

# DIGNITAS

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## NIP & TUCK: A PARABLE

BY HANS MADUEME, MD, RESEARCH ANALYST

Mirror, mirror, on the wall,  
Who in this land is fairest of all?  
— The Queen in *Little Snow-White*

Incredibly perhaps, there are people out there who are still ethically nervous or worried about cosmetic surgery. We live in a modern world that is trying to democratize beauty with the assistance of the scalpel. We lust after the holy grail of ageless youth. Those unschooled in this brave and beautiful new world find it all strange, even morally noxious.

But why is that? Cosmetic surgery for many elicits an unbidden, irresistible reaction of repugnance. The growing reality of nose jobs, breast and pectoral implants, buttock lifts, and liposuctions – it appalls and disturbs. In a different context, Leon Kass popularized the notion of the ‘wisdom of repugnance.’ This negative response or ‘yuck factor’ is a strong intuition that something is wrong or morally amiss. Folks who worry about Botox rituals discern the stink of ethical death in the cultural air. Their repugnance is an ethical gatekeeper, a barometer of all things pernicious to genuine human flourishing: This far you can go, and no further.

It is worth asking, however, whether this custodial ethical wisdom has anything going for it. To many the issue seems simple enough – we do not need the nuance of philosophers to realize that cosmetic surgery goes against the grain of what nature and her God have granted us. Few will chastise parents who warn their children against the surgical woes of the recently deceased pop star Michael Jackson. This seems obviously wrong. Likewise, the antics of a Jocelyn Wildenstein can be easily dismissed, her face a shocking specter of multiple surgeries. Yes, something has obviously gone awry.

And yet, none of this establishes a case against cosmetic surgery itself. We have hunches and intuitions, even extreme examples, but is there more? Well, suppose we say that cosmetic surgery falls beyond the pale of ethical orthodoxy. Suppose our reasoning tells us that it is unnatural. What then shall we say, for instance, of tweezing eyebrows? Are there any plausible differences between these two cultural practices? Or what shall we say about that (almost) universal Western practice of using antiperspirant? These choices are all, in a way, going against nature and her God—they are ‘unnatural.’

Not so fast, you say. There is a significant difference between tweezing eyebrows and cosmetic surgery. Tweezing eyebrows is temporary; cosmetic surgery is permanent. In the one, nothing irreversible is done, a negligible price paid for aesthetic effect. In the other, desperate measures have been deployed; cosmetic surgery permanently changes the hand we have been dealt. Nature has been cheated. The moral logic here seems to be that the ethical difference between cosmetic surgery and tweezing eyebrows turns on duration of effect. Temporary is good, permanent is bad. But then, what are we to say about children post-appendectomy, or men with hip replacements, or women minus their wisdom teeth? Do they deserve ethical condemnation? Surely not.

So then, is the original reaction of repugnance to cosmetic surgery so much ethical smoke and mirrors? Must we all simply fess up and admit there is really no legitimate criticism after all? In response, we might make a distinction between treatment and enhancement. The thought goes roughly like this. There needs to be more ethical clarity on the legitimate boundaries of

modern medicine. Since medicine is becoming much more technologically powerful, we need to specify carefully what medicine ought and ought not to be doing. Therefore, whenever medicine is involved in the treatment of disease, its use is ethical; but whenever it is involved in enhancement, its use is ethically suspect. Plastic surgery for the reconstruction of a burn victim's limb is okay (treatment), but cosmetic surgery for a chin tuck is wrong (enhancement).

If only things were so easy. But the world is bursting with ethical and moral complexity—you cannot escape real life indefinitely! The distinction between treatment and enhancement, it turns out, is not always clear-cut. There are countless things we do every day that are ‘enhancements,’ and yet we typically do not consider them morally objectionable. And so, the argument goes, it is difficult to inveigh against cosmetic surgery while endorsing something as commonplace as, say, makeup or perfume. The question is whether finding fault with cosmetic surgery is merely an instance of special pleading. Such observations do not ultimately render the treatment vs. enhancement distinction worthless, but it may need assistance from elsewhere.

There is another dimension to all this, however, drawing from virtue ethics in the Christian tradition. In short, ‘hip & tuck’ culture can serve as an old-fashioned moral parable. Cosmetic surgery is a relatively new technology, one that allows us to gratify old desires in new, more effective ways. The moral narrative here is certainly about beauty and covetousness, vanity and denial. But it is perhaps broader and deeper than that. It is about men and women, about us. You and I are frail creatures, wearied by the relentless punishments of life, dissatisfied with our lot, restless and often inconsolable, searching after something beyond us. There is an insatiable longing in our hearts, a yearning for meaning, for transcendence, for fulfillment. What are we after? What do we want? What are we willing to do to get it? Like the practiced fingers of a surgeon, these questions peel away our polished masks, revealing our true selves, our real identities. From wearing makeup to choosing friends, from buying a house to considering liposuction, life in its ordinariness, life in its spiritually charged imperfections and sufferings, reveals the kinds of people we are and are becoming. Botox culture vividly reminds us, if we are listening, that we are men and women with longings, loves, and lords. We are in fact in the full swing of a theological drama: our lives are irreducibly religious, and it is the living God of Jesus Christ with whom we have to do (cf. Acts 17:28). We will worship something – God or paltry idol. Cosmetic surgery is just the tip of the iceberg. Look deeper and you will find our vices and virtues, our hearts and our gods.

Given the growing culture of cosmetic surgery and gnawing worries about what it portends, a typical reaction to surgical beauty junkies might be, ‘You’re all going to hell!’—or variations on that theme. Such an outlook is fair game as a theological judgment, though its scope is unduly restricted. Since cosmetic surgery and other enhancement technologies tend pedagogically to illuminate our universal ethical condition, our present moral predicament, it should suggest more democratically that all of us are going to hell. That prospect of weeping and gnashing of teeth is sobering indeed, terrifying and anxiety ridden, unless someone saves us from ourselves.



## from the director's desk

BY MICHAEL J. SLEASMAN, PHD  
Managing Director & Research Scholar

Warm greetings from the Center. I am pleased to announce that this will be my last *Director's Desk* piece as I hand over authorial responsibility for this column to our new Executive Director, Paige C. Cunningham, JD. (See inside for additional information about Paige's appointment as well as an interview of her by Courtney Beasley, CBHD Communication Intern.) I, on the other hand, am glad to return to my official duties with the Center helping to run the daily operations and to provide leadership for the Center's research agenda.

Along with announcing the appointment of our new Executive Director in this issue, we are excited to unveil our new logo and the long anticipated redesign of *Dignitas*. This expanded template creates additional space for us to bring a wider variety of print based resources to you through this quarterly communication.

While we have much to celebrate in the work of the Center with the addition of several new staff members over the past few months, the march of bioethical concerns continues. With the release of NIH guidelines concerning embryonic stem cell research, the dismissal of the entire President's Council on Bioethics on grounds that it was too philosophical and not focused enough on practical recommendations, the recent move in New York to approve payments for human eggs to be used for research purposes, and the high profile focus on healthcare reform, it has never been more important to be actively informed and involved in the pressing bioethical issues of our day. This issue of *Dignitas* seeks to raise awareness of several important conversations in the field, from the questions arising from the excesses of a nip/tuck culture to creating better public awareness surrounding cord blood. Hans Madueme, MD, offers a commentary on the ethical complexities in dealing with physical enhancements. We continue our recent emphasis on student interns and insights that they have gleaned from their time at the Center, as well as to bring highlights from our fellows and staff. There is also the second installment of our article recommendations. For the purposes of creating better awareness, we also include an informational piece by Research Assistant, Kirsten Riggan on "Cord Blood Stem Cells." Given the morally unquestionable promise and benefits of cord blood stem cells, the Center hopes that this information will encourage you, our readership, to become more active in spreading the word about the significant value of this material previously discarded as medical waste. As always, we appreciate your comments and suggestions (info@cbhd.org).

Finally, for our members we have included some newly expanded benefits of membership. In addition to CBHD event discounts and your annual subscription of *Ethics & Medicine*, we have secured discounts for several professional journals including *Christian Bioethics* and *The Journal of Medicine and Philosophy*. An additional journal discount will be made available to members in the next issue of *Dignitas*. Beyond these select discounts we continue to look for ways to increase the value of CBHD membership benefits and are grateful for the ongoing partnership with our members. Membership is on a calendar year basis, and we will begin our 2010 membership campaign in the coming months. If you have any questions regarding membership please contact us at membership@cbhd.org.

Sincerely,

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# A STRATEGIC ADDITION TO THE CENTER'S TEAM

BY COURTNEY BEASLEY, INTERN '09

## The Announcement

After an exhaustive search, Paige Comstock Cunningham, J.D. (MA Bioethics '04) has been appointed as executive director of The Center for Bioethics & Human Dignity. "Ms. Cunningham's expertise and more than twenty years' experience as an attorney, educator, church member, public servant, and leader in human dignity and bioethical issues will serve TIU well," noted Trinity President Craig Williford. "Her passion for the church and the scholarly world will provide an excellent platform for leading our center."

Having served in various roles at Americans United for Life, including president and chairman of the board of directors, Paige Cunningham has a passion for engaging the culture. She has already invested in the next generation of leaders as an adjunct faculty member at Wheaton College, Trinity Law School, and Trinity Graduate School. Interim Dean of Trinity Graduate School Joyce Shelton appreciates Paige's academic and professional background: "As a seasoned teacher in the MA Bioethics program, she brings strong commitment to education, enhanced by her experience with engaging critical bioethical issues in the public arena."

Paige envisions a strong future for CBHD: "The work of CBHD as a 'thought center' is more relevant than ever. CBHD is a resource for decision-makers that is strategically focused on research and scholarship in bioethical issues. We have an obligation to pursue truth as it pertains to respecting the dignity of each human life."

"CBHD has an enviable track record in anticipating cutting edge moral questions in science, medicine and technology. I am committed to continuing this much-needed area of inquiry. CBHD will pursue 'scholarship with a purpose.' By this I mean the essential combination of empirical research, ethical and theological reflection, and practical application for the bioethical questions we encounter at the bedside and in everyday life. This will benefit individuals, churches in the evangelical tradition, and the broader bioethical conversation."

## Additional Reflections on Paige's Appointment

The Center for Bioethics & Human Dignity (CBHD) is pleased to welcome its new executive director, Paige Comstock Cunningham, JD.

Paige has been affiliated with the Center since 1995 when Nigel Cameron, CBHD co-founder and Advisory Board chair, invited Paige to join the Advisory Board. At the time, Paige was President of Americans United for Life (AUL), a public interest law and education organization. Her most recent role with CBHD is as a Senior Fellow, which she'll relinquish when she steps into the Executive Director's slot. Additionally, she has served as an adjunct faculty member on Trinity International University's



(CBHD's parent organization) Deerfield campus for the MA Bioethics degree and with Trinity Law School in Santa Ana, California. Cunningham comes to the Center with a passion to raise the level of scholarship and empirical research in bioethics and biotechnology.

"We need top-level thinking on issues such as the selling of human eggs, cosmetic enhancements, and life extension technologies," said Paige. She added that "we must translate the serious thought work into usable guidance for people who are actually making decisions on these tough subjects." She believes that CBHD has a mission to serve both the evangelical community and the broader bioethical conversation.

Cunningham's educational and experiential background in law, public policy and bioethics give her a solid foundation from which to work. She developed a desire for juvenile justice while completing a high school project on child abuse. She pursued this passion by attending law school, and in 1982 she completed her Juris Doctor (JD) at Northwestern University School of Law. Since receiving her JD, she has given legal testimony on the subjects of abortion and protection for the viable fetus. Although not pro-life when she started law school, Cunningham dug into the issue when she was asked to join a local chapter of Christian Action Council (the predecessor of CareNet).

"The evidence was clear," said Paige who saw abortion as a matter of basic civil rights. "An entire class of human beings—the unborn—had been written out of the Constitution."

Since then, Cunningham completed her MA in Bioethics from Trinity in 2004. She has had numerous appearances on radio and television broadcasts, and has been quoted in national print media. Cunningham has contributed book chapters and many articles on the topics of law, public policy and bioethics. Assisted reproduction and beginning of life concerns are her particular interest, but she also admits to delving into the topics of gene patenting, genetic privacy, and the ethics of enhancement.

Cunningham believes that the rapid development of technologies confronts us with serious ethical challenges.

"Most of these technologies will raise hard issues that most people do not want to touch, and it might mean uncomfortable personal decisions."

Cunningham feels that ultimately the debate must settle who counts as a member of the human family and decide what it means to flourish as a human being. Given her long-standing experience with bioethics and her familiarity with CBHD, she is ready to join the outstanding CBHD team.

## CENTER STAFF UPDATE



JEN MILLER, MA ,DIRECTOR OF DEVELOPMENT

Hello fellow bioethics enthusiasts. I would like to warmly introduce myself as the Director of Development for CBHD. While I am new to the Center's staff, I am no stranger to the work of CBHD. As a graduate of the dual degree program at Trinity International University, I earned both my Bachelor's degree in Biology/Pre-Med and my Master's degree in Bioethics. In fact, I was drawn to Trinity because of this unique degree offering and the great asset of having the Center in such close proximity. Going to CBHD's summer conferences, along with receiving the Center's literature and interacting with a number of our fellows, proved to be pivotal to my education at Trinity and fueled my interest in bioethics.

What draws me to bioethics is the amalgamation of science with philosophy and theology. The value and dignity of human life is something that I am very passionate about. I believe it is woven into our genetics and present from the first days of our creation. Within this subject, my particular areas of interest lie mainly with reproductive ethics and stem cell research. The first book I ever read on bioethics was the Center's volume, *The Reproduction Revolution*, edited by John Kilner, Paige Cunningham, and W. David Hager. This book did a great job of addressing issues that are pressing in our society today and pauses to think about the ethical ramifications of moving forward with new technologies. Among other things it raised the perennial question "Does the 'can' of being able to do something imply the 'ought' that we should indeed do it?"

I believe that these issues will become even more pressing in the days to come. There is still much work to be done and none of this will happen without the funds to make it possible. I look forward to working with our faithful donors and also finding new individuals to come on board and join us in the work we are doing.

One new program I am launching this year is "Bioengagement Partners." You may be familiar with "President's Inner Circle" at Trinity, but I wanted to offer our top donors a group more tailored to their interests and affinities. Bioengagement Partners are our faithful supporters who give \$1,000 or more in a fiscal year (July 1 – June 30). Bioengagement Partners will be invited to special events, receive exclusive updates and reports and are recognized in our annual report. I hope

that this is just one of many things I can put in place to better serve our donors!

I am excited to join the work of the Center and invite you to partner with us as well. Together we can impact our culture, and on some scale – the world!

### [ BIOENGAGEMENT PARTNERS ]

Consider becoming a Bioengagement Partner, one of our faithful supporters who give \$1,000 or more in a fiscal year (July 1 – June 30). Support can be given to the Center, the Master's in Bioethics program, or to the general Bioethics at Trinity fund. Bioengagement Partners are invited to special events, receive exclusive updates and reports and are recognized in our annual report at the following levels:

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## REFLECTIONS ON FIELD EDUCATION

### NANCY HODGES, ADULT EDUCATION INTERN '08

Christian Ethics: This subject engaged my studies for my Master's Degree at Trinity Evangelical Divinity School last summer. While investigating the ideas, processes and outcomes inherent to spiritual formation, I also began to explore how spiritual formation reflected on a person's Christian ethics. My adult field education with CBHD offered the opportunity to combine both these interests in a specific study.

Meeting with Dr. Michael Sleasman for approximately 12 weeks allowed me to examine how the Bible informed the ethical decisions we make. Our initial discussions examined core theological concepts, while our later philosophical conversations focused on virtue theory along with how philosophical and theological thought complement each other. Of particular interest to me was how postmodern world views and contemporary society shape our moral thinking and subsequent actions.

As practicing Christians, we live out an everyday theology of ethics, which makes this subject more than a theoretical study or mere conceptual dilemma. Our values determine our actions, work relationships, and activities, and in some cases even life and death decisions. These decisions involve bioethical issues often portrayed in the medium of film, or modern movies. The primary focus of my field education was to create a high school or adult education curriculum using the genre of film that included ethical concepts that were grounded in theological reflection.

The purpose of this material develops the participant's articulation and discussion of their mores revealing their belief systems. When we included information on spiritual formation and the importance of transformation into the likeness of Christ, these discussions

As a Trinity Evangelical Divinity School graduate of the MA in Christian Thought, Christianity and Contemporary Culture/Bioethics program, I have taken numerous bioethics courses which have led me to believe that as we look to the future there are few more pressing concerns for Christians, and humanity as a whole, than those that are raised by bioethics and emerging biotechnologies. Given that background, I was delighted to learn of an opportunity to serve as a media intern with CBHD.

Among a variety of other tasks with The Center for Bioethics & Human Dignity I had the opportunity to learn and practice a little bit of web design. It was fascinating to see what lies behind an everyday webpage. There is a huge network of information that we normally see as just a bunch of text, highlighted links, or graphics. While pondering this relationship of a simple foreground set atop a complex background, I was struck by just how important the efforts of all those involved with CBHD are.

provided the participants with the chance to grow closer into a likeness of Christ, enhancing their personal relationship with Him.

Since our "being" influences our actions—within individual faith, the ecclesial community, and evangelistic outreaches—these ethical discussions play a crucial role in life. This culminated for me with participation in CBHD's conference, "Healthcare and the Common Good." Currently employed as a small business owner, healthcare issues affect me from a business perspective. My business-attuned eyes were opened to the challenges facing our healthcare professionals who strive to practice medicine while holding strong Christian principles.

I left the conference convinced that healthcare solutions could only be resolved through Christian leadership from every sector: health providers, insurance companies, businesses and government. Each sector ruminating on these issues allows for a synergistic outcome that can optimize any one solitary decision based on a singular viewpoint. The valuable CBHD leadership needs to be applauded for confronting this dilemma.

As Christians, we want to live a life in discipleship to Jesus Christ, letting our actions speak by living out our faith. Our goal is for Christian ethics and values to be ingrained in our everyday world where the Word of God bears on every aspect of each moral decision we make. We must live as a "city on a hill" (Matthew 5:14), where decisions embody the words we hold dear. I am thankful for the opportunity to work with Dr. Sleasman and CBHD because this work has been instrumental in shaping my ethical mores in our contemporary world, and has led me to continue my doctoral studies in Business Ethics.

### JOEL EHRLICH, MEDIA INTERN '08

We are increasingly confronted by a barrage of bioethical issues in the newspaper and on television. Unfortunately the issues are often presented with brevity and an agenda that makes it difficult to see the ethical complexities that underlie in vitro fertilization, stem cell research, transhumanism, nanotechnology, etc. These issues have serious implications both good and bad for people of all ages, all walks of life, and living all around the globe.

CBHD provides a unique forum for substantive research, rigorous ethical reflection, and practical information. These resources allow the rest of us to not only see the link 'Stem Cell Research' but to click on it knowing that decisions we must make about bioethics in the 21<sup>st</sup> century will be better made and biblically grounded because of the many years of dedication by CBHD.

To all the staff—thanks.



# CORD BLOOD STEM CELLS

BY KIRSTEN RIGGAN, RESEARCH ASSISTANT

## WHAT ARE THEY?

Umbilical cords have traditionally been viewed as disposable biological by-product. Cord blood, however, is rich in multi-potent hematopoietic stem cells (HSCs). Recent medical advances have indicated that these stem cells found in cord blood can be used to treat the same disorders as the hematopoietic stem cells found in bone marrow and in the bloodstream but without some of the disadvantages of these types of transplants. Cord blood is currently used to treat approximately 70 diseases including leukemias, lymphomas, anemias, and Severe Combined Immunodeficiency (SCID). Six thousand patients worldwide have been treated with cord blood stem cell transplants, although the FDA considers the procedure to be experimental. These multipotent stem cells also show promise for the treatment of a variety of diseases and disorders other than those affecting the blood.

## USE OF CORD BLOOD IN TRANSPLANTS

Up to 180 mL of blood can be taken painlessly from an umbilical cord for use in stem cell transplants. Due to the experimental nature of cord blood transplants, such transplants are considered on a case-by-case basis. This blood is collected from the umbilical cord, processed,<sup>1</sup> and cryogenically preserved shortly after the umbilical cord is clamped. This blood can be cryogenically preserved for public or private (family) use. Public registries store cord blood donated for availability to the general public for transplantation. Private registries store cord blood on behalf of families who wish to use this blood for the donor infant, siblings, or other family members. Private cord blood banks charge a collection fee (ranging from \$1,000-2,000) and an annual storage fee (approximately \$150 per year).

The Stem Cell Therapeutic and Research Act was passed in 2005, which supports building a public reserve of 150,000 cord blood units from ethnically diverse donors in order to treat more than 90% of patients in need of HSC transplants. Donors from ethnic minority patients are particularly in need due to the greater variation of HLA-types in non-Caucasian ethnicities. Thirty-five percent of cord blood units go to patients of diverse ethnic backgrounds.

## WHAT ARE THE ADVANTAGES?

Cord blood does not have to be as closely matched as bone marrow or peripheral blood transplants. Bone marrow transplants typically require a 6/6 HLA match. While a closely matched cord blood transplant is preferable, cord blood has been transplanted successfully with as few as 3/6 matches. For patients with uncommon tissue types, cord blood may be an option if a suitable adult donor cannot be found. Since cord blood is cryogenically preserved and stored, it is more readily available than bone marrow or peripheral blood from an unrelated donor, allowing transplants to take place within a shorter period of time. It takes approximately two weeks to locate, transfer, and thaw a preserved cord blood unit. Finding a suitable bone marrow donor typically takes at least two months.

Graft-versus-host disease (GVHD) is a common complication after an allogeneic transplant (from a source other than the patient) where the patient's immune system recognizes the cells as "foreign" and attacks the newly transplanted cells. This can be a potentially life threatening complication. The risk for developing GVHD is lower with cord blood transplants than with marrow or peripheral blood transplants. Patients who do develop GVHD after a cord blood transplant typically do not develop as severe of a case of GVHD. Cord blood also is less likely to transmit certain viruses such as cytomegalovirus (CMV), which poses serious risks for transplant patients with compromised immune systems.

## WHAT ARE THE DISADVANTAGES?

While the transplantation of cord blood has its advantages, its main disadvantage is the limited amount of blood contained within a single umbilical cord. Because of this, cord blood is most often transplanted in children. Physicians are currently trying to determine ways that cord blood can be used in larger patients, such as transferring two cord blood units or increasing the number of cells *in vitro* before transplanting to the patient. It also takes longer for cord blood cells to engraft. This lengthier period means that the patient is at a higher risk for infection until the transplanted cells engraft. Patients also cannot get additional donations from the same donor if the cells do not engraft or if the patient relapses. If this is the case, an additional

cord blood unit or an adult donor may be used. While cord blood is screened for a variety of common genetic diseases, rare genetic diseases that manifest after birth may be passed on. The National Cord Blood Program estimates that the risk of transmitting a rare genetic disorder is approximately 1 in 10,000.

## WHAT ARE THE POTENTIALS FOR USE IN STEM CELL THERAPY?

In addition to the use of cord blood stem cells for transplantation, cord blood stem cells are currently being investigated for use in stem cell therapy. Cord blood stem cells are multipotent and are believed to have greater plasticity (the ability to form into different stem cell types) than adult hematopoietic stem cells found in bone marrow. HSCs are being investigated for use in autoimmune diseases such as diabetes, rheumatoid arthritis, and systemic lupus erythematosus (SLE) in order to reprogram or reconstitute the immune system. Additionally, research is being conducted on differentiating HSCs into other tissue types such as skeletal and cardiac muscle, liver cells (hepatocytes), and neurons. HSCs are currently being used in gene therapy, due to their self-renewing properties, as a means of delivering genes to repair damaged cells. HSCs are the only cells currently being used in this manner in clinical gene therapy trials.

## WHAT ARE THE ADVANTAGES?

In addition to the benefits related to transplanting HSCs derived from cord blood, HSCs are relatively easy to isolate, giving them an advantage over other adult stem cell types. The limits and possibilities of using HSCs to repair tissues and treat non-blood related disorders are currently being studied.

## WHAT ARE THE DISADVANTAGES?

Similar to transplantation, the main disadvantage is the limited number of cells that can be procured from a single umbilical cord. Different ways of growing and multiplying HSCs in culture are currently being investigated. Once this barrier is overcome, HSCs could be used to create "universal donor" stem cells as well as specific types of red or white blood cells. Immunologic rejection is a possibility, as with any stem cell transplant. HSCs that are genetically modified are susceptible to cancerous formation and may not migrate

(home) to the appropriate tissue and actively divide. The longevity of cord blood HSCs is also unknown.

Annotated Bibliography on Umbilical Cord Stem Cell Plasticity:

<http://tinyurl.com/lzeugo>

Introduction to Hematopoietic Stem Cells:

<http://tinyurl.com/n98khe>

#### ETHICS OF CORD BLOOD STEM CELLS VS. EMBRYONIC STEM CELLS

Cord blood stem cells are classified as adult (or non-embryonic) stem cells. Embryonic stem cells (ESC) are believed to be more advantageous for the treatment of disease or injury due to their pluripotent nature; that is, they have the ability to differentiate into all the cells present in the human body derived from the three germ layers (endoderm, mesoderm, and ectoderm). Adult stem cells are multipotent, implying that they can only differentiate into a limited number of cells typically within the same “family” (e.g., hematopoietic stem cells give rise to red blood cells, white blood cells, and platelets).

In the procurement of embryonic stem cells for research, the embryo from which the cells are harvested is destroyed. For those who believe that human life begins at conception this research is obviously unethical. In contrast, adult stem cells can be isolated from tissue from a consenting patient. While cord blood stem cells are classified as adult stem cells, they appear to have greater potency (ability to differentiate into other cell types) than other adult stem cells, making them a potentially valuable option for use in a variety of treatments and therapies. Cord blood stem cells offer some of the advantages of ESCs without any of the ethical drawbacks. Research into the use of cord blood stem cells for the treatment of disease and disability is a promising and ethical avenue of stem cell research.

#### PRIVATE VS. PUBLIC BANKING

In the public arena there has been much discussion on the benefits of for-profit private cord blood banking over public banking. Numerous for-profit companies offer new parents the option of collecting and storing cord blood for future use by the donor infant, siblings, or other family members. Parents may choose to bank cord blood if they have a family history of a particular disease or disorder, or as a means of “biological insurance” in case their child or family member develops a medical

condition or becomes injured requiring a transplant.

While many diseases can be treated with a cord blood transplant, most require stem cells from another donor (allogeneic). Cord blood cells taken from the patient (autologous) typically contain the same defect or precancerous cells that caused the patient to need the transplant in the first place. Most medical professionals believe the chance that cord blood banking will be utilized by the patient or a close relative is relatively low. Estimates range from 1 out

of 1,000 to 1 out of 200,000.<sup>2</sup> From these estimates, privately stored cord blood is not likely to be utilized by the average family. The American Academy of Pediatrics has discouraged cord blood banking for self-use, since most diseases requiring stem cell transplants are already present in the cord blood stem cells.<sup>3</sup> Additionally, a recent study published in Pediatrics indicates that few transplants have been performed using privately stored cord blood. From the responses of 93 transplant physicians, in only 50 cases was privately banked blood used. In 9 of these cases the cord blood was transplanted back into the donor patient (autologous transplant).<sup>4</sup> One of the main selling points of private cord blood banks is the possibility of a future autologous transplant.

American Academy of Pediatrics Policy - “Cord Blood Banking for Potential Future Transplantation”:

<http://tinyurl.com/nnk2ov>

### WHAT CAN I DO ABOUT THIS?

- Be informed. Know the medical risks, disadvantages, and ethical concerns associated with embryonic stem cell research, as well as the benefits and advantages of adult stem cell research.
- Inform others. Help correct the public misperception that embryonic stem cells are the only type of stem cells that will effectively treat human beings. Spread the word regarding the demonstrated benefits of cord blood stem cells.
- Encourage pregnant friends and family members to consider cord blood banking either through public donation or private storage.
- Create an information campaign in your community to increase awareness about cord blood banking.
- Work with your local hospitals to facilitate participation with public and/or private banks.
- Write your state and federal leaders and encourage them to support cord blood banking initiatives and cord blood research.

#### OTHER INFORMATION

One oft cited argument against cord blood banking is that it is not known how long these cells can remain viable in storage. While it is not known if cells taken from an individual as an infant will be beneficial to them as an adult, units stored for up to 10 years have been transplanted successfully. This indicates that there is no reason to suggest serious deterioration in the quality of cord blood units stored for longer periods of time.

#### RESOURCE LIST

General Information:

- <http://tinyurl.com/2t88sa>
- <http://tinyurl.com/lkr3nt>
- <http://tinyurl.com/mvucbh>

Public Cord Blood Banks:

- <http://tinyurl.com/ljy9qa>
- <http://tinyurl.com/m4aug9>

Private Cord Blood Banks

- <http://tinyurl.com/p4lpgv>

of 1,000 to 1 out of 200,000.<sup>2</sup> From these estimates, privately stored cord blood is not likely to be utilized by the average family. The American Academy of Pediatrics has discouraged cord blood banking for self-use, since most diseases requiring stem cell transplants are already present in the cord blood stem cells.<sup>3</sup> Additionally, a recent study published in Pediatrics indicates that few transplants have been performed using privately stored cord blood. From the responses of 93 transplant physicians, in only 50 cases was privately banked blood used. In 9 of these cases the cord blood was transplanted back into the donor patient (autologous transplant).<sup>4</sup> One of the main selling points of private cord blood banks is the possibility of a future autologous transplant.

There is no significant opposition in the medical community to the public banking of cord blood. The donation of cord blood to public banks generally has been encouraged by the medical profession. The American Academy of Pediatrics supports the public

1. During the processing stage excess red blood cells and plasma are removed reducing the volume to approximately 20 mL.
2. F. Leonard Johnson, “Placental blood transplantation and autologous banking: caveat emptor,” *Journal of Pediatric Hematology/Oncology* 19 (1997): 183–186.
3. American Academy of Pediatrics Section on Hematology/Oncology, American Academy of Pediatrics Section on Allergy/Immunology, Bertram H. Lubin, and William T. Shearer, “Cord Blood Banking for Potential Future Transplantation,” *Pediatrics* 119 (2007): 165-170.
4. Ian Thornley, Mary Eapen, Lillian Sung, Stephanie J. Lee, Stella M. Davies and Steven Joffe, “Private cord blood banking: experiences and views of pediatric hematopoietic cell transplantation physicians,” *Pediatrics* 123 (2009): 1011-1017.



## RESOURCES

[www.cbhd.org](http://www.cbhd.org) -- Through the generosity of a strategic gift, the Center has engaged in a complete redesign of our flagship website in order to enhance the functionality of the site and to expand our capabilities to utilize new and emerging web technologies. We apologize for any loss of functionality that users may experience during the transition to this new site, but we are confident that our redesigned site positions us well to continue offering leading-edge online resources in the bioethics. Given that vast number of articles resided on the previous site, we are slowly updating and migrating them over to the new site. If there is a particular article from the archives that you would like us to give higher priority in the migration queue, please submit your request via our online contact form at: <http://cbhd.org/contact>.



**Resource Lounge** -- The Center recently completed a reorganization of our office space that facilitated the creation of a resource lounge to be utilized by students, interns, and other CBHD visitors. The lounge includes a small bioethics library, various periodicals and relevant organization newsletters, computer workstations, and space for quiet reading or communal discussions. Our hope is that the creation of this space will improve visibility of the Center among graduate and undergraduate students as well as to devote physical space to the critical reflection of the pressing issues of our day. If you happen to be on campus, please take the opportunity to stop by.

## STAFF

### MICHAEL SLEASMAN

- Is currently under contract with Zondervan Publishing as the general editor along with C. Ben Mitchell for the *International Dictionary of Christian Bioethics* (forthcoming).
- Is contributing an article on bioethics to the *Foundations* curriculum for Joni & Friends International.

## FELLOWS

### MARY B. ADAMS

- Is currently serving as the chair of the American Academy of Pediatrics section on bioethics where they focus on educational sessions for the Academy. She will soon be returning from a six week stint as a pediatrician at Kijabe Hospital in Kenya where she did HIV prevention research last year.

### CLARETTA Y. DUPREE

- Is in the process of submitting a proposal to her employer, Milwaukee School of Engineering and School of Nursing, to offer a course on advanced bioethics. She is excitedly awaiting the arrival of her 8th grandchild!

### MATTHEW EPPINETTE

- Contributed to a book project, *The New Media Frontier* that was named an Outreach Resource of the Year by *Outreach Magazine*. In January he spoke

at Bethel College on bioethics in film and popular culture. He and his wife are relocating to Los Angeles this summer for further education at Fuller Seminary.

### DÓNAL O'MATHÚNA

- Is completing a book, *Nanoethics: Big Ethical Issues with Small Technology*, due for release in December 2009. He recently published three articles: "Diagnostic Self Testing: Autonomous Choices and Relational Responsibilities," "The Ethics of Torture in 24: Shockingly Banal," and "Teaching Ethics Using Popular Songs: Feeling and Thinking."

### ROBERT ORR

- Recently returned to Loma Linda as Professor of Bioethics and Director of Clinical Ethics at LLU Medical Center. During his temporary post with Loma Linda, he will be taking a leave from his role as Consultant on Clinical Ethics for CBHD.

### BARBARA WHITE

- Is starting a nursing school at Colorado Christian University where she is currently Dean for Nursing and Sciences and is celebrating the marriage of her daughter while anticipating the marriage of her son on July 11, 2009.

### NICK YATES

- Was appointed Adjunct Professor of Bioethics at Trinity last summer, and will be serving as "Interim Editor" for the Clinical Ethical Case columns for both *Ethics & Medicine* and *Today's Christian Doctor*.

## ARTICLES

Articles and essays that the Center staff have found to be provocative or particularly informative relevant to bioethics.

- Capretta, James. "Health Care with a Conscience" *The New Atlantis: A Journal of Technology & Society* Fall 2008: 69-76.
- \*Messer, Neil. "Christian Engagement with Public Bioethics in Britain: The Case of Human Admixed Embryos" *Christian Bioethics* 15(1) 2009: 31-53. The entire issue is devoted to "European Bioethics II—Disparate Hopes and Fears."
- Moreland, J.P. "Duhemian and Augustinian Science and the Crisis in Non-Empirical Knowledge," in Joseph Koterski, ed., *Life and Learning XII: Proceeding of the Twelfth University Faculty for Life Conference* (Georgetown University, 2003), 185-207.
- Schulman, Ari. "Why Minds Are Not Machines" *The New Atlantis: A Journal of Technology & Society* Winter 2009: 46-68.
- Talbot, Margaret. "Brain Gain: The Underground World of "Neuroenhancing" Drugs" *The New Yorker* April 27, 2009 [http://www.newyorker.com/reporting/2009/04/27/090427fa\\_fact\\_talbot?currentPage=all](http://www.newyorker.com/reporting/2009/04/27/090427fa_fact_talbot?currentPage=all) accessed May 12, 2009.

\* Resources that would be great follow-up reading after the 2009 CBHD Summer Conference, *Global Bioethics: Emerging Challenges Facing Human Dignity*.