

Controlling the Sweat – Regaining Self-Confidence

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Although palmar hyperhidrosis (abnormal sweating of the palms or feet) is a benign condition, it can dramatically affect an individual's personal relationships and daily activities. (Photo courtesy of the International Hyperhidrosis Society - www.SweatHelp.org)

Essential or idiopathic focal hyperhidrosis, excessive sweating beyond what is required for normal thermal regulation, is a benign condition that afflicts one to three percent of the population. It affects both sexes equally, and predominantly affects adolescents and young adults. Some individuals only experience palmar sweating, while others have isolated axillary or plantar sweating. The majority of patients, however, describe a combination of involved sites. Palmar symptoms commonly begin in early childhood, with axillary symptoms presenting as the child transitions into adolescence.

The pathophysiology of hyperhidrosis remains unknown. There is evidence of a genetic component in a small number of affected individuals.

With severe hyperhidrosis, palmar sweating can interfere with daily activities that involve the use of the hands, such as writing, typing, carrying papers or other items, and even driving. Playing sports can be particularly difficult. For individuals with hyperhidrosis, shaking hands becomes a dreaded experience. Axillary sweating can be a significant source of embarrassment, causing affected individ-

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Onco-Physiatry: Optimizing Function and Well-Being during Cancer Treatment

A cancer diagnosis marks a profound change in a person's life direction, often leading to an existential crisis. The physiologic impact of cancer and treatment not only undermines the ability to participate in normal everyday activity, the diagnosis itself carries with it all the fears associated with death, whether death is imminent or not. It is often the first time the person understands "mortality applies to me."

David Zucker, M.D., Ph.D., an onco-physiatrist (cancer rehabilitation specialist) at the Swedish Cancer Institute (SCI), works with patients to optimize function and existential well-being while they are living with cancer. The targets

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Controlling the Sweat

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Figure 1. Titanium clips clamped on the sympathetic nerve under ribs 3 and 4, completing the endoscopic thoracic sympathectomy at the T3 level, right side.

uals to limit their wardrobe selection to dark colored clothing in an attempt to hide any sign of profuse sweating. They also may change their clothing many times a day. Individuals with hyperhidrosis often adopt ingenious tricks and routines to conceal their problem from colleagues, friends and family members. In some instances, the fear of embarrassment leads to social isolation.

Nonsurgical treatments offer mixed results

There are many forms of nonsurgical treatment of essential hyperhidrosis. If over-the-counter antiperspirants fail, patients may try prescription-strength, aluminum-based antiperspirants. Oral anxiolytics and beta-blockers also have been utilized to help control sweating. Some medications, however, such as anticholinergic agents, are prone to multiple side effects. Iontophoresis (electrical baths) are sometimes used to help control palmar and plantar sweating; however, the treatments are very time consuming for the young, active population that is usually plagued by this condition. Botox is effective in the treatment of both

axillary and palmar hyperhidrosis, but the drawbacks include local pain, the temporary nature of the results (may last only four to six months), transient weakness of the small hand muscles, and the need for repeated and costly procedures.

New option for surgical intervention

The surgical treatment of essential hyperhidrosis has evolved dramatically since it was first described in the 1920s. The goal of sympathectomy is to interrupt the sympathetic innervation of the sweat glands in the affected area by dividing or isolating a segment of the sympathetic nerve around the second, third or fourth rib near the spine, posteriorly. With advancements in minimally invasive surgical techniques, many physicians now consider sympathectomy the best treatment for this condition.

Today, thoracoscopy allows the surgeon to tackle both sides during the same operation. The procedure is usually performed in a day-surgery setting. Patients undergoing an endoscopic thoracic sympathectomy have a faster recovery and are able to return to their normal daily activities sooner.

Since 2004, our preference has been to apply titanium clips (clamping) on the sympathetic nerves at the desired level, rather than dividing or removing part of the nerve (see figures 1 and 2). In our experience, endoscopic thoracic sympathectomy controls 99 to 100 percent of palmar sweating and 85 to 95 percent of axillary sweating.

The main side effect of a segmental surgical sympathectomy is a condition called “compensatory sweating” from other parts of the body as a result of

Referring to Swedish

Swedish Thoracic Surgery
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The physicians at Swedish Thoracic Surgery are available to evaluate a patient with essential hyperhidrosis to determine whether he or she is a candidate for sympathectomy. Please call 206-215-6800 to consult on or refer a patient.

having dry hands and armpits. Areas of compensatory sweating may include the lower back, the infra-mammary folds in women, the lower abdomen and behind the knees. Up to 80 percent of patients will experience some degree of compensatory sweating. Only 5 percent of these patients indicate regret at having had the operation. However, nerve clamping, instead of dividing or removing the nerve, may provide an opportunity to reverse the sympathetic nerve interruption by removing the titanium clips, as long as this is attempted

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Figure 2. Post-surgical chest radiograph showing the clips along the spine, on each side, under the neck of the third and fourth ribs.

Swedish Offers New Treatment for Glioblastoma Brain Tumors

The Swedish Neuroscience Institute (SNI) has added a new and innovative therapy to its treatment arsenal for glioblastoma multiforme (GBM) – a very aggressive and difficult to control brain tumor. The NovoTTF™-100A System is the first device to receive U.S. Food and Drug Administration (FDA) approval as a treatment for brain tumors. It will now play an important role in treating GBM when standard treatment options have been exhausted. Because there are minimal treatment-related side effects with the NovoTTF-100A System, the quality of life for patients treated with this new therapy is superior to that associated with chemotherapy.

GBM was the cause of death of United States Senator Ted Kennedy. It is the most common and malignant type of brain tumor. Standard treatment includes surgery, radiation therapy, chemotherapy, and radiosurgery (such as Gamma Knife® or CyberKnife®). These treatments usually control the tumor for one to two years.

The NovoTTF-100A System is a medical device that delivers intermediate-frequency, alternating electrical fields to the tumor. Alternating electrical fields inhibit cell division (mitosis) in the tumor, potentially slowing or stopping tumor growth.

The device comprises two components: a portable electrical source (the electric field generator) and four large patches, each containing nine ceramic discs called transducer arrays. The patches form a cap-like device that is affixed to the patient's scalp with adhesive. The electrical source can be plugged into a wall outlet or can run on batteries, giving patients the freedom to go about their daily activities. The FDA approved the system for the treatment



The NovoTTF™-100A System includes transducer arrays (upper left) and an electric field generator (lower left). A power supply, portable battery, battery rack, battery charger, connection cable and carrying case are also included in the treatment kit. Patients are able to carry the device in an over-the-shoulder bag or backpack, so they receive continuous treatment without changing their daily routines. After receiving instruction from their physicians, patients are able to change and recharge the batteries in the field generator, and replace the transducer arrays once or twice a week. Photos courtesy of Novocure™.

of recurrent GBM in April 2011.

“We are still learning the appropriate role and timing for the NovoTTF-100A System in patients with recurrent GBM,” says **John W. Henson, M.D., FAAN**, a neuro-oncologist at the Ivy Center. “However, we see it as an important treatment option for patients who cannot undergo additional surgery or chemotherapy.”

The SNI is one of the few centers in the U.S. whose clinical staff has been

trained and certified in the use of this new system. It is also the only study location in the Northwest participating in a related clinical trial that is evaluating the use of the NovoTTF-100A System as treatment immediately after a patient is diagnosed with GBM. In this study, the system is used in addition to radiation therapy and chemotherapy.

More information about the NovoTTF-100A System is available at www.novottftherapy.com. 

For More Information about the NovoTTF-100A System

John W. Henson, M.D., FAAN, is on the medical staff of the Ben and Catherine Ivy Center for Advanced Brain Tumor Treatment, and is vice president of medical affairs for Swedish/Cherry Hill. He received his medical degree from Loma Linda Medical School in Loma Linda, Calif. He completed his neurology residency at Vanderbilt University Medical Center in Nashville, Tenn., and his fellowship in neuro-oncology at Memorial Sloan-Kettering Cancer Center in New York City. The Ivy Center is considered one of the top brain cancer programs in the country. A multidisciplinary team of physicians and nurses specialize in the diagnosis and treatment of complex and difficult-to-treat benign and malignant brain tumors.

Ben and Catherine Ivy Center for Advanced Brain Tumor Treatment

550 17th Ave., Suite 540 Phone: 206-320-2300
Seattle, WA 98122 Fax: 206-320-8149

Onco-Physiatry

(continued from A1)

of onco-physiatric intervention are reduced activity tolerance and fear associated with death awareness.

Onco-physiatrist as diagnostician

Treatment-related side effects, such as fatigue, pain, insomnia, peripheral neuropathy, balance impairment, anemia, neutropenia, mood changes and cognitive impairment, conspire to reduce activity tolerance. This translates into decreased participation in life activities, increased risk for co-morbidities and reduced well-being.

Activity tolerance is a multidimensional construct generally mediated by four domains: healthy tissue, tumor cells, co-morbidities and treatment side effects. Accurate diagnosis of functional limitations must include assessment of each domain.

“As diagnostician, I work to resolve the patient’s activity intolerance into component parts by sorting through the admixture of disease process, treatment side effects and co-morbidities,” says Zucker. “I identify key ‘leverage points’ where intervention minimizes fatigue, safely improves function and increases the patient’s sense of well-being.

Improving activity tolerance requires various interventions, including prescriptive exercise. An increasing body of research validates the importance of exercise in cancer treatment.

Other interventions include counseling and education, as well as management of treatment- or cancer-related pain, neurological injury and musculoskeletal impairment.

Working in tandem with medical oncologists, surgeons and radiation oncologists, Zucker draws upon

available clinical resources, thus enlisting a flexible interdisciplinary team that collaborates to meet the patient’s medical and rehabilitation needs.

Onco-physiatrist as counselor-educator

“In my role as counselor-educator,” says Zucker. “I help the patient understand how cancer and its treatment undermine activity tolerance. Understanding these medical facts sets the stage for exploring the patient’s relationship to the illness, and its existential impact and related activity limitations.”

Fear associated with death awareness often surfaces during discussions. Zucker, who also holds a doctorate in counseling psychology, is uniquely positioned both to interpret the cancer’s pathology and support the patient in reconciling the reality of the disease with the experience of living with it.

A unique onco-physiatry practice

Guiding the patient’s negotiation of cancer’s existential realities while simultaneously engaging the patient in rehabilitation interventions helps enhance strength and function while restoring a sense of control and personal agency. The paradox of improving physical function while simultaneously relating to the reality of one’s own mortality (whether imminent or not) supports a shift away from the sick role and empowers the patient to manage cancer-related functional and existential challenges in life-affirming ways. The use of this paradox as the guiding principle of treatment makes Zucker’s practice of onco-physiatry unique. ☞



David Zucker, M.D., Ph.D., is medical director and program leader of cancer rehabilitation services at the Swedish Cancer Institute. His practice is limited to cancer patients, with a subspecialty focus on women’s cancers.

Dr. Zucker received his medical degree with honors from Stanford University in Palo Alto, Calif., and his doctoral degree in clinical psychology from the Professional School of Psychological Studies in San Diego, Calif. He completed his residency in physical medicine and rehabilitation at the Mayo Clinic in Rochester, Minn., and a post-doctoral fellowship in the Department of Rehabilitation Medicine at the University of Washington. He is board certified by the American Academy of Physical Medicine and Rehabilitation.

Dr. Zucker is active at the national level in developing exercise recommendations and rehabilitation models for cancer patients, and is a respected contributor to numerous symposiums and conferences.

For more information about onco-physiatry and cancer rehabilitation services at the SCI, please call **206-215-6333**.

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Options Widening for Wide-Necked Aneurysms

Yince Loh, M.D., *Interventional Neuroradiology, Swedish Cerebrovascular Center, Swedish Neuroscience Institute*

Intracranial aneurysms are present in up to 4 percent of the population. These potentially dangerous vascular lesions are being detected with increasing frequency in asymptomatic patients by advances in noninvasive imaging techniques, such as magnetic resonance angiography (MRA).

Appearing like blisters on the wall of the brain's blood vessels, aneurysms develop when the blood vessel's native repair ability is exceeded by the mild, but constant, injury created by flowing blood under high pressure. The five most common risk factors for developing an aneurysm are: smoking, female gender, high blood pressure, middle age and family history.

Intracranial aneurysms are complex lesions that require a highly specialized, multidisciplinary approach that is individualized for each patient. Key members of the care team for these patients include endovascular neuro-radiologists, neurosurgeons with special expertise in aneurysm surgery and neuroanesthesiologists.

Availability of dedicated neurocritical care units is an essential care component. A consensus recommendation by these specialists may include close observation, obliteration of the aneurysm with a surgical clip, or filling the vascular outpouching with filamentous coils that are introduced by endovas-

cular microcatheters via an artery in the leg. This latter process is called "coiling."

Aneurysms that have a balloon-like opening, or neck, from the parent vessel are typically good candidates for coiling. Not infrequently, however, the aneurysm's shape does not permit safe coiling. When the aneurysm's neck is wide, it appears more like a molehill than a balloon (see Figure 1). A molehill configuration is often referred to as a "wide-necked aneurysm." The wide neck allows an unwanted protrusion of coils back into the artery. This can lead to a number of problems, including failure to obliterate the aneurysm and stroke. Thus, in situations where an aneurysm is not surgically accessible or the patient cannot undergo surgery, no therapeutic options can be offered.

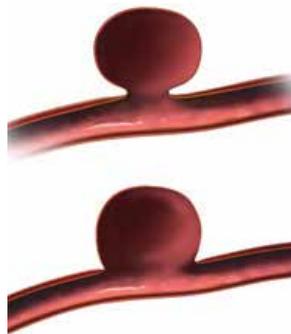


Figure 1. Brain aneurysm vs. wide-necked brain aneurysm. (Illustration courtesy of Boston Scientific)

In 2010, the U.S. Food and Drug Administration approved an intracranial stent to be used to treat wide-necked aneurysms. Once a stent is deployed across the neck of the aneurysm, coils are placed into the aneurysm through the stent wall. The stent struts prevent the coils from falling back into the artery by essentially creating a "chain link fence" across the neck of the aneurysm (see Figure 2).

The stent (see Figure 2) is a tube made of tiny, cross-linked nickel and titanium struts, which allows the stent to pop back into shape after being compressed. The stent is compressed into a catheter with an inner diameter of less than 1/100th of an inch. The combination of the stent's compressibility, flexibility and low catheter profile makes it navigable into the blood vessels of the brain.

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Figure 2. Stent and coil placement. (Illustration courtesy of Boston Scientific)

Stenting, however, produces another set of problems. A stent is a foreign body that can promote formation of a blood clot inside the vessel, which is why patients are placed on two antiplatelet medications to thin the blood, usually aspirin and clopidogrel (Plavix®), after placement of a stent. The length of time required to thin the blood after stent placement is unclear, although stents may become incorporated into the vessel wall and covered with endothelium within weeks.

The combination of stents and coiling provides a good treatment approach for many patients with wide-necked aneurysm. To discuss this treatment in more detail, contact **Yince Loh, M.D.**, or **Joseph Eskridge, M.D.**, at 206-320-2800. ☎

Swedish Cancer Institute Names New Executive Director



The Swedish Cancer Institute (SCI) welcomes **Thomas D. Brown, M.D.**, as its new executive director. Dr. Brown, a board-certified medical oncologist, comes to Swedish from the University of Arizona where he served as professor of medicine (hematology/

oncology) and chief operating officer of the University of Arizona Cancer Center. Previously he was a professor at The University of Texas MD Anderson Cancer Center. Over the years, Dr. Brown also has held faculty and clinical leadership positions at Duke University Medical Center and the Duke University Comprehensive Cancer Center, Sentara Cancer Institute and the University of Texas Health Science Center at San Antonio.

Dr. Brown received his medical degree from the Medical College of Virginia in Richmond, Va. He completed his internal medicine residency at the University of Florida Teaching Hospitals in Gainesville, Fl., and a fellowship in medical oncology at The Johns Hopkins University School

of Medicine in Baltimore, Md. His subspecialty is gastrointestinal oncology. Dr. Brown also holds a master's degree in business administration from Rice University in Houston, Texas.

“As the new executive director of the Swedish Cancer Institute, Dr. Brown will focus on furthering the reputation of the SCI as a high-quality cancer care delivery system,” said **Todd Strumwasser, M.D.**, senior vice president and chief operating officer at Swedish. “He will help steward the profitability, market share and cost effectiveness of the oncology service line.”

Dr. Brown is active in multiple research projects, and is a respected author and presenter at national and international conferences. 

Sympathectomy

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within three to four months of the initial surgery.

Essential hyperhidrosis, though a very benign condition, may seriously affect an individual's life, including personal relationships and career choices. Surgical interruption of the sympathetic innervation to the sweat glands is an excellent option to permanently control the hyperhidrosis. Our patients commonly describe this surgery as a life-changing moment. Many of them have been able to remove their self-imposed social barriers, and some have even redirected their career paths after their hands stopped dripping.

For more information go to www.swedish.org/ThoracicSurgery or call 206-215-6800. 

Childbirth is often painful and it is always unpredictable, but postpartum recovery does not have to be. Postnatal Body Therapy™ by Bavia™ – a postnatal massage service – is now available at Swedish/Issaquah.

The goal of Bavia is not about luxury, but rather about helping create a healing environment for new mothers. Services include soft candlelight, soothing music and aromatherapy combined with gentle massage, eucalyptus steamed foot wraps and heated temple treatment.

“Most parents prepare extensively for the birth of their baby. They attend childbirth preparation classes, talk to family and friends, and develop comprehensive birth plans. However, few focus on the immediate postpartum period and all of the associated challenges like breastfeeding difficulties, hormonal



changes and sleep deprivation, just to name a few,” says **Wendy Colgan, RNC-OB, MSN**, nurse manager of Obstetrics and Pediatrics at Swedish/Issaquah. “The services provided by Bavia combine massage, imagery and aromatherapy to assist new moms with a successful transition to the postpartum period. Swedish/Issaquah is excited to be the first hospital in Washington to offer Bavia's services.”

For information, call 425-313-4112 or go to www.bavia.com/bavia-birth. 

Call for Submissions to MS Center Art Show

The MS Center at Swedish invites all people who are living with and touched by multiple sclerosis and residing within the Pacific Northwest to show their artwork at the 2013 MS Center Art Show. The Art Show, which is in its fourth year, will be held July 6 and 7, at the Seattle Center Armory.

Applicants of all artistic abilities are encouraged to submit their work. Although artists must have a connection to MS, they do not need to be affiliated with Swedish to participate.

The annual MS Center Art Show displays a wide array of visual media created by people living with and affected by MS in order to:

- Raise community awareness of MS
- Enhance quality of life through art
- Provide an opportunity to network with other artists

Deadline for submissions is May 31. Complete guidelines and an application are available online at www.swedish.org/MSArtShow.

The show is free and open to the public. For more information, please contact **Kate Floyd** at mscenterartshow@swedish.org or **206-991-2099**. ☺

CME Course Listing March—May 2013

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**.

**PsychoOncology Symposium 2013:
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Friday, March 1

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Friday-Saturday, March 1-2

Clinical Research Investigator Training
Friday, March 15

**High-Risk Obstetrics: Tools for
the Family Physician**
Friday, March 22

**Multimodal Treatment of Spinal
Tumors, 2013**
Friday, March 29

**Third Annual Pacific Northwest Head
and Neck Cancer Symposium:
Update on Head and Neck Skin Cancers**
Friday, April 19

**Annual Oncology Symposium –
Women and Cancer: Why Sex Matters**
Friday, May 3

Seventh Annual Cerebrovascular Symposium
Thursday- Friday, May 9-10

**Sixth Annual Iris and Ted Wagner
Endowed Lectureship**
Friday, May 22

**Fifth Annual Acute Care Neurology
and Neurosurgery**
Friday, May 31

**Adolescent Health and Pediatric
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**Pacific Northwest Epilepsy
Symposium, 2013**
Friday, June 14

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