Message From the Editor

Expanding the Options for Spinal Cord Injury Research

This issue's research review addresses stem cell therapies (1), a timely topic in light of the change in the political climate for medical research in the US. With the new administration in Washington, DC, we are seeing a loosening of federal restraints on stem cell research. In March, President Barack Obama signed an executive order that reversed the 2001 order signed by former president George W. Bush. The recent order removes the restrictions on the use of federal funding for research involving embryonic stem cell lines, thus broadening the options for investigators seeking optimal ways to treat a host of diseases and conditions.

Because of the ongoing controversies surrounding the use of embryonic cells, the President gave the National Institutes of Health (NIH) 4 months to draft new guidelines for future stem cell research. In conjunction with the National Academy of Sciences, the NIH will need to address issues integral to the dignity of human life, including the ethical dilemmas surrounding potential sources, developmental time frames, and informed consents for the new cell lines (2).

The lifting of the restrictions has important implications. More than 400,000 embryos with uncertain futures are being stored in fertility clinics in the US, an unused resource that could enrich research efforts (3). Allowing the development of new stem-cell lines is likely to affect the direction of stem cell research and its applications. New lines are likely to be healthier, and may provide better and more diverse avenues to explore. While the new federal guidelines are likely to reflect the bioethical complexities of exploring embryonic stem cell research, they are an important step in a new approach toward helping individuals affected by disability or disease.

Researchers are looking at potential regenerative applications, which aim to repair organs or tissues damaged by disease, aging or trauma in order to improve or even restore function. While spinal cord injury (SCI) is the most prominent target, stem cell research promises to expand treatment options for other more common neurological conditions like Alzheimer disease and Parkinsonism. There are also promising avenues for addressing debilitating disorders with genetic bases, such as type 1 diabetes and muscular dystrophy, among many others. President Obama cautioned that there are no guarantees that stem cell research will yield treatments and cures. "No president can promise that," he said. But he did promise "that we will seek them — actively, responsibly and with the urgency required to make up for lost ground" (4).

Stem cell research is just one of the many avenues being explored by SCI researchers. Addressing the needs of individuals with SCI means looking beyond the cellular level. There are many active areas of multidisciplinary research in engineering, medicine, surgery, psychology, pharmacology, nursing, technology and outcomes. *The Journal of Spinal Cord Medicine* will keep readers informed of all advances that promise to improve quality of life for people with injury or dysfunction of the spinal cord.

References:

1. Tewarie RSN, Hurtado A, Bartels RH, Grotenhuis A, Oudega M. Stem cell-based therapies for spinal cord injury. *J Spinal Cord Med*. 2009;32 (2):105–114.
2. Obama lifts limits on stem-cell research. *The Week*. March 20, 2009.
3. Rowley J. Embryonic stem cell research does too much good to be evil. March 23, 2009. *U.S. News & World Report*. <http://www.usnews.com/article/opinion/2009/03/23/>
4. Obama B. The White House. Stem Cell Executive Order and Scientific Integrity Presidential Memorandum. Washington, DC, March 9, 2009. Accessed at http://www.whitehouse.gov/the_press_office/Remarks-of-the-President-As-Prepared-for-Delivery-Signing-of-Stem-Cell-Executive-Order-and-Scientific-Integrity-Presidential-Memorandum/

Donald R. Bodner, MD

JSCM