Adult Stem Cell Treatments

Nine Faces of Success

FAMILY RESEARCH COUNCIL
Washington, DC

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Tony Perkins

President
Family Research Council

ADULT STEM CELL TREATMENTS - NINE FACES OF SUCCESS
BY WILLIAM L. SAUNDERS, JR. AND DR. DAVID PRENTICE
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Nine Faces of Success

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Introduction

The political battles raging in Congress and in state legislatures over whether or not to destroy human embryos in order to get embryonic stem cells have obscured an important fact. There is one kind of human stem cell research that everyone can and should support – that involving **adult stem cells**. Many scientists feel that these adult stem cells, which can be found throughout the human body, even in infants, are the real hope for the future.[1] Signifcantly, *embryonic stem cell research has not yet yielded a single successful human treatment*. (Nor, it should be noted, has there been major success in *any animal* model to date). Adult stem cells, on the other hand, have been improving lives and treating living, breathing human beings suffering from *over seventy* different diseases. (See the end of this pamphlet for a complete list as of the fall of 2006).

Adult stem cells are helping people even as you read this article. There are currently over 1100 FDA approved clinical trials going on in the United

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States using adult stem cells. There are none for embryonic stem cells.[2] The following are a few of the success stories of people who have been helped by adult stem cell therapies. We invite you to read these stories and meet a small number of the thousands of people being treated by adult stem cell research.

Case Studies

Abby Pell

When **Abby Pell** was born in 2004, she was diagnosed by doctors with **anoxic brain injury**, caused by a lack of oxygen to her brain during delivery. Her mother was told that there were no effective treatments available. She decided to seek treatment using her daughter's umbilical cord blood which she had stored with the Cord Blood Registry.[3] Doctors at Duke University performed the first transplant when Abby was only four months old. Abby's mother reports after three infusions, "According to her physical therapist, Abby has made huge strides in the past year, playing with toys appropriately and extending her arms to touch things. She is learning balance. She is blowing raspberries, which is an indication that Abby is gaining oral motor control, which is imperative for speech. She is taking the physical journey toward walking."[4]

Jacki Rabon, 18, from Waverly, IL was injured in a car accident in 2003 and her doctors told her that she would never walk again. Rabon's family heard about Dr. Carlos Lima's success in Portugal after their pastor saw a PBS special on the olfactory mucosa transplant. The Rabons turned to the Waverly community, which helped them raise the necessary

Jackie Rabon

$47,000. In October 2005, Rabon and her mother traveled to Portugal. Since the procedure, Rabon reports increased sensation and feeling. She is hopeful that intense rehabilitation will help her get the maximum benefit out of her surgery. "I'm still really against abortion, so I'm not for embryonic stem cell therapy. But anything else that doesn't involve killing a baby is great," Rabon said. "I think they should do [olfactory transplantation] in the States because it's just from my own body."[5]

Ryan Schneider

Cord blood treatment, performed at Duke University, was done on **Ryan Schneider** who was diagnosed with **cerebral palsy** when he was two years old. His mother had his cord blood stored when he was born, and this was used in a transplant. One year later, Schneider's symptoms have virtually disappeared.[6]

David Foege

David Foege was told by his doctors that he would soon need hospice care for his failing heart. He sought out alternative therapies and traveled to Thailand to be treated with his own adult stem cells. After only 88 days, Foege reported a 50% increase in heart function.[7]

At the tender age of four months, **Anthony Dones** was diagnosed with a very rare and typically life-ending genetic bone disorder known as **osteopetrosis**. With this disease, the soft bone marrow is replaced with (hard) bone, eventually resulting in death. Distraught but determined, his parents took Anthony's doctors' advice and began looking for an umbilical cord blood match. Given his fragile condition and the need for quick action, they chose to test the therapeutic potential of adult stem cells from umbilical cord blood. Within a week, a donor was found from a cord blood "bank." Anthony underwent chemotherapy to remove his own bone marrow prior to transplantation. Just five months after birth, Anthony underwent the cord blood stem cell transplant and has been improving steadily ever since.[8]

Anthony Dones with his father

Dennis Turner

In 1999, **Dennis Turner** was successfully treated for **Parkinson's Disease** with his own adult neural stem cells by Dr. Michael Levesque, M.D. At the Annual Meeting of the American Association of Neurological Surgeons in 2002, Dr. Levesque described how Turner's symptoms were reduced by more than 80%.[9] According to Turner, "Soon after having the cells injected my Parkinson's symptoms began to improve. My trembling grew less and less, until to all appearances it was gone, only slightly reappearing if I became upset. Dr. Levesque had me tested by a neurologist, who said he wouldn't have known I had Parkinson's if he had met me on the street. I was once again able to use my right hand and arm normally, enjoying activities that I had given up hope of ever doing."[10] Because of the treatment he received, Turner was able to travel to Africa to go on a safari and photograph wild animals in their native environments.

Stephen Sprague, 57, another cord blood transplant receipient and **leukemia** survivor says, "The concern I have . . . is that the patient community has received a lot of promises about the 'other' stem cells. There is a frenzy out there about all the

Stephen Sprague

'cures' that embryonic stem cells are going to give them 'tomorrow.' And we all know that that's not the case. I would hope that . . . with good reason and good judgment, you'll see more and more advances in adult stem-cell technology — and time and effort and resources won't be diverted for chasing the other cures, while you have ones that are working."[11]

In the spring of 1998 **Sara Rudolph**, a high school sophomore, was diagnosed with **acute myelogenous leukemia**, a cancer of the blood. Sara was told that she had a fifty-percent chance of survival.

Sara Rudolph

Thankfully for Sara, her brother's bone marrow contained stem cells that were a match for his sister. If the doctors used these **bone-marrow stem cells,** Sara was told that her chances for survival increased to seventy percent. Following months of difficult treatment, Sara's leukemia went into remission; she was able to produce her own white blood cells. Sara is now happily married, with no further signs of the disease.

She has written about her experience in "How Adult Stem Cells Saved My Life: A Personal View of the Stem Cell Debate."[12] Sara says, "The gift of life is far too precious to waste our resources on lost causes. Instead, we must preserve the threatened lives of children and adults by furthering adult stem cell research. My cure has already come. Cures for many other illnesses are surely just around the corner." She continues, "The real distinction between adult stem cell research and embryonic stem cell research is found in the division between life and death. Adult stem cell research allows for living human beings to make a life-giving gift. Embryonic stem cell research destroys human life with no hope of saving another. Investing our time, money, and scientists in such research seems absurd when the promising field of adult stem cells is readily available."

There have also been documented cases of patients suffering from **sickle cell anemia** being successfully treated with cord blood transplants, beginning with **Keone Penn** in 1998. Adult stem cells from do-

nated cord blood successfully replenished Keone's blood with healthy cells. Today Keone has been deemed cured of his disease. "I love stem cells," he says. "I mean they saved my life. If it weren't for them…I probably wouldn't be here today."[13]

Keone Penn, at left, and other children who have been helped with cord blood stem cell treatments in October 2005. Supporters of cord blood cell research, Congressman Chris Smith (R-NJ) and Artur Davis (D-AL), and basketball great, Julius Irving, stand behind them.

Conclusion

Keone Penn's sickle cell anemia was treated with cord blood stem cells, while Jacki Rabon's spinal cord injuries were treated with nasal stem cells. In fact, in just the nine stories presented herein, adult stem cells provided successful treatments for Parkinson's Disease, cerebral palsy, leukemia, osteopetrosis, anoxic brain injury, spinal cord injury, heart damage, and sickle cell anemia.

The stories you have read are just a few of the many examples of the success of adult stem cells in treating over 70 different diseases and injuries. Unlike embryonic stem cells, *which have not been used in a single human clinical trial*, adult stem cells have already shown major accomplishment in the treatment of human beings. It is critically important that this research be promoted and continued. (For citations to the current studies, please see FRC's web site at www.frc.org).

Stem Cell Scoreboard:

Adult Stem Cells Success Cases

Embryonic Stem Cells Success Cases

Adult Stem Cells have been used in the successful treatment of . . .

Cancers:[14]
- Brain cancer
- Breast cancer
- Ovarian cancer
- Skin cancer: Merkel Cell Carcinoma
- Testicular cancer
- Hodgkin's Lymphoma
- Juvenile Myelomonocytic Leukemia

Auto-Immune Diseases:[15]
- Crohn's Disease
- Rheumatoid Arthritis
- Juvenile Arthritis
- Multiple Sclerosis

Cardiovascular:
- Acute heart damage
- Chronic Coronary Artery Disease

Ocular: Corneal regeneration

Immunodeficiencies:[16]
- Severe Combined Immunodeficiency Syndrome

Neural Degenerative Diseases And Injuries:
- Parkinson's Disease
- Spinal cord injury
- Stroke damage

Anemias And Other Blood Conditions:[17]
- Sickle Cell Anemia
- Chronic Epstein-Barr Infection

Wounds And Injuries:[18]
- Limb gangrene
- Surface wound healing

Other Metabolic Disorders:[19] Osteopetrosis

Liver Disease:
- Chronic liver failure
- Liver Cirrhosis

Bladder Disease: End-stage bladder disease

Embryonic Stem Cells have been used in the successful treatment of . . .

Still waiting for the first one. . .

Footnotes

1 For a more complete discussion of the issues addressed in this introduction, see FRC's Adult Stem Cell Success Stories – 2006, available at www.frc.org

2 Clinicaltrials.gov, August 1, 2006. Accessed at: http://www.clinicaltrials.gov/ct/search?term=stem+cell

3 The Cord Blood Registry is a private company operating in the U.S. and over sixty countries. Cord blood is a rich source of adult stem cells, but is normally discarded with the placenta and umbilical cord. The Cord Blood Registry collects the cord blood after an infant is born and stores it in case of future need. For more information see: http://www.cordblood.com/index.asp

4 Pell, Cathy, "Cathy and Abby's story," transcript of speech given at A Toast to Adult and Cord Blood Stem Cells hosted by the Family Research Council, Do No Harm Coalition, and the U.S. Council of Catholic Bishops; June 20, 2006. Accessed at: http://www.stemcellresearch.org/testimony/20060620_receptionprog.htm

"Abby's Story," Cord Blood Registry: Real People, Real Stories, 2006. Accessed at: http://www.cordblood.com/cord_blood_banking_with_cbr/realpeople_realstories/abbypell/index.asp

5 Roach, Erin, "Adult stem cell surgery may have teen walking again soon," *BP News*, April 10, 2006. Accessed at: http://www.bpnews.net/bpnews.asp?ID=23011

Olsen, Dean, "Illinois woman undergoes experimental stem-cell surgery in Portugal," *The Paramus Post*, March 24, 2006. Accessed at: http://www.paramuspost.com/article.php/20060324084315279

6 "Ryan's Story," Cord Blood Registry: Real People, Real Stories, 2006. Accessed at: http://www.cordblood.com/cord_blood_banking_with_cbr/realpeople_realstories/ryan/index.asp

7 "A Toast to Adult and Cord Blood Stem Cells," Yahoo.com Press Release, June 20 2006. Accessed at: http://biz.yahoo.com/prnews/060620/nytu074.html?.v=55\

8 http://www.nationalcordbloodprogram.org/patients/patientdones.html

9 Levesque M and Neuman T, "Autologous Transplantation of adult human neural stem cells and differentiated dopaminergic neurons for Parkinson disease: 1-year postoperative clinical and functional metabolic result," American Association of Neurological Surgeons Annual Meeting, Abstract #702; April 8, 2002.

10 Testimony of Mr. Dennis Turner, delivered at a hearing held by the United States Senate Subcommittee on Science, Technology, and Space on July 14, 2004. Accessed at: http://www.stemcellresearch.org/testimony/turner.htm

11 Winn, Pete, "Brownback Wants Senate to Debate Bioethics before Stem-Cell Vote," CitizenLink, June 21, 2006. Accessed at: http://www.family.org/cforum/extras/a0040979.cfm

12 http://www.frc.org/get.cfm?i=PV04G02.

13 "60 Minutes II: Holy Grail," CBS News, June 5, 2002. Accessed at: http://www.cbsnews.com/stories/2001/11/28/60II/main319351.shtml

14 In addition, Adult Stem Cells have been used in the successful treatment of other cancers:

Retinoblastoma
Tumors Abdominal Organs Lymphoma
Non-Hodgkin's Lymphoma
Acute Lymphoblastic Leukemia
Acute Myelogenous Leukemia
Chronic Myelogenous Leukemia
Chronic Myelomonocytic Leukemia
Cancer of the lymph nodes: Angioimmunoblastic Lymphadenopathy
Multiple Myeloma
Myelodysplasia
Neuroblastoma
Renal Cell Carcinoma
Soft Tissue Sarcoma
Various solid tumors
Ewing's Sarcoma
Waldenstrom's Macroglobulinemia
Hemophagocytic Lymphohistiocytosis
Poems Syndrome
Myelofibrosis

[15] In addition, Adult Stem Cells have been used in the successful treatment of other auto-immune diseases:

Systemic Lupus
Sjogren's Syndrome
Myasthenia
Autoimmune Cytopenia
Scleromyxedema
Scleroderma
Behcet's Disease
Polychondritis
Systemic Vasculitis
Alopecia Universalis
Buerger's Disease

[16] In addition, Adult Stem Cells have been used in the successful treatment of other immunodeficiencies:

X-Linked Lymphoproliferative Syndrome
X-Linked Hyper immunoglobulin M Syndrome

[17] In addition, Adult Stem Cells have been used in the successful treatment of other anemias and blood conditions:

Sideroblastic Anemia
Aplastic Anemia
Red Cell Aplasia
Amegakaryocytic Thrombocytopenia
Thalassemia
Primary Amyloidosis
Diamond Blackfan Anemia
Fanconi's Anemia

[18] In addition, Adult Stem Cells have been used in the successful treatment of other wounds and injuries:

Jawbone replacement
Skull bone repair

[19] In addition, Adult Stem Cells have been used in the successful treatment of other metabolic disorders:

Hurler's Syndrome
Osteogenesis Imperfecta
Krabbe Leukodystrophy
Cerebral X-Linked Adrenoleukodystrophy

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The Family Research Council champions marriage and family as the foundation of civilization, the seedbed of virtue, and the wellspring of society. We shape public debate and formulate public policy that values human life and upholds the institutions of marriage and the family. Believing that God is the author of life, liberty, and the family, we promote the Judeo-Christian worldview as the basis for a just, free, and stable society.

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Partial-Birth Abortion on Trial

BC05K02

William Saunders and Cathy Cleaver Ruse present excerpts from the testimony given by abortionists in one of the federal trials on the Partial-Birth Abortion Ban Act of 2003. This pamphlet is nothing less than a collection of admissions by the abortion industry, under oath, about the reality of abortion.

Suggested Donation $1.50

Human Cloning and the Abuse of Science **BC04J01**

Written by FRC bioethics experts William Saunders and Dr. David Prentice, this incisive pamphlet provides an overview of the process of cloning and powerfully shows how the use of human life in that process is a profound abuse of science.

Suggested Donation $1.50

Stem Cells: Beyond Hype to Real Hope (DVD) **DV06I03**

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