SWEDISH

SWEDISH MEDICAL CENTER UPDate

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Fecal Incontinence

Talking about the unspeakable

Fecal incontinence (FI) is a subject few people eagerly discuss with anyone – their loved ones, their best friends, even their doctors. Therefore, it is difficult to calculate the number of people trying to live with it. According to the National Health and Nutrition Examination Survey of 2009, some form of FI affects 8.3 percent of all non-institutionalized Americans. It affects men and women of all ages, but women slightly more than men and individuals 70 years of age or older more significantly than younger people. There are many causes of FI, including neurological conditions and aging. It also can occur as a side effect to back surgery, a medical procedure or radiation therapy. For women, the most common cause is damage to the anal muscles or sacral nerve during child birth.

Accidental leakage of solid or liquid stool or mucous at least once a month – or often much more frequently – is one of the greatest social inhibitors. The stigma surrounding FI can be debilitating, causing low self-esteem or self-confidence, and depression. FI and its unpredictability force many individuals to alter their daily activities, their relationships and even their employment. Many people who suffer with this condition do so because they do not realize there are ways to control it and they are hesitant to talk about it.

A proven, new approach receives FDA approval

Up until now, treatment options have been somewhat limited and have had varying degrees of success. Diet alteration, bulking agents and medications, and biofeedback offer some relief to milder forms of FI. Surgical intervention is also a treatment option for acute, treatment-resistant FI.

In March of this year the U.S. Food and Drug Administration approved the expanded use of Medtronic's InterStim® device to include chronic FI. For more than a decade it has been used as a treatment for urinary incontinence. For many years, physicians in Europe have used InterStim to stimulate the sacral nerve in an effort to treat FI. Data from a multinational, 16-center,

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Photo courtesy of Medtronic, Inc.

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prospective clinical trial of patients using the InterStim implant indicates up to 40 percent regained complete bowel control, and 86 percent experienced at least a 50 percent reduction in the number of episodes at three years follow up. The results of the trial, which were published in the September issue of *Diseases of the Colon and Rectum*, also present a significant improvement in the quality of the participants' lives. The trial was sponsored by Medtronic.

Swedish now offering InterStim

The Swedish Colon & Rectal Clinic now offers sacral nerve stimulation for patients with chronic FI who have not been successfully treated with medication and for those who want to avoid surgery or are not good candidates for surgical intervention.

The InterStim device, which is the size of a small stopwatch, is similar to a heart pacemaker or the deep brain stimulation device used to control essential tremor. Prior to initiating the InterStim procedure, the patient is asked to maintain a diary to record episodes of incontinence. During the first part of the two-part implant procedure electrical leads are inserted into the patient's back just above the buttocks near the sacral nerve, which supports the pelvic floor. The leads are attached to a temporary neurostimulator, which the patient can manually control to customize the amount of stimulation. The patient may feel twitching and muscle tightening as a result of the continuous, low-voltage pulse. If the sensations become uncomfortable, the patient can dial down the amount of stimulation, while still maintaining a level that produces the most positive effect.

After the first procedure, the patient continues recording the episodes of incontinence. If there has been at least a 50 percent reduction in the number of episodes at the end of two weeks (the FDA threshold), the patient is scheduled for a procedure to implant the neurostimulator under the skin in the fatty area of the buttocks. The neurostimulator is integrated and controlled through the skin.

"Too often patients with fecal incontinence suffer silently because they don't think there is anything that can help them," says **Amir Bastawrous, M.D., MBA**, program director of the Swedish Colon and Rectal Clinic. "The InterStim device, which has a decade-long, successful track record in Europe, offers a new option that treats the condition and can dramatically improve a patient's quality of life."

The stimulation not only improves muscle tone, it also provides feedback to the brain that effectively improves sensation so the sensory loop is reconditioned to recognize and control the bowel process. Making this new procedure available at Swedish is a significant step in removing the stigma associated with fecal incontinence.

About the author

Amir L. Bastawrous, M.D., MBA

Dr. Bastawrous is a board-certified colorectal surgeon in the Swedish Colon and Rectal Clinic, as well as program director of the Swedish Colon and Rectal Surgery Residency. Prior to joining the Swedish Medical Staff, he held clinical and academic positions at the University of Illinois at Chicago and at Rush University Medical Center. Dr. Bastawrous received his medical degree from The University of Chicago Pritzker School of Medicine. He completed his general surgery residency training at The University of Chicago Hospitals, and his residency in colon and rectal surgery at Cook County Hospital and University of Illinois at Chicago. Additionally, he completed a pediatric critical care and ECMO fellowship at the University of Chicago Hospitals and he received a masters of business administration from the University of Illinois at Chicago.

Dr. Bastawrous has been a principal investigator in bench research, as well as with numerous clinical trials. He has been published in many peer-reviewed journals and is recognized for sharing his expertise through presentations and speeches. Dr. Bastawrous sees patients at the Colon and Rectal clinics at Swedish/First Hill and Swedish/Issaquah.

Fecal Incontinence Case Study: A solution for a mother of three

Amir Bastawrous, M.D., MBA, Program Director, Swedish Colon and Rectal Clinic

Mary is a 55-year-old mother of three who works full time as an advertising executive. She began having "accidents" about a year ago. At first she thought her episodes of fecal incontinence were diet related or a recent change in her regular daily medications. They occurred infrequently enough at first, but were devastating when they happened. She began to carry an extra set of clothes in her car and kept a change of clothing at her office. She resorted to wearing a feminine pad everyday for fear of seepage. She was embarrassed to talk about it with her friends or family. She was even reluctant to ask her physician for fear that the only solution would be a colostomy – or worse, to live with it and wear an adult diaper.

Her children were all born vaginally. Her son was especially large and caused a 4th-degree tear, which required repair. Immediately following his birth and for twenty years later she had no incontinence. She has had no other anal surgery. She has no other major medical problems. Specifically, she has no diabetes, neurologic or muscular diseases, or back injuries or pain.

Over the past year she has had progressively more leakage of air and liquid stool. She takes Imodium before any event at which she might not be able to get quickly to a toilet. She knows where every bathroom is located along her commute to work. She will frequently choose to stay home to avoid an episode of incontinence. She currently experiences five to six episodes of leakage each week, unpredictably but often related to activities such as tennis or running.

On examination, she has a thin perineal body. She uses accessory (gluteal) muscles to squeeze. She has weak resting tone and a weak squeeze on command.

Her initial treatment plan included biofeedback pelvic floor physical therapy, which helped decrease the amount of leakage and frequency of accidents. She is still limited in her activities, however, and would like to improve her symptoms beyond this new plateau. After recording her experiences in a "stool diary" for several weeks and counseling about the potential risks and benefits of InterStim therapy, she has elected to proceed with treatment.

This composite case study is presented for educational purposes.

When to Refer to Swedish

Swedish Colon and Rectal Clinic
First Hill
1101 Madison St., Suite 500
Seattle, WA 98104

Swedish Colon and Rectal Clinic
Issaquah
751 N.E. Blakely Dr.
Issaquah, WA 98029

Swedish Colon and Rectal Clinic
North Seattle
1530 N. 115th St., Suite 201
Seattle, WA 98133

Multiple conditions can contribute to fecal incontinence, including:

- Pregnancy or childbirth
- Aging
- Neurological conditions, such as multiple sclerosis
- Lower back surgery or pain
- Procedural damage
- Residual effect of radiation therapy

For more information about the InterStim device for fecal incontinence, or to consult or refer a patient to the Swedish Colon and Rectal Clinic, please call 206-386-6600.

Patient-focused Convenience for Cerebral Vascular Referrals

Diagnosing and managing cerebral vascular disorders can require a complex assortment of specialty evaluations and testing. The Swedish Neuroscience Institute (SNI) has used patient-focused convenience as the foundation of its new Cerebrovascular Center, which opens in December at its Swedish/Cherry Hill location in Seattle.

In this one location, SNI has consolidated its existing advanced diagnostics and interventional therapeutics, the newest generation of technology and the expertise of a care team that includes cerebrovascular neurosurgeons, vascular neurologists, neuroendovascular and radiosurgerical specialists, neuroradiologists, neurohopitalists, and advanced practitioners who are trained to evaluate and treat cerebral vascular disorders.

A comprehensive menu of procedures

In addition to advanced diagnostics, the center offers state-of-the-art care for a broad scope of cerebral vascular disorders - from aneurysms to *(continued on A4)*

Cerebral Vascular Referrals

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arteriovenous malformation, vascular stenosis to vascular tumors, and transient ischemic attacks to stroke.

Among the available surgical procedures are repair of arteriovenous or cavernous malformation, extra-cranial to intracranial bypass, carotid endarterectomy, and microvascular decompression or transposition. The center also will provide multiple neuroendovascular procedures, such as intra-arterial drug delivery and thrombolysis, embolization, stent placement and aneurysm coiling.

Swedish is the only facility in the Northwest that is able to offer both CyberKnife and Gamma Knife stereotactic radiosurgery in support of its cerebrovascular program. Therefore, Swedish radiosurgery experts are able to select the best technology to produce the best possible outcomes.

Integrating clinical care, research and education

Creating this type of comprehensive clinical setting also makes it possible to integrate research and education into clinical care – ensuring the center's experts are always at the leading edge of their discipline. SNI's clinical researchers investigate the safety and effectiveness of new drugs and medical devices, as well as new approaches to care. This allows cerebrovascular specialists to offer patients investigational therapies that are unavailable outside a research environment and may not be available anywhere else in the state or the Northwest.

EMR to facilitate care coordination

The new center brings the necessary specialists to the patient to evaluate, collaborate and present all possible treatment options. Collaboration – both within Swedish and with the referring physician – is a critical element in delivering care that is coordinated and in sync with the patient's overall medical needs. The use of an electronic medical record will be a key element to ensuring this type of coordination.

A new home for stroke assessment and prevention

Stroke patients will be seen in this common site with other cerebrovascular patients and clinicians. The Stroke Clinic, which will concentrate on advanced assessments and treatments for transient ischemic attack (TIA) and secondary stroke prevention, welcomes vascular consultations. In lieu of a routine referral, emergency department visit or admission, physicians can refer a TIA patient to the Stroke Clinic for a same-day appointment. These patients will receive immediate attention with a goal of preventing progression to stroke.

Physicians working with patients who have had a stroke and been treated at any hospital in the area also can refer that patient to the Stroke Clinic for coordinated follow-up management to improve wellness

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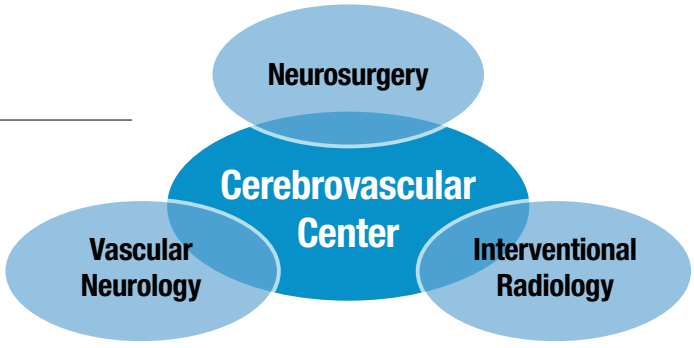

Swedish Cerebrovascular Center

550 17th Ave., Suite 110
Seattle, WA 98122
T: 206-320-3470
F: 206-320-3471

Disorders Evaluated and Treated

- Arteriovenous fistula (brain and spinal cord)
- Arteriovenous malformation (brain and spinal cord)
- Carotid stenosis and occlusion
- Cavernous malformation (brain and spinal cord)
- Cerebral aneurysm
- Cerebral vessel occlusion
- Dissections of intra-cranial and extra-cranial vessels
- Extra-cranial vascular stenosis
- Intra-crancial vascular stenosis
- Moyamoya disease
- Stroke
- Stroke secondary prevention
- Transient ischemic attacks
- Vascular compression of cranial nerves causing trigeminal neuralgia and hemifacial spasm
- Vascular tumors (intracranial, skull base and spine)

Essential Diagnostic Services

- 3D CTA reconstruction
- 3-Tesla MRI/MR Perfusion
- Cerebral blood flow studies
- Coagulation disorder analysis
- CT scan/CT perfusion
- Extra-cranial and intra-cranial cerebrovascular ultrasound, including transcranial Doppler
- Intraoperative neuro-monitoring

A new minimally invasive approach to blood brain clot removal shows positive results

David W. Newell, M.D., Chief of Neuroscience, Swedish Neuroscience Institute; and Chairman of the Board, Swedish Neuroscience Institute Physicians Medical Group

In the September issue of *The Journal of Neurosurgery*[1] we presented the results of our SLEUTH (Safety of Lysis with Ultrasound in the Treatment of Intracerebral and Intraventricular Hemorrhage) clinical study. The study showed lysis and drainage of spontaneous intracerebral hemorrhage (ICH) and intraventricular hemorrhage (IVH) with a reduction in mass effect can be accomplished rapidly and safely through sonothrombolysis using stereotactically delivered drainage and ultrasound catheters via a bur hole. We now intend to pursue a large, multi-center clinical trial with catheters specifically designed for blood brain clot removal.

The study, which was conducted at the Swedish Neuroscience Institute, included 33 patients. Treatment was conducted in the operating room and included placement of a burr hole, as well as navigation of the ultrasound and drainage catheter into the hemorrhage using a GPS-like system (STEALTH) for optimal catheter placement. Ultrasound was then delivered to the hemorrhage, in addition to the thrombolytic (substance which breaks down blood clot) drug tissue plasminogen activator (rt-PA) for 24 hours.

All patients had significant volume reductions in the treated hemorrhage. The mean percentage volume reduction after 24 hours of therapy, as determined on CT and compared with pretreatment stability scans, was 59 ± 5% (mean ± SEM) for ICH and 45.1 ± 13% for IVH (1 patient with ICH was excluded from analysis because of catheter breakage). There were no intracranial infections and no significant episodes of rebleeding according to clinical or CT assessment. One death occurred by 30 days after admission. Clinical improvements as determined by a decrease in the National Institutes of Health Stroke Scale score were demonstrated at 30 days after treatment in seven of nine patients. The rate of hemorrhage lysis was compared between eight patients who completed treatment, and patient cohorts treated for IVH and ICH using identical doses of rt-PA and catheter drainage but without the ultrasound (courtesy of the MISTIE [Minimally Invasive Surgery plus T-PA for Intracerebral Hemorrhage Evacuation] and CLEAR II [Clot Lysis Evaluating Accelerated Resolution of Intraventricular Hemorrhage II] studies). Compared with the MISTIE and CLEAR data, we observed a faster rate of lysis during treatment for IVH and ICH in the patients treated with sonolysis plus rt-PA versus rt-PA alone.

The most surprising thing we discovered was how rapidly the hemorrhage disappeared with ultrasound. There were virtually no side effects, such as site infections or bleeding, during or after treatment.

Intracerebral hemorrhage is a devastating form of stroke. Half of all patients die within one month of the event, and those who survive typically suffer dramatic loss of brain function and motor skills. Often they are unable to resume normal activities, such as caring for themselves, which strains family members or requires more extensive and expensive, ongoing professional care, which further burdens the health-care system.

If this technique is proven to work on several hundred patients in a controlled study, it will provide huge benefits. Two million people worldwide experience intracerebral hemorrhage each year and there is no effective treatment available. Through our study, we have determined that this new therapy, which addresses the problem without cranial surgery, shows great promise.

The study was done in collaboration with investigators at the Johns Hopkins University School of Medicine in Baltimore, Md., and with EKOS Corporation in Bothell, Wash.

About the author

David W. Newell, M.D.

Dr. Newell is a board-certified neurosurgeon, chief of neuroscience at SNI, and chairman of the board for SNI Physicians Medical Group. He received his medical degree from Case Western Reserve University School of Medicine in Cleveland, Ohio, and completed an eight-year residency in neurosurgery at the University of Washington in Seattle. Prior to his appointment at Swedish, Dr. Newell was professor of neurological surgery at the University of Washington School of Medicine and chief of neurosurgery at Harborview Medical Center. Dr. Newell focuses primarily on minimally invasive surgical treatments of the cerebrovascular systems, with special expertise in cerebral aneurysms, arteriovenous malformations and bypass. He has published nearly 200 articles and chapters for peer-reviewed journals, and has been widely recognized for his expertise in the treatment of aneurysms and other disorders of the brain vessels, spinal surgery and treatment of severe traumatic brain injury.

1- http://thejns.org/doi/abs/10.3171/2011.5.JNS10505

Medical management of patients with atherosclerotic disease

William H. Likosky, M.D., Medical Director for Stroke and Telestroke, Swedish Neuroscience Institute

Atherosclerotic cerebrovascular disease is a common cause of stroke. In a number of medical centers this condition is treated with stenting of a highly narrowed artery. This approach is analogous to how cardiologists manage occlusive cardiovascular disease; hence, this has been a logical progression in neurovascular investigation.

In a recent article in the *New England Journal of Medicine* ("Stenting versus Aggressive Medical Therapy for Intracranial Arterial Stenosis": NEJM 10.1056/nejmoal1105335 nejm.org), Marc Chimowitz, M.B., Ch.B., and his colleagues present important data arguing that medical management is superior to stenting in these patients. This is contrary to expectations and, therefore, of importance to all of us who treat cerebrovascular disease.

We strongly advocate intensive medical management for patients with intracranial atherosclerotic disease. This has been our recommendation over time, and we are pleased the published Chimowitz data supports this evidence-based approach. In cases in which medical management fails, we have favored consideration of stenting.

Stenting may be used for hyperacute ischemic stroke patients linked with clot removal. At Swedish, we have been offering acute stroke patients within an eight-hour window the opportunity to have a clot removed using a MERCI or Penumbra device with or without intra-arterial thrombolysis. The two devices are approved by the U.S. Food and Drug Administration (FDA) for efficacy in opening an artery. An increasing body of data supports improved outcomes for these patients. This approach augments intravenous thrombolytics given within a 3- or 4.5-hour window to patients identified as having viable, at-risk brain tissue via MRI diffusion and perfusion studies. We have been actively investigating this approach through the DEFUSE 2 study in collaboration with colleagues at Stanford University. At Swedish, this study is under the direction of vascular neurologist **Todd Czartoski, M.D.**, and neuroradiologist **Bart Keogh, M.D., Ph.D.**

To consult or refer a patient, please contact the Swedish Stroke Clinic at 206-320-3470. For more information about the Swedish Stroke or Telestroke programs, please contact **Sherene Schlegel, BSN, FAHA**, Stroke/Telestroke Program manager, at 206-320-3484.

About the author

William H. Likosky, M.D.

Dr. Likosky received his medical degree from the University of Vermont College of Medicine in Burlington. He completed his residency training and fellowship in neurology at Yale University School of Medicine in New Haven, Conn. Dr. Likosky is a board-certified vascular neurologist and medical director of the Stroke and Telestroke programs at the Swedish Neuroscience Institute. He is on the American Heart Association Puget Sound Board of Directors, and is active in the Washington Department of Health stroke initiatives. Dr. Likosky is recognized for his stroke expertise and advocacy on behalf of local and national stroke associations.

Cerebral Vascular Referrals

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and prevent future stroke.

The Stroke Clinic will provide numerous neurovascular procedures and services, including diagnostic testing for clotting disorder or cerebral ischemia, medication selection, patient and family counseling and education, and nondrug approaches to vascular risk reduction.

This new Cerebrovascular Center offers patients the expertise of a team of highly skilled specialists and the most advanced technology – all within an environment that has been designed for their comfort and convenience. From more information about the Swedish Cerebrovascular Center and/or its Stroke Clinic, or to consult or refer a patient, please call 206-320-3470.

The Cardiovascular ICU Completes its Beacon Journey

Eric Wolak, R.N., nurse manager, and the Swedish Cardiovascular ICU (CVICU) team at Swedish/Cherry Hill began a journey to become a Beacon Award recipient in July 2010.

The American Association of Critical Care Nurses developed the Beacon Award for Excellence in 2003. The award was designed to provide hospitals and health-care systems a way to respond to increasing concerns about quality and safety, to evaluate the continuing evolution of clinical care, and to recognize individual units that distinguish themselves by improving every facet of patient care. Units that achieve this three-year award in one of three levels (gold, silver or bronze) meet or exceed rigid quality standards based on proven indicators of excellence that closely align with the Baldridge National Quality Award, Magnet Recognition Program, National Quality Forum Safe Practices for Better Healthcare and the AACN Standards for Establishing and Sustaining Healthy Work Environments.

Since the award's inception, the AACN has presented Beacon Awards to 315 units out of nearly 6,000 ICUs nationwide. In June the AACN designated Swedish CVICU a Beacon Unit at the bronze level of excellence, recognizing it for its superior program in recruitment and retention, education and mentoring, evidence-based practice, patient outcomes, healing environments and leadership.

CME Course Listing

November 2011 – February 2012

Physicians from across the region and around the world come to Swedish Medical Center's Continuing Medical Education (CME) courses to learn about new research and innovative treatment techniques.

For times and locations, go to www.swedish.org/cme or call 206-386-2755.

Third Annual Anticoagulation Symposium: Fundamentals for Primary-Care Providers
Friday, Nov. 4

Diabetes Management Update 2011
Friday, Nov. 11

25th Annual Roland D. Pinkham, M.D. Basic Science Lectureship: Diversity and Evolution of the Human Genome: From "Origins" to Evo-Devo
Friday, Nov. 18

Advances in Neuromodulation 2012: Current State of the Art and Emerging Indications
Friday, Jan. 20

Transradial Training Course & Symposium
Friday, Jan. 20

Pediatric Specialty Updates for the Primary-Care Physician
Friday, Jan. 27

Multimodal Treatment of Spinal Tumors
Friday, Feb. 3

The Art and Science of Combining Naturopathic and Allopathic Medicine in the Clinical Setting
Friday, Feb. 10

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Swedish Medical Center is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Swedish Medical Center

Founded in 1910, Swedish Medical Center is the largest, most comprehensive, nonprofit health-care provider in the Seattle area. Swedish comprises multiple medical facility campuses throughout the Greater Puget Sound Area, Swedish Visiting Nurse Services and Swedish Physicians – a network of primary-care clinics. In addition to general medical and surgical care, Swedish also is a regional referral center for cardiac care, maternal-fetal medicine, neurological care, oncology, orthopedics, pediatrics and transplantation. For more information, visit www.swedish.org or call 800-SWEDISH (800-793-3437).

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Edmonds, WA 98026
425-640-4000

First Hill
747 Broadway
Seattle, WA 98122-4307
206-386-6000

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Issaquah, WA 98029
425-313-4000

Lake Sammamish
2005 N.W. Sammamish Rd.
Issaquah, WA 98027-5364
425-394-0600

Lakeside
6520 226th Pl. S.E.
Issaquah, WA 98027
425-427-8450

Mill Creek
13020 Meridian Ave. S.
Everett, WA 98208
425-357-3900

Redmond
18100 N.E. Union Hill Road
Redmond, WA 98052
425-498-2200

Swedish Visiting Nurse Services
6100 219th St. S.W., Ste. 400
Mountlake Terrace, WA 98043
425-778-2400

Swedish Physician Division
600 University St., Ste. 1200
Seattle, WA 98101-1169
206-320-2700

Physician Opportunities

Are you a physician who would like to join a team-oriented, patient-focused practice?

Contact **Mike Waters**
Swedish Physician Recruiter
206-320-5962 (office)
206-327-2790 (cell)
mike.waters@swedish.org