Testimony before the
Senate Labor-HHS Subcommittee
Senate Appropriations Committee
by
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I am very pleased to appear before you on behalf of the American Association for the Advancement of Science (AAAS), the world's largest multiple discipline scientific society and publisher of the journal, *Science* (www.sciencemag.org). AAAS was founded in 1848, and includes some 262 affiliated societies and academies of science, representing roughly 10 million individuals.

We applaud both your efforts, Senator Specter and Senator Santorum, in holding this hearing today. We hope it will draw more attention to the importance of research focused on developing and making use of stem cells derived in a variety of ways. We believe that the great clinical promise in stem cells makes it critically important to support research on a wide range of approaches toward deriving cells that have the potential for replacing damaged or deteriorating parts of the body.

Since the breakthrough in human embryonic stem cell research in 1998, a large majority of the scientific community, and, I might add, a significant proportion of the American people, have held the position that only through federal support of research on both adult and embryonic stem cells can we understand fully the potential value and limitations of stem cells as an eventual clinical application for a wide variety of illnesses. The AAAS Board formalized its position in a 2002 resolution that strongly endorsed embryonic stem cell research, including nuclear transplantation techniques, and called for a ban on reproductive cloning. At the same time, the Board emphasized that this research should only proceed if it is guided by clear ethical guidelines that protect patients and build public confidence. In 2005, the National Academies issued its Guidelines for Human Embryonic Stem Cell Research. These guidelines were prepared to enhance the integrity of human embryonic stem cell research by encouraging responsible practices in the conduct of that research. They address the many ethical, legal, scientific, and policy issues that concern both scientists and the public.

As S. 2754 makes clear, we are now seeing a variety of new techniques that appear to hold potential as additional routes for deriving stem cells. We support research into these approaches, although they are still in early stages of development. The alternatives that are now being developed are intriguing, but we really do not know what their ultimate utility will be. Moreover, as these new techniques are being explored, and they should be, ethical questions will arise. This reinforces our belief that public research policies should not be driven by any single approach.

The entire field is still very young, and at the moment the most promising method appears to be the derivation of embryonic stem cells, either through somatic cell nuclear transfer or from excess embryos from in-vitro fertilization clinics. As just one example, within the past two weeks, the Johns Hopkins University revealed that a team of researchers, with the support of NIH and the Muscular Dystrophy Association, had utilized injections of embryonic stem cells into rats to rewire part of their nervous systems and restore muscle function and the ability to walk.

The embryonic stem cell issue has more than just clinical implications. Many of the countries with whom we cooperate and compete, both scientifically and economically, are intensively pursuing human embryonic stem cell research. Countries like Great Britain, Singapore, South Korea, Israel, and those in Scandinavia have very advanced programs in human embryonic stem cell research. And on June 15, the European Union Parliament in effect approved funding human embryonic stem cell research as a part of their Framework 7 research program. Several prominent U.S. scientists have already taken their research abroad.

Moreover, many states in this county, impatient with current Federal policies, have developed their own research support mechanisms so that their scientists will not be left behind competitors in other countries. This will better enable those states to reap the eventual benefits of locally conducted human embryonic stem cell research.

In closing, I want to congratulate you again for shining a bright light on this field of stem cell research that has such tremendous potential health and economic benefits for the people of this country. I hope we will do all we can to ensure that the full range of approaches are studied to their scientific and ethical limits.