



# THIS IS BIOTECH

## BEYOND MOOSE AND MOUNTAINS: BUILDING CANADA'S BIO-BASED ECONOMY.



### Filling Holes in the Brain with Biotechnology

#### Stem Cell Therapeutics Corp., Calgary, Alberta

When Dr. Alan Moore says, "If you've got a hole in your brain, we'll fill it," he means it literally. Filling holes, caused by damaged brain tissue, is Dr. Moore's specialty and it's this biotechnology that is earning his company, Stem Cell Therapeutics Corp., heaps of praise.

The brain holes that Dr. Moore, president and CEO of the Calgary-based company, is referring to are the areas of damaged tissues left behind after a person suffers a stroke. In the company's own stroke of genius, they have developed a therapy that stimulates the body's already-present adult stem cells to regenerate into new brain cells that replaces the damaged tissue.

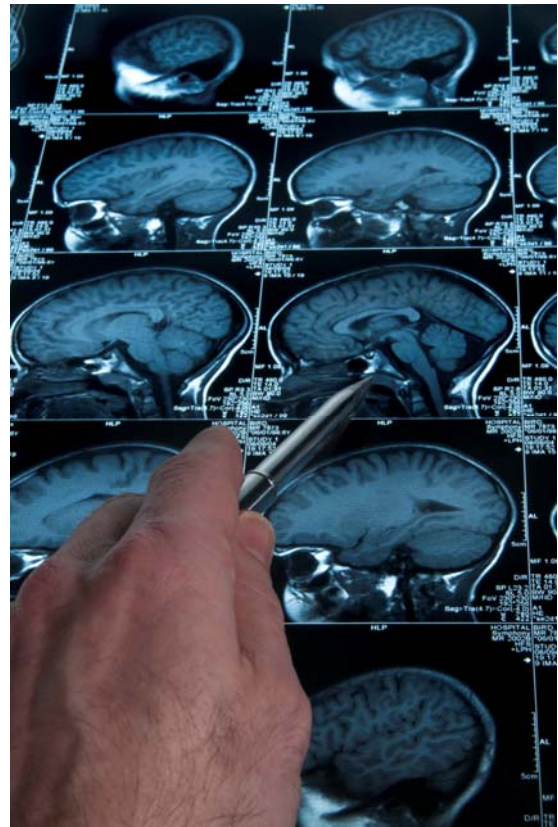
Neural stem cells are found in the ventricle of the brain but are normally dormant. Stem Cell Therapeutics uses a two-stage drug therapy called NTx265 to stimulate these stem cells into creating brand new brain cells, says Dr. Moore.

While most people have heard of stem cell research, few realize that the adult brain has its own dormant supply. By creating therapies to stimulate these neural brain cells, there are no ethical issues, only positive outcomes, says Moore.

"Neurologists are using words like miraculous to describe what is happening here," says Dr. Moore, referring to the remarkable new growth of brain tissue to replace the stroke-damaged area. For patients who have had a stroke, the regeneration of brain cells means a marked improvement in motor skills and mental ability while speeding up what is often a very long struggle back to any sort of normalcy.

A key advantage of NTx265 is that it is still effective much later than other therapies. While there are other drugs available to break up brain blood clots and reduce the effects of a stroke, they must be administered within three hours of the stroke's start time to have an effect on possible brain damage that can result. Many patients miss that window of opportunity, says Dr. Moore. His company's drug is given to patients up to 24-48 hours after the stroke occurring, which gives people a better chance at receiving treatment and recovering faster.

The research on the drug's success is solid. In 2008, one of Stem Cell Therapeutics founders, Dr. Samuel Weiss of the University of Calgary was awarded the prestigious Gairdner Foundation Award, which recognized his work in stem cell research. A third of Gairdner winners go on to win the Nobel Prize. With more than 50,000 strokes occurring in Canadians each year, it's now the third leading cause of death. The benefit of the company's drug could prove life altering for future stroke victims in Canada and around the world.



While this brain stem cell stimulating therapy shows great promise on the patients who have received a series of daily injections over a two-week period, it is not yet available to the general population of stroke patients. By the end of 2009, the company anticipates enrolling 128 patients recruited from India, Canada and the US in its stroke trial. It expects to complete this trial early in 2010 and then commence final trials, hoping for regulatory approval to treat stroke patients by 2012-2013. The company is also talking to the US military to determine how useful this therapeutic approach could be in traumatic brain injury.

For Dr. Moore and his Canadian team, to be able to "fill holes in the brain" and help patients with brain damage from stroke or even cerebral palsy is "an absolute dream." For stroke patients, NTx265 could be the treatment that makes them whole again.