May 27, 2008 - The US Census Bureau released its most recent data about disability in America. According to the report, there are 41.3 million people with some level of disability. They represent 15 percent of the population 5 years old and older.

- 10.7 million people with a disability require personal assistance with one or more activities of daily living (such as taking a bath or shower) or instrumental activities of daily living (such as using the telephone).
- About 2.7 million with a disability use a wheelchair, and another 9.1 million use an ambulatory aid such as a cane, crutches or walker.
- There were 2.2 million undergraduates with a disability during the 2003-04 school year. These students represented 11 percent of all undergrads.
- 33% of people 25 to 64 who had a nonsevere disability are college graduates. This compares with 43 percent with no disability and 22 percent with a severe disability.
- 44% of people with nonsevere disability work full time, year-round. This compares with 53 percent without a disability and 13 percent with a severe disability.
- Between 36% and 29% of people 15 to 64 with a severe disability use a computer and the Internet at home. The respective figures for those without a disability are 61 percent and 51 percent.


LEAD (Leadership for the Employment of Americans with Disabilities) is the U.S. Equal Employment Opportunity Commission’s initiative to address the declining number of employees with targeted disabilities in the federal workforce. The goal for this initiative is to significantly increase the population of individuals with severe disabilities employed by the federal government.

Please note that the LEAD initiative is not an employment program. Rather, LEAD staff is working to encourage federal agencies to hire and advance more individuals with severe disabilities. Thus, LEAD is not directly involved with individual hiring decisions.

Source: www.eeoc.gov/initiatives/lead/.

With bacterial resistance growing researchers are searching to uncover as many new antibiotics as possible. Some Streptomyces bacteria are already used industrially to produce current antibiotics and researchers have developed approaches to find and exploit new pathways for antibiotic production in the genome of the Streptomyces family. It was once thought that the relatively unstable butyrolactone compounds represented by “A-factor” were the only real signal for stimulating such pathways of possible antibiotic production. However, the teams of Warwick and John Innes have now found a much more stable group of compounds that may have the potential to produce at least one new antibiotic compound from up to 50% of the known Streptomyces family of bacteria. With thousands of known members of the Streptomyces family, that could mean that 2-alkyl-4-hydroxymethylfuran-3-carboxylic acids could unlock hundreds of new antibiotics to replenish our dwindling arsenal of effective antibiotic drugs.

Source: http://www.pnas.org/content/105/45/17510.full.pdf+html

A new study shows that women with a disability are far more likely to experience a physical assault by a spouse or other intimate partner than those without a disability. Such partner violence includes being threatened with violence and hit, slapped, pushed, kicked or physically hurt. Women with a disability were also much more apt to report a history of unwanted sex by an intimate partner when compared to women without a disability.

Source: http://uk.reuters.com/article/healthNews/idUKTRE49Q5LJ20081027
**Does my body have both good and bad bacteria?**

Bacteria are tiny, microscopic single-celled life forms that group together and form colonies. Different bacteria can live in various systems of the body.

Those bacteria living in the urinary system can quickly multiply and lead to infection or disease. If an infection develops, individuals with spinal cord injury (SCI) will generally show symptoms (symptomatic) of a urinary tract infection (UTI) that include:

- fever;
- chills;
- nausea;
- headache;
- change in muscle spasms; and
- autonomic dysreflexia (AD).

Of course, **antibiotics** are the standard treatment for infections. Antibiotics are prescribed by a doctor and essentially work by killing the “bad” bacteria causing the infection.

You should always follow your doctor’s advice on treatment of UTIs. On the other hand, many doctors do not know that individuals with SCI have special considerations when it comes to use of antibiotics. Your doctor needs to know four facts:

**1** - As an individual with SCI, you are likely to have bacteria in your urinary system at any given time. The presence of bacteria is common because bacteria from the skin and urethra are easily brought into the bladder with ICP, Foley, and Suprapubic methods of bladder management. Also, many individuals with SCI are not able to completely empty their bladder, leaving some bacteria in the urine remaining in the bladder.

**2** - Whereas bacteria identified in a urine culture is usually cause for treatment by doctors, you do not necessarily need treatment for an infection. Antibiotics are recommended for treatment of UTIs only if symptoms are present.

**3** - When you show symptoms of illness, it is highly recommended that you call your doctor immediately for advice on treatment. You should then provide your doctor with a urine sample before treatment. These two actions are recommended so that your doctor can first rule out any other health problems. Second, your doctor can prescribe the most effective antibiotic to treat your specific infection (bacteria type). Finally, antibiotics should be taken exactly as prescribed and for a sufficient duration to fully kill the bacteria.

**4** - Use of antibiotics as a prevention method for UTIs should be avoided unless there is an overriding medical need to prevent an infection. Although there are some circumstances, such as pregnancy, when prevention of infection is needed to avoid unwanted medical complications, antibiotic resistance is a major concern for individuals with SCI. Each time you take an antibiotic, the bacteria have the opportunity to change in some way that reduces or eliminates the effectiveness of that antibiotic to kill the bacteria in the future. So it becomes harder and harder to get an effective antibiotic when you actually get sick from a bacterial infection.

Whereas bacteria found in the urinary system can cause illness, there are also “good” bacteria found in your digestive system. These bacteria are actually beneficial for maintaining the natural balance of organisms (microflora) in the intestines. Maintaining this proper bacterial balance can help individuals with SCI in their bowel management.

Anytime you take antibiotics, you kill both the good and bad bacteria. Therefore, **probiotics** are sometimes recommended by doctors during and/or after a course of antibiotics to replenish and restore the numbers of beneficial bacteria lost to antibiotic use.

Probiotics are dietary supplements containing potentially beneficial bacteria or yeast. The most common sources for probiotics are yogurt, but other dairy products such as cheese, milk, sour cream and kefir are also probiotics.
A 2007 article in *Pushin' On* featured a “walking aid device” made by Honda Motor Company. The prototype was designed for people who have some ability to walk on their own, maybe even some individuals with lower levels of paraplegia.

This second generation of the device consists of a seat, frame, and shoes. It provides natural assistance in various postures and motions by supporting a portion of the person’s bodyweight:

- The user simply needs to wear the shoes and raise the seat into place.
- The user can benefit from the assist without the need of a belt to fasten the device to their body.
- The structure to position the device between the user’s legs minimizes the required footprint, therefore making it easier to maneuver.
- The device supports a portion of the person’s bodyweight by lifting the seat as the frame between the shoe and seat bends and extends, just like knees, with the force from the motor. As a result, the load on leg muscles and joints (in the hip, knees, and ankles) is reduced.
- Honda developed a unique mechanism where the seat and frame follow the movement of the body and legs. The assisting force is directed toward the user’s center of gravity, just as with human legs, which enables the device to provide assistance.
- Natural walking is achieved through sensors imbedded in the shoes of the device. The sensors control two motors that automatically adjust the amount of assisting force applied to the right and left legs.
- The effectiveness of the device is enhanced in motions and postures that put increased load on knees, such as going up and down stairs and in a squatting position. This is achieved by adjusting the assisting force in accordance with the bending and stretching motion of the knees.

Honda will now begin testing the device in real-world conditions to evaluate its effectiveness for .


Argo Medical Technologies aims to do more than restore mobility to people with severe walking impairments. Argo’s goal is to restore dignity, health, inclusion, and self-esteem by enabling individuals with paraplegia to stand, walk, and climb stairs.

ReWalk™, the first commercially viable upright walking assistance tool, enables wheelchair users with lower-limb disabilities to stand, walk, and even climb stairs. For potentially millions of wheelchair users, ReWalk™ delivers a new perspective – on the world, on themselves, and on life. Argo plans to have The ReWalk™ ready for world-wide commercial deployment by 2010.

SOURCE: [www.argomedtec.com](http://www.argomedtec.com)

Cyberdyne’s Robot Suit HAL (Hybrid Assistive Limb) Exoskeleton is a cyborg-type robot that can improve and expand physical capability. The suit itself is able to enhance the average user’s strength ten-fold and is expected to be applied in various fields such as rehabilitation support and physical training support in the medical field, daily living activity support for persons with disabilities, heavy labor support at factories, rescue support at disaster sites, as well as in the entertainment field.

Better yet, Cyberdyne is saying that they will have between 40 and 500 suits available for rent by the end of the 2008 for a semi-tempting cost of $1,000 per month. Are you tempted to try one?

Fifty-four million Americans experience some form of disability. Although the Americans with Disabilities Act (ADA) was enacted to offer an “equal opportunity” to fulfill the American Dream, the reality remains far from equal for Americans with disabilities according to 2006 statistics.

For example, working-age Americans with disabilities were almost 3 times more likely to live in poverty when compared to those without disabilities. While the average annual household income of individuals in the United States without disabilities was $65,400, the average annual household income for people with disabilities was $36,300. Finally, the employment rate for persons with disabilities in 2006 was at least 40 points lower than the employment rate of working-age individuals without disabilities.

Barack Obama will soon take office as the 44th President of the United States of America. As president, he has stated that he will renew America’s worldwide leadership role by seeking the first UN Convention to ratify a Rights of Persons with Disabilities treaty. This treaty would be a vital foundation for respecting the rights of people with disabilities worldwide.

Obama was elected on a platform calling for “change.” But what changes are in store for Americans with disabilities?

The President-Elect campaigned on a four part plan to empower Americans with disabilities:
1. providing Americans with disabilities the educational opportunities they need to succeed;
2. ending discrimination and promoting equal opportunity;
3. increasing the employment rate of workers with disabilities; and
4. supporting independent, community-based living for Americans with disabilities.

As President, Obama has offered to work closely with individuals with disabilities and disability rights advocates to achieve this vision of a society where all can live with dignity and respect. You can find the full details of the President-Elect’s four part plan at www.barackobama.com/pdf/DisabilityPlanFactSheet.pdf.

President George W. Bush signed the ADA Amendments Act of 2008. The new Act retains the original ADA’s basic definition of “disability” as an impairment that substantially limits one or more major life activities, a record of such an impairment, or being regarded as having such an impairment. However, it changes the way that these terms should be interpreted. Now, the new Act:

- directs the U.S. Equal Employment Opportunity Commission (EEOC) to revise that portion of its regulations defining the term “substantially limits”;
- expands the definition of “major life activities” by including two non-exhaustive lists:
  1. the first list includes many activities that the EEOC has recognized (e.g., walking) as well as activities that EEOC has not specifically recognized (e.g., reading, bending, and communicating);
  2. the second list includes major bodily functions (e.g., “functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions”);
- states that mitigating measures other than “ordinary eyeglasses or contact lenses” shall not be considered in assessing whether an individual has a disability;
- clarifies that an impairment that is episodic or in remission is a disability if it would substantially limit a major life activity when active;
- provides that an individual subjected to an action prohibited by the ADA (e.g., failure to hire) because of an actual or perceived impairment will meet the “regarded as” definition of disability, unless the impairment is transitory and minor;
- provides that individuals covered only under the “regarded as” prong are not entitled to reasonable accommodation; and
- emphasizes that the definition of “disability” should be interpreted broadly.

EEOC will be evaluating the impact of these changes on its enforcement guidances and other publications addressing the ADA. The new law takes effect January 1, 2009.
Vardenafil improves ejaculation success rates and self-confidence in men with erectile dysfunction due to spinal cord injury.

BACKGROUND: Multicenter, double-blind, placebo-controlled, parallel-group study.

OBJECTIVE: To assess the effect of the oral phosphodiesterase type-5 inhibitor, vardenafil, on ejaculation rates and self-confidence in men with spinal cord injury (SCI).

METHODS: In this 12-week study, 418 men aged >or=18 years with erectile dysfunction >6 months resulting from a traumatic SCI were randomized to vardenafil (n = 207) or placebo (n = 211) 10 mg for 4 weeks, then maintained or titrated to 5 or 20 mg at weeks 4 and 8. Assessments included questions of the International Index of Erectile Function (IIEF) about ejaculation success and orgasmic perception; the Global Confidence Question; and quality-of-life scales to measure psychological well-being, self-esteem, depression, and mental health status.

RESULTS: Overall per patient ejaculation success rates were significantly greater with vardenafil than placebo over 12 weeks of treatment (19% vs. 10%; P < 0.001). At last observation carried forward, the IIEF “orgasmic function” score increased from 2.9 at baseline to 4.0 for vardenafil and from 3.0 at baseline to 3.4 for placebo. Sixteen percent of men receiving vardenafil and 8% receiving placebo felt orgasm “almost always” or “always” at weeks 8-12, compared with 4% and 6%, respectively, at baseline. Significant improvements in confidence scores were observed with vardenafil compared with placebo (P < 0.0001). There were no clinically significant differences between vardenafil and placebo in the quality-of-life measures at the study endpoint, but these had been in the normal range at baseline.

CONCLUSION: Vardenafil significantly improved ejaculation and self-confidence in men with erectile dysfunction due to SCI.


Protection and repair of the injured spinal cord: a review of completed, ongoing, and planned clinical trials for acute spinal cord injury

Over the past 2 decades, advances in understanding the pathophysiology of spinal cord injury (SCI) have stimulated the recent emergence of several therapeutic strategies that are being examined in Phase I/II clinical trials. Ten randomized controlled trials examining methylprednisolone sodium succinate, tirilizad mesylate, monosialotetrahexosylganglioside, thyrotropin releasing hormone, gacyclidine, naloxone, and nimodipine have been completed. Although the primary outcomes in these trials were largely negative, a secondary analysis of the North American Spinal Cord Injury Study II demonstrated that when administered within 8 hours of injury, methylprednisolone sodium succinate was associated with modest clinical benefits, which need to be weighed against potential complications. Thyrotropin releasing hormone (Phase II trial) and monosialotetrahexosylganglioside (Phase II and III trials) also showed some promise, but we are unaware of plans for future trials with these agents. These studies have, however, yielded many insights into the conduct of clinical trials for SCI. Several current or planned clinical trials are exploring interventions such as early surgical decompression (Surgical Treatment of Acute Spinal Cord Injury Study) and electrical field stimulation, neuroprotective strategies such as riluzole and minocycline, the inactivation of myelin inhibition by blocking Nogo and Rho, and the transplantation of various cellular substrates into the injured cord. Unfortunately, some experimental and poorly characterized SCI therapies are being offered outside a formal investigational structure, which will yield findings of limited scientific value and risk harm to patients with SCI who are understandably desperate for any intervention that might improve their function. Taken together, recent advances suggest that optimism for patients and clinicians alike is justified, as there is real hope that several safe and effective therapies for SCI may become available over the next decade.

Participate in SCI Related Research
at Spain Rehabilitation Center

Study to Determine Possible “Imaging” of Pain Activity in the Spinal Cord. We seek persons who are at least 1 year post-injury with neuropathic pain aggravated by light touching at or below their level of injury. Will receive $50 to complete 2 fMRI scans for up to 20 minutes. For information contact Dr. Scott Richards at 205-934-3454 or richards@uab.edu.

Validation of an Outcome Measure for Motor Recovery in Incomplete Spinal Cord Injury. We seek 2 groups of persons with SCI at least 19 years old. Group 1 must be 3-60 days post-injury and available for five 15-20 minute testing sessions over 1 year period. Group 2 must be at least 3 years post-injury and available for 2 similar sessions over one week. $25 Visa for each session completed. For information contact Pat Taylor at 205-934-5463 or poharet@uab.edu.

The Effects of Nicotine on Pain in Spinal Cord Injury Patients: Must be at least 19 years old, be at least 1 year post-injury and experience neuropathic pain. We seek participants who are both nicotine and non nicotine users. $50 Visa cards for each of two test days. For information contact Christopher Stewart at 205-934-3345 or ccstewrt@uab.edu.

One-Day Study on Relationship Between Neurologic Exam and Bladder Function: We seek persons between 19 and 60 years of age and between 6 months and 3 years post-injury. You will receive $225 for completion of study. For information contact Jim Higinbotham at 205-934-2088 or jhigg@uab.edu.

Study of Persons with Traumatic Spinal Cord Injury and Related Physical and Emotional Symptoms. Seeking persons who are at least 1 month post-injury, between 19 and 64 years old, not pregnant or breastfeeding, and able to easily commute to Spain Rehabilitation Center. Participants will receive a $10 Visa card for screening interview, $25 card for baseline interview (plus $25 check for travel), $35 card for each of 5 clinic visits (plus $25 check for travel to each visit), $75 card for final assessment (plus $25 check for travel), and $25 card for follow-up phone assessment. For information contact Jan Troncal at 205-996-5014 or jtroncal@uab.edu.

A new method to measure Thoracic and Lumbar Muscle Strength After Spinal Cord Injury. To participate in this study, you must be medically stable, have no fever, have had an incomplete Cervical SCI or any other type of SCI, have no external immobilizing devices, and be at least 19 years of age. One visit is needed for about 20 minutes. For information contact Pat Taylor at 205-934-5463 or poharet@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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Editor: Phil Klebine, MA
Office of Research Services
619 19th Street South - SRC 529
Birmingham, AL 35249-7330
Phone: 205-934-3283 or TDD 205-934-4642
Fax: 205-975-4691
Email: sciweb@uab.edu

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