Irvine, CA, November 10, 2009 — After showing successful results in improving function in rats with recently incurring thoracic spinal cord injuries, the US Food & Drug Administration initially gave Geron Corp. permission to conduct the US’s first stem cell treatment in people with recently incurring thoracic injuries. However, the FDA delayed human testing until similar preclinical studies on rats with cervical injuries could be completed.

That cervical study is now completed with results similar to those shown in previous studies. The results appear online in the journal, *Stem Cells*, and may prompt the FDA to authorize clinical testing of the treatment therapy in people with recently incurring cervical injuries as well as thoracic injuries.

Myelin is the biological insulation for nerve fibers that’s critical to proper functioning of the central nervous system.

The Geron therapy utilizes human embryonic stem cells destined to become spinal cord cells called oligodendrocytes, which are the building blocks of myelin. The stem cells rebuilt myelin, prevented tissue death and triggered nerve fiber regrowth. They also suppressed the immune response, causing an increase in anti-inflammatory molecules.


San Diego, CA, October 29, 2009 — Scientists at the University of California, San Diego School of Medicine report that regeneration of central nervous system axons can be achieved in rats even when treatment delayed is more than a year after the original spinal cord injury (SCI).

In the United States alone, more that 250,000 people live with SCI. Yet nearly all previous SCI studies have attempted to stimulate regeneration almost immediately after injury. Previous attempts to show regeneration in the late, chronic stages have been largely unsuccessful.

Although a number of mechanisms create formidable barriers to regeneration of injured axons in chronic SCI, the scientists achieved axonal regrowth using a combination of 1) a cellular bridge in the lesion site; 2) a nervous system growth factor to guide axons to the correct target; and 3) a stimulus to the injured neuron that turns on regeneration genes. Treatment was begun at time periods ranging from 6 weeks to 15 months after the original injury. The UC San Diego team demonstrated successful regeneration of spinal cord axons into, and then beyond, a cervical spinal cord injury site. Animals lacking the full combination treatment did not exhibit re-growth.

The studies were done in sensory systems that relay the sense of touch from the body to the brain. In ongoing studies, the scientists are testing these approaches for regenerating axons that control movement in chronically injured rats.


Washington, DC, October 29, 2009 — President Obama congratulated the House of Representatives on the introduction of the Affordable Health Care for America Act, which is a critical milestone in the President’s effort to reform our health care system.

“The House legislation includes critical reforms to the insurance industry, so that Americans will no longer have to worry that they will be denied coverage, or that their coverage will be dropped or watered down when they need it most. I’m also pleased that the bill includes a public option offered in an exchange. As I’ve said throughout this process, a public option that competes with private insurers is the best way to ensure choice and competition that are so badly needed in today’s market. And the House bill clearly meets two of the fundamental criteria I have set out: it is fully paid for and will reduce the deficit in the long term.”

How to Do Daily Pressure Reliefs

Pressure relief is a necessity for preventing pressure sores. The pressure relief technique you use will depend on your level of injury, the type of wheelchair you use and how much movement and strength you have in your arms and shoulders.

It is very important that you receive training from your health care provider in how to use any of these features in order to make sure you are safe and getting enough pressure relief. Most people with limited strength and movement use tilt, recline and elevating leg rests features to change body position in a manner that provides pressure relief.

Tilt systems maintain the seat to back angle but change the angle orientation to the ground. Tilt angle of between 25 and 65 degrees has been shown to provide pressure relief, but 15 degrees or less does not provide adequate pressure relief. Figure 1 shows a 65 degree tilt.

Recline systems (Figure 2) provide a change in seat-to-back angle while maintaining a constant seat angle with respect to the ground. The use of recline affects the vertical (downward) pressure and horizontal pressure on your skin and needs to be evaluated individually. Note that tilt and recline features provide the most pressure relief when used in combination.

Elevating leg rests allow change in the angle of legs and/or footrests in relation to the seat, extending the knee. This feature can help reduce pressure when using the recline feature.

People with greater strength and mobility can lean forward and from side to side to relieve pressure. When these techniques are used, you should be sure the weight is completely off the opposite buttock for 30-90 seconds of relief.

1. Lock your wheels, and swing away one armrest from your wheelchair.
2. Hold onto the remaining armrest and lean your body to the opposite side, taking the weight off one buttock (Figure 3).
3. Repeat on other side.

If you cannot grasp the armrest with your hand, you may be able to hook your wrist behind the wheelchair push handle or back rest (Figure 4), or you may lean on a stationary table or object for support (Figure 5).

To regain the upright position, you may need to use the wheelchair push handle or armrest for assistance. Some also find that pushing up on the push rims of the wheels helps in regaining upright position.

Leaning forward can be done independently or with assistance.

1. Turn the front casters forward, then lock the rear wheels.
2. Bend forward and bring your chest to your knees (Figure 6).

There are several ways to regain upright position depending on your equipment and the strength in your arms and trunk. You may push up with your hands on your knees, push handles, or armrests.

If you are looking for less obvious pressure relief techniques when you are out in the community, cross one leg over the other and lean back to one side while holding your knee in position, lifting the weight off one buttock at a time. (Figure 7).

Finally, independent push-ups can be done by people who can extend their arms with enough strength to lift their bodies.

1. Grip your arm rests with your hands
2. Lift up completely off your seat.

If you have an upper body injury, you should use another pressure relief technique.

Either a manual adjustment or electric actuator. All chairs recline to 45 degrees and can be equipped with adjustable headrest, cup holders, and a ramp for entering.

“I could never achieve comfort on regular furniture and eventually stopped trying,” writes Darling on his web site. “Thus, I spent the last 20 years hanging out at either the dining table or computer stand. Family and friends in the living room were often facing away from me. My only comfort alternative to my chair was to go lay down in bed, often falling asleep when all I wanted was a short break from my chair. What was supposed to make me comfortable for a half hour turned into a 2-3 hour nap. Since I started using the Wheelchair Accessible Recliner, I have found many therapeutic advantages including pressure relief and stretching exercises that allow me to feel better and be more active,” adds Darling.

If your idea of useful technology is something that makes life more comfortable, you will never have to get out of your manual wheelchair. The front bottom bar is easily backed over and works as a wheel chock to keep your wheelchair stable when you are in the reclined position. Exiting the recliner is done by simply pulling forward on the armrest and the chair pops out, making it easy to go get a snack and return to comfort.

There are two versions of the Wheelchair Accessible Recliner. Both versions have welded steel frames. The Fully Upholstered Wheelchair Recliner (top) is equipped with an electric actuator and remote control to easily adjust the reclined position, The Open Frame Wheelchair Recliner (right) has a durable powder-coated finish and can be equipped with either a manual adjustment or electric actuator. All chairs recline to 45 degrees and can be equipped with adjustable headrest, cup holders, and a ramp for entering.

“Exmovere is developing a Segway-based upright mobility device called the Chariot. It enables users to maintain an eye level position with people by surrounding the user’s thighs, hips and legs in a kind of cocoon. The user’s hands, arms and chest remain free to do whatever is desired.

With the Chariot, Exmovere is seeking to benefit from current market trends towards individualized transportation with a focus on low carbon-footprint technologies. Future Chariots will offer unique features such as: smart battery management and inductive charging; core body temperature monitoring; heating and cooling; dynamic stabilization on rough, sandy, uneven and wet terrain; wireless connectivity and GPS; and sonar and radar systems for visually impaired riders.

This would position the vehicle as a direct competitor to existing sit-down wheelchairs/scooters marketed to obese, elderly and people with limited mobility.

Exmovere intends to sell the Chariot through a licensed dealership network to be established first in the United States. At Chariot Stores, customers will have the opportunity to test drive Chariots, order accessories and apply for financing. Although low volume production Chariots are expected to be priced under $10,000 per unit, the company believes that mass production can reduce the Chariot unit price over the next 5 years by at least 50%.

SOURCE: www.exmocare.com/mobility2.html
October 5, 2009 Washington, D.C. - President Obama announced that his Administration is taking several steps to ensure that there is fair and equal access to employment for all Americans, particularly the 54 million people in this country living with disabilities. The announcement comes during National Disability Employment Awareness Month.

“My Administration is committed to ensuring that all Americans have the chance to fulfill their potential and contribute to our nation,” said President Obama. “Across this country, millions of people with disabilities are working or want to work, and they should have access to the support and services they need to succeed. As the nation’s largest employer, the Federal Government and its contractors can lead the way by implementing effective employment policies and practices that increase opportunities and help workers achieve their full potential. We must also rededicate ourselves to fostering an inclusive work culture that welcomes the skills and talents of all qualified employees. That’s why I’ve asked the responsible agencies to develop new plans and policies to help increase employment across America for people with disabilities.”

Some of the steps the President will take include:

- The Office of Personnel Management (OPM) and Department of Labor’s Office of Disability Employment Policy (ODEP) will collaborate to sponsor and organize a day long Federal Government-wide job fair for people with disabilities. The Fair will take place in early 2010. In addition, OPM, ODEP, the Equal Employment Opportunity Commission (EEOC) and the Department of Defense’s office on Computer and Electronic Accommodations Program will provide workshops throughout the day on a variety of topics including the Schedule A hiring waiver and the right to the provision of reasonable accommodations including information on assistive and communications technology.
- OPM will develop training on Schedule A for federal Human Resources specialists, hiring managers and selective placement coordinators that will be easily accessible and includes online training.
- EEOC and the Department of Justice’s Civil Rights Division will hold four Town Hall meetings throughout the nation to share information about the ADA Amendments Act proposed regulations and to gather comments on them. All Town Hall meetings will consist of two sessions - one for disability advocates and one for the employer community. These sessions will be completed by November 20th. The four locations are Philadelphia, Chicago, San Francisco, and New Orleans.
- The Department of Justice will release a video that will identify and respond to a number of common myths held by employers about workers with disabilities.
- OPM will create and lead a task force comprised of representatives from key Federal Departments and Agencies that have developed and implemented model practices for recruiting, retaining and advancing employees with disabilities. The task force will report on the innovative practices agencies use to encourage the employment of individuals with disabilities. The report will identify and promote successful practices for conducting outreach, recruiting, hiring qualified candidates, successful accommodations, and providing opportunities for career advancement at all levels.


The American Recovery and Reinvestment Act included a number of provisions of particular concern to people with disabilities.

- The Act included $500 million to help the Social Security Administration reduce its backlog in processing disability applications.
- The Act supplied $12.2 billion in funding to the Individuals with Disabilities Education Act;
- The Act also provided $87 billion to states to bolster their Medicaid programs during the downturn; and,
- The Act provided over $500 million in funding for vocational rehabilitation services to help with job training, education and placement.

SOURCE: http://www.whitehouse.gov/issues/disabilities
Management of neuropathic pain following spinal cord injury: now and in the future

OBJECTIVE: To provide an overview of our current understanding of the problem of neuropathic pain following spinal cord injury (SCI) and to suggest possible therapeutic options in the near future.

METHODS: Original research articles, reviews and book chapters on the subject of pain and SCI.

RESULTS: Neuropathic pain following SCI has presented a challenge not only for traditional concepts of how pain occurs but also for more recent conceptualizations. We have made substantial progress in identifying the common types of pain that occur following SCI, determining the prevalence and characteristics of pain, investigating some of the pathophysiological changes in the nervous system that may contribute to the presence of neuropathic SCI pain and examining the effectiveness of some treatments. However, major challenges remain. We still need to reach consensus on an SCI pain taxonomy; our understanding of mechanisms and the relative contribution of changes in the periphery, spinal cord and brain is incompletely understood; there are few studies that indicate effective treatment options, particularly for neuropathic SCI pain; and treatment of the biological and psychological contributors to pain is often fragmented.

CONCLUSION: Recent studies suggest the potential usefulness of new treatment approaches such as selective pharmacological agents, application of novel neurostimulation techniques and the use of cognitive approaches to modify the pain experience. Our increasing understanding of the problem combined with the promise of these new approaches offers hope for improved management of neuropathic pain following SCI in the near future.


Pain after Spinal Cord Injury: A Review of Classification, Treatment Approaches, and Treatment Assessment

Pain is a prevalent consequence of spinal cord injury (SCI) that can persist for years after the injury and can have a significant impact on physical and emotional function and quality of life. There are a variety of types of pain that may develop after a SCI, including those of primarily nociceptive origin and those of primarily neuropathic origin. Recommendations for diagnostic and treatment strategies have been varied in part because of the lack of a universal classification system and in part because of the biopsychosocial nature of pain. The most recent taxonomy for pain after SCI is described herein. Pain-management strategies, including pharmacological, interventional, and psychological treatments, also are described. For neuropathic pains in SCI anticonvulsant agents and tricyclic antidepressants often are tried, but these treatments have had limited success in many patients, and alternative interventions (eg, massage therapy, acupuncture, meditation) often are just as successful. Treatment of nociceptive pain after SCI often includes nonsteroidal antiinflammatory agents and acetaminophen, but corrections of underlying etiologies and behavior adjustments also should be implemented if possible. An overview of self-report pain questionnaires and scales also is presented to provide the clinician and researcher with a set of tools to evaluate the efficacy of pain interventions.

Participate in SCI Related Research
at Spain Rehabilitation Center

The Effects of Virtual Walking on Pain in Spinal Cord Injury Patients: Must be at least 19 years old and experience spinal cord injury related pain at or below the level of injury. $25 Visa gift cards for each of two test days. For information contact Dr. Betsy Richardson at 205-934-3345 or ejrichar@uab.edu.

The Effects of Nicotine on Pain in Spinal Cord Injury Patients: Must be at least 19 years old and experience spinal cord injury related pain. We are seeking participants who are both smokers and non-smokers. $50 Visa gift cards are given for each of two test days. For information contact Dr. Betsy Richardson at 205-934-3345 or ejrichar@uab.edu.

One-Day Study on Relationship Between Neurologic Exam and Bladder Function: Participants in must be 19 to 60 years of age and 6 months to 12 years post SCI. For your participation in this one-day study, you will receive $225 upon completion of the study. For information contact Peg Hale at 205-934-2224 or poharet@uab.edu.

Participants are needed to study a new method to measure thoracic and lumbar muscle strength after a spinal cord injury. Participants must be at least 19 years old, be medically stable, have no fever, have no external immobilizing devices; have any SCI other than a complete cervical injury; and be able to be tested at Spain Rehabilitation Center. If interested, contact Pat Taylor at 205-934-5463 or poharet@uab.edu.

Participants are needed to study a new method to measure motor recovery after a spinal cord injury. Participants must be at least 19 years old, have had an incomplete SCI for over 3 years, and be able to be tested on 2 separate occasions at Spain Rehabilitation Center. $25 Visa gift cards will be provided to participants for each visit. If interested, contact Pat Taylor at 205-934-5463 or poharet@uab.edu.

Participate in a Project to Improve the Symptoms of Mood in Spinal Cord Injury (PRISMS). Participants must be between 19 and 64 years of age and at least 1 month following injury. Women may not be pregnant or breast feeding. Participants will need to visit Spain Rehabilitation Center for a baseline interview, 5 clinic visits and a 12th week final assessment clinic visit. A final 24 week follow-up assessment will be done by phone. Participants who complete the entire project receive up to $475. For information contact Jan Troncale at 205 996-5014 or jtroncal@uab.edu.

Pushin’ On is published biannually and provides information on spinal cord injury (SCI) to individuals with SCI, their families, and service providers. It is available via mail or found at www.spinalcord.uab.edu. It is distributed free of charge to its target audience. Alternate formats of this publication are available on request.

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