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New debate on stem-cells

By Maggie Fox

WASHINGTON — Which is better — an adult stem-cell or one taken from an embryo?

Politicians, activists and religious leaders who are opposed to experimenting on human embryos argue that adult stem cells are not only a more ethical route to transforming medicine, but they are in fact the better route.

But most researchers familiar with stem-cell science disagree.

It does not matter which one is better, they say, because it is important to work with both kinds.

All sides are clamouring to get their voices heard ahead of a scheduled US Senate vote on three different bills tomorrow, one of which would expand federal funding for embryonic stem-cell research.

"They hold promise in different areas today," said David Meyer, co-director, of the Cedars-Sinai International Stem Cell Research Institute, which is set to formally open in Los Angeles today.

"Adult stem-cells will lead to cures much sooner than embryonic. However, the potential for embryonic, once we understand the biology, will be the greater," Meyer said in a telephone interview.

Groups such as the Juvenile Diabetes Research Foundation and the American Association for Cancer Research say work with embryonic stem-cells is vital to understanding how to regenerate diseased or damaged cells, tissues and organs.

And the federal oversight could help prevent abuses — such as the fraudulent claims made by South Korean researchers last year that they had cloned human embryos and extracted stem-cells from them.

Opponents call the work a slippery slope to unethical, immoral and even damaging experimentation. Researchers are already working with various forms of stem-cells. Although any real treatments are years away, some teams have reported real progress. The hope of all the research is to eventually find ways to take a tiny plug of tissue or a batch of cells and direct them into forming other tissues — pancreatic tissue to treat diabetes, brain tissue to treat Alzheimer's and Parkinson's disease, nerve tissue to repair damaged spines. David Prentice of the Family Research Council, which opposes embryonic stem-cell research, issued a statement saying adult stem-cell research was actively helping, or close to helping, people with at least 65 diseases. But in Friday's issue of the journal *Science*, three stem-cell experts — Steven Teitelbaum of Washington University in St Louis, Shane Smith of the Children's Neurobiological Solutions Foundation in Santa Barbara, California and William Neaves of the Stowers Institute for Medical Research in Kansas City — wrote a detailed rebuttal of these claims and said at best Prentice accurately portrayed only nine of the studies.

Some institutions, such as Cedars-Sinai, are going ahead with privately funded research. In June Harvard University launched a privately funded, multimillion-dollar programme to create cloned human embryos as sources of stem-cells. Federal law banned the use of federal money for experimenting on human embryos until August 2001, when US President George W. Bush allowed funding on a few batches, called cell lines, that existed then. US researchers are free to use

private money to do the work, but argue that federal oversight and funding is vital. "The way we have done research for the last 50 years has been based on federal funding," Meyer said.

"This is one of the hottest areas in bringing research from the bench to the bedside and the federal government isn't participating."