from Utah. There is another obvious place. He says where do you start, slippery slope, how do you define the beginning of human life, if not at conception, then where? Well, one place could be at implantation. The Senator from—Senator Hatch, who is very pro-life, very anti-abortion, anti-choice, said that he draws a distinction between an embryo that's implanted in a woman's uterus and is going to develop into a person and—I don't want to paraphrase. I don't remember his phrase exactly, but I think—but a clump of cells created in a petri dish, never in a woman, which will not, unless implanted in a woman develop into a life. You could do it there as logically.

But let me now comment on the profound comments of the gentleman from Illinois. An embryo, a clump of a few cells, he regards, many people regard, as human life, and therefore, even to save

other human lives, how can you sacrifice it, is the essence of his remarks. I respect those remarks. I respect that view. I don't share it.

The fact is, a skin cell—and I just destroyed a million of them by flicking my finger against my hand—a skin cell also has 46 chromosomes. We can't produce a human being from a skin cell today, but I have no doubt that 50 or 60 years from now the technology will exist to produce a human being from any cell in our body without transfer of DNA from one person's cell into another—into an egg cell. I have no doubt 1 day we'll have the technology to take any cell out of your body, put it in a petri dish and start an embryo growing. Does that make every cell in your body sacrosanct?

The fact is that the embryo, at that stage, has no nerve cells, no feelings, no brain, no heart, no nerve impulses. You can take a view that it's a human life. You can just as logically take the view that it is not human life.

From my point of view—and that—and your conclusion on that question, whether you regard a clump of cells with no nerves, no feelings, no nerve impulses, no activity that we—that we associate with human beings or for that matter with—even with animals, if that is a live human being, I differ. I don't give it the same moral worth as a human being. And to me, the medical research, how can you say to somebody, who you could cure of a deadly disease, "We will not cure you of this disease because you are not less important, but only as important as a clump of cells?"

Mr. HYDE. Will my friend yield?

Mr. NADLER. Yes, I will.

Mr. HYDE. I think what we——

Mr. FRANK. I will yield. I'm sorry. I will yield.

Mr. HYDE. All right, thank you. I think what we overlook is this isn't an either/or situation. Stem cell research can continue, just not embryonic, but adult stem cells which are being used with immense efficacy in treating some of these horrible diseases, and we just ignore that and make this an either/or situation if we don't buy into destroying embryos for their stem cells.

Mr. FRANK. I yield back to the gentleman.

Mr. NADLER. Thank you. But the fact is, adult stem cells may very well prove efficacious in certain ways. The scientists tell us that it is at this point not clear whether we can do everything with adult stem cells that we can do with—or for that matter with stem cells that you can get out of the umbilical cord or the placenta, as you can from an embryonic stem cell. And the fact is that we are choosing—if we do not permit that research and potentially the medical treatment, to forgo life—possibly to forgo life-saving techniques that you could do with one but not the other. We just don't know that at this point. And we can get scientists here to tell us both ways, but the truth is, we don't now.

And the fundamental point comes back to this: either you believe—and I don't think it is congress's role to impose this belief, frankly—and by the way, the gentleman from Illinois talked about medical research being funded by the taxpayers or all views. We're not talking in this bill about taxpayer funding. We're talking about prohibiting, under penalty of criminal law, certain not only research, but therapy which will result from that research because

of a certain belief which people are entitled to hold, but I don't think are entitled to impose on everyone else, namely that a clump of cells never implanted in a woman, with no heart, feelings, nerves, et cetera, is a human being.

Chairman SENSENBRENNER. The time of the gentleman from Massachusetts has expired.

Mr. NADLER. Thank you.

Chairman SENSENBRENNER. The question is on the amendment in the nature of a substitute offered by the gentleman from California, Mr. Schiff.

Those in favor will signify by saying aye.

Opposed, no.

Chairman SENSENBRENNER. The noes appear to have it.

Mr. SCHIFF. Request a roll call, Mr. Chairman.

Chairman SENSENBRENNER. Roll call will be ordered. Those in favor of the Schiff substitute will, as your names are called, answer aye, those opposed, no, and the clerk will call the role.

The CLERK. Mr. Hyde?

Mr. HYDE. No.

The CLERK. Mr. Hyde, no. Mr. Gekas?

Mr. GEKAS. No.

The CLERK. Mr. Gekas, no. Mr. Coble?

Mr. COBLE. No.

The CLERK. Mr. Coble, no. Mr. Smith?

Mr. SMITH. No.

The CLERK. Mr. Smith, no. Mr. Gallegly?

Mr. GALLEGLY. No.

The CLERK. Mr. Gallegly, no. Mr. Goodlatte?

[No response.]

The CLERK. Mr. Chabot?

Mr. CHABOT. No.

The CLERK. Mr. Chabot, no. Mr. Barr?

Mr. BARR. No.

The CLERK. Mr. Barr, no. Mr. Jenkins?

Mr. JENKINS. No.

The CLERK. Mr. Jenkins, no. Mr. Hutchinson?

Mr. HUTCHINSON. No.

The CLERK. Mr. Hutchinson, no. Mr. Cannon?

Mr. CANNON. No.

The CLERK. Mr. Cannon, no. Mr. Graham?

Mr. GRAHAM. No.

The CLERK. Mr. Graham, no. Mr. Bachus?

[No response.]

The CLERK. Mr. Scarborough?

[No response.]

The CLERK. Mr. Hostettler?

Mr. HOSTETTLER. No.

The CLERK. Mr. Hostettler, no. Mr. Green?

Mr. GREEN. No.

The CLERK. Mr. Green, no. Mr. Keller?

Mr. KELLER. No.

The CLERK. Mr. Keller, no. Mr. Issa?

Mr. ISSA. No.

The CLERK. Mr. Issa, no. Ms. Hart?

Ms. HART. No.

The CLERK. Ms. Hart, no. Mr. Flake?
Mr. FLAKE. No.
The CLERK. Mr. Flake, no. Mr. Conyers?
[No response.]
The CLERK. Mr. Frank?
Mr. FRANK. Aye.
The CLERK. Mr. Frank, aye. Mr. Berman?
[No response.]
The CLERK. Mr. Boucher?
[No response.]
The CLERK. Mr. Nadler?
Mr. NADLER. Aye.
The CLERK. Mr. Nadler, aye. Mr. Scott?
Mr. SCOTT. Aye.
The CLERK. Mr. Scott, aye. Mr. Watt?
Mr. WATT. Aye.
The CLERK. Mr. Watt, aye. Ms. Lofgren?
Ms. LOFGREN. Aye.
The CLERK. Ms. Lofgren, aye. Ms. Jackson Lee?
Ms. JACKSON LEE. Aye.
The CLERK. Ms. Jackson Lee, aye. Ms. Waters?
Ms. WATERS. Aye.
The CLERK. Ms. Waters, aye. Mr. Meehan?
[No response.]
The CLERK. Mr. Delahunt?
[No response.]
The CLERK. Mr. Wexler?
Mr. WEXLER. Aye.
The CLERK. Mr. Wexler, aye. Ms. Baldwin?
Ms. BALDWIN. Aye.
The CLERK. Ms. Baldwin, aye. Mr. Weiner?
Mr. WEINER. Aye.
The CLERK. Mr. Weiner, aye. Mr. Schiff?
Mr. SCHIFF. Aye.
The CLERK. Mr. Schiff, aye. Mr. Chairman?
Chairman SENSENBRENNER. No.
The CLERK. Mr. Chairman, no.
Chairman SENSENBRENNER. Are there additional Members in the chamber who wish to cast their vote or change their vote? The gentleman from Virginia, Mr. Goodlatte?
Mr. GOODLATTE. No.
The CLERK. Mr. Goodlatte, no.
Chairman SENSENBRENNER. Other Members who wish to cast or change their vote? If not, the clerk will report.
The CLERK. Mr. Chairman, there are 11 ayes and 19 noes.
Chairman SENSENBRENNER. And the amendment in the nature of a substitute is not agreed to.
Are there further amendments to the bill?
Ms. LOFGREN. Mr. Chairman, I have an amendment at the desk.
Chairman SENSENBRENNER. The gentlewoman from California. The clerk will report the amendment.
Ms. LOFGREN. Amendment to H.R. 2505, offered by Ms. Jackson Lee of Texas.
Ms. LOFGREN. No, it's Mr. Conyers——
Chairman SENSENBRENNER. This is the Lofgren amendment.

Ms. LOFGREN [continuing]. And Ms. Lofgren.

Chairman SENSENBRENNER. Lofgren amendment.

The CLERK. I'm sorry. I don't have it.

Ms. LOFGREN. I ask unanimous consent that the amendment be considered as read.

Chairman SENSENBRENNER. Without objection, so ordered.

[The amendment follows:]

AMENDMENT TO HR 2505
OFFERED BY MS. LOFGREN AND MR. CONYERS

At the end, insert the following:

"Sec. 302. Rule of Construction.

Nothing in this Act shall prohibit research or therapies using human pluripotent stem cells derived from human embryos."

Chairman SENSENBRENNER. And the gentlewoman from California is recognized for 5 minutes.

Ms. LOFGREN. Mr. Chairman, as we have been discussing this bill is—the underlying bill is incredibly overbroad. If we wanted to pass a bill that prohibits human cloning, it would sail through Congress. I think we'd have a unanimous vote of this Committee. Instead, this bill not only prohibits human cloning, but it also halts the progress of medical research. The bill is overbroad that it would prohibit stem cell research, and the current phase of stem cell research involves harvesting stem cells from fertilized eggs.

However, many in the scientific community believe that once this technology is perfected, the next phase will be to duplicate a person's own tissue for tissue transplants and other therapies.

The National Institute of Health released a study just this month, on July 18th, which examined the potential of adult as well as embryonic stem cells, and after surveying the current state of the science, the NIH concluded that embryonic stem cells have important advantages over adult stem cells. They can develop into many more different cell types, they cannot be generated in the same quantities in the laboratory, and they are difficult and sometimes dangerous to extract from an adult patient, especially stem cells located in the brain.

Further, it noted that somatic cell nuclear transfer, also known as therapeutic cloning, would be an advantageous way of creating stem cell transplants. It would not be rejected by the body's immune system, eliminating the need for immunosuppressive drugs.

The NIH, therefore, concluded that further research must be allowed before we discard the potential benefits of embryonic stem cells and nuclear transfer research. It wrote, and I quote, "Predicting the future of stem cell applications is impossible, particularly given the very early stage of the science of stem cell biology. To date, it is impossible to predict which stem cells—those derived from the embryo, the fetus, or the adult—or which methods for manipulating the cells will best meet the needs of basic research and clinical applications. The answers clearly lie in conducting more research."

You know, we have had a debate on Mr. Schiff's amendment, and this amendment really puts the question even more starkly than

the prior amendment. Basically, the amendment says this: "Nothing in this Act shall prohibit research or therapies using human pluripotent stem cells derived from human embryos."

We know that the debate on cell research is ongoing. Recently, the—I think it was just yesterday—the Pope advised the President to eliminate stem cell research in America. And there are those who—of the Catholic faith who feel that. There are many others of other faiths who do not agree and who believe that we should not stifle the advance of science that will save so many in this world from disease and from lives of pain and futility.

We know that the President has a decision make—to make. I was actually very interested that Senator Orrin Hatch, who is ardently pro-life and certainly a conservative, favors the research and he says that, quote, "A fetus developing in a mother's womb is different than a frozen"—and again I quote, "a frozen embryo stored in a refrigerator in a clinic." Similarly, former Senator Connie Mack from Florida, who's also a pro-life conservative, said that, quote, "Anyone who would ban research on embryonic stem cells will be responsible for harm done to real live postnatal sentient beings who might be helped by this research."

I don't think we should pre-empt the Administration's decision by approving this bill, or if we do, we need to include this amendment that allows research to continue while eliminating and prohibiting the cloning of human beings in a reproductive sense.

I would note—and I think Congressman Schiff has included the letter in the record, but some of the groups that are opposing the underlying bill, unless it is amended to allow research, include the Alliance for Aging Research, the American Association for Cancer Research, the American Liver Foundation, the Association of American Medical Colleges, the Biotechnology Industry Association, the Joint Council of Allergy, Asthma, and Immunology, the Juvenile Diabetes Research Foundation International, the Kidney Cancer Foundation, National AIDS Treatment Advocacy Project, and on and on, including the Wisconsin Research Institute.

I hope that we may adopt this very clear amendment that is pro-science, but that also allows us to come together and ban the reproductive cloning that is so troublesome to all of us.

And with that, I yield back——

Chairman SENSENBRENNER. The gentlewoman's time has expired.

For what purpose does the gentleman from Texas seek recognition?

Mr. SMITH. Mr. Chairman, I oppose the amendment.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. SMITH. Mr. Chairman, this may well be a benign amendment, but I'm going to ask my colleagues to oppose it for two reasons.

The first is that, as I read the underlying bill, this amendment is not necessary because the procedure, as described by the gentlewoman from California, would not be prohibited by the bill's language.

The second reason I urge my colleagues to oppose it is I believe the language may be—and it may be unintentionally so—too broad and too ambiguous. The gentlewoman's amendment starts off with

the word "Nothing in this Act shall prohibit" and ends with the phrase "human embryos," with nothing in the amendment that would describe how the human embryos are obtained or why they're created. So I do have concerns about the breadth of the language and also want to say that, as I read the underlying language, it would—the procedure described, if it is narrow, would not be prohibited by the—by the bill.

Ms. LOFGREN. Would the gentleman yield?

Mr. SMITH. And, Mr. Chairman, I would be happy to yield to the gentlewoman from California, particularly on the point of her being able to point to language in the bill that would prohibit this procedure that she has outlined in her amendment.

Ms. LOFGREN. The National Institute of Health disagrees with the comments just—you have just made indicating that the bill would preclude somatic cell nuclear transfer, also known as therapeutic cloning, which is why we would carve out and protect researcher therapies using human pluripotent stem cells that are derived from human embryos.

If the bill—the underlying bill eliminates cloning, and cloning is the insertion of the DNA into an egg that has been emptied out, and that process can be used to attempt to derive an embryo that would then result in a live birth, with disastrous results, as we know, from the animal experimentation, or instead, that process might be used to develop a cluster of cells that is undifferentiated, without organs, and is then utilized to develop into skin, into neurons that can be used as therapies. But the actual insertion of DNA into the denuded egg is the same at the outset, and without a save for science, your bill would—would outlaw that, and that is not only my view but the view of the National Institute of Health.

And I thank the gentleman for yielding.

Mr. SMITH. Mr. Chairman, I will just reclaim my time and state again that it's perhaps that we do have a disagreement on both the meaning of the amendment as well as the meaning of the underlying language is yet another reason to oppose this amendment. And I will yield back the balance of my time.

Mr. FRANK. Mr. Chairman?

Chairman SENSENBRENNER. The gentleman from Massachusetts, for what purpose do you seek recognition?

Mr. FRANK. To strike the requisite number of——

Chairman SENSENBRENNER. The gentleman is recognized——

Mr. FRANK [continuing]. Words.

Chairman SENSENBRENNER [continuing]. For 5 minutes.

Mr. FRANK. Mr. Chairman, I am in my 21st year, and I am waiting for the occasion on which someone argues against an amendment on the grounds that it is unnecessary and persuades me that that is, in fact, the reason for the opposition.

The notion that you would oppose an amendment solely because it is unnecessary leaves me skeptical for a number of reasons.

First, we are not, either as politicians or as lawyers, as most of us are, professions inherently opposed to repetition. The profession that has given the world "belt and suspenders," "cease and desist," "lewd and lascivious"—none of which, I should say, apply to this bill—hardly has standing to complain that language might be unnecessary.

In my experience, people oppose language on the grounds that it is unnecessary because they find it inconvenient because it—opposing it would require them to get more specific than they want to about a particular case. Sometimes people have been part of a coalition that has drawn up a bill and aren't empowered, unilaterally agree to change. That's their right. But I just want to make it very clear both in this particular instance and as a general legislative principle. The argument that something is unnecessary is never a valid argument for legislation. Repetition does not harm. The paper's pretty cheap that we use to print it. It's a pretty small amendment. It probably wouldn't even cost us to print even one more page.

So the fact that it's unnecessary is hardly a reasonable proposal. And, indeed, we know that it is important, and courts have told us this, that they want us to be clear and not to be ambiguous. There is a legitimate difference of opinion as to the meaning. The gentlewoman from California has cited the National Institutes of Health. People who are not opposed to this would have no objection to the amendment. There needs to be something more than the claim of lack of necessity.

Now, the second point the gentleman from Texas raised is a substantive one, that it may be looser than it should be with regard to the last phrase. If that's the case, I'd be prepared to see—I assume the gentlewoman from California would be, too—an amendment to the amendment that might tighten that part up. But the notion that it is unnecessary to make the bill clearer is never persuasive. What could the objection be? Pride of authorship? I mean, it's—it's a bill that embodies the values of its authors, but it did not strike me as great literature. I don't think the gentlewoman's language, even if you thought it was unnecessary, spoils the rhythm of the prose. It will still stand as well as it did before.

No one argues against the bill because it really is unnecessary. That's an argument given, as I said, when people may want it to be more restrictive than it is.

Now, again, there is a second argument that the gentleman made, namely, that "derived from human embryos" might be inferred to mean a lessening of other restrictions. That I assume could easily be fixed by language if that were, in fact, an ambiguity. The gentlewoman from California might be tempted to respond that it wouldn't be necessary to fix that. But I'm sure in graciousness of spirit she would not object to a little bit of a change in her language.

So the question should not be whether or not it is unnecessary, whether or not the drafters were perfect, whether or not an extra word or two might somehow spoil the meter, spoil the literary symmetry. Let's have the debate on the merits. If, in fact, there is agreement that there should be allowed the sort of research that is described in the amendment, let's adopt the amendment and resolve any possible ambiguity. If people don't think there should be such research, let them argue against it on the merits, and if they are afraid, because of the last phrase, that it gets beyond where it should be, let them deal with that.

But I would hope that we would not hide behind a wholly unpersuasive claim of redundancy on a matter of this importance.

I thank you.

Chairman SENSENBRENNER. The question is on the amendment of the gentlewoman from California, Ms. Lofgren. Those in favor will signify by saying aye? Opposed, no? The noes appear to have it——

Ms. LOFGREN. Mr. Chairman, I request a recorded vote.

Chairman SENSENBRENNER. A recorded vote is requested. Those in favor of the Lofgren amendment will, as your names are called, answer aye; those opposed, no; and the clerk will call the roll.

The CLERK. Mr. Hyde?

Mr. HYDE. No.

The CLERK. Mr. Hyde, no. Mr. Gekas?

[No response.]

The CLERK. Mr. Coble?

Mr. COBLE. No.

The CLERK. Mr. Coble, no. Mr. Smith?

Mr. SMITH. No.

The CLERK. Mr. Smith, no. Mr. Gallegly?

Mr. GALLEGLY. No.

The CLERK. Mr. Gallegly, no. Mr. Goodlatte?

[No response.]

The CLERK. Mr. Chabot?

Mr. CHABOT. No.

The CLERK. Mr. Chabot, no. Mr. Barr?

Mr. BARR. No.

The CLERK. Mr. Barr, no. Mr. Jenkins?

Mr. JENKINS. No.

The CLERK. Mr. Jenkins, no. Mr. Hutchinson?

[No response.]

The CLERK. Mr. Cannon?

Mr. CANNON. No.

The CLERK. Mr. Cannon, no. Mr. Graham?

[No response.]

The CLERK. Mr. Bachus?

[No response.]

The CLERK. Mr. Scarborough?

[No response.]

The CLERK. Mr. Hostettler?

Mr. HOSTETTLER. No.

The CLERK. Mr. Hostettler, no. Mr. Green?

Mr. GREEN. No.

The CLERK. Mr. Green, no. Mr. Keller?

[No response.]

The CLERK. Mr. Issa?

[No response.]

The CLERK. Ms. Hart?

Ms. HART. No.

The CLERK. Ms. Hart, no. Mr. Flake?

Mr. FLAKE. No.

The CLERK. Mr. Flake, no. Mr. Conyers?

[No response.]

The CLERK. Mr. Frank?

Mr. FRANK. Aye.

The CLERK. Mr. Frank, aye. Mr. Berman?

[No response.]

The CLERK. Mr. Boucher?

[No response.]
The CLERK. Mr. Nadler?
Mr. NADLER. Aye.
The CLERK. Mr. Nadler, aye. Mr. Scott?
Mr. SCOTT. Aye.
The CLERK. Mr. Scott, aye. Mr. Watt?
Mr. WATT. Aye.
The CLERK. Mr. Watt, aye. Ms. Lofgren?
Ms. LOFGREN. Aye.
The CLERK. Ms. Lofgren, aye. Ms. Jackson Lee?
Ms. JACKSON LEE. Aye.
The CLERK. Ms. Jackson Lee, aye. Ms. Waters?
Ms. WATERS. Aye.
The CLERK. Ms. Waters, aye. Mr. Meehan?
[No response.]
The CLERK. Mr. Delahunt?
[No response.]
The CLERK. Mr. Wexler?
Mr. WEXLER. Aye.
The CLERK. Mr. Wexler, aye. Ms. Baldwin?
Ms. BALDWIN. Aye.
The CLERK. Ms. Baldwin, aye. Mr. Weiner?
Mr. WEINER. Aye.
The CLERK. Mr. Weiner, aye. Mr. Schiff?
Mr. SCHIFF. Aye.
The CLERK. Mr. Schiff, aye. Mr. Chairman?
Chairman SENSENBRENNER. No.
The CLERK. Mr. Chairman, no.
Chairman SENSENBRENNER. Are there additional Members in the chamber who wish to cast or change their vote? The gentleman from Pennsylvania?
Mr. GEKAS. I wish to be recorded as no.
The CLERK. Mr. Gekas, no.
Chairman SENSENBRENNER. The gentleman from South Carolina?
Mr. GRAHAM. No.
The CLERK. Mr. Graham, no.
Chairman SENSENBRENNER. The gentleman from Florida?
Mr. KELLER. No.
The CLERK. Mr. Keller, no.
Chairman SENSENBRENNER. The gentleman from Arkansas?
Mr. HUTCHINSON. No.
The CLERK. Mr. Hutchinson, no.
Chairman SENSENBRENNER. The gentleman from California?
Mr. ISSA. No.
The CLERK. Mr. Issa, no.
Chairman SENSENBRENNER. Is there anybody else who wishes to cast or change their vote? If not, the clerk will report.
The CLERK. Mr. Chairman, there are 11 ayes and 18 noes.
Chairman SENSENBRENNER. The amendment is not agreed to.
Are there further amendments?
Ms. JACKSON LEE. Mr. Chairman?
Chairman SENSENBRENNER. For what purpose does the gentlewoman from Texas seek recognition?
Ms. JACKSON LEE. I have an amendment at the desk.

Chairman SENSENBRENNER. The clerk will report the amendment.

The CLERK. Amendment to H.R. 2505, offered by Ms. Jackson Lee of Texas. "Page 4, line 4, strike the close quotation mark and the period which follows: Page 4"——

Chairman SENSENBRENNER. Without objection, the amendment is considered as read.

[The amendment follows:]

AMENDMENT TO H.R. 2505

OFFERED BY MS. JACKSON-LEE OF TEXAS

Page 4, line 4, strike the close quotation mark and the period which follows.

Page 4, after line 4, insert the following:

1 "(e) MEDICALLY ASSISTED SEXUAL REPRODUC-
2 TION.—Nothing in this section restricts the use of in vitro
3 fertilization, the administration of ovulation induction
4 drugs, or other medical procedures to assist individuals
5 in becoming parents through any form of sexual reproduc-
6 tion.

Chairman SENSENBRENNER. And the gentlewoman from Texas is recognized for 5 minutes.

Ms. JACKSON LEE. I thank the Chairman very much.

There are many comments that have been made this morning that I could readily associate myself with. I think the primary issue is that there is general consensus around the question of cloning, human cloning in particular.

I would have asked that this process take a longer period of time, that hearings could have been held in the full Committee. And I also want to acknowledge the work that Dr. Weldon did on this legislation in working with and approaching many of us to include or secure our support.

As I listen to the debate this morning, there is a great sense of unreadiness on this legislation, and it seems a slight bit of arrogance for us as mostly trained lawyers to ignore the expertise of enormous scientific and medical reach that have not in anger or not in an effort of bad faith have raised up their voices in opposi-

tion to this particular legislation as it relates to the finite and important aspect of medical research.

My amendment in particular deals specifically with the question of in vitro fertilization and the great need that we have in our community to provide for those couples desirous of providing life to be able to proceed with a degree of safety under the research that gives them that opportunity.

The Centers for Disease Control and Prevention advise that 10 percent of couples in this country, or 6 million couples, experience infertility at any given time. In 1998, the last year for which data is available, there were 80,000 recorded in vitro fertilization attempts out of which 28,500 babies were born; 28,500 families were able to provide the love and nurturing to a child. Thousands of other children were conceived and born as a result of what is now considered lower-technology procedures such as intrauterine insemination.

Recent improvements in scientific advancement program possible in more than half of the couples pursuing treatments. Like the Schiff substitute, the language in my amendment makes it explicitly clear that embryonic stem cell research and medical treatments will not be banned or restricted for the millions of Americans struggling with infertility.

This provision is very important. Infertility is a crucial area of medicine in which we are developing cutting-edge techniques that help our patients. It is and would be irresponsible to cut short the ability of these procedures by legislation that mistakenly eliminates the opportunity for this kind of research.

Let me also offer to say that the American Infertility Association, which engages in this kind of medical assistance, realizes the importance of opposing human cloning. By letter June 26, 2001, they clearly say that the American Infertility Association is strongly opposed to human reproductive cloning. But they go on to say that there is another legislative initiative that we are not marking up, H.R. 2172, by Mr. Greenwood, which makes it explicitly clear that other related research and medical treatments will not be banned or restricted. For the millions of Americans struggling with infertility, this provision is very important.

My amendment speaks to this. My amendment bears consideration and acceptance by this Committee because it clarifies that it protects the very important research dealing with infertility, giving 28,000 families and how many others the opportunity to give birth where birth may not have been possible.

I supported Mr. Schiff's amendment, the Lofgren amendment, because every morning when I wake up, for those of us who claim our personal religious beliefs, we are thankful for life. We are thankful that we arise in good health. But what about those who are suffering from diabetes, spinal cord injury, HIV/AIDS, heart disease, stroke, and many, many others—Parkinson's, Alzheimer's—who wake up every morning with the pain and anguish of disease. What about those loving parents who wake up every morning with the pain and anguish of those who are desiring to be parents who cannot give birth?

I am frightened that our zealousness to do what all of us——

Chairman SENSENBRENNER. The gentlewoman's time——

Ms. JACKSON LEE [continuing]. Seemingly in this Committee want us to do——

Chairman SENSENBRENNER [continuing]. Has expired.

Ms. JACKSON LEE [continuing]. To be able to not have cloning——

Chairman SENSENBRENNER. The gentlewoman's time has expired.

Ms. JACKSON LEE. I would simply ask for the support of my amendment.

Chairman SENSENBRENNER. For what purpose does the gentleman from Texas seek recognition?

Mr. SMITH. Mr. Chairman, I oppose the amendment.

Chairman SENSENBRENNER. The gentleman's recognized for 5 minutes.

Mr. SMITH. Thank you, Mr. Chairman.

Mr. Chairman, I oppose this amendment and urge my colleagues to oppose this amendment for the same reasons we opposed the last amendment.

The first is I believe the language in this amendment is too broad. If you look at line 5, you'll see the phrase "any form of sexual reproduction." I believe that phrase "any form" at best is ambiguous, at worst is too broad.

The second reason to oppose this is because, once again, it's not necessarily necessary. And I think there is a good reason to oppose amendments or language that aren't considered necessary, because, quite frankly, until you have studied the language, you don't necessarily appreciate all the nuances of the language. Language can oftentimes have unintended consequences that may or may not be the intent of the author. And, in any case, we shouldn't take a chance.

So I think it is legitimate to oppose an amendment or oppose the addition of language that appears to be not necessary simply because you are unsure.

So for those two reasons, both because the language is too broad and the amendment is unnecessary, I urge my——

Ms. JACKSON LEE. Would the gentleman yield?

Mr. BARR. Would the gentleman yield?

Mr. SMITH [continuing]. Colleagues to oppose it.

Ms. JACKSON LEE. Would the gentleman yield?

Mr. BARR. Will the gentleman yield down here to your right?

Mr. SMITH. Oh, be happy to yield to the gentleman from Georgia.

Mr. BARR. I thank the gentleman for yielding.

I appreciate the gentleman's enunciation of a position that I think is very constitutionally sound, and that is, we ought to be opposing amendments and changes and proposals to U.S. criminal law that are unnecessary. I think that is a very sound reason, consistent with our whole form of republican—small "r"—form of government.

I also have been around long enough—and I think most Members have—to know that if somebody proposes an amendment or a law that is unnecessary, there's frequently another reason why they're doing it; that is, to come in through the back door when they know that coming in through the front door would meet with severe opposition.

This—this proposal, I agree with the gentleman, the distinguished Chairman of the Crime Subcommittee, is unnecessary. There is nothing in the proposal before us this morning that would prohibit—that would prohibit procedures and research in the area of infertile couples, and, therefore, I would join the distinguished Chairman in urging Members to vote against this as being unnecessary and opening up yet another can of worms.

Thank you.

Mr. SMITH. Thank you, Mr. Barr.

Mr. Chairman, I yield back.

Chairman SENSENBRENNER. For what purpose does the gentleman from Virginia, Mr. Scott, seek recognition?

Mr. SCOTT. Move to strike the last word.

Chairman SENSENBRENNER. The gentleman's recognized for 5 minutes.

Mr. SCOTT. Mr. Chairman, in—I'd like to ask the gentlelady from Texas a question about the meaning of the word "sexual reproduction." The term "asexual reproduction" is defined in the bill. Do I understand "sexual reproduction" to mean that it is the result of the DNA from two people and not one?

Ms. JACKSON LEE. That's correct.

Mr. SCOTT. Mr. Chairman, as a representative of an area that has been one of the leaders in in vitro fertilization, I would be in strong support of this—this amendment.

Ms. JACKSON LEE. Would the gentleman yield?

Mr. SCOTT. I will yield to the gentlelady from Texas.

Ms. JACKSON LEE. Let me—and I appreciate the gentleman's question, and I think it's a very important distinction relating to the Chairman of the Subcommittee's comment about necessity.

I would—I would make a different argument on my amendment versus the underlying bill. The underlying bill is subject to vast interpretation and broadness. That's the fear that we have. And the necessity of our amendments are to clarify and to distinctly articulate what is being prohibited and what is not.

So I'd make the case that we have to clarify because the underlying bill is overly broad, and what we're doing in this Committee today is unfairly impacting on legitimate and legal and constitutionally sound research that is going on in our country today, and in particular, as it relates to my amendment, for those couples who have been longing to be able to procreate and have been able to do it only because of this major body of medical research.

When I leave this room today, I could not—and I assume the inevitable is going to come, which is the passage of this legislation out of this Committee. I am not sure whether research in Mr. Scott's district or the work that's being done in Ms. Lofgren's area or any of my good friends on the other side of the aisle will be viable based upon this legislation.

I do know that the kind of work that is being done enabling people to procreate who desire to do so is so vital and so precious that I would beg to differ with the very simplistic argument, with no disrespect to the distinguished gentleman, that this is a question of not necessary. We are clarifying in order to procreate or to provide opportunity for reproductive activities, and I would yield back to the gentleman. I thank him for his time.

Ms. LOFGREN. Mr. Chairman?

Chairman SENSENBRENNER. The gentleman's time has expired.

For what purpose does the gentlewoman from California seek the——

Ms. LOFGREN. To strike the last word.

Chairman SENSENBRENNER. The gentlewoman is recognized for 5 minutes.

Ms. LOFGREN. I think that, while, clearly, the prior amendment was essential, this amendment probably is wise. And I want to go back to the prior amendment just briefly because I think there is, potentially, an unintended effort to fuzz up what this bill actually does.

If you look at Page 2, it defines human cloning as it means "human asexual reproduction accompanied by introducing nuclear material from one or more human somatic cells into a fertilized or unfertilized ovocyte, whose nuclear material has been removed or inactivated so as to produce a living organism at any stage of development that is genetically virtually identical to an existing or previously existing human organism."

And then the exception, the research exception is nothing, because basically it says nothing in the section: "Restricts areas of scientific research not specifically prohibited," except the bill specifically prohibits the research.

So it's—it does not, it destroys stem cell research is what this bill does, which is why we're trying to fix this.

Now, on the gentlelady's amendment, I think it is wise because if you take a look at the definition on line 7, fertilized or unfertilized, I think that that begs for clarification. Are we going to allow infertile couples to have—use in vitro fertilization or not?

And recently, as some of the Members may know from their reading on this subject, there has been in vitro fertilization that has resulted in the small transfer of mitochondrial material that is not addressed in the underlying bill and I think would be preserved under the gentlelady's amendment. Because the mitochondrial slippage, if you will, theoretically violates this act and yet is increasingly known—I don't think it's new—but it has been discovered in terms of in vitro fertilization.

And so the unintended consequence of this act might be to bar couples from using in vitro. Now, people can have different viewpoints on in vitro fertilization. I, personally, feel it's a blessing to couples who want to have—have a child, to be able to use science to do that. And, certainly, it is done thousands of times across the country and has enriched families enormously and is worthy of our protection from this draft that really does, I think, put the procedure in some doubt.

And I would yield to the gentlelady from Texas if she had different additional comments.

Ms. JACKSON LEE OF TEXAS. I appreciate the gentlelady. She, very much, let me just say, for not using a redundancy, is at the cutting edge of what this amendment is offering to do. I just simply want to put into the record the explanation that tracks your explanation from the American Infertility Association.

And what they are saying is—I think I started to read it—this language says——

Chairman SENSENBRENNER. Without objection.

Ms. JACKSON LEE OF TEXAS. Thank you. I'd like to read into the record, "Infertility is just one area of medicine where we are developing cutting-edge techniques such as cytoplasmic transfer and germ cell nuclear transfer to help our patients. We would hate to see research in these procedures cut short by legislation that mistakenly treats them as the equivalent of reproductive cloning."

And so I thank the gentlelady. I just simply want to say to my colleagues take a breather, pause for a moment, don't make conclusions, and let us look and work together to make sure that we are not blocking these millions and millions of individuals, families, couples who simply want to be able to procreate and give birth.

I yield back. I thank the gentlelady.

Ms. LOFGREN. I would yield further to the gentleman from North Carolina.

Mr. WATT. No, no, no. I'll get my own——

Ms. LOFGREN. Your own time.

Then I would yield back, Mr. Chairman.

Chairman SENSENBRENNER. The time of the gentlewoman has expired.

The question is on——

Mr. WATT. Mr. Chairman?

Chairman SENSENBRENNER. The gentleman from North Carolina, Mr. Watt.

Mr. WATT. Thank you, Mr. Chairman. I move to strike the last word.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. WATT. Just for the purpose of asking the sponsor of the amendment and my colleague from California, Ms. Lofgren, to look at the language of the amendment and to look at the language on Page 2, lines 14 through 17, and tell me—well, maybe I—okay. I've got the wrong amendment. I'm sorry.

All right. I'm sorry, Mr. Chairman. I was looking at the wrong, wrong bill. I thought there was a provision in here that covered that, but I'll yield back.

Chairman SENSENBRENNER. The question is on the amendment offered by the gentlewoman from Texas, Ms. Jackson Lee.

Those in favor will signify by saying aye.

Opposed, no.

The noes appear to have it.

Ms. JACKSON LEE OF TEXAS. Mr. Chairman, I would like a roll call.

Chairman SENSENBRENNER. The roll call will be ordered. Those in favor of the Jackson Lee amendment will, as your names are called, answer aye; those opposed, no.

The clerk will call the roll.

The CLERK. Mr. Hyde?

Mr. HYDE. No.

The CLERK. Mr. Hyde, no. Mr. Gekas?

Mr. GEKAS. No.

The CLERK. Mr. Gekas, no. Mr. Coble?

Mr. COBLE. No.

The CLERK. Mr. Coble, no. Mr. Smith?

Mr. SMITH OF TEXAS. No.

The CLERK. Mr. Smith, no. Mr. Gallegly?

[No response.]
The CLERK. Mr. Goodlatte?
[No response.]
The CLERK. Mr. Chabot?
Mr. CHABOT. No.
The CLERK. Mr. Chabot, no. Mr. Barr?
Mr. BARR. No.
The CLERK. Mr. Barr, no. Mr. Jenkins?
Mr. JENKINS. No.
The CLERK. Mr. Jenkins, no. Mr. Hutchinson?
[No response.]
The CLERK. Mr. Cannon?
Mr. CANNON. No.
The CLERK. Mr. Cannon, no. Mr. Graham?
Mr. GRAHAM. No.
The CLERK. Mr. Graham, no. Mr. Bachus?
[No response.]
The CLERK. Mr. Scarborough?
[No response.]
The CLERK. Mr. Hostettler?
Mr. HOSTETTLER. No.
The CLERK. Mr. Hostettler, no. Mr. Green?
Mr. GREEN. No.
The CLERK. Mr. Green, no. Mr. Keller?
Mr. KELLER. No.
The CLERK. Mr. Keller, no. Mr. Issa?
[No response.]
The CLERK. Ms. Hart?
Ms. HART. No.
The CLERK. Ms. Hart, no. Mr. Flake?
Mr. FLAKE. No.
The CLERK. Mr. Flake, no. Mr. Conyers?
[No response.]
The CLERK. Mr. Frank?
Mr. FRANK. Aye.
The CLERK. Mr. Frank aye. Mr. Berman?
[No response.]
The CLERK. Mr. Boucher?
[No response.]
The CLERK. Mr. Nadler?
Mr. NADLER. Aye.
The CLERK. Mr. Nadler, aye. Mr. Scott?
Mr. SCOTT. Aye.
The CLERK. Mr. Scott, aye. Mr. Watt?
Mr. WATT. Aye.
The CLERK. Mr. Watt, aye. Ms. Lofgren?
Ms. LOFGREN. Aye.
The CLERK. Ms. Lofgren, aye. Ms. Jackson Lee?
Ms. JACKSON LEE OF TEXAS. Aye.
The CLERK. Ms. Jackson Lee, aye. Ms. Waters?
Ms. WATERS. Aye.
The CLERK. Ms. Waters, aye. Mr. Meehan?
[No response.]
The CLERK. Mr. Delahunt?
[No response.]

The CLERK. Mr. Wexler?

Mr. WEXLER. Aye.

The CLERK. Mr. Wexler, aye. Ms. Baldwin?

Ms. BALDWIN. Aye.

The CLERK. Ms. Baldwin, aye. Mr. Weiner?

[No response.]

The CLERK. Mr. Schiff?

Mr. SCHIFF. Aye.

The CLERK. Mr. Schiff, aye. Mr. Chairman?

Chairman SENSENBRENNER. No.

The CLERK. Mr. Chairman, no.

Chairman SENSENBRENNER. Are there additional Members in the chamber who wish to cast or change their vote?

The gentleman from California, Mr. Gallegly?

Mr. GALLEGLY. No.

The CLERK. Mr. Gallegly, no.

Chairman SENSENBRENNER. The gentleman from California, Mr. Issa?

Mr. ISSA. No.

The CLERK. Mr. Issa, no.

Chairman SENSENBRENNER. Other Members who wish to cast or change their vote?

If not, the clerk will report.

The CLERK. Mr. Chairman, there are 10 ayes and 17 noes.

Chairman SENSENBRENNER. And the amendment is not agreed to.

Are there further amendments? The gentleman from Virginia, Mr. Scott?

Mr. SCOTT. Mr. Chairman, I have an amendment at the desk.

Chairman SENSENBRENNER. The clerk will report the amendment.

Mr. SCOTT. No. 5.

The CLERK. Amendment to H.R. 2505 offered by Mr. Scott. Page 4, after line 8 insert the following: Section 3, Study by General Accounting——

Chairman SENSENBRENNER. Without objection, the amendment is considered as read.

[The amendment follows:]

AMENDMENT TO H.R. 2505

OFFERED BY Mr. Scott
#5

Page 4, after line 8, insert the following:

1 **SEC. 3. STUDY BY GENERAL ACCOUNTING OFFICE.**

2 (a) IN GENERAL.—The General Accounting Office
3 shall conduct a study to assess the need (if any) for
4 amendment of the prohibition on human cloning, as de-
5 fined in section 301 of title 18, United States Code, as
6 added by this Act, which study should include—

7 (1) a discussion of new developments in medical
8 technology concerning human cloning and somatic
9 cell nuclear transfer, the need (if any) for somatic
10 cell nuclear transfer to produce medical advances,
11 current public attitudes and prevailing ethical views
12 concerning the use of somatic cell nuclear transfer,
13 and potential legal implications of research in so-
14 matic cell nuclear transfer; and

15 (2) a review of any technological developments
16 that may require that technical changes be made to
17 section 2 of this Act.

18 (b) REPORT.—The General Accounting Office shall
19 transmit to the Congress, within 4 years after the date
20 of enactment of this Act, a report containing the findings
21 and conclusions of its study, together with recommenda-

1 tions for any legislation or administrative actions which

2 it considers appropriate.

Chairman SENSENBRENNER. The gentleman is recognized for 5 minutes.

Mr. SCOTT. Mr. Chairman, this authorizes a study by the General Accounting Office to conduct and assess the need for any amendments to this act. That study should include a discussion of new developments in medical technology concerning human cloning or somatic cell nuclear transfer, the need, if any, for somatic cell nuclear transfer for—to produce medical advances, current public attitudes and prevailing ethical views concerning the use of somatic cell nuclear re—transfer——

Chairman SENSENBRENNER. Will the gentleman yield?

Mr. SCOTT. I yield.

Chairman SENSENBRENNER. Let me say that I believe that the gentleman from Virginia has a very good idea, but the timing isn't quite right yet. Should this amendment be adopted in Committee, this will necessitate a sequential referral to the Commerce Committee, which I don't think we want to have.

I would be prepared to work with the gentleman from Virginia between the time this bill is reported from Committee and the time it comes up on the floor so that some type of GAO study would be included in the final legislation if passed by the House. And with that assurance, I would request him to withdraw the amendment so we avoid the sequential.

Mr. SCOTT. So moved, Mr. Chairman.

Mr. WATT. Will the gentleman yield just——

Chairman SENSENBRENNER. The time belongs to the gentleman from Virginia.

Mr. SCOTT. I'll yield.

Mr. WATT. I'm just wondering what the rationale for using the General Accounting Office is. These seem to me to be areas that would be more in the, in the knowledge and jurisdiction of the NIH and also to inquire whether, if somebody other than the General Accounting Office were used, would that also necessitate a referral, a sequential referral? What triggers the referral?

Chairman SENSENBRENNER. Well, if the gentleman from Virginia will yield.

Mr. SCOTT. I will.

Chairman SENSENBRENNER. What triggers the referral is a request by the Chairman of the Energy and Commerce Committee, the parliamentarians.

Mr. WATT. No, I mean——

Chairman SENSENBRENNER. Your Chairman has spent quite a bit of time opposing those types of requests over at the Parliamentarian's Office, as the gentleman from North Carolina knows.

Mr. WATT. But I assume there is some substance in the amendment that would trigger his belief that Commerce has jurisdiction over it.

Chairman SENSENBRENNER. If the gentleman from Virginia would further yield.

Mr. SCOTT. Yes.

Chairman SENSENBRENNER. Commerce has jurisdiction over a whole host of health care issues and legislation, including what the NIH does. And if this is to oversee what the opinions of that would be, that would trigger a sequential. The Judiciary Committee has got exclusive jurisdiction over the criminal code. So far the Commerce Committee has not claimed jurisdiction over that, and I would hope that we could——

Mr. WATT. Would the gentleman yield——

Chairman SENSENBRENNER [continuing]. They're trying.

Mr. WATT [continuing]. Yield further?

Mr. SCOTT. I would yield to the gentleman.

Mr. WATT. Now that I understand that won't address the sequential referral issue, I still would like to have the gentleman from Virginia tell me why he's using the General Accounting Office, as opposed to some other agency to studying the——

Mr. SCOTT. Well, frankly, because legislative counsel suggested it. I would assume they would seek appropriate guidance from NIH or the appropriate agencies to do the study.

Ms. LOFGREN. Would the gentleman yield?

Mr. SCOTT. I yield to the gentlelady from California.

Ms. LOFGREN. I remember years ago, when I—6 years ago, as a matter of fact, when I was elected to Congress and became a Member of the Judiciary Committee, and a senior Member—actually, there were Members from both sides of the aisle said, you know, the Democrats and Republicans are our adversaries. The Commerce Committee is our enemy, and that has sometimes united us.

But I would argue that in this case a sequential referral actually might be a good thing. There are sometimes the bills that we pass benefit greatly from a review by the Commerce Committee, and I think in this case, with the health care and science expertise that's available in Commerce, and I would argue, also, on the Science Committee, that sequential referrals to Science and Commerce would be a good thing for this legislation, and I thank the gentleman for yielding to me.

Mr. SCOTT. I withdraw the amendment, Mr. Chairman.

Chairman SENSENBRENNER. The amendment is withdrawn.

Are there further amendments to the bill?

The gentleman from Virginia, Mr. Scott.

Mr. SCOTT. Mr. Chairman, I have an amendment at the desk.

Chairman SENSENBRENNER. The clerk will report the amendment.

Mr. SCOTT. No. 2.

The CLERK. Amendment to H.R.——

Mr. SCOTT. It's short. She can read it in full, Mr. Chairman.

Chairman SENSENBRENNER. Without objection, the amendment is considered as——

Mr. SCOTT. Mr. Chairman, I would object. If she could go ahead and read it, it's short.

Chairman SENSENBRENNER. Will the clerk——

The CLERK. Amendment to H.R. 2505 offered by Mr. Scott. Page 4, line 4, strike the close quotation mark and the period which follows.

Page 4, after line 4, insert the following:

"(e) Sunset.—The prohibitions of this section shall not apply to any activity occurring on or after the expiration of the 5-year period beginning on the date of enactment of the Human Cloning Prohibition Act of 2001."

[The amendment follows:]

AMENDMENT TO H.R. 2505

OFFERED BY Mr. Scott

#2

Page 4, line 4, strike the close quotation mark and the period which follows.

Page 4, after line 4, insert the following:

1 "(e) SUNSET.—The prohibitions of this section shall
2 not apply to any activity occurring on or after the expira-
3 tion of the 5-year period beginning on the date of enact-
4 ment of the Human Cloning Prohibition Act of 2001.".

Chairman SENSENBRENNER. The gentleman from Virginia is recognized for 5 minutes.

Mr. SCOTT. Thank you, Mr. Chairman. Mr. Chairman, the amendment is self-explanatory. It establishes a 5-year sunset. I think we've heard enough during the debate to know that this is a very complicated area. We don't know what the research is going to look like 5 years from now, and we really need to revisit this in 5 years, and that's what the sunset would do, and I would hope that we would adopt the sunset.

Chairman SENSENBRENNER. Does the gentleman yield back? The time is yielded back.

The gentleman from Texas, Mr. Smith, is recognized for 5 minutes.

Mr. SMITH OF TEXAS. Thank you, Mr. Chairman.

Mr. Chairman, I urge my colleagues to oppose this straightforward sunset. The reason is, simply, because it's dangerous. We don't know what the status of human cloning is going to be in 5 years, much less in 6 weeks or 6 months from now. So, until we know what the future holds, we ought not automatically sunset a very important bill.

Secondly, of course, and obviously Congress can, if it so chooses, 5 years from now or at any point change the law after we have knowledge, and sufficient knowledge, to know that we are continuing to protect the experimentation with human cloning.

So I would encourage my colleagues to oppose the amendment.

Chairman SENSENBRENNER. The question is on Amendment No. 2 offered by the gentleman from Virginia, Mr. Scott.

Those in favor will signify by saying aye.

Opposed, no.

The noes appear to have it. The noes have it, and the amendment is not agreed to.

Are there further amendments?

The gentleman from Virginia, Mr. Scott.

Mr. SCOTT. Mr. Chairman, before I finish, I think I responded to the gentleman from North Carolina that legislative counsel suggested the GAO. I think it was my counsel that suggested it. [Laughter.]

Chairman SENSENBRENNER. The record will indicate the correction.

Mr. SCOTT. I'd like to apologize to the GAO.

I have an amendment at the desk, Mr. Chairman.

Chairman SENSENBRENNER. The clerk will report the amendment.

Mr. SCOTT. No. 4.

Chairman SENSENBRENNER. No. 4.

The CLERK. Amendment to H.R. 2505 offered by Mr. Scott.

Page 4, line 4, strike the close quotation mark and the period which follows.

Page 4, after line 4, insert the following——

Chairman SENSENBRENNER. Without objection, the amendment is considered as read.

[The amendment follows:]

AMENDMENT TO H.R. 2505

OFFERED BY Mr. Scott

#4

Page 4, line 4, strike the close quotation mark and the period which follows.

Page 4, after line 4, insert the following:

1 "(e) EXEMPTION OF MEDICAL TREATMENT.—The
2 prohibitions of this section shall not apply to the shipping,
3 receipt, or importation for use in medical treatment of any
4 product derived from an embryo (including, but not lim-
5 ited to, pluripotent stem cells) if such product is unable
6 to develop into a full human being.".

Chairman SENSENBRENNER. The gentleman from Virginia is recognized for 5 minutes.

Mr. SCOTT. Thank you, Mr. Chairman.

Mr. Chairman, this amendment states that the provisions—"prohibitions of this section shall not apply to the shipping, receipt, or importation for use in medical treatment of any product derived from an embryo, including, but not limited to, pluripotent stem cells, if such product is unable to develop into a full human being."

Mr. Chairman, as we take whatever action we're going to take in the United States, there will be other countries who will be doing this research. We want to make sure that if there are medications or medical treatments available and products in other countries that cannot develop into a full human being, we don't want to prohibit their importation into the United States.

The language of the bill I think makes it clear that that importation would be illegal, and I think the—that would deny ill people of medical treatment which would be appropriate.

And, furthermore, Mr. Chairman, the FDA would have to approve and have oversight of any of those treatments. So it's not, I mean, you have FDA approval.

Ms. LOFGREN. Would the gentleman yield?

Mr. SCOTT. I'll yield to the gentlelady from California.

Ms. LOFGREN. I think this is a good amendment, and one I certainly intend to vote for. I would note that failing to approve this amendment would mean that only the affluent who could fly to Britain to get their treatment would get the benefit of the research

we will drive off-shore, and the middle class and working people will have to suffer and not be able to get the benefit of the treatment.

So, in addition to allowing all Americans, with the FDA's certainly intrusion to make sure these are efficacious and safe, this is a meritorious and very American type of thing to do to allow everyone to benefit.

And I thank the gentleman for yielding.

Mr. SCOTT. I yield back, Mr. Chairman.

Chairman SENSENBRENNER. The gentleman from Texas, Mr. Smith.

Mr. SMITH OF TEXAS. Mr. Chairman, I oppose the amendment.

Chairman SENSENBRENNER. Yes. The gentleman is recognized for 5 minutes.

Mr. SMITH OF TEXAS. Thank you, Mr. Chairman.

This amendment would provide an exemption to the prohibitions of the bill for the importation of any product derived from an embryo if such product is unable to develop into a full human being.

Effectively, this exemption would allow for the importation of stem cells derived from cloned embryos. By including this amendment in this bill, we would be creating a financial incentive for companies outside of the United States to produce even more cloned human embryos in order to make a greater profit in this country. With more cloned human embryos in the world, it would only be a matter of time before they are illegally being used to create a cloned human baby. If we want to prevent cloned human children, we must seek to stop the process at the beginning.

Mr. Chairman, I also want to return to this central issue here, and that is, if we oppose human cloning, the only way to do so is to oppose this amendment and support the underlying bill.

I'll yield back.

Chairman SENSENBRENNER. The question is on the adoption of the amendment by the gentleman from Virginia, Mr. Scott, numbered four.

Those in favor will signify by saying aye.

Opposed, no.

The noes appear to have it. The noes have it, and the amendment is not agreed to.

Are there further amendments?

The gentleman from Virginia.

Mr. SCOTT. Mr. Chairman, No. 3. I have an amendment at the desk.

Chairman SENSENBRENNER. The clerk will report Scott Amendment No. 3.

The CLERK. Amendment to H.R. 2505 offered by Mr. Scott.

Page 4, line 4, strike the close quotation mark——

Chairman SENSENBRENNER. Without objection, the amendment is considered as read.

[The amendment follows:]

AMENDMENT TO H.R. 2505

OFFERED BY Mr. Scott

#3

Page 4, line 4, strike the close quotation mark and the period which follows.

Page 4, after line 4, insert the following:

1 "(e) FAMILY PRESERVATION EXEMPTION.—The pro-
2 hibitions of this section shall not apply to any activity by
3 a woman who receives an embryo in her uterus if such
4 activity was performed with the intent to initiate her preg-
5 nancy.".

Chairman SENSENBRENNER. The gentleman from Virginia is recognized for 5 minutes.

Mr. SCOTT. Mr. Chairman, this would—this would—the—it's called a Family Preservation Exemption. "The prohibitions of this section shall not apply to any activity by a woman who receives an embryo in her uterus if such activity was performed with the intent to initiate her pregnancy."

If this does not pass, then what we have passed is a bill providing for criminal activity. If a mother is, in fact, trying to get pregnant and uses one of these embryos, she will be party to a criminal activity. There are enough problems involved in this activity. I would hope that we would not jail and fine women who are trying to get pregnant.

Ms. LOFGREN. Would the gentleman yield for a question.

Mr. SCOTT. I yield to the gentlelady from California.

Ms. LOFGREN. I'm trying to think of an example where this might occur. Say, for example, a couple had been unable to conceive, and they went and adopted an embryo to bring that—to have a child, and the embryo had mitochondrial DNA from the donor mother. Is the intent of the amendment to preclude prosecution of the couple because of the presence of mitochondrial DNA from the donor?

Mr. SCOTT. Exactly. Reclaiming my time. That's exactly the point of the amendment.

The doctor or the scientist would be fully liable, but the mother would not.

Ms. LOFGREN. I thank the gentleman for yielding.

Mr. SCOTT. I yield back.

Chairman SENSENBRENNER. The gentleman from Texas, Mr. Smith, is recognized for 5 minutes.

Mr. SMITH OF TEXAS. Thank you, Mr. Chairman.

Mr. Chairman, this amendment contains an exemption for mothers from the prohibitions of cloning contained in the bill. Although this amendment may appear benign at first glance, it serves to protect women who knowingly participate in the unethical experimentation on a child to be.

There are a number of legal, safe, and tested options available to women today who want to have a child, but cannot, for whatever reason. These women do not have to attempt the implantation of a cloned embryo that has a greater than 98-percent chance of not surviving the pregnancy, being malformed or abnormal at birth, or having a greatly diminished life span because of a genetic defect.

Mr. Chairman, I urge my colleagues to continue to oppose the cloning of human beings and oppose this amendment.

I yield back.

Chairman SENSENBRENNER. The question is on the amendment offered by the gentleman from Virginia, Mr. Scott, No. 3.

Those in favor will signify by saying aye.

Opposed, no.

Chairman SENSENBRENNER. The noes appear to have it. The noes have it, and the amendment is not agreed to.

Are there further amendments?

If not, the question occurs on the motion to report the bill H.R. 2505 favorably. The Chair notes a reporting quorum.

All in favor will say aye.

Opposed, no.

The ayes appear to have it.

Mr. SMITH OF TEXAS. Let's get a roll call, Mr. Chairman.

Chairman SENSENBRENNER. The roll call will be ordered.

Those in favor of favorably reporting H.R. 2505 will, as your names are called, answer aye; those opposed, no; and the clerk will call the roll.

The CLERK. Mr. Hyde?

Mr. HYDE. Aye.

The CLERK. Mr. Hyde, aye. Mr. Gekas?

Mr. GEKAS. Aye.

The CLERK. Mr. Gekas, aye. Mr. Coble?

Mr. COBLE. Aye.

The CLERK. Mr. Coble, aye. Mr. Smith?

Mr. SMITH OF TEXAS. Aye.

The CLERK. Mr. Smith, aye. Mr. Gallegly?

Mr. GALLEGLY. Aye.

The CLERK. Mr. Gallegly, aye. Mr. Goodlatte?

[No response.]

The CLERK. Mr. Chabot?

Mr. CHABOT. Aye.

The CLERK. Mr. Chabot, aye. Mr. Barr?

Mr. BARR. Aye.

The CLERK. Mr. Barr, aye. Mr. Jenkins?

Mr. JENKINS. Aye.

The CLERK. Mr. Jenkins, aye. Mr. Hutchinson?

[No response.]

The CLERK. Mr. Cannon?

Mr. CANNON. Aye.
The CLERK. Mr. Cannon, aye. Mr. Graham?
Mr. GRAHAM. Aye.
The CLERK. Mr. Graham, aye. Mr. Bachus?
[No response.]
The CLERK. Mr. Scarborough?
[No response.]
The CLERK. Mr. Hostettler?
Mr. HOSTETTLER. Aye.
The CLERK. Mr. Hostettler, aye. Mr. Green?
Mr. GREEN. Aye.
The CLERK. Mr. Green, aye. Mr. Keller?
[No response.]
The CLERK. Mr. Issa?
[No response.]
The CLERK. Ms. Hart?
Ms. HART. Aye.
The CLERK. Ms. Hart, aye. Mr. Flake?
Mr. FLAKE. Aye.
The CLERK. Mr. Flake, aye. Mr. Conyers?
[No response.]
The CLERK. Mr. Frank?
Mr. FRANK. No.
The CLERK. Mr. Frank no. Mr. Berman?
[No response.]
The CLERK. Mr. Boucher?
[No response.]
The CLERK. Mr. Nadler?
Mr. NADLER. No.
The CLERK. Mr. Nadler, no. Mr. Scott?
Mr. SCOTT. No.
The CLERK. Mr. Scott, no. Mr. Watt?
Mr. WATT. No.
The CLERK. Mr. Watt, no. Ms. Lofgren?
Ms. LOFGREN. No.
The CLERK. Ms. Lofgren, no. Ms. Jackson Lee?
Ms. JACKSON LEE OF TEXAS. No.
The CLERK. Ms. Jackson Lee, no. Ms. Waters?
Ms. WATERS. No.
The CLERK. Ms. Waters, no. Mr. Meehan?
[No response.]
The CLERK. Mr. Delahunt?
[No response.]
The CLERK. Mr. Wexler?
Mr. WEXLER. No.
The CLERK. Mr. Wexler, no. Ms. Baldwin?
Ms. BALDWIN. No.
The CLERK. Ms. Baldwin, no. Mr. Weiner?
[No response.]
The CLERK. Mr. Schiff?
Mr. SCHIFF. No.
The CLERK. Mr. Schiff, no. Mr. Chairman?
Chairman SENSENBRENNER. Aye.
The CLERK. Mr. Chairman, aye.

Chairman SENSENBRENNER. Are there additional Members in the chamber who wish to cast or change their vote?

The gentleman from Virginia, Mr. Goodlatte?

Mr. GOODLATTE. Aye.

The CLERK. Mr. Goodlatte, aye.

Chairman SENSENBRENNER. The gentleman from Florida, Mr. Keller?

Mr. KELLER. Aye.

The CLERK. Mr. Keller, aye.

Chairman SENSENBRENNER. The gentleman from California, Mr. Issa.

Mr. ISSA. Aye.

The CLERK. Mr. Issa, aye.

Chairman SENSENBRENNER. Are there any additional Members who wish to record or change their votes? If not——

Ms. LOFGREN. Mr. Chairman, may I ask how my—how I am recorded.

The CLERK. Ms. Lofgren, you're recorded as a no.

Ms. LOFGREN. Thank you, Mr. Chairman.

Chairman SENSENBRENNER. The clerk will report.

The CLERK. Mr. Chairman, there are 18 ayes and 10 noes.

Mr. CONYERS. Mr. Chairman?

Chairman SENSENBRENNER. Who seeks recognition? The gentleman from Michigan, Mr. Conyers.

Mr. CONYERS. No.

The CLERK. Mr. Conyers, no.

Chairman SENSENBRENNER. The clerk will report again.

The CLERK. Mr. Chairman, there are 18 ayes and 11 noes.

Chairman SENSENBRENNER. And the motion to report favorably is agreed to.

Without objection, the Chairman is authorized to move to go to conference pursuant to House rules.

Without objection, the staff is directed to make any technical and conforming changes, and all Members will be given 2 days, as provided by House rules, in which to submit additional dissenting supplementary or minority views.

DISSENTING VIEWS

We strongly dissent from H.R. 2505 as reported by the Judiciary Committee. We agree that human cloning—the production of children genetically identical to existing or previously existing human beings—is unsafe and unethical and should be prohibited. However, we believe that manner in which H.R. 2505 is written would extend the bill's prohibitions far beyond the goal of banning human cloning and would prevent our citizens from benefitting from ongoing or prospective stem cell research.

The bill before us is so sweeping that it would not only ban reproductive cloning, but all uses of nuclear transfer—also known as therapeutic cloning—for research or medical treatment. This block treatments designed to help persons suffering from Alzheimer's, diabetes, stroke, Parkinson's disease, heart disease, or spinal cord injury, to name but a few. If this bill passes into law, it would ban those stem cell treatments that would be most effective and that would not require the use of dangerous immunosuppresive drugs. The bill is so broadly written that it bans the importation of lifesaving medicines from other countries if their production is in any way derived from nuclear transfer. This means that if another nation's scientists used stem cell research to develop a cure for cancer, it might be illegal for persons living in this country to benefit from the drug. In addition, the legislation could operate to ban legal and unobjectionable infertility treatments.

It is for these reasons that the legislation is opposed by numerous national organizations that represent patients, such as the National AIDS Treatment Advocacy Project, the Coalition of National Cancer Cooperative Groups, the National Patient Advocate Foundation, the Alliance for Aging Research, the American Infertility Association, the Juvenile Diabetes Research Foundation International, the Lymphoma Research Foundation of America and the Society for Women's Health Research. The legislation is also strongly opposed by a wide variety of medical researchers, including the American Association for Cancer Research, the American Liver Foundation, the American Physiological Society, the Biotechnology Industry Organization, the Kidney Cancer Foundation, the American Society for Reproductive Medicine, and the Federation of American Societies for Experimental Biology.[1]

Summary of Legislation and Democratic Concerns

H.R. 2505 makes human somatic cell nuclear transfer into an egg a Federal felony. This process consists of removing or inac-

[1] Letter From 43 Organizations and One Individual to Speaker Dennis Hastert (July 23, 2001) (on file with the minority staff of the House Judiciary Committee) [hereinafter "Patients' Letter"]; Letter from Dr. Robert R. Rich, President, Federation of American Societies for Experimental Biology, to Ranking Member Conyers (July 23, 2001) (on file with the minority staff of the House Judiciary Committee) [hereinafter "FASEB Letter"]

tivating the nuclear material of an egg and transferring into the egg the nuclear material and DNA from one or more human somatic cells (cells with the full complement of genes). There is no requirement that the transfer produce a child. The bill therefore criminalizes a scientific research process that takes place in a petri dish, regardless of the intent of the researcher or of the inability for this process to result in the birth of a cloned child.[2] The penalty for violating these provisions includes sanctions of a criminal fine and/or imprisonment for up to 10 years, and a civil penalty of at least $1 million.[3]

Additionally, the bill makes it unlawful knowingly to attempt to perform nuclear transfer, to participate in such an attempt, or to ship, receive, or import for any purpose the embryos produced by nuclear transfer or products derived from such embryos. The importation of such products is prohibited regardless of whether they are capable of developing into a full human being; an American with an otherwise incurable disease therefore would be prohibited from importing a stem cell treatment developed abroad, where nuclear transfer research might be protected, if the stem cells were in any way derived from therapeutically cloned embryos.[4]

By imposing these prohibitions, the bill would extend the reach of the criminal law into areas of pure scientific research. Currently, the Federal Government attempts to shape scientific research mainly through conditions on Federal funding. Making a Federal felony of somatic cell nuclear transfer (which takes place entirely in a petri dish, with no human or animal subjects) would represent an unprecedented intrusion of the criminal law into the scientific process and would constrain the influence of the National Institutes of Health in the funding of stem cell research.

If H.R. 2505 were to pass into law in its present form it would be difficult, if not impossible, for our nation to benefit from stem cell research that is currently ongoing or that would take place in the future. This is because the only practical means of developing breakthroughs in stem cell research into treatments is through the use of somatic cell nuclear transfer. The bill prohibits the importation of safe and effective medical treatments, and it would use the criminal law to interfere with the scientific process and with advanced infertility treatments. For these and the reasons set forth herein, we dissent from the legislation.

I. DEMOCRATS WOULD SUPPORT A BAN ON HUMAN CLONING, BUT H.R. 2505 GOES TOO FAR

This Congress can and should outlaw the practice of human cloning. Experiments in animal cloning have revealed exceptionally high rates of deformities and birth defects, and the use of this procedure in humans has been almost unanimously rejected by the sci-

[2] The bill contains a "scientific research" exception for the use of cloning techniques to produce copies of DNA, tissues, organs, plants, or animals other than humans, but the research uses of nuclear transfer remain forbidden. Even if the oocyte had been modified so that it could not develop into a full human being, it would still be illegal to perform the transfer.

[3] In cases involving a pecuniary gain, the civil penalty is to be no less than $1 million and no more than twice the gross gain, if that sum exceeds $1 million.

[4] This broad prohibition on the import of medical treatments was not present in the original version of the bill, H.R. 1644.

entific community as unsafe to both mother and child.[5] Beyond issues of safety, using human cloning to produce a child would raise significant ethical problems, bringing the status of the child into question and raising severe dangers of abuse.[6] No pressing need exists to allow such cloning, and we believe it is appropriate for Congress to make the practice illegal. This is why at markup, Democrats unanimously voted in favor of the Schiff substitute—based on the Greenwood/Deutsch legislation[7]—which would have, among other things, focused the bill on reproductive cloning and banned the implantation of a cloned embryo. Unfortunately, the Schiff substitute was defeated on a party-line vote.

By contrast, we cannot support the overbroad approach taken by H.R. 2505. A ban on human cloning does not need to include a ban on nuclear transfer research. The former brings a new child into the world; the latter is concerned only with the study of embryonic development and the curing of disease. The majority has argued that such research lies on a "slippery slope" that leads to reproductive cloning and beyond; but there is no sense in which reproductive cloning is the logical "next step" after nuclear transfer research. Nothing links the pursuit of stem-cell research to the deliberate creation of human beings. Even if such a link existed, Congress would still be perfectly capable of saying "this far, and no further."

The technique of *in vitro* fertilization has not brought the elimination of parenthood and the armies of test-tube babies that were originally feared; instead, it has allowed for millions of Americans to do what they were once told was impossible—to have a child of their own. In the same way, Congress can permit nuclear transfer research without accepting as necessary consequences the worst fears of its critics.

The majority has also argued that a ban on reproductive cloning alone would be unenforceable. However, it has not for a moment explained how the government could enforce the prohibitions in H.R. 2505. Anyone who is willing to break the law to clone a child will surely be willing to break the law to create an embryo. If a ban on the surgical procedure of implanting embryos into the uterus is unenforceable, a ban on a procedure that takes place in a petri dish in the privacy of a scientific laboratory is even more so. The process of nuclear transfer is relatively simple, and the embryos it creates are indistinguishable in all respects (except for their genetic makeup) from embryos created through *in vitro* fertilization. As Dr. Panos Michael Zavos testified, the technology to

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[5] *See generally Issues Raised by Human Cloning Research: Oversight Hearing Before the Subcomm. on Oversight and Investigations, House Comm. on Energy and Commerce*, 107th Cong. (2001) (statements of Mark E. Westhusin, Associate Professor, Texas A&M University, and Rudolf Jaenisch, Professor of Biology, Massachusetts Institute of Technology); Rudolf Jaenisch and Ian Wilmut, *Don't Clone Humans!*, 291 Science at 2552 (March 30, 2001); FASEB Letter, at 1. To date, the only intentions to clone human beings have been expressed by a small number of groups and individuals far from the mainstream of the scientific community. *Issues Raised by Human Cloning Research: Oversight Hearing Before the Subcomm. on Oversight and Investigations, House Comm. on Energy and Commerce*, 107th Cong. (2001) (statement of Rael, leader of the Raelian movement).

[6] A child who has the exact genetic makeup of another would have an unclear status under family law, and the attempt to duplicate an existing person would severely compromise the individuality of the cloned child. Additionally, human cloning might be misused by parents, who might place expectations on a cloned child's future (e.g., if the child is the clone of a basketball star).

[7] H.R. 2608.

conduct nuclear transfer exists "in every IVF high-tech laboratory across the world," 55 of which are located in New York City alone.[8]

Without putting police in the laboratory, there is no way for the government to prevent in advance an individual bent on violating the law; it can only rely on the deterrent effect of criminal penalties should the violation become known. The steps of implantation and gestation and the birth of a cloned child would clearly alert law enforcement to the violation, and a prohibition narrowly focused on reproductive cloning would provide the needed deterrent. Moreover, because H.R. 2505 lacks any prohibition on the implantation of a cloned embryo into a woman's uterus, under its terms law enforcement would be helpless to prevent human cloning after the embryo stage. As a result, a narrowly focused ban would be just as effective in preventing human cloning, but would not have the unfortunate consequence of criminalizing lifesaving research.

II. H.R. 2505 WOULD PREVENT LIFESAVING RESEARCH IN THE UNITED STATES

The understanding of the workings of stem cells—the flexible cells that regenerate the body's tissue[9]—has advanced dramatically since 1998, when J.A. Thompson and other scientists first isolated stem cells from human embryos.[10] These undifferentiated cells[11] are the body's jacks-of-all-trades; they have the unique ability to become any kind of tissue found in the body—anything from blood or bone to nerves and heart muscles. As a result, embryonic stem cells offer immense potential to treat what have been thought to be incurable conditions by replacing the body's damaged tissue with healthy new cells.

In its recent report on the uses of stem cells, the National Institutes of Health described their medical potential as "enormous."[12] It concluded that transplants of stem cells could be used to treat conditions as varied as Parkinson's disease, chronic heart disease, end-stage kidney disease, and liver failure.[13] Rheumatoid arthritis, osteoporosis, and severe burns might all find new treatments.[14] Stem cells could repair damage to the nervous system from spinal

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[8] *Issues Raised by Human Cloning Research: Oversight Hearing Before the Subcomm. on Oversight and Investigations, House Comm. on Energy and Commerce*, 107th Cong. (2001) (statement of Dr. Panos Michael Zavos).

[9] "A stem cell is a special kind of cell that has a unique capacity to renew itself and to give rise to specialized cell types. Although most cells of the body, such as heart cells or skin cells, are committed to conduct a specific function, a stem cell is uncommitted and remains uncommitted, until it receives a signal to develop into a specialized cell. Their proliferative capacity combined with the ability to become specialized makes stem cells unique." National Institutes of Health, Stem Cells: Scientific Progress and Future Research Directions (June 2001) [hereinafter "NIH Report"], at ES-1. Stem cells can be derived from any embryo, whether created from sexual (*e.g., in vitro* fertilization) or asexual (*e.g.*, nuclear transfer) reproduction.

[10] J.A. Thompson *et al., Embryonic stem cell lines derived from human blastocysts*, 282 SCIENCE 1145–7 (1998).

[11] Soon after the embryo is implanted in a woman's uterus, its cells begin to differentiate, changing their form to match the function they will perform in the fetus. Some will become muscle cells, others nerve cells, others skin cells. Embryonic stem cells are the original cells that have not yet differentiated and chosen their function; they therefore hold the potential to repair any of the body's organs.

[12] NIH Report, at 66.

[13] NIH Report, at ES-4.

[14] NIH Report, at 65; Robert P. Lanza *et al., The Ethical Validity of Using Nuclear Transfer in Human Transplantiation*, 284 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 3715 (Dec. 27, 2000) [hereinafter "Lanza *et al.*"].

cord injury, multiple sclerosis, and Alzheimer's.[15] Insulin-producing cells could be introduced to treat diabetes.[16] Brain damage due to stroke could be reduced or reversed.[17] Replacement therapies could be created for autoimmune diseases such as lupus.[18] Survivors of heart attacks could be given healthy cardiovascular cells to heal damaged heart tissue and restore them to health.[19] Cancer patients who undergo severe chemotherapy could receive stem cell transplants to restore their blood cells and immune systems—and specialized new treatments could be developed to target and destroy individual cancer cells.[20] New treatments could even be discovered to restore function to paralyzed limbs, or to treat the degeneration caused by ALS (also known as Lou Gehrig's disease).[21] Finally, some have held out the hope of generating entire transplantable organs (bones, kidneys, and even hearts) through stem cell research.[22]

Nuclear transfer research of the type banned by H.R. 2505 would be at the foundation of any medical treatment that took advantage of these discoveries. Like all transplants, stem cell treatments run the risk of being rejected by the patient's immune system. In fact, because stem cell transplants are so limited, they would be easy for the immune system to overwhelm. In its report, the NIH noted that there is a "very high" potential for immune rejection of these transplants; "Modifications to the cells, to the immune system, or both will be a major requirement for their use."[23] However, the NIH also found that if the stem cells were obtained from embryos produced by somatic cell nuclear transfer, they would bear the patient's DNA and would appear to the patient's body like his or her own cells, removing the risk of immune rejection. The transplant could then take place without the use of dangerous immunosuppressive drugs—"a labor intensive, but truly customized therapy."[24] Nuclear transfer techniques are vital to realizing the potential of stem cell treatments and moving the science from the petri dish to the doctor's office.

H.R. 2505 goes beyond banning reproductive cloning to ban research in somatic cell nuclear transfer. The result is that the bill

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[15] *Id.*

[16] Stem cells could be used to treat diabetes by replacing the damaged insulin-producing cells of the pancreas. The discovery of a stem-cell treatment for diabetes, for which there is currently no cure, would be a significant advance:

> Each year, diabetes affects more people and causes more deaths than breast cancer and AIDS combined. Diabetes is the seventh leading cause of death in the United States today, with nearly 200,000 deaths reported each year. The American Diabetes Association estimates that nearly 16 million people, or 5.9 percent of the United States population, currently have diabetes. (NIH Report, at 67.)

[17] NIH Report, at 77. The report states that "Just a decade ago, neuroscience textbooks held that neurons in the adult human brain and spinal cord could not regenerate. Once dead, it was thought, central nervous system neurons were gone for good." New research and the possibilities of stem cell treatments promise to reverse that long-held medical dogma. *Id.*

[18] NIH Report, at 62. The report notes that lupus, a disease in which the immune system attacks the body's own cells, affects more than 239,000 Americans, over 90 percent of whom are women. African-American and Hispanic women are disproportionately affected. Currently, no treatment exists for the disease. *Id.*

[19] NIH Report, at 87. Today, more than 4.8 million Americans suffer from congestive heart failure, with 400,000 new cases each year. Nearly 1.1 million Americans a year suffer from heart attacks. Stem cell treatments to repair the heart and circulatory system could therefore target "a major cause of death and disability in the United States." *Id.*

[20] NIH Report, at ES-5.

[21] NIH Report, at 79.

[22] Lanza *et al.*, at 3715.

[23] NIH Report, at ES-5.

[24] NIH Report, at 17.

would cut off scientific developments that are granting new hope to millions of Americans who have been told there is no cure. Without the use of nuclear transfer, these stem cell developments will likely remain in the laboratory and will not be used to help patients.

By banning nuclear transfer techniques, H.R. 2505 would also cut off research in new areas of regenerative medicine. As researcher Thomas Okarma testified before the Subcommittee on Crime, it may soon be possible to turn a differentiated cell (such as a skin cell) back into an undifferentiated state, essentially creating compatible stem cells from the patient's own body. This procedure would avoid any need to use nuclear transfer and would not involve embryos in any way, offering the possibility of new medical treatments that would avoid the controversies that have accompanied stem-cell research. However, Okarma testified that some nuclear transfer research will be "essential" for the early stages of understanding how stem cells gain their flexibility, and would be "a critical step to improve the usefulness of adult stem cells" as well.[25] Nuclear transfer research would also provide a greater understanding of embryonic development that could be used to determine the causes of (and perhaps to prevent) birth defects, miscarriages, and juvenile diabetes.[26] The Federation of American Societies for Experimental Biology has echoed the NIH's language in describing such research: "The potential for treating human disease in this exciting area of regenerative medicine is enormous."[27] However, all of these promising advances would be blocked by H.R. 2505.

The majority has sought to establish that the use of embryonic or cloned stem cells would be unethical when an alternative, namely adult stem cells, is available.[28] However, the studies necessary for regenerative medicine could not be accomplished with adult stem cells. Additionally, after surveying the current state of the science, the NIH concluded that embryonic stem cells have important advantages over adult stem cells: the latter cannot develop into as many different cell types; they cannot be generated in the same quantities in the laboratory; and they are difficult and sometimes dangerous to extract from an adult patient (especially stem cells located in the brain).[29] Given the very real benefits that this

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[25] *Human Cloning: Hearings on H.R. 1644 and H.R. 2172 Before the House Subcomm. on Crime*, 107th Cong. (2001) (Statement of Thomas Okarma, CEO of Geron, Inc.).

[26] *Id.*

[27] FASEB Letter, at 2.

[28] *The Ethics of Human Cloning: Hearing Before the House Subcomm. on Crime*, 107th Cong. (2001) (Statement of David Prentice, Professor of Life Sciences, Indiana State University). Cells with similar properties known as "embryonic germ cells" can also be obtained from aborted fetuses, but these will not necessarily be compatible with the patient's immune system. Furthermore, their source of origin makes them no less controversial to the majority.

[29] NIH Report, at ES–9–10. It is important to note that at the stage when embryonic stem-cell research normally occurs, the embryos are less than 14 days old and consist of a tiny ball of undifferentiated cells, without organs or internal structure, let alone a nervous system, nerve impulses, feelings, or the capacity to feel pain. Even in the womb, the great majority of early embryos—as many as 80 percent—never develop into a human being. Furthermore, the separation of an embryo into twins or triplets frequently does not occur until after this stage of development, implying that the embryos cannot meaningfully be ascribed personal identity, uniqueness, or individuality. Lanza *et al.* As a number of prominent scientists and bioethicists have agreed, "The line established by gastrulation and the appearance of the primitive streak is a clear one, as is the line between therapeutic and reproductive cloning." *Id.* Even anti-choice Sen. Orrin Hatch has indicated that one should not equate a fetus in the womb, "with moving toes and fingers and a beating heart, with an embryo in a freezer." Sheryl Gay Stolberg, *Morality and Medicine: Reconsidering Embryo Research*, N.Y. TIMES (July 1, 2001), sec. 4, at 1. Great

research could hold for those suffering Americans who are already living, it is appropriate for Congress at the very least to permit such research to go on in the private sector.[30]

Unfortunately, H.R. 2505 would prohibit this valuable research and leave no viable alternative, and it would do so permanently. At the markup, the majority claimed that as the science progresses, researchers might convince a future Congress to repeal the research prohibition.[31] But Congress should never establish a permanent criminal prohibition with an eye towards repealing it a few years later. Biomedical research progresses at an amazing speed; indeed, human pluripotent stem cells were first isolated in November 1998. Further advances are occurring at a dizzying pace, and a complete medical revolution may well occur within the next 5 years. Yet the maximum penalty for conducting nuclear transfer research under H.R. 2505 is 10 years imprisonment. Legalizing nuclear transfer research after its potential has been realized would bring about the absurd result that the prison sentences would outlast the prohibitions—that scientists who practice nuclear transfer after its legalization would be hailed as miracle workers and perhaps even afforded Federal funding, while their colleagues who first pioneered the techniques would still be in jail.

It is unclear how the effectiveness of nuclear transfer could be demonstrated to the majority's satisfaction. We already have significant evidence regarding the potential of embryonic or cloned stem cells from animal research. While research involving human embryonic stem cells might continue (although slowly, if the President chooses to deny Federal funding to such research and push it into the private sector), there will be no evidence regarding the effectiveness or suitability for testing of human stem cells obtained through nuclear transfer. We will never know what results might have been obtained had nuclear transfer research been legal, and if a permanent ban is placed on the research, we will never know enough to justify its decriminalization in the majority's eyes.

III. H.R. 2505 WOULD PREVENT U.S. CITIZENS FROM BENEFITTING FROM LIFESAVING RESEARCH PERFORMED ABROAD

We also cannot support H.R. 2505 because the shipping, receipt and importation provisions are overbroad and would block Americans' access to lifesaving medical treatments produced abroad. In the original version of the bill, these provisions prohibited only the shipping, receipt or importation of cloned embryos—a prohibition, if too expansive, at least reasonably related to the bill's flawed definition of human cloning. However, the new provisions inserted in H.R. 2505 would block not only the importation of cloned embryos,

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Britain has permitted research involving embryos since 1990, and no abuse of research involving human subjects has occurred, nor has anyone suggested that it should. Lanza *et al.*

[30] As Ronald M. Green, director of the Ethics Institute at Dartmouth College and former president of the Society of Christian Ethics, wrote to the Committee, H.R. 2505 should be rejected because it would go beyond a ban on human cloning to "prohibit several other very research directions of possibly great medical benefit." *See* Letter from Ronald M. Green to Chairman Sensenbrenner and Ranking Member Conyers (July 23, 2001) (on file with the minority staff of the House Judiciary Committee) [hereinafter "Green Letter"].

[31] This argument was made by Rep. Smith when the Majority rejected a Scott amendment to provide for a 5-year sunset as recommend by the National Bioethics Advisory Commission. The argument was also made by the Majority's witness at our hearings. *Human Cloning: Hearings on H.R. 1644 and H.R. 2172 Before the House Subcomm. on Crime*, 107th Cong. (2001) (Statement of Alexander M. Capron, member of the National Bioethics Advisory Commission).

but also of any product "derived" from such embryos, even if these products (such as stem cell-grown nerve tissue to restore paralyzed limbs) were unable to develop into a full human being. Moreover, since the critical term "derived" is not in any way elaborated on, under a plausible "fruits-of-the-tree" doctrine, the bill might even ban the importation of synthetic medicines modeled on proteins originally derived through this process.

Representative Scott unsuccessfully offered an amendment to create an exemption for the shipping, receipt or importation of products to be used in medical treatment. Products that entered the country under this amendment would still have been required to undergo scrutiny by the Food and Drug Administration. Rejection of the Scott amendment clearly demonstrates that the legislation would keep safe and effective medical treatments out of the hands of U.S. citizens, even if the treatments have no chance whatsoever of being used for human cloning.

We fear that such a prohibition may have less to with human cloning than with elevating the status of an embryo above that of live-born human beings.[32] There is no risk that an American hospital might try to clone a human using stem cells from abroad. If researchers in Great Britain (where nuclear transfer research is legal and government-funded) were to discover a stem-cell-based cure for cancer, the majority would ban its importation simply because it was originally derived through nuclear transfer. In other words, the majority is willing to sacrifice the lives and health of millions of suffering Americans in order to protect frozen embryos or out of a vague fear that someone, somewhere, might perform human cloning. For a bill intended to protect our humanity, that rationale strikes us as somewhat ironic.

IV. H.R. 2505 WOULD INTERFERE WITH STEM CELL RESEARCH—BOTH PRIVATELY FUNDED AND FUNDED BY THE NATIONAL INSTITUTES OF HEALTH

The legislation's proponents would have us believe H.R. 2505 has nothing to do with stem cell research and would not disrupt scientific advances being made in this important and much-discussed area. Nothing could be further from the truth.

There are several reasons why the legislation would interfere with and undermine stem cell research. First is the fact that stem cells can be derived from embryos created by both sexual and asexual (*e.g.*, nuclear transfer) means. As a basic and fundamental matter, by banning all forms of asexual reproduction based on cell nuclear transfer, the legislation would quite obviously limit stem cell research. It goes without saying that it will be more difficult to conduct stem cell research if one of the most promising techniques for developing stem cells—therapeutic cloning—is criminalized.

[32] The only argument offered by the majority in defense of these provisions was that an exemption for medical treatment might provide a financial incentive to create more embryos through nuclear transfer. This argument is a red herring. If a British university discovers a cure for cancer or diabetes that relies on stem-cell research, it will have quite enough of a financial incentive already. Additionally, the absolute number of embryos should be irrelevant. If the majority holds that legalizing nuclear transfer in the U.S. will make a ban on human cloning unenforceable, the same should hold true in Britain, and anyone who wishes to perform human cloning can simply travel there. Extra incentives to discover a cure for a terrible disease will not make the birth of a cloned child any more likely—they will only hasten the day when a cure arrives.

Second, if research were performed based solely on stem cells derived from sexual means (such as additional embryos formed through *in vitro* fertilization), it will be difficult to derive any practical benefit from the research without the benefit of nuclear transfer. If a scientist were to use IVF-derived stem cells to design a treatment for Alzheimer's disease, it still could not be easily applied to any patients without the utilization of therapeutic cloning. This is because, as we have noted above, scientists can greatly reduce the risk of immune rejection if we use stem cells which bear a patient's own DNA derived from therapeutic cloning rather than adult stem cells.

This conclusion is supported by the NIH in their July 18, 2001, study finding that embryonic stem cells have important advantages over adult stem cells. The NIH recognized that adult stem cells cannot develop into as many different cell types; they cannot be generated in the same quantities in the laboratory; and they are difficult and sometimes dangerous to extract. It is also critical to note that the NIH has specifically stated that somatic cell nuclear transfer would be a "truly customized" way of creating stem cell transplants that would not be rejected by the body's immune system.[33]

Third, although the NIH does not presently conduct research using human somatic cells, that decision has been made voluntarily by scientists and the executive branch, not statutorily by Congress. By passing a one-size fits all ban, we will permanently and inflexibly ban the practice, tying the hands of future scientists and the Administration alike. This is in direct contradiction of the NIH's own conclusion that it is premature to discard the potential benefits of new forms of stem cell research.[34]

Fourth, because the legislation prohibits the shipping, receipt, or importation of embryos produced abroad by nuclear transfer or of products derived from such embryos, NIH would not be able to benefit from many forms of research conducted abroad involving stem cells. This would put our own scientists at a distinct disadvantage compared to other nations' researchers in the race to develop cures for crippling and fatal diseases. At present there is no law which prevents the NIH from acquiring foreign products in any way derived from therapeutic cloning techniques. H.R. 2505, however, provides an inflexible and permanent ban which restricts our own Administration.

Finally, if the majority did not believe that the bill would undermine stem cell research, they would have had little reason to reject the Lofgren-Conyers amendment exempting stem cell research from the bill's prohibitions. If we truly want to insure that stem cell research is not interrupted, we would carve the activity from out of the bill's reach. However, the majority rejected this notion, in a straight party-line vote.

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[33] NIH Report, at 17.
[34] NIH Report, at ES-10.

V. H.R. 2505 WOULD BAN LEGAL AND UNOBJECTIONABLE INFERTILITY TREATMENTS AND TECHNIQUES OF *IN VITRO* FERTILIZATION

H.R. 2505 further exceeds its mandate to prohibit human cloning by bringing the heavy penalties of the criminal law to bear on infertility treatments that have nothing to do with human cloning. Over the past 4 years, the process of "ooplasmic transfer" has been used in connection with *in vitro* fertilization to help more than 30 infertile couples conceive a healthy child.[35] The process involves the replacement of some of the cytoplasm (the fluid that constitutes the bulk of a cell) in an infertile woman's egg with cytoplasm from a healthy donor egg or other cell. The original egg has been fertilized with genetic material from the husband and will develop normally, thanks to the infusion of healthy cytoplasm.

However, the definition of "human cloning" in H.R. 2505 is so overbroad as to likely ban this procedure. The bill includes under the definition the introduction of any "nuclear material" from "one or more human somatic cells" into an egg whose nuclear material has been removed or inactivated. Yet the technique described above (and possibly other techniques of *in vitro* fertilization as well) could introduce into the fertilized egg some of the donor cell's mitochondria, the "power plants" that float in the cytoplasm and generate energy for the cell. Mitochondria are unique because they have their own DNA and reproduce on their own. Thus, the introduction of mitochondria from a healthy, mature cell into a fertilized egg would yield a new organism that is genetically virtually identical to the pre-transfer egg, yet with slightly different mitochondrial DNA. It might therefore be considered to be "human cloning," even though the resulting child would have genes from both parents, and would bring 10-year jail sentences on the participants under H.R. 2505.

At the very least, a ban on this technique of *in vitro* fertilization is a plausible reading of H.R. 2505. However, when Representative Jackson Lee offered an amendment to clarify the bill's intent and explicitly exempt *in vitro* fertilization and other fertility treatments from the prohibitions, it was defeated on a party-line vote.[36] Passage of H.R. 2505 without including a protection for *in vitro* fertilization runs the risk that future courts will find accepted and beneficial fertility treatments in violation of the criminal law, and that infertile couples will be denied a safe and effective means of conceiving children.

Conclusion

Because it far exceeds its mission of prohibiting human cloning, H.R. 2505 can be seen as an attempt to do secretly what the Administration would hesitate to do publicly: to ban the use of stem-cell-based treatments in the United States. If H.R. 2505 becomes law, it would be difficult, if not impossible, to derive any practical benefit from stem cell research, because we would be unable to implement its discoveries through nuclear transfer or therapeutic cloning.

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[35] *Infertility Treatment Leaves Kids With Extra DNA*, REUTERS (May 7, 2001).

[36] The amendment offered by Representative Schiff, which contained a similar exemption in its rule of construction, was also defeated.

Under H.R. 2505, the new discoveries and medical cures resulting from stem cells will be off-limits to Americans who cannot afford to travel abroad to countries where nuclear transfer research is still pursued. The production of such treatments would be prohibited domestically, and the importation of even a cancer cure from abroad would carry a 10-year prison sentence. Furthermore, the vagueness and overbreadth of H.R. 2505 run the risk of prohibiting legitimate and uncontroversial techniques of *in vitro* fertilization that could help thousands of couples conceive their own children. H.R. 2505 represents far more than a ban on human cloning: it represents an intrusion of the criminal law into the research process, and it should be rejected.

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