Persons with spinal cord injury (SCI) are living longer. That is the best of news.

Individuals with SCI frequently develop secondary conditions - problems that occur as a result of their spinal cord injury. Among these are neurogenic bladder, neurogenic bowel, and spasticity. Medical science has made significant advances in understanding each of these conditions, so that sound and evidence-based advice can be given.

Persons with SCI are also aging. As time progresses forward, we all are influenced by the changes that come with age. There are the obvious changes like graying (or disappearing!) hair, dulled hearing, and inability to see up close. There are also the less obvious - like the loss of motor strength, the loss of motor speed, and the decline in sensory balance.

In addition, for those with SCI, there are problems of aging that seem to progress faster as a result of their injury. Musculoskeletal pain (especially of the shoulder), osteoporosis, and, perhaps, metabolic syndrome (hypercholesterolemia, type II diabetes, hypertension, weight gain) are the concerns that most experts in SCI medicine agree are influenced by both the spinal cord injury and by aging. However, it is likely that many other secondary conditions are also influenced by the aging process.

So, as patients with SCI live longer, the medical field needs to learn more about the impact of the spinal cord injury through the aging process in order to continue to give our patients the best advice on how to maintain their health through “the golden years”.

This line of thinking has had a great influence on the University of Michigan Spinal Cord Injury Model System and the choice of research projects we are pursuing for the next four years. Two projects in particular highlight this influence.

The major project that we are pursuing is to gain better understanding on the impact of neurogenic bladder and neurogenic bowel on patient symptoms and quality of life. By evaluating patients at different time points in their lives and time points after their spinal cord injury, we can gain insight into the changes that occur in bladder and bowel symptoms and management with aging. In addition, identifying which symptoms have the greatest impact on quality of life is an important part of this so that clinicians know which problems they must focus on to have the greatest impact on a patient’s life. An additional part of this research will be to see if providing self-management training early after spinal cord injury improve patient’s bowel and bladder management and reduce secondary conditions associated with neurogenic bowel and bladder.

The second study concerns sleep disordered breathing - better known in the lay press as sleep apnea. We know that sleep apnea worsens with age, weight gain, and disorders that cause muscle
Issues and problems with bladder functioning are some of the most common problems facing people with spinal cord injury (SCI). The goals of bladder management after SCI are twofold:

- maintain continence, and
- minimize complications.

To understand why different methods of bladder management are used or suggested, it is helpful to understand a little bit about the anatomy and functioning of the urinary system.

The urinary system starts with the kidneys, which filter waste products from the blood to produce urine. The urine then goes from the kidneys down muscular tubes, called ureters, into the bladder. The bladder itself is a muscular sack that is composed of criss-crossing muscle fibers called the detrusor muscle. The lower part of the bladder, the “neck”, is formed by circular rings of muscle which serve as a sphincter to control the flow of urine down into the urethra, the tube that empties urine from the bladder.

The detrusor muscle and the muscles in the neck of the bladder are under control of the autonomic, or involuntary, nervous system. There is second ring of muscle around the urethra, the external sphincter, is typically under control of the voluntary, or somatic, nervous system.

Normally, as urine fills the bladder, it expands and stretches the muscle fibers apart so that the pressure inside the bladder stays low. Eventually, though, nerve receptors sense the detrusor muscle stretching and a message is sent to the brain telling you that your bladder is filling up and it is time to urinate. Under normal bladder function, when the detrusor muscle is stretched, the internal sphincter relaxes and an individual can then either voluntarily contract the external sphincter to hold the urine in, or voluntarily relax the external sphincter to let the bladder empty.

After SCI, normal function of the bladder is generally affected in one of two ways depending on where the injury occurs. If the spinal damage occurs in the cervical or thoracic areas, an upper motor neuron bladder generally results. This type of injury can result in uninhibited spasms of the detrusor muscle and subsequent urine leakage. At the same time, there may also be spasms of the internal and external sphincters, causing a dangerous rise in pressure inside the bladder (“detrusor sphincter dyssynergia”).

If the SCI occurs in the lumbar area, a lower motor neuron bladder results. In this case, the damage typically results in detrusor muscles that don’t contract, so the bladder may fill with high volumes of urine without a dangerous rise in pressure or urinary leakage.

Urinary tract infections (UTI) are the most common complication of SCI bladder management. A true UTI indicates that bacteria has invaded into the tissue of the bladder wall, as opposed to bacteria which just lives benignly (without harm) in the urine in the bladder. Benign bacterial colonization of the bladder is nearly universal with use of a catheter. UTIs are more likely to develop when there are high pressures in the bladder.

Another common complication is bladder or kidney stones. Many things can contribute to stone formation, including high amounts of calcium in the urine and bladder colonization by specific types of bacteria.

A third complication, autonomic dysreflexia, may occur from high bladder pressure and detrusor sphincter dyssynergia. Over many years, high pressures in the bladder can lead to enlargement of the detrusor muscle and cause problems with the valves that control flow of urine from the ureters into the bladder. Failure of the ureter valves may allow urine to flow backwards up to the kidneys (ureteral reflux) and eventually cause kidney failure.

Bladder management options after SCI depend on whether a person has an upper motor neuron or lower motor neuron bladder. For individuals with an upper motor neuron bladder, one goal is to prevent high pressures inside the bladder. This can be achieved by periodically emptying the bladder to prevent high volumes, high pressures and detrusor spasms.
weakness. Although the incidence of sleep apnea is higher in patients with SCI, the impact of this problem on day to day function and further health problems has not been adequately studied in the spinal cord population. Part of this difficulty is that the typical sleep lab, where sleep studies are conducted, are not set up to meet the needs of patients with spinal cord injury – they do not have the required specialized beds, equipment required to allow for transfers, assistance with bowel and bladder programs, attendant or nursing care, etc. So many people with spinal cord injury don’t get adequately evaluated.

The study we are conducting is done by doing home based sleep studies in people with spinal cord injury. Since the patient is in their own home and bedroom, their daily routine is not disrupted. This is good for their care but also results in a more realistic sleep experience being evaluated. The information is stored on the equipment, picked up the next morning, and evaluated at the hospital. What we expect to find is that sleep apnea is more common than we thought, causes a lot more problems with day to day function in patients with spinal cord injury, and is readily treatable in most people. And we hope to show that by treating sleep apnea, patients feel better, function better, and are measurably healthier!

For those with a lower motor neuron bladder, high pressures are less of a concern. However, periodic emptying of a lower motor neuron bladder, such as with intermittent catheterization, is necessary to prevent urine pooling in the bladder for extended periods which can result in stones or infections. An individual may be able to empty a lower motor neuron bladder without using a catheter by pressing on the abdomen (Credé) or by bearing down (Valsalva). These techniques do not ensure complete emptying however, and if there is an enlarged prostate gland blocking the urethra or external sphincter spasms, Valsalva and Credé can also result in ureteral reflux and eventual kidney failure.

Surgical options for bladder management exist as well. A suprapubic tube has similar risks as a foley catheter but allows improved sexual genital function as compared to a foley. Bladder augmentation is a procedure to increase the capacity of the bladder by suturing a piece of bowel into the bladder wall. By increasing the volume, pressures inside the bladder are reduced. A urinary diversion surgery shunts urine from the ureters through a segment of bowel to a stoma in the abdominal wall. This surgery may be considered in individuals whose bladders are damaged from pressure sores or bladder cancer, or in individuals who are unable to reach their urethra to insert a catheter. The stoma may empty into an ostomy bag or may require catheter insertion to drain the urine.

Regardless of type of bladder dysfunction or bladder management choice, regular surveillance of bladder and kidney function through blood tests, radiology studies and urologic evaluations is crucial to maintain long term health.
Management of Neurogenic Bowel in Spinal Cord Injury

By: Gianna M. Rodriguez, MD

People with spinal cord injury (with various levels or completeness of injury) commonly have problems with neurogenic bowels. Damage to the spinal cord leads to a lack of innervation to the nerves of the gastrointestinal system, so that the brain and nervous system no longer control bowel functioning. Neurogenic bowel dysfunction results from a miscommunication between the non-voluntary (autonomic) and voluntary (somatic) portions of the nervous system due to the spinal cord injury. As a result of this, there is slowing of colon motility and abnormal pelvic floor muscle movement which affect defecation.

Neurogenic bowel dysfunction is mainly characterized by constipation and fecal (stool) incontinence. However, long term symptoms may include abdominal discomfort, fullness, distention, and early satiety (feeling overly full) which may indicate more serious upper gastrointestinal problems. In a recent review of medical problems after SCI, 41% of participants rated bowel dysfunction as a moderately to severely life-limiting problem, decreasing overall quality of life.

It is important to prevent severe complications that long term constipation and fecal incontinence may cause. This is done by having a good bowel program that regulates bowel movements. The goals of the bowel program should include:

- Regular passage of stool on a daily or every other day basis
- Bowel evacuation at a consistent time of day (AM or PM)
- Complete or adequate emptying of the rectal vault with every bowel program
- Stools that are soft, formed and bulky
- Completion of the bowel program within half an hour (at most within one hour)
- Preventing fecal incontinence and unplanned bowel movements

Each person responds differently to various techniques and medications due to personal differences, diet, fluid intake, level or completeness of injury, and intake of medications that cause constipation. Therefore, the combination of techniques and medications that an individual with SCI may use needs to be individually tailored in order to accomplish the goals of the bowel program. Individuals with SCI should have a comprehensive evaluation by a spinal cord physician who can assist with determining a proper bowel program that fits their needs and lifestyle.

Basics of Bowel Management

First, the intake of an appropriate diet and adequate amounts of fluid is imperative. A primary goal for your diet after SCI is to achieve soft but formed stools. Natural fiber from vegetables and fruit increases stool bulk, making it easier to move through the colon. Drinking an adequate amount of fluids (preferably water) is also critical when taking a high fiber diet since insufficient intake of fluids can lead to constipation. Consuming at least 2-3 liters of fluids per day is recommended. It may also be beneficial to refrain from caffeinated fluids like coffee, tea, energy drinks which promote diuresis and do not contribute to hydration.

Drugs that decrease gastrointestinal motility should be avoided - especially narcotic pain medications (including hydrocodone, oxycodone, morphine, fentanyl, and many others). There are many other medications that can be constipating and their use and possible impact on bowel functioning should be carefully monitored. These include anticholinergics (such as oxybutynin and tolerodine), antispasmodics (such as lioresal, tizanidine, and diazepam), antidepressants (such as Cymbalta, sertraline, and citralopram), and neuropathic pain medications (such as gabapentin, pregabalin, and carbamazepine).

It is also important to remember that bowel programs generally work best when they are done either every day or every-other-day so as to avoid episodes of fecal impaction and for regularity and predictability. Waiting more than two days to have a bowel movement increases episodes of constipation and incomplete emptying of the rectum.
Ensuring complete emptying of the rectum decreases incontinence because stool is not presented to the rectum at unexpected moments. Adequate emptying of the rectum is achieved by ease of movement with soft stools, use of bowel stimulant medication as necessary, activating the defecatory reflex at consistent, anticipated intervals to encourage habituation, and using mechanical means of cleaning out stools.

One or more of the following medications are used to facilitate bowel movements:

- Osmotic laxatives/stool softeners to make stools soft and easier to move
  - These include doculase (colace), polyethylene glycol (mira
dex), mineral oil, and milk of magnesia
- Stimulant laxatives to stimulate colon motility to promote movement of stools
  - These include senna, bisacodyl (dulcolax), and cascara
- Bulking laxatives to add shape and form to stools and prevent diarrhea
  - These include psyllium (metamucil), polycarbophil (fibercon), methy
cellulose (Citru
cel), and guar gum (benefiber)
- Rectal laxatives to assist with rectal motility and evacuation of stool during defecation
  - These include bisacodyl suppositories (magic bullet/dulcolax), doculase suppositories (eneme
ez mini enema), and glycerin suppositories

One or more of the following techniques can also be used to promote defecation:

- Digital rectal stimulation – small circular movements around the recto
anal area using a digit stimulates the defecatory reflex
- Digital dis-impaction of stool – removal of stool from the rectal vault expedites defecation
- Use of enemas – flushes stool from the rectal vault to complete evacuation of stool

**Importance of Bowel Management**

Fecal incontinence commonly results in major embarrassment, social isolation, fear of leaving home, and decreased family and community participation. Furthermore, it can cause development and complications of wounds, pressure sores and osteomyelitis. Worsening of bowel function due to chronic constipation exemplified by fecal loading, bowel impactions, mega colon; and abdominal pain, distention and fullness indicating gastro paresis, intestinal obstruction (or pseudo-obstruction), or chronic ileus are usually observed in people with spinal cord injury for more than 5 years.

Diagnostic testing for these problems are typically uncomfortable, difficult to complete (involves intake of barium, contrast or markers), and require several visits with exposure to radiation. These major complications are irreversible and challenging to treat. Treatment options are limited and surgical intervention may be required.

The importance of preventing problems related to neurogenic bowels cannot be overemphasized and should be the primary approach to treatment. Working on attaining and maintaining regular bowel movements with a good bowel program, proper diet and fluid intake, avoidance of narcotic medications (and other constipating medications) is truly worth a pound of cure.

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**UM SCI Model System Alumni News**

By: Constance Pines, RN

We enjoy hearing from our Alumni! The SCI Access Newsletter would like to include news and advice from you, our alumni, in future newsletters. It is important to us to highlight your experiences and triumphs and look forward to hearing from you. You may contact us online at our website www.med.umich.edu/pmr/modelsci or call our office at 734-763-0971 for information.

**Bonnie Prince,** age 59, injury level T-8, was injured in Feb 2003 when she fell off her horse. Although her recovery was difficult, she “learned to live in a chair” through the loving support of her family, her sheer desire to live life to the fullest, and by relying on her past life experiences. Since 2003, her triumphs include learning to drive a specially adapted car and watching her 2 children grow up, get married and have children of their own. Her hobbies include scrap booking and spending time with her beautiful grandchildren. The past 2 years however, have brought her the greatest health challenge thus far, that being a non-healing pressure sore. She required multiple surgeries and nearly 22 months being bedridden and cared for in a local rehab facility. In spite of these recent difficulties, she is home now, nearly healed and is looking forward to returning to her job as a church receptionist 2 days a week.

**Bryan Logie,** age 43, injury level T-12, was injured June 2001. He credits his fiancé at the time for her loyalty and great support of him and who has now become his wife! Stating he has “always been a motivated person” all his life, he “naturally wants to stay around”! Although he has not been able to continue the job he had prior to his injury, he now looks forward to finally having the time to read and simply have conversations with his elders regarding their life experiences. Additionally, he anxiously awaits the “next generation” of technology and the impact it will have on our children and their future.
Beyond Education: Promoting self-management through electronic gaming

By: Michelle A. Meade, Ph.D.

Education is the main way that we in health care teach people about their medical condition and how to manage it. We lecture people, assign readings, give out brochures and direct them to websites. Throughout inpatient rehabilitation, it probably seems like we bombard those with Spinal Cord Injury (SCI) with information about their condition, associated impairments and the needed management behaviors. Afterwards, information is readily available in books, websites or just asking health care providers or others living with SCI.

However, while there is a lot of information available, knowing something does not mean practicing it – or even really understanding how it applies in your life. Most of us know that we should eat healthy food and exercise regularly, but many of us find it hard to implement those behaviors as part of our lives. However, for those with SCI, performing some health behaviors are critical to maintaining wellness – including remembering to do pressure reliefs and regularly performing bowel and bladder management activities.

It is because the methods for preventing secondary conditions rely on behaviors (and not just knowledge) that effective interventions must be based around techniques that have been proven effective in changing behaviors. These interventions also have to be engaging and relevant, or people are not going to bother to go through or participate in them.

With these considerations in mind, a partnership was formed in 2009 to create a serious game tailored to promoting self-management skills among individuals with SCI. As used in the computer gaming industry, a serious game is “a game designed for a primary purpose other than pure entertainment.” I partnered with Eric Maslowski and other members of the 3D Lab here at the University of Michigan to conceptualize and submit a grant application to develop a game application based on the Health Mechanics self-management program that I had developed with funding from the PVA Education Foundation. One of the primary goals in developing the application was to teach the self-management skills in an alternative format while appealing to and engaging young males with SCI and those with different learning styles. Once learned, self-management skills can then be applied as tools to assist the individual in managing their health and follow recommended guidelines. In September of 2010 we received word that we had received funding from the National Institute of Disability...
The project – nicknamed SCI Hard - is currently in the alpha stage of development. We are using 3-D graphics, the Unity Engine and the Vicon T40 Motion Capture System to develop an application for the iPod Touch or iPad that is accessible to individuals with SCI. The look and feel of the game are being designed to engage the target population of 16 to 24 year old males – a group who regularly play video games and so have the high expectations about the pace and what should be included. Because of this, individuals with SCI play a key role in the development process. A group of 2-3 individuals are recruited each year and asked to be involved in the design and evaluation process. Health care providers also serve as advisors to ensure that the information being conveyed is accurate and meshes well with the expectations of those in the health care system. All advisory board members provide feedback about relevance, engagement and usability. Additional individuals with SCI will be recruited later in the fall / winter of 2012 and in 2013 to provide additional feedback and evaluation.

The game application has the character move through a virtual world. The player can customize their character by choosing their basic skin tones and clothing. Game levels have specific objectives and goals which emphasize particular concepts, starting with health management, moving on to managing attendants, progressing independence and finally culminating in getting on with life in a meaningful way. Among the recommendations / goals are built into the game application are those associated with skin care, bowel and bladder management, interacting with the health care system, and negotiating in the community. Players are required to have their characters monitor and perform behaviors associated with proper management techniques and are called upon to use effective problem solving, organization, self-monitoring, communication and stress management strategies in order to overcome challenges they face within the game environment.

The key (of course) is how these concepts translate into the game design. A large part of what will make the game “fun” are the way tasks are presented, the humor injected into each task, as well as the many rewards the player can earn. These components of the story – fantasy, interaction, and characters that players can relate to – are all key elements in ensuring engagement and game use. First and last, the game has to be engaging and fun so people want to play – and to keep playing.

As the game opens, the player wakes up in the hospital and learns they have a spinal cord injury. They are given little time to figure out what that means, though, as they are taken away to meet their rehab team – including Dr. Alison Allei (their physiatrist); Oti and Petey (their occupational and physical therapists respectively), Razz (their rehab engineer); and Dr. Schrync (their psychologist) – and taught how to do things and given the skills they need to succeed in this new world.

As the game progresses, the player learns how to manage their health and gain independence so that they can save the world. Along the way, they are expected to interact with health care providers, make friends, earn money, buy cool stuff and throw a successful party.

If you are interested in learning more about the game, or would like to be considered for the advisory board, please contact myself at mameade@med.umich.edu
Michael Harris: Trying to Help All Individuals with Disabilities

By Eric A. Appleberry, DDS, MS

On September 7, 1986, 29 year old Michael Harris was driving to his South Lyon, Michigan, home when his car skidded on loose gravel and flipped over. He hoped the car wouldn’t catch fire, as he couldn’t move his legs to get out. When emergency help arrived he told them he probably was paralyzed, so a University of Michigan Hospital helicopter was called. At the Emergency Room Mike was told of the spinal cord injury [T-5, complete] and that he probably “wouldn’t walk again.” He remembers those words, exactly, to this day.

In late December, Mike was discharged from the U-M SCI rehab program and by the following May he was back doing accounting at the Livonia vending company where he had been working since he left the U.S. Marine Corps in 1979. Mike credits his work experience at his last Marine assignment, in Okinawa, Japan, for leading to this similar work here.

In 1990 he decided he should go back to school to get a degree in accounting. He enrolled in a program at Madonna University, Livonia, MI, but due to recurring medical issues (especially pressure sore problems), it was seven years before he graduated. Mike greatly appreciates the university’s accommodation regarding his medical situations.

In 1995, after several invitations to get involved with the Michigan Paralyzed Veterans of America (MPVA), Mike finally went to a membership meeting. While there he was asked if he would be willing to run for the board. He said “yes,” not expecting to be elected. As it turned out, there were only as many candidates as there were slots to fill, so everyone was elected—thus starting Mike’s major and continuing involvement with this organization.

Soon he was asked to take the vacant Government Relations Director job. He accepted, thinking it would be an opportunity to interact with government entities regarding accommodations for the disability community—and a chance to improve things. One of his major functions was working with businesses, organizations, and their architects, regarding compliance with the Americans with Disabilities Act (ADA) requirements for their building projects.

Two early projects were the Comerica (Tigers baseball) Park and the Ford (Lions football) Field stadium. A problem common to stadiums is that wheelchair seating, if present, is not raised. So when fans stand up to cheer, the only thing wheelers see is the backs of the people in front of them. The solution is to raise the wheelers to the next higher (row behind) seat level. Another important item is to have “Family” restrooms, where a spouse or attendant can accompany a person who might need help.

Usually, Mike pointed out, by working with organizations and their architects prior to construction, to educate them and to personalize the importance of the changes, the accommodations are more readily incorporated. “Most people want to get it right,” he said, “but they just don’t know what to do.”

However, if necessary, the MPVA will bring a lawsuit, as they did regarding the renovation of the University of Michigan’s “Big House” football stadium. The settlement U-M agreed to sets a precedent that significant renovations, not just new construction, triggers need for compliance with handicap accessibility requirements.

ADA compliance, Mike has learned over the course of working on many projects, doesn’t end merely with having the appropriate accessibility accommodations in the architectural specifications. The construction phase, as it is being done, must also be monitored. Experience has shown that contractors/builders may sometimes on their own initiative change how things are built. Such changes must be caught early, as changes, after-the-fact, are much more difficult to correct.

In 1995 the MPVA attempted to stop the Michigan Barrier Free Design Board (MBFDB) from giving great numbers of exemptions for handicap code violations to businesses and organizations. The MBFDB would meet six times/year, hear ~90 cases at each session and approve ~94% of the applications—letting all kinds of discrepancies be OK’d—which then protected the businesses from being sued in state courts. The MPVA found that because the MBFDB was established by the state legislature; it couldn’t easily be changed.
So, in federal court, the MPVA sued several of the businesses that had received exemptions from the MBFDB, and won settlements in which the businesses acknowledged they needed to, and then did comply with the federal ADA requirements.

Mike is now on the MBFDB and at each meeting only 5 to 6 cases are evaluated. Exemption applications are only approved if the physical nature of an existing facility is such that technical ADA compliance would be very difficult or at such an extreme cost as to be unmanageable for the business. The codes are there for a reason, Mike points out, and should be followed if possible.

One program that Mike is especially proud of starting is the MPVA “Pump Guide” directory. This lists service stations that have an attendant who will come out to pump gas so disabled individuals don’t have to get out of the car. A directory of participating service stations, organized by community location in the state, can be internet downloaded at: www.thepumpguide.com. Optimally, the station has at the pump a pole with a button that can be reached from inside the car to send a signal to an attendant inside. The guide also has a phone number that can be used for calling an attendant. The Americans with Disabilities Act specifies that station owners can get a tax credit of 50% of the cost of modifications for the signal mechanism. Letting station owners know that you will patronize them will encourage their participation in the Pump Guide program.

In 2007 Mike Harris became the Executive Director of the MPVA. He is also on many advisory boards, including: Michigan Natural Resources Board, Advisory Board for Delta Airlines, Physical Medicine & Rehabilitation Board at U-M School of Medicine, Rehabilitation Institute of Michigan in Detroit, Wayne State University Advisory Board, Ann Arbor Center for Independent Living Board, and the state-federal “Ticket to Work” coalition.

Mike is very satisfied with his association with, and the mission of, the Paralyzed Veterans of America. In modern war many more of the wounded soldiers are surviving—but with residual disabilities that need to be accommodated as best possible. And, Mike said, veterans, especially those in wheelchairs, have some “clout” in engaging with organizations and government agencies to reduce barriers/improve accessibility. The PVA is not just a social club for veterans, but an organization that endeavors to improve the possibilities of members becoming more productive citizens in our society—and the population in general also benefits.

Attention Writers!

Attention all writers, poets and artists -Wordgathering: A Journal of Disability Poetry is currently looking for work that develops the field of disability literature. Our primary aim is to give voice to the emerging genre of disability literature; and are looking for work related to disability or by writers with disabilities. Wordgathering wants work that challenges traditional stereotypes and represents the full range of experiences when it comes to living with a disability. We are unlikely to publish works whose primary purpose is to be inspirational, uplifting, or therapeutic.

While Wordgathering is deeply committed to poetry, we also accept literary essays, short fiction and books of poetry for review. Writers with disabilities can submit poems on any topic while nondisabled writers must submit work that relates in some way to disability. Essays are generally between 1000 and 1500 words and should in some way contribute to the development of the genre of disability either theoretically or through personal experience as a writer with a disability. Wordgathering is also very interested in reviewing books of poetry by writers with disabilities. Wordgathering has been supplementing its literary work with paintings and photography. The Art and Photography Gallery in the December 2009 issue gives an overview of some of the work we have used. Emphasis is placed on work that focuses on disability and pushes some limits. The editors strongly recommend writers read the complete submission guidelines as well as some of the previous issues available at www.wordgathering.com.

We welcome you to read through an issue of Wordgathering – who knows maybe you have to writer hidden inside or maybe you have been writing for months or years and just never knew there was an interest in that type of work. Please visit us at www.wordgathering.com.
Accessibility in Detroit
by Lisa Franklin, Founder/President, Warriors on Wheels (WOW) of Detroit

Warriors on Wheels (WOW) is a non-profit public charity in the Detroit Metropolitan area. The organization was founded to address the lack of accessibility and the barriers I experienced as an individual with a spinal cord injury (SCI). Since its inception in 2008, WOW has documented issues of non-compliance with ADA guidelines and laws among businesses, public entities, public venues, transportation, sidewalks and sidewalk curbs.

A person in a wheelchair who wishes to visit an establishment - be it a grocery store, movie theater, restaurant, or other business or building - should never have to be carried up stairs or enter through the kitchen or dine in a car. WOW says “no” to being carried. We have the law on our side. Under Title II of the Americans with Disabilities Act (ADA) and Project Civic Access, “access to civic life is a fundamental part of American society”; it further promotes physical modifications of facilities to improve accessibility.

Non-compliance with the ADA limits the independence of a person with a disability, and that is taken far too lightly. No one with a disability - whether their impairment was present at birth, slowly developed over time or happened suddenly due to trauma or other circumstance - should endure disrespect or blatant disregard for their rights. Lack of accessibility is an implication of just that. WOW’s position is to educate, suggest solutions and follow through to get the job done.

In the city of Detroit, there are several businesses that have gone above and beyond compliance with the ADA and are very warm in approach to our patronage. We commend those businesses that have complied. On the other hand, 22 years after the ADA was signed into law, shame on those that have not. In this, the first of a series of articles entitled “Accessibility in Detroit” we will address the important issue of curb cuts.

A curb cut or curb ramp is a solid (usually concrete) ramp graded down from the top surface of a sidewalk to the surface of an adjoining street. In comparison with a conventional curb which stops at a right angle 4–6 inches above the street surface, a curb cut is finished at an intermediate gradient that connects both surfaces. In addition, those curb cuts or ramps installed after 2001 are required to have tactile detectable warnings to enhance safety for those with visual impairments.

In 2005, Michigan Paralyzed Veterans of America (PVA) sued the City of Detroit over missing or poorly constructed curb cuts. Hundreds of the curb cuts had been improperly built so that they were too steep, located in dangerous positions or complex, schools or Community College at that intersection.

The street side, most of the bridges were redone and repaved and curb cuts were done to regulation. Beautiful - all except the bridge at Southfield and W. Outer Drive, where there are none of the four sides have curb cuts to get to the overpass. This oversight is a hazard and dangerous to those who would use that overpass to access the grocery store, medical center, apartment had 1 to 2 inch “lips” on them. Five years after the Federal order, the city of Detroit started the Curb Cut Project.

The project went into full swing the summer of 2010, though opposition was present. Some people thought that curb cuts should not have been done in areas where there are no houses. But in the city of Detroit – where the population of people using wheelchairs, riding bikes and families with strollers was higher than ever before - curb cuts need to be done on every corner and crumbling sidewalks need to be repaired. One fourth of Detroit’s population uses wheelchairs or other mobility devices and unfortunately, that number is growing. The safety of our citizens who use wheelchairs and scooters, depend on all curb cuts to be completed.

The Southfield Freeway (M-39) was reconstructed and completed in 2011. On the other side, most of the bridges were reconstructed and completed in 2011. On top of every overpass in the state were there are no houses. But in the city of Detroit – where the population of people using wheelchairs, riding bikes and families with strollers was higher than ever before - curb cuts need to be done on every corner and crumbling sidewalks need to be repaired. One fourth of Detroit’s population uses wheelchairs or other mobility devices and unfortunately, that number is growing. The safety of our citizens who use wheelchairs and scooters, depend on all curb cuts to be completed.

The Southfield Freeway (M-39) was reconstructed and completed in 2011. On the other side, most of the bridges were reconstructed and completed in 2011. On top of every overpass in the state.
into. Within a week, I was contacted and told the responsibility had been narrowed down to the DTSC and asked if there were any other curb cuts we had issue with. Promises were made to make the necessary repairs. We shall see.

In the meantime, it is important that we all are aware of our rights and make our voices heard. You can also help by supporting the creation of an Office of Disability Concerns for the citizens of the City of Detroit and joining us at WOW to help our community become the best that it can be, for ALL our citizens.

For more about the initiation of the Curb Cut Project, see the following link to a Detroit Free Press article from July 20, 2010: http://media-dis-n-dat.blogspot.com/search?q=curb+cut+detroit

For more about Project Civil Access see: http://www.ada.gov/civicfac.htm

For more information about Warriors on Wheels, see: http://wow4metrodetroit.weebly.com/ or contact them at Wow-4metrodetroit@yahoo.com

The Americans with Disability Act (ADA) was signed into law in 1990 with mandates that went into effect in 1992. The ADA prohibits discrimination against individuals with disabilities in employment (Title I), State and local government (Title II), public accommodations (Title II), commercial facilities (Title III), transportation (Title II and III), and telecommunications (Title IV). The ADA not only addresses architectural standards, but also reasonable modifications to policies, practices and procedures. In 2011, the Department of Justice amended the ADA to make regulations consistent with current ADA / ABA Accessibility Standards.

The ADA mandates the following accommodations for individuals with disabilities (http://www.ada.gov/civicfac.htm):

• Accessible parking
• Accessible routes into and through the facilities
• Accessible rest rooms, drinking fountains, and telephones
• Accessible service counters and concession stands, or the provision of services at alternate, accessible locations
• Accessible bathing facilities at public pools
• Physical modifications to polling places and/or the provision of curbside or absentee balloting
• Permanent and conspicuous notice to the community of their ADA rights and the government’s ADA obligations
• Establishment of an ADA grievance procedure where none existed in communities employing more than 50 persons
• Establishment of delivery systems and time frames for providing auxiliary aids (qualified sign language interpreters and alternate formats (Braille, large print, cassette tapes, etc.)
• Installation of assistive listening systems in assembly areas (e.g., legislative chambers, court rooms, municipal auditoriums);
• Strengthening of 9-1-1 emergency services through the acquisition of additional text telephones (TTY’s) to achieve a 1-1 ratio of TTY’s and answering positions, training to recognize “silent calls”, and accountability through performance evaluations and discipline of employees
• Better telephone communication between the government and citizens with hearing or speech impairments through the acquisition of additional TTY’s and/or utilization of the state relay service, official publication of TTY/relay numbers, and training of employees
• Adoption of procedures for relocating inaccessible activities to accessible locations upon request (e.g., City and Town Council meetings, municipal and county court proceedings).

(ADA)

For more information about the ADA, see www.ada.gov.

Additional information or training about the ADA can be found at ada-course.org, through the Regional ADA National Network Center, or by calling the ADA information hotline (1-800-949-4232 V/TTY). The Great Lakes ADA Center (http://www.adagreatlakes.org/) is one of 10 regional centers in the ADA National Network (also known as DBTAC - Disability and Business Technical Assistance Centers) funded by the National Institute on Disability and Rehabilitation Research (NIDRR) under the U.S. Department of Education. Core services include technical assistance, education and training, materials dissemination, information and referral, public awareness, and local capacity building.

Complaints about violations of title II by units of State and local government or violations of title III by public accommodations and commercial facilities (private businesses and non-profit service providers) should be filed with the Department of Justice. You may also call the ADA Information Line [at 800 - 514 - 0301 (voice); or 800 - 514 - 0383 (TTY)] to ask about filing a complaint and to order forms that can assist you in providing information about the violation.
The University of Michigan Spinal Cord Injury Model System publishes SCI Access. This newsletter is designed to provide information on research, treatment, and social issues related to rehabilitative care, spinal cord injury and disability. Established in 1985, the University of Michigan Spinal Cord Injury Model System is supported by grant #H133N110002 from the National Institute on Disability and Rehabilitation Research, Office of Special Education and Rehabilitative Services, U.S. Department of Education, Washington, DC.

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Study of Health Management in Individuals with Spinal Cord Injury

We are currently recruiting individuals with spinal cord injury (SCI) to participate in a research study that teaches self-management skills. The research program is meant to offer skills and knowledge to help people with SCI manage their health and SCI more effectively. It involves in-person meetings, phone interviews and completion of questionnaires.

You may be eligible to participate if you:

• Are an adult with SCI and are at least 6 months past injury
• Are between the ages of 18 and 80
• Speak English as your first language
• Live in the community
• Are willing to commit to participation over a 6 month time frame

If you are interested in learning more, please contact the study coordinator at 734-763-0534.
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