

CALIFORNIA RIGHT TO LIFE

P.O. Box 4343, Walnut Creek, CA 94596-4343
(925) 944-5351 FAX (925) 944-5449

E-Mail: callife@calright2life.org

Web Site: www.calright2life.org

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STEM CELL RESEARCH REVISITED

by Cecelia M. Cody

Our March 2003 newsletter addressed the issue of stem cell research (See "Stem Cell Research Embryonic NO! Adult YES!" available on our website at <http://www.calright2life.org/articles.htm> or contact this office for a copy.) With the upcoming November ballot initiative in California, Proposition 71, we will again be addressing the topic of stem cell research.

For a successful discussion it is important to define terms at the outset. So let's start with a few definitions.

What are stem cells? Why are they important?

Stem cells are the body's master cells that produce other cells and tissues. Their discovery has raised hopes for treating afflictions such as Parkinson's disease, heart disease, diabetes and spinal cord injuries.

They can be harvested from adult bone marrow, umbilical cord blood and placentas. These sources sometimes are called adult stem cells. Research using adult stem cells is supported by both sides of the stem cell debate.

But the stem cells also can be harvested from human embryos, and that is at the heart of the controversy. Embryonic stem cell research requires the destruction of the embryos themselves -- a step that is morally unacceptable. Often, the embryos are gathered from fertility clinics, where they are stored frozen.

A stem cell is a cell with two characteristics:

- 1) The property of an unlimited self-maintenance - that is, the ability to reproduce itself over a long period of time without changing;
- 2) The capability to produce other types of cells such as brain, muscle and lung, to name a few.

Two Types of Stem Cells

- **Embryonic (or Fetal) stem cells (ESCR)** are taken from the blastocyst (early human embryo) that, when taken, kills the human embryo who is a human being from fertilization. These cells are "harvested" from aborted fetal tissue or through the use of "excess" in vitro fertilization embryos that the parents agree to donate for research. The inner cell mass of a 3-5 day gestation embryo (about 30 cells) are "harvested" and grown in the laboratory; this "harvesting" kills the 3-5 day gestation pre-born baby. In other words, the death of a tiny human being is required to obtain these stem cells.

- **Adult stem cells** from umbilical cord blood remaining after the birth of a baby; stem cells from bone marrow, fat cells, brain cells, and other adult tissues readily available. The taking of such stem cells does not result in the death of the donor. These cells are present in every living organism to maintain and repair tissue damaged through normal wear and tear, disease or injury. Adult blood forming stem cells have been used in transplants for 30 years - bone marrow transplants.

Using the patient's own adult neural stem cells, a group at Los Angeles Cedars-Sinai Medical Center report a reversal of symptoms in the first Parkinson's patient treated.

Types of cells

- **Totipotent:** Having unlimited capability. A totipotent cell has the capacity to form an entire organism. When the sperm fertilizes the egg, a single totipotent cell is created. In the first hours after fertilization, this cell divides into identical totipotent cells. Approximately four days after fertilization and after several cycles of cell division, these totipotent cells begin to specialize.
- **Pluripotent:** cells that are self-replicating, are derived from human embryos or human fetal tissue, and are known to develop into cells and tissues of the three primary germ layers called the ectoderm, mesoderm, and endoderm. These are

the primary layers of cells in the embryo from which all tissues and organs develop.

- **Multipotent** stem cells can give rise to several other cell types, but those types are limited in number. An example of multipotent cells is hematopoietic cells—blood stem cells that can develop into several types of blood cells, but cannot develop into brain cells. At the end of the long chain of cell divisions that make up the embryo are "terminally differentiated" cells—cells that are considered to be permanently committed to a specific function.

Cloning – Somatic Cell Nuclear Transfer (SCNT)

The transfer of the nucleus (in cell biology, the structure that houses the chromosomes. In neuro-anatomy, a group of nerve cells) from a somatic cell (any cell in the body except an egg or sperm) into an egg from which the nucleus has been removed.

- **Therapeutic cloning – Cell Replacement through Nuclear Transfer CRNT):** A procedure in which cells, typically skin cells, are taken from a patient and inserted into a fertilized egg whose nucleus has been removed. The cell that is so created is permitted to divide repeatedly to form a blastocyst. Scientists then extract stem cells from it, and use those cells to grow tissue that are a perfect genetic match for the patient.
- **Reproductive cloning:** Human cloning for the purposes of creating a human being. Same procedure as “therapeutic cloning” except cloned blastocyst is then implanted in a surrogate womb and allowed to develop. (Dolly the Sheep is an example)

STATISTICS FOR REPRODUCTIVE CLONING: A CASE STUDY

Let’s take just one example, using “reproductive cloning” to treat the 17 million diabetes patients in the United States.

- If we could collect 10 eggs per donor
- At a generous 20% cloning efficiency
- And a generous 10% efficiency in initiating the embryonic stem cell culture

Will require a minimum of 850 million eggs

At 10 eggs per donor will require 85 MILLION women of childbearing age as donors.

These women would have to be informed and be willing to accept the significant health risk of high dose hormone therapy and surgery to obtain the eggs, which may risk the donor’s health and future reproductive success. Therefore we are most likely talking about commercial exploitation of disadvantaged women in the United States and abroad. **Not a very promising scenario!**

***Stem Cell Research
Successful Treatments
Embryonic 0 Adult 45***
As of August 2004

Advantages of Adult Stem Cell Therapies

How many humans have been treated by embryonic stem cells? ZERO! Indeed, before human trials can even be safely undertaken, researchers will have to overcome two serious difficulties:

- (1) Embryonic Stem Cells (ESC) cause tumors
- (2) Rejection by the patient’s immune system, much like organ transplant rejection.

Surmounting these difficulties – if they can be surmounted – will be a long and expensive process. However with adult stem cells there is not the issue of rejection, because the patient’s own stem cells are used. Nor so far does adult stem cell therapy appear to cause tumors. This puts adult stem cell therapies years ahead of embryonic stem cell research therapies.

Recent Research Successes

(Contact office for source references)

- **STROKE** - Adult stem cells from brain, bone marrow, and umbilical cord blood provide therapeutic benefit after stroke. The cells appear to “home” to sites of damage.
- **SPINAL CORD INJURY** – adult stem cells capable of re-growth and reconnection in spinal cord
- **DIABETES** – Liver or pancreatic adult stem cells can form insulin-secreting islets.
- **HEART DAMAGE** – Bone Marrow and muscle stem cells repair damage after heart attack.
- **PARKINSON’S DISEASE** – Neural stem cells can form all neuron types, migrate throughout brain to repair damage, and prevent loss of neurons associated with Parkinson’s disease. *Using the patient’s own adult neural stem cells, a group at Los Angeles Cedars-Sinai Medical Center report a reversal of symptoms in the first Parkinson’s patient treated.*

IN SUMMARY –Adult Stem Cells

- Are the most promising source for treatments
- Able to generate virtually all adult tissues
- Can multiply almost indefinitely, providing numbers sufficient for clinical treatments
- Proven success in laboratory culture
- Proven success in animal models of disease
- Proven success in current clinical treatments
- Ability to “home in” on damaged tissue
- Avoids the problem of tumor formation
- Avoid problems with transplant rejection
- Avoid ethical quandary of killing unborn babies.

Further information is available online at: www.stemcellresearch.org. “Do No Harm – Coalition of Americans for Research Ethics” provides many resources including a quarterly recap of some of the major research in the area of stem cells.

California Proposition 71

by Vicki Evans

California has a proposition on the November 2004 ballot relating to stem cell research. Backers call it the “Stem Cell Research & Cures Act.” Detractors call it the “Embryo Cloning & Bond Act.” It was placed on the ballot by special interests who want the power to clone human embryos and have taxpayers foot the bill. As government cuts back on other health care services, Proposition 71 attempts to further a limited agenda while deceiving California voters about its mechanics and its intent.

Here’s what the Act does in shorthand:

- Amends the California constitution to guarantee scientists the right to do stem cell research on human embryos, using embryos either donated or created by cloning.
- Authorizes a \$3 billion bond issue over 30 years, including another \$3 billion in interest, to fund carrying out this new guaranteed right.
- Creates an “Institute” exempt from oversight by elected representatives, to distribute the bond issue funds. Also creates an “Oversight Committee” made up of appointed members having a vested financial interest in the research, to govern the “Institute”.
- Diverts money away from successful and ethical adult and cord blood stem cell research because these are covered by federal funding.

For more information see www.noonprop71.com. Also see The Center for Bioethics & Culture Network’s www.thebc.org for an understandable

discussion of Proposition 71. It’s called the California Stem Cell Cures and Research Initiative Fact Sheet (PDF downloadable file).

Life Chain - October 3, 2004

by Art Brew and Judith Lagowski

Life Chain is a non-denominational, non-profit, all volunteer effort from coast to coast and overseas to get as many people as possible out on the sidewalks for one hour holding such signs as 'abortion kills children'- 'Jesus forgives and heals' - 'abortion hurts women' and 'el aborto mata ninos.' In the early 90's three of us were able to bring out 10,000 people along 19th Avenue from Stonestown to the Park. This year’s events are on Sunday, October 3 in San Francisco and San Jose. We have invited the facilitators of each life chain to write a brief summary of their event.

SAN JOSE - The Annual San Jose Life Chain will take place on Stevens Creek Boulevard between Valco and Valley Fair malls from 2:30 to 4 p.m. on Sunday, 3 October. This event will be one of some 1,000 similar chains being held all over the United States and Canada on Respect Life Sunday. A variety of pro-life signs will be distributed without charge to all participants at the corner of Stevens Creek and Kiely Boulevards.

Signs are in usually in English and Spanish and carry simple, easy to read messages such as 'Abortion Kills Children', 'Jesus Forgives and Forgets', 'Adoption - the Loving Option', and 'Pray to End Abortion'.

The first chain was held in 1987 in Yuba City, California, just north of Sacramento. The inspiration of Royce Dunn, a local businessman, the idea caught on quickly spread to all corners of North America, Australia, and New Zealand.

For additional information about the San Jose Life Chain, phone Emma Forlanda (408) 238-8881.

SAN FRANCISCO - It is with joy that I invite Christians to the 2004 Life Chain in San Francisco. Beginning at 15th and Mission Streets, we will peacefully demonstrate along Mission Street all the way to Daly City if enough sign-bearers come. The first Sunday in October is our day. The time is from 2 p.m. to 3 p.m. Jesus said, “Just so, it is no part of your heavenly Father’s plan that a single one of these little ones shall ever come to grief.” (Matt 18:14) Life Chain demonstrators have witnessed to this truth all over the country. They want the world to know that adoption is preferred to abortion and that mothers are hurt by abortion. Now we can do it again on Sunday, October 3, 2004. Notify the people of your church and get their commitments. Then call me to get an assigned location along Mission Street where your

group can stand, and to make arrangements to pick up signs from me for that event. The signs can still be had for a \$1.00 donation each. My phone number is (415) 864-6954. E-mail address is jlagowski@earthlink.net. Be sure to tag your e-mail as "Pro-life". It is a good witness that we will be giving October 3 -- for sure -- but only God can know the number of hearts our messages will touch. Be a part of this important event and be filled with joy.

West Coast Walk for Life

SATURDAY JANUARY 22, 2005

11:00 AM

SF Ferry Building to the Marina Green

Mark your calendars now!

Website: www.walkforlifewc.com

**Women - and all people –
Deserve better than abortion**

'MADE IN HIS IMAGE' Diocese of Santa Rosa Respect Life Conference - **Saturday, November 13.**

Location: Becker Center at St. Eugene Cathedral, 2323 Montgomery Drive (corner of Farmer's Lane and Montgomery) in Santa Rosa.

Cost: Registration \$15 per person; \$10 teens; no fee for clergy and religious. Advance registration **INCLUDES** box lunch; registration at the door **DOES NOT** include lunch. To register, send name, address and check payable to Diocese of Santa Rosa Respect Life to: "Conference" c/o B. Bjornstrom, 4724 Woodview Drive, Santa Rosa, CA 95405. Indicate preference for vegetarian/non vegetarian lunch.

AROUND THE OFFICE

We have scheduled several information tables for life this fall: the monthly mall table at SunValley Mall in Concord, September 11 we will be at the Archdiocese of San Francisco Respect Life Conference, and November 13 we will be in Santa Rosa, along with several other opportunities which haven't been finalized.

On August 28, and planned for September 18, at Sun Valley Mall in Concord the teenagers were drawn to our fetal models and very open to our message. Our emphasis at these mall tables has recently been stem cell research education and our abstinence program, along with our ongoing fetal development and respect

for all life from fertilization to natural death. Each day we talk to 50-100 people of all ages. The primary pamphlet we hand out, is an eight-fold color glossy pamphlet "What they never told you about the facts of life" cost 75 cents each... Perhaps you would consider a donation for 10 copies.

With the start of the school year we are already receiving calls from students beginning their semester projects, from term papers to speeches. Most students tell us they found us through our enhanced website. A special thank you to Mary and Cliff Price who donated many hours this past summer to update our website.

Recently we received a number of new pamphlets from American Life League, one on each of the major methods of birth control and abortion methods. If you would like a set of these pamphlets to review and possibly share with your family and friends, please contact this office.

Our speakers are available for classroom talks, civic groups and other venues. Contact our office if you have an interest in one of our speakers... perhaps a gathering of your friends or church group to discuss stem cell research to educate the general public before the upcoming election? (Cecelia did a lot of research for the lead article and is eager to share more of her research!)

As always, a special thanks to our donors... we couldn't do it without you. Right now our pro-life supply budget is over \$150 a month to replenish pamphlets and purchase an occasional book for our library. Even a few dollars helps offset this expense. If you would like any pamphlets, bumper stickers or other materials to share with your friends, contact this office and we will try and find the perfect literature for your needs.

WHO IS CALIFORNIA RIGHT TO LIFE?

This is the newsletter of California Right to Life Education Fund, a 501-c-3 organization established to educate the public about pro-life issues. We are an affiliate of the American Life League, headed by Judie Brown. Donations to us are tax-deductible and can be sent to P.O. Box 4343, Walnut Creek, CA 94596-4343.

California Right to Life Committee, Inc. is a 501-c-4 organization providing information on legislative issues affecting the right to life; and pro-life political advocacy. CRLC, Inc. is not permitted, under IRS regulations, to offer a tax deduction for donations. \$24.99 annually is requested for a subscription to the CRLC legislative email updates list and can be sent to 1920 Monument Blvd #309, Concord, CA 94520.

Both share the same "no-exceptions" beliefs and the same dedication to promoting the Culture of Life, respecting all innocent human life from the single-cell stage to natural death.

United Way and the Combined Federal Campaign is coming soon. Please remember California Right to Life Education Fund in your payroll deduction donations. Contact this office if you have any questions. This is one of our major sources of funding.