

# White Paper on TRAFFIC IN HUMAN OOCYTES/OVA/EGGS<sup>1</sup>

January 16, 2007

Traffic in human oocytes has existed in the U.S. for only about a decade – in contrast to traffic in human sperm, which has been in existence long enough that children conceived through this means are now attempting to identify the anonymous donors of their paternity. Oocytes have been solicited since surrogate motherhood was fashionable, and fertilization *in vitro* became relatively routine. Women who were unable to conceive a child by means of their own ova, began seeking those of women with physical and/or mental attributes most attractive to themselves. Initially, it was not rare to see newspaper ads offering ova with such putatively desirable characteristics for prices in the \$30-75,000 range<sup>i</sup> – no matter that successful pregnancy outcomes by fertilization *in vitro* (IVF) generally do not achieve greater than a 25% success rate!

More recently, however, an even more insidious trend has started to dominate: an urgent desire by scientists to obtain ova for human cloning and experimentation. Offers to purchase or sell “eggs” for \$3,000 to \$7,000 are now becoming relatively routine where such traffic is permitted by law (especially on the U.S. West Coast and some locations abroad); these usually involve young, pseudo-sophisticated college women, or poor women strapped for cash. Interestingly, as marketing by human cloning and *embryonic* stem cell interests has increased to an almost hysterical level, scientists eager to cash in on this pie-in-the-sky approach to find a panacea cure for chronic diseases are seeking *donations* of human ova in an attempt to counteract ethical concerns, and to reduce costs. These trends are now arriving in Louisiana. During the 2006 Regular session of the Legislature, a bill (HB 1234) was introduced to facilitate the donation of human ova and even embryos for research; another (SB 452) was introduced to prevent such donations; a third, posing as a pro-life bill, but proposed by the owner of an out-of-state gamete bank, was blocked prior to introduction. None of these bills passed, but did give rise to two study committees, one in the House (chaired by Rep. Jefferson-Bullock, the proponent of HB 1234), the other, in the Senate (chaired by Senator Sharon Weston-Broome, the proponent of SB 452).

## What Oocyte/Ovum/Egg Donation Involves.

In one, typical protocol, women take a gonadotropin-releasing hormone agonist [stimulant] daily for 1-2 weeks, which stops the pituitary from stimulating ovulation [maturation and release of oocytes/eggs]. They then inject gonadotropins such as follicle stimulating hormone (FSH) to trigger the development of several egg-containing follicles. A third hormone triggers final maturation of the eggs/ova/oocytes. [These] are then collected with a needle inserted through the wall of the vagina into the ovary [under anaesthesia].<sup>ii</sup>

During ovulatory stimulation for fertilization *in vitro* (IVF) or egg donation, women are given drugs that encourage the ovary to ripen several eggs simultaneously, rather than the one oocyte normally ovulated each month. ...[T]his can have side effects ranging from moodiness to infection. The most serious is ovarian hyperstimulation syndrome which seriously affects about 6% of women receiving the drugs. Thirty or more eggs start to develop at once and fluid leaks out of blood vessels and collects in the abdomen, causing nausea, bloating and very occasionally kidney failure or even death ... [even though] deaths are thought to be exceptional.<sup>ii</sup>

---

<sup>1</sup> Although the term “egg” referring to human oocytes or *ova* has recently become quite commonly used in the U.S., this is technically incorrect. Not only are mammalian oocytes obviously different in appearance from avian (bird) eggs (the platypus excepted), they are formed by different mechanisms, remain within the female body for fertilization and development, and, after fertilization, develop embryologically in a very different manner. Nevertheless, these terms are used completely interchangeably in this report.

### **Risks of Oocyte/Ovum/Egg Donation.**

All other considerations aside, oocyte/ovum/egg harvesting is an invasive, medically risky procedure that requires donor women to take powerful hormones, usually by injections that first stimulate, then suppress the ovaries. *The Canberra Times* [Australia] identifies “[e]gg extraction [as] an invasive process. Women are first put into chemical menopause and then given strong doses of drugs to hyperstimulate their ovaries. Up to 10 per cent of women will suffer ovarian hyperstimulation syndrome with symptoms including stroke, organ failure, respiratory distress and even death. A number of women have lost their lives through these procedures already.”<sup>iii</sup> The drug most often used to shut down the ovaries, Lupron, can cause side effects such as severe joint pain, difficulty breathing, chest pain, depression, amnesia, hypertension and asthma.<sup>iv</sup> A report by the *Practice Committee of the American Society for Reproductive Medicine*, dated 2003,<sup>v</sup> states that “The injections are uncomfortable and have side effects. The retrieval of oocytes carries risks, such as those of anesthesia and bleeding. Another important risk is the development of the ovarian hyperstimulation syndrome. This syndrome represents an exaggerated and *usually unpredictable* [emphasis mine] response to ovulation-induction therapy, in which capillary permeability is increased, and fluid is shifted from the intravascular space to third-space compartments. In severe cases, hospitalization is required, and complications such as ascites, pleural and pericardial effusions, and venous thromboembolism may develop.”

Specialists in reproductive medicine say there is insufficient information about the long-term risks of drugs used to stimulate ovulation ... some studies have suggested the drugs may be linked to the development of certain cancers.<sup>ii</sup> “There is [also] some concern that women who undergo multiple cycles of hormonal stimulation may increase their risk of having ovarian cancer later in life.”<sup>iv</sup> Some are more worried about the long-term risks of fertility drugs. 1990s ... studies pointed to a link between fertility drugs and breast or ovarian cancer.<sup>vi</sup> One study suggested “11 times the risk of developing ovarian tumours compared with the general population.” [Another] did find that women were around 1.8 times more likely to develop uterine cancer.<sup>vii</sup> [However], researchers have only had a decade or so to study significant numbers of women taking the newer drugs [and] *extra cancers may not appear until the women reach 50 or 60* [emphasis mine].<sup>ii</sup> There is at least one large study of the long-term effects of ovarian stimulation under way in the Netherlands, but it’s unclear who will drive the effort, particularly when *private fertility clinics may have little interest in finding out the potential risks of the drugs they use* [emphasis mine].<sup>ii</sup>

“It’s important for people to understand ... that we don’t know as much as we should about what these risks are,” says Cho. Eggan of the Harvard Stem Cell Institute. “If a woman has a cardiac arrest while giving eggs for stem-cell research, it won’t go down too well,” adds John Buster, professor of obstetrics and gynecology at Baylor College of Medicine in Houston, Texas.<sup>ii</sup>

### **Ethical Considerations**

Ethical controversy regarding human cloning and embryonic stem cell research aside, donation by women of their oocytes/*ova*/ eggs for either fertilization *in vitro* (IVF) to produce babies for others, or for research – which is almost always related to cloning and/or stem cell work<sup>ii</sup> – has its own ethical limitations. These are based largely on research risks (individual as well as societal), a high potential for exploitation of poor donors, and questionable societal benefits, based on the reality of theoretical need *vs.* availability.

**Medical (research) ethics.** Medical research in humans is guided by the Oath of Hippocrates, the Declaration of Geneva of the World Medical Association, the International Code of Medical Ethics, and the Declaration of Helsinki [on biomedical research], among others.

The first principle of *Hippocratic medical ethics* is paraphrased to “Do no harm.”

The Declaration of Geneva<sup>viii</sup> states, “The health of my patient will be my first consideration.”

The International Code of Medical Ethics<sup>viii</sup> declares “A physician shall act only in the patient’s interest when providing medical care which might have the effect of weakening the physical and mental condition of the patient.”

The Declaration of Helsinki<sup>viii</sup> states that “in the field of biomedical research a fundamental distinction must be recognized between medical research in which the aim is essentially diagnostic or therapeutic for the patient, and medical research, the essential object of which is purely scientific and without implying direct diagnostic or therapeutic value to the person subjected to the research.” In regard to the former (Clinical Research), par. 3 states “...The responsibility for the human subject must always rest with a medically qualified person, and never rest on the subject of the research, even though the subject has given his or her consent,” and in par. 7, “Physicians should cease any investigation if the hazards are found to outweigh the potential benefits.” In regard to *non-clinical* [biomedical] research, under which oocyte/ovum/egg donation clearly falls, the Declaration cautions, “4. In research on man, the interest of science and society should never take precedence over considerations related to the well-being of the subject.” [emphasis mine]

**Exploitation.** In sources accessible from the internet, considerable concern is ‘voiced’ regarding the exploitation of women in the area of oocyte/ovum/egg donation, whether for IVF or for research; included among their voices are a number of women’s groups. A meeting of the minds on the issue has caused even “proChoice and proLife feminists” to join forces to create “HandsOffOurOvaries,” a web blog site, “to discuss a global call for a moratorium on egg procurement.”<sup>ix</sup>

A report from the Cambridge Genetics Knowledge Park, dated November 2005, stressed the European Parliament’s concern that “women in developing countries could be enticed by financial incentives to donate their eggs, and that such practices could result in their exploitation,” and that “it is very clear that...there is a risk that women become instrumentalized as ‘suppliers of raw material’” for human embryonic stem cell research.<sup>x</sup>

Dr. Pia de Solenni, Director, Division of Reproductive Endocrinology and Infertility at Evanston Northwestern Healthcare, writing in the context of cloning and embryonic stem cell research, concluded that “Egg harvesting would be targeted at women with financial difficulties, typically ethnic minorities, students and the like,” and that “we will willingly endanger the lives of some of the world’s most desperate women. This hardly can be called progress or pro-woman.”<sup>xi</sup> Dr. Solenni also stated, “As long as profit depends on women’s bodies, we can be sure that the most vulnerable women will be aggressively pursued, regardless of the risk to their health and happiness. In the name of science, the industry will literally have its hands inside the bodies of hundreds of millions of poor, disadvantaged women. As a woman, I can assure you that I do not want my body, or that of any woman or man, sacrificed on the altar of science. As an ethicist, I assure you that doing so constitutes a grave violation of human rights ...”<sup>xii</sup>

**Societal Costs vs. Benefits.** In order to even begin to fulfill the hype which has been let loose regarding the putative promise of human embryonic stem cell cures, huge numbers of human embryos, hence *ovum/oocyte/egg* donations, would be needed – and that is assuming that biologic research were predictable – which it is not! Dr. Solenni has provided an estimate of 29 million as the lowest number of women that would be required to provide sufficient ova for embryonic stem cell treatments required for just one disease, diabetes, in the U.S. This would translate into 580 women’s deaths.<sup>xi</sup>

Another estimate, by Dr. David Prentice, formerly of Indiana State University (now with the Family Research Council), was based on the greatest cloning efficiency attained (in animals) of

20-30%: about 50 eggs per (animal) treatment are required. Given 17 million diabetes cases in the U.S., a minimum of 850 million eggs, harvested from about 85 million American women would be needed. Given ‘only’ about 60 million women of reproductive age in the U.S., from where would the rest come – and would all 60 million be amenable to donations<sup>xii</sup> – like so many chickens in a coop? Still other estimates have been even higher!

### **Ethical Considerations – Human Cloning and Embryonic Stem Cell Research:**

In contrast to *adult, placental/umbilical cord* or *amniotic* stem cell research, for which there are few, or no underlying ethical restraints, both human embryonic stem cell research and human cloning have a profound moral and ethical dimension. Procurement of stem cells from human embryos, whether natural or clone, requires the destruction or mutilation of a human entity that, if implanted into a human uterus (womb), could develop into a human baby and be born (even if malformed by the preceding manipulations). In regard to cloning, the President’s Council on Bioethics affirmed in its 2002 report on Cloning and Human Dignity,<sup>xiii</sup> that “...this research involves the deliberate production, use, and ultimate destruction of cloned human embryos, and that the cloned embryos produced for research are no different from cloned embryos that could be used in attempts to produce cloned children.” They also wisely observed that “there is the ever-present danger of creating false hope among patients, and the risk of allowing the goodness of the end (finding cures for disease) to justify moral indifference to the means used to achieve it.” Killing and/or mutilation of an innocent human being, regardless of his or her source or stage of development, whether *in vitro*, *in utero* or *post-natally*, are fundamentally antithetical to most recognized teaching on Judeo-Christian morality, and a violation of the Hippocratic Oath. Do we really want to induce physicians to forsake these standards that are mutually protective of both physician and patient, and cooperate with actions deliberately leading to the destruction of human life?

W. A. Krotoski, M.D., Ph.D., M.P.H., Co-founder  
***The Hippocratic Resource***, Baton Rouge, Louisiana

---

<sup>i</sup> *Brown Daily Herald*, “Woman and egg at Brown,” J. Kay, 9/27/04

<sup>ii</sup> Extracted from *Nature* **442**, 607-608; 2006 (August),

<sup>iii</sup> *The Canberra Times*, Wednesday, 8 November 2006

<sup>iv</sup> Center for Genetics and Society, [www.genetics-and-society.org/resources/background/eggextraction.html](http://www.genetics-and-society.org/resources/background/eggextraction.html)

<sup>v</sup> cited in R. Steinbrook, *N. Engl. J. Med.* **354**, 324-326; 2006

<sup>vi</sup> M.A. Rossing *et al.* *N. Engl. J. Med.* **331**, 771-776; 1994

<sup>vii</sup> M.D. Althuis *et al.* *Am. J. Epidemiol.* **161**, 607-615; 2005

<sup>viii</sup> The World Medical Association Declaration of Helsinki, [www.fda.gov/oc/health/helsinki89.html](http://www.fda.gov/oc/health/helsinki89.html)

<sup>ix</sup> [www.handsoffourovaries.com/blog/category/press-releases](http://www.handsoffourovaries.com/blog/category/press-releases)

<sup>x</sup> Cambridge Genetics Knowledge Park, [www.cambridgenetwork.co.uk](http://www.cambridgenetwork.co.uk)

<sup>xi</sup> Institute on Biotechnology and the Human Future, Chicago Kent College of Law

[www.thehumanfuture.org/commentaries/commentary\\_solenni2.html](http://www.thehumanfuture.org/commentaries/commentary_solenni2.html)

<sup>xii</sup> P. Solenni “Women’s Health: Consequences of human egg donation: report before the Massachusetts State Legislature, February 16, 2005, [www.physiciansforlife.org](http://www.physiciansforlife.org)

<sup>xiii</sup> President’s Council on Bioethics, [www.bioethics.gov/reports/cloningreport/research.html](http://www.bioethics.gov/reports/cloningreport/research.html)