

InVivo nears human trials of spine-injury treatment

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Spinal cord injury treatment maker InVivo Therapeutics Corp. has successfully wrapped up preliminary primate studies and is now looking to secure funds to go prime time.

During the summer, InVivo completed a primate and rodent study that demonstrated InVivo's polymer-based technologies to be 100 percent effective, said Frank Reynolds, CEO of the Cambridge-based company.

"In the history of spinal cord injury research, no one has ever had any success in treating a spinal cord injury in a primate," Reynolds said.

Reynolds claims that InVivo, which uses technologies co-developed by Robert Langer of MIT, is unique. "We've taken a completely different approach," said Reynolds. First, said Reynolds, most of the damage to a spine starts at about 24 hours after an initial accident. "We need to take advantage of the therapeutic window of opportunity between the time injury occurs and the time when the patient is in the wheelchair for life," said Reynolds. InVivo does this by injecting or implanting a biocompatible polymer into the lesion, which reduces the secondary damage and protects the unaffected areas. The polymer eventually disintegrates inside the body, eliminating the need for surgical removal.

The company has already raised \$3 million, and in the next 90 days, it expects to close on a \$15 million Series A round. That will fund a proposed human study to be conducted in the summer of 2009. After the anticipated U.S. Food & Drug Administration (FDA) approval, the company will be generating a profit, said Reynolds. The CEO has special insight into the problem, having at age 28 been in a car accident that injured his spine and left him in a body brace for five years.

InVivo appears to have done some promising animal work, but it hasn't disclosed its exact details, so it's difficult to make a complete assessment about what makes that work novel, noted Amar Sawhney. Sawhney is president and CEO of I-Therapeutix Inc., a Waltham-based startup that is developing products to seal surgical wounds. InVivo's overall approach, addressing the underlying factors that cause spinal injury, seems a sound one, he said. It may, however, take years before the company can fully solve spinal cord problems and that may make investors wary. Overall, Sawhney noted that spinal cord injuries represent a "huge unmet need."

Nevertheless, Reynolds said that this month he plans to start primate tests for technologies that will range from acute to chronic spine injuries, or the "whole gamut."