

**TESTIMONY REGARDING HB 965 (Scalise), House Appropriations Committee, 6/5/06**  
**(bill deferred)**

Good Morning, Mr. Chairman, Ladies and Gentlemen of the Committee!

My name is Dr. W. A. Krotoski. I am a physician and retired medical scientist, with a career producing some 55 research articles, several chapters for medical texts, and co-authorship of one such text. I have lived in Louisiana since 1974, in Baton Rouge since 1982, and taught several years at both Tulane and LSU Schools of Medicine and Public Health, as well as their Graduate Schools. In 1989 my research was honored by a nomination for the Nobel prize in physiology and medicine. Currently, I represent *The Hippocratic Resource*, a Louisiana-wide organization of physicians and other health professionals who have committed to promoting medical truth and the principles of the Hippocratic Oath, the foundation of medical ethics. Although retired from active practice, I continue to serve on the research ethics board of a major Baton Rouge medical center. I am testifying today in favor of Representative Scalise's HB 965, to deny public funding for human cloning, for a number of reasons:

**First ... As a physician and medical scientist, I remain unconvinced that human cloning is anywhere nearly as promising as its proponents claim.** (And I am not alone in this apparent pessimism). To begin with, clones produced by somatic cell nuclear transfer (SCNT), are simply not as identical as science fiction would suggest. Maternal genetic factors, left behind when the oocyte (*ovum*) receiving the transferred nucleus is depleted of its own nucleus, can influence the makeup of the resultant clone. Therefore, there is always the possibility of rejection of any cloned cellular transplant with SCNT – which would sharply limit any positive outcomes. It has also been shown that there is a greater propensity for malignancy, probably due to the absence of specific control factors during the development of tissues isolated from their normal, developmental environment. Then there is the matter of simple practicality. Up to millions of oocytes would be needed for meaningful research and to develop potential medical treatments. However, these are of a size approximating the period at the end of a sentence, and only about 10-20 are obtainable by any intensive procurement procedure. To obtain enough for practical experimentation could lead to the exploitation of at least tens-, if not hundreds of thousands of women – who would inevitably be mostly poor – at considerable cost. Furthermore, although there has been a great deal of talk regarding the potential “promise” of human cloning for medical therapies, there has not been a single, successful therapeutic modality developed – not even *one* – and not even in countries which may have lesser concern for ethics and human rights. (Certainly, nothing therapeutic has happened during the 3-4 years that we have been debating the issue in Louisiana!) **Only sporadic clinical application has been seen with human embryonic stem cells – for which cloning is being pursued – some with disastrous results.**

**Second ... Adult stem cell research, which is considered completely ethical – at least, if performed in an ethical manner – has already yielded numerous clinically applicable therapeutic results**, many in areas which have been touted by proponents of human cloning as the almost certain outcome of their proposals. Nevertheless, in the area of adult stem cell therapies, somewhere of the order of 70 have been proposed for, or have been placed in clinical trial. In the interest of time, I will not expound on the strong *promise* of adult stem cell research. No medical therapy is developed overnight; most are in process for years, and some protocols, particularly in cancer therapy, are conducted with anticipated gains of only a few months' survival times. However, **among already active clinical applications using adult stem cells** – as published in just the last 18 months – **have been those for relapsed leukemia, chronic lymphocytic leukemia (CLL), and several lymphomas, including recurrent non-Hodgkins lymphoma; systemic lupus erythematosus, refractory autoimmune disease, and graft-vs. host disease (in transplantation therapies); high-risk neuroblastoma in children, metastatic renal carcinoma, relapsed germ cell cancer, and adjuvant treatment of high-risk breast cancer; adult thalassemia (anemia); cardiac disease, including severely scarred and dysfunctional heart muscle, and acute myocardial infarction (heart attack) (3 trials); occlusive peripheral artery disease; stroke; malignant multiple sclerosis unresponsive to conventional therapies; Crohn's disease of the bowel (using fat tissue as the adult stem cell source); use of cord blood for expansion of blood-forming capacity or immune reconstitution in pediatric patients; stem cell transplantation for high-risk, HIV-associated lymphomas; and augmentation of spinal fusion in surgery, among others.**

**Third ... Medical research and the development of medical therapies are obviously worthwhile in and of themselves**, and, in fact, are goals to which I, personally, devoted most of my medical professional life. **However, these goals are capable of being misused as a convenient excuse, simply to satisfy human curiosity, but in an unethical way.** There certainly has been a lot of outcry periodically against the use of animals for research. Yet, in regard to the more germane issue of human experimentation, we cannot ignore the fact that **human cloning research unequivocally destroys human life**. Is it ever ethical or moral deliberately to destroy human life for research? There simply is no valid biological distinction between a natural human embryo and a cloned human embryo – as has been clearly shown by exact-counterpart successes in animal cloning,

beginning with Dolly the sheep, and since performed in a number of different species, including goats, horses, mules, and even pet cats! And in cases of any doubt, erring on the side of caution is still considered the moral standard. *Cloning of humans was formally banned by the Council of Europe, beginning March 1, 2001, for moral and ethical reasons*. And, most recently, after a quick funding fling with human embryonic stem cell research, *the European Union is being asked by Germany, Austria, Italy, Poland and two other nations to institute a funding ban on such research for their newest budget, based on that realization*.

**Fourth ... In the Hippocratic context of ‘do no harm,’ it is medically unethical to expose a subject to an experimental procedure where the risks significantly outweigh the benefits to him or her, or where the subject’s health integrity is significantly compromised** Because of the potential for such misuse, medical research involving human experimental subjects – or animals, for that matter – must today be individually and carefully evaluated and scrutinized for its ethics by knowledgeable, designated panels or Institutional Review Boards that lack any conflicts of interest – *before* being undertaken. Just obtaining oocytes (*ova*) from a woman for cloning research requires significant manipulation of her body, including the use of high doses of hormones, followed by harvesting of the released ova under general anesthesia – and without benefit to her health or well-being. Some of the complications include a severe ovarian hyperstimulation syndrome that may involve blood clots, twisting of an ovary to cut off its blood supply (leading to major surgery), as well as kidney malfunction, fluid accumulation in the chest or abdomen, and even death. They also include possible ovarian cancer; as well as possible early infertility, the latter due to depletion of the finite supply of an individual woman’s oocytes. The risk ratio to the non-benefiting subject is simply too high, and clearly falls into the category of proscribed action for an ethical physician. Then, there is always the matter of lawsuits!!

**Finally ... We need to be acutely aware that scientists are not always ethical in their approach to their work.** In addition to a fair number of ‘earth-shaking’ hoaxes – or attempted hoaxes – perpetrated in almost every scientific field over the last century, evidence for scientific human weakness in the area of human cloning has already been seen in the unethical practices and deliberate deceptions perpetrated recently by the disgraced Korean scientist, Huang Woo-Suk – who was formally indicted, with 5 members of his team, for fraud and bioethics violations, just over 3 weeks ago (May 12<sup>th</sup>, 2006). Curiosity in a scientist is naturally very strong, and, quite often, unfortunately, is accompanied by a need for notoriety misconstrued as glory. It seems inevitable, therefore, that, at some point in time, an unethical scientist seeking such “glory” would attempt to take the human clone embryo through further development, including implantation into a woman’s womb, and perhaps to the point of birth. Such an immoral and unethical proposition would create further dilemmas: either to abort the developing, implanted cloned human short of birth, or to permit him or her to be born, with whatever developmental anomalies might result from the very unnatural nature of clone development.

**In conclusion**, based on all that I have mentioned, *plus* the realization that our economy in Louisiana has been dramatically strained by last year’s two natural catastrophes named Katrina and Rita, I would suggest that we do not have the funds to compete with California’s self-mortgage of three billion dollars of yet-to-be-collected taxpayer funds. As good medical research is still, obviously, a worthwhile goal, I would suggest spending Louisiana’s medical-research-earmarked funds on cleanly ethical, less theoretical, and experientially more promising adult stem cell research. In short, ***I urge you to follow the moral, ethical and fiscally responsible path, and vote favorably on HB 965.*** Thank you very much for your attention!

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