The Swedish Medical Center, Swedish Cancer Institute and CellNetix Pathology have partnered to offer a new service at Swedish First Hill and Swedish Issaquah for patients with a palpable neck mass or thyroid nodules. The Neck Mass and Thyroid Nodule Biopsy Clinic offers one-stop, one-day diagnostics — the ultimate in convenience for patients and their primary-care providers. Convenience is not the only benefit for patients. The clinic’s unique approach to diagnosing neck masses also reduces the anxiety patients often experience when they must wait days or weeks between a biopsy and learning the results.

The clinic’s approach to diagnosing neck masses is the first of its kind in the Pacific Northwest. It was made possible with the recruitment of Joseph Sniezek, M.D., as medical director of Head & Neck Endocrine Surgery at Swedish Head & Neck Surgery, and the onsite presence of a CellNetix pathologist.

“With just one call, email or referral through Epic, your patient will be taken care of,” says Dr. Sniezek. “With the exception of neck masses suspicious for lymphoma, which requires the more time-consuming flow cytometry, we have designed our service to provide a surgical consultation, ultrasound examination, ultrasound-guided fine needle/core biopsy procedure and cytopathology review during a single patient visit in a single location.”

Clinic providers and staff collaborate with referring endocrinologists and primary-care providers to determine the most appropriate...
“About 15 percent of osteoarthritis patients are good candidates for partial knee replacement. The remaining 85 percent of patients have some degree of tricompartmental disease, which precludes isolated compartment replacement,” says orthopedic surgeon James Crutcher, M.D.

Since 2010, surgeons at Swedish have used the MAKOplasty® procedure for partial knee replacement with excellent results. They were early adopters of this sophisticated technology and the first in the Greater Puget Sound Area to use it. In 2013 alone, surgeons at the Swedish Orthopedic Institute performed 200 of these robotic-assisted procedures. They have the experience and expertise to precisely position the implant and ensure it fits the patient’s unique anatomy.

Before the procedure, a CT scan provides a detailed 3-D image of the anatomy of the involved knee. The image is used to plan the surgery ahead of time, which includes choosing the appropriate size implants, and planning the placement and orientation relative to the knee. In essence, this is a “virtual surgery” before the patient is in the operating room. Once the patient is in surgery, the surgeon verifies and fine-tunes the virtual plan, adjusting the implant placement by a fraction of a millimeter or one-to-two degrees of orientation. MAKOplasty technology makes possible this degree of precision, which is critical for a good, durable outcome. The procedure is performed through a three- to four-inch incision to preserve as much of the natural bone and tissue as possible.

For the patient, MAKOplasty means a hospital stay of less than 24 hours, less scar formation, a quicker recovery, and a knee that feels and functions more like a regular knee.

### When to Refer to Swedish

**Swedish Orthopedic Institute**

www.swedish.org/orthopedics

Joint Replacement Referrals: 206-215-9145

**Swedish Spine, Sports & Musculoskeletal Medicine**

www.swedish.org/spinesports

Referrals: 206-386-2677

We encourage physicians to refer patients with knee pain to the joint experts at Swedish earlier, rather than later. A thorough evaluation and interdisciplinary collaboration offer patients a seamless pathway to the most appropriate treatment. Appointments are available at the Swedish Orthopedic Institute in Seattle at First Hill and orthopedic specialists at Swedish’s Ballard, Edmonds and Issaquah campuses. MAKOplasty is performed at the First Hill and Issaquah campuses.

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### Treating Knee Pain in Runners

**Sean Colio, M.D., Swedish Spine, Sports & Musculoskeletal Medicine**

Despite knee pain, many runners want to continue running as their primary form of exercise. Some even want to continue participating in long distance events.

For these dedicated athletes, our first recommendation will often be a course of running-specific physical therapy to assess and adjust their running technique, along with addressing muscular imbalances that could lead to further injury. In a recent issue of the *Journal of Orthopedic Research*, P.B. Schull, Ph.D., supported this approach with a study showing that a six-week, gait-retraining physical therapy program could significantly reduce knee arthritis pain.

A holistic approach to knee pain can benefit athletes. Assessing a runner’s foot type, recommending proper shoes, inserts or custom orthotics, and using special taping and bracing techniques, can help reduce strain on the knee joint during exercise. Additionally, proper nutrition to maintain a healthy weight, as well as some supplements and dietary factors, such as antioxidants, can help reduce the impact on runners’ knees and the resulting knee pain.

Anti-inflammatories (NSAIDs) are potent pain reducers, but for athletes with knee osteoarthritis (OA), they must be taken cautiously so as to not mask pain during exercise. Topical NSAID creams are very effective for knee OA pain and present a lower risk to the athlete’s body. Simply icing the knee can also reduce the inflammation from arthritis.

More invasive treatment options are available, including knee corticosteroid injections, hyaluronic acid injections and platelet-rich plasma injections. These treatments provide varying durations of benefit, corticosteroids being the shortest and platelet-rich plasma being the longest. Some athletes whose pain does not resolve with non-surgical treatments may need to pursue partial or total joint replacement; however, this will restrict their future running abilities.

Developing a level of trust with athletes that ensures they are honestly evaluating their knee pain and precisely following recommendations is critical to achieving desired outcomes.
Fifty-four-year-old Dale presented with right knee pain. He reported that he had played sports in high school, and had enjoyed good knee function until the age of 38. At that time, he twisted his knee while playing pick-up basketball and was diagnosed with a torn medial meniscus. Treatment, which included knee arthroscopy and partial medial meniscectomy, produced good results and Dale returned to his recreational athletic activities, including some running.

Dale said that for the past six months he had intermittent medial right knee pain after running and other sports. He had no history of a repeat knee injury, or swelling or instability symptoms. He had not taken any medications to control the pain.

Dale reported that he takes no regular medications, other than a multivitamin, and has no other medical conditions. A physical exam showed a healthy appearing 5’11” male weighing 180 pounds. Vital signs were stable. Examination of the right knee revealed:

- **Alignment:** normal
- **Joint effusion:** none
- **Range of motion:** 0–130 degrees
- **Cruciate or collateral ligament laxity:** none
- **Patellofemoral crepitus:** none
- **Medial joint-line tenderness:** mild
- **Lateral joint-line tenderness:** none

A full set of knee X-rays was ordered, including standing anteroposterior (AP) and posteroanterior (PA) views of both knees, and lateral and patellar views of the right knee. The X-rays showed mild joint-space narrowing (40 percent) in the medial compartment only. Left-knee comparison views showed normal joint space in the tibiofemoral compartments.

We determined that Dale had early medial compartment osteoarthritis (OA) in the right knee. Due to the likelihood that his medial compartment OA would progress, we recommended an alternative exercise routine. The suggested cross training included lower-impact exercises, such as cycling, rowing, swimming, elliptical, kayaking and paddle boarding. Dale asked if he could include running in his routine. We advised that he could, but less frequently and a shorter duration.

**Four years later:** Dale returned because the pain had become more frequent during the last year. The pain was again exclusively on the medial aspect of the knee. Now, however, he had pain with activities of daily living (going up and down stairs and walking more than a mile). Dale said he gave up running several years ago, but now even some low-impact exercises produced increased pain. He had tried over-the-counter (OTC) anti-inflammatories, but they did not alleviate the pain.

A physical exam showed that Dale was still in good health, now weighing 184 pounds. His knee exam was again remarkable for:

- **Medial joint-line tenderness**
- **No lateral joint-line tenderness**
- **No patellofemoral crepitus**
- **No joint effusion**

His ligamentous exam was remarkable for grade 1 pseudolaxity of the medial collateral ligament (MCL), which was causing some pain at the joint line. Otherwise his knee was stable. Hip range of motion was normal.

A repeat full set of X-rays, which was compared to the previous X-rays, showed progressive medial compartment joint-space narrowing (90 percent on the AP and PA views), and normal appearance of the other two compartments. Because the images showed advanced degenerative changes, Dale was not a candidate for arthroscopic surgery.

We informed Dale that his OA was advanced and would likely progress. We advised him that treatment options included prescription anti-inflammatories, cortisone injections, unloader bracing and arthroplasty surgery. Because he had isolated medial compartment OA and an intact anterior cruciate ligament (ACL), he was also a candidate for a medial compartment partial knee replacement as an alternative to total knee replacement.

Dale declined to consider cortisone injections.
Case Study: Partial Knee Replacement

(continued from page 3)

and bracing, and opted for prescription medication (meloxicam, 7.5 mg daily) while considering the surgical option.

Six months later: The meloxicam was working a little better than OTC medications, but it had not completely eliminated the pain. Dale elected to proceed with a medial compartment partial knee replacement using MAKOplasty®.

Two weeks post-surgery: Dale was already experiencing much less medial knee pain. There was a mild amount of swelling and excellent range of motion. He had taken pain medication for a few days, but was now only using acetaminophen and OTC anti-inflammatories.

Six weeks post-surgery: Dale had stopped taking all medications and was walking more than a mile without pain. His range of motion was normal and his knee exam showed excellent stability.

One year post-surgery: New X-rays showed stable implants. He had returned to biking and hiking without pain. He said he didn’t miss running, which he had been advised to curtail, as is normal with any type of prosthetic knee implant, and was thrilled to have his life back.

A New Biopsy Clinic

(continued from page 1)

treatment plan and follow-up schedule that comprises the entire treatment team. All patients with thyroid or parathyroid malignancy are presented at the multidisciplinary Swedish Thyroid/Parathyroid Tumor Board, which brings together Swedish’s extensive clinical expertise, state-of-the-art resources and novel surgical techniques.

To provide even more convenience, the Swedish Cancer Institute offers this “one-stop shopping” experience at the Neck Mass and Thyroid Nodule Biopsy Clinics at Swedish First Hill and Swedish Issaquah.

To consult on or refer a patient, or to schedule an appointment, please call 206-292-6464.

When to Refer to Swedish

Neck Mass and Thyroid Nodule Biopsy Clinic
Swedish Head & Neck Surgery
Phone: 206-292-6464
Fax: 206-292-6498

Swedish First Hill
Arnold Pavilion, Suite 1523
1221 Madison Street
Seattle WA 98104

Swedish Issaquah
751 N.E. Blakely Dr.
Issaquah, WA 98029

Case Study: From biopsy to diagnosis in one stop and one day

Joseph Sniezek, M.D., Medical Director, Head & Neck Endocrine Surgery, Swedish Head & Neck Surgery; and Nuria Perez-Reyes, M.D., Director, Cytopathology, CellNetix Pathology

Case Study: From biopsy to diagnosis in one stop and one day

JK is a 67-year-old female with primary hyperparathyroidism. She underwent successful excision of a parathyroid adenoma via a minimally invasive approach in June 2013. At that time, a right thyroid nodule was noticed. Ultrasound (US) examination of the thyroid nodule was performed, which indicated that the nodule was 1.3 cm at its greatest extent. The nodule showed mixed solid and cystic components and no evidence of microcalcifications. An ultrasound-guided fine needle aspiration biopsy (US-guided FNA) was performed. Results indicated the nodule was benign.

Presentation (August 2014)

The patient returned to the clinic for re-evaluation of her thyroid nodule. Her parathyroid function and calcium levels were normal. Physical examination did not reveal any palpable neck masses or thyroid nodules. A repeat US examination of the thyroid nodule indicated that it now measured 1.9 x 1.6 x 1.4 cm. Solid and cystic components of the nodule were again identified, although this exam now showed some small calcifications within the nodule. (See figures 1 and 2.)

Due to the increase in nodule size and new concerning features on the US examination, a US-guided FNA was performed. (See figures 3 and 4.) Pathology evaluation of the sample obtained during FNA was suspicious for papillary thyroid carcinoma (PTC).

Management

The patient underwent total thyroidectomy as treatment for PTC. She recovered uneventfully with normal voice and post-operative calcium levels. (See figure 5.)

(continued next page)
Discussion

Thyroid nodules can convert from a benign to a malignant state. If a patient elects observation of their thyroid nodule, a repeat follow-up and US examination should be performed. Six to 12 months is generally accepted as a reasonable period of time before repeating physical and US examinations. A US-guided FNA should be repeated if the nodule grows in size or any new concerning ultrasonographic features, such as microcalcifications, appear.

Patient and provider convenience was greatly enhanced by consolidating head and neck US, US-guided FNA procedures and surgical counseling into a single encounter at one location. Multiple patient visits were deemed inconvenient and unnecessary.

Figure 1. Transverse image of the right thyroid nodule showing solid and cystic components.

Figure 2. Longitudinal image of the right thyroid nodule showing solid and cystic components.

Figure 3. Transverse image of right thyroid nodule undergoing FNA biopsy. Notice that the needle is positioned to biopsy the most suspicious portion of the nodule, near the small calcifications.

Figure 4. Crowded cluster suspicious for papillary thyroid carcinoma and adjacent sheet of benign follicular cells on FNA, air-dried, DQ-stained, 200x.

Figure 5. Papillary thyroid carcinoma on histology, H&E-stained, 400x.
Advancing the Mission of Swedish’s Brain Tumor Center

In the summer of 2013, Charles S. Cobbs, M.D., assumed leadership responsibilities for The Ben & Catherine Ivy Center for Advanced Brain Tumor Treatment (Ivy Center). Dr. Cobbs’ title as the Dr. Greg Foltz Endowed Director pays tribute to the center’s founding director.

The Ivy Center, which is affiliated with both the Swedish Neuroscience Institute and the Swedish Cancer Institute, was founded with a mission to combine research science with medical treatments to advance the field of brain cancer and to give new hope to each person diagnosed with the disease. When it first opened in 2008, the Ivy Center became the first community-based brain tumor treatment facility of its kind in the Pacific Northwest. Today, it is one of the premier brain tumor treatment centers in the country.

Dr. Cobbs, who is a neurosurgeon and internationally recognized expert in brain cancer treatment and research, has contributed to revolutionary discoveries in the understanding of brain cancer, including an influential breakthrough that posed the possibility that brain tumors may be caused by a virus. Consequent research laid the foundation for new studies throughout the United States. Following up on this work, Dr. Cobbs is now working toward a clinical trial that will look at targeted antiviral therapy, which may have benefits for patients with glioblastoma.

Looking forward, Dr. Cobbs sees a period of dramatic increase in clinical trials for patients with brain tumors, including novel surgical techniques during which the patient is awake and stereotactic-guided surgeries, both of which require advanced brain mapping capabilities.

Additionally, he hopes to initiate a clinical study that could provide the ultimate in personalized cancer treatment. The intent is to isolate the stem cells in a sample of a patient’s tumor cells. The stem cells would then be transferred to multiple dishes where they would grow. Each dish of cells would be treated with a different FDA-approved drug regimen. The theory is that this approach might be able to identify the drug regimen that has the greatest potential to produce the best outcome for that individual patient. Glioblastoma will be the first brain cancer involved in this clinical trial. The study could be expanded to include other brain tumors in the future.

“With the expertise of our team and our cutting-edge lab, we are able to take advantage of the efficiencies of a private institution to more quickly advance the knowledge of brain tumors and their treatments,” says Dr. Cobbs. “The Ivy Center is well-positioned to spearhead innovation and to develop algorithms for brain tumor treatments. In so doing, the Ivy Center will be setting the standard for brain tumor centers across the country.”

To consult on or refer a patient, or to learn more about clinical trials at the Ivy Center, please call 206-320-2300.

Ben and Catherine Ivy Center for Advanced Brain Tumor Treatment
www.swedish.org/ivycenter
550 17th Ave., Suite 540  •  Seattle, WA 98122
Phone: 206-320-2300  •  Fax: 206-320-8149

Swedish Provides Washington’s First ‘POEM’ Procedure

Swedish surgeons became the first in Washington State to perform a Per Oral Endoscopic Myotomy (POEM) procedure when they successfully treated a 36-year-old patient diagnosed with a rare esophageal disorder known as achalasia.

POEM involves inserting an endoscope in the patient’s esophagus through the mouth. Once in place, surgeons use several instruments placed though a channel in the endoscope to treat the affected area. In the case of Washington’s first patient to undergo the procedure, a team of Swedish surgeons led by Ralph Aye, M.D., and Brian Louie, M.D., cut though the inner wall of the esophagus to place the endoscope between the inner esophageal layer and the outer muscular wall. By cutting the inner most muscle layer, pressure created by the valve between the esophagus and the stomach was relieved and the patient’s case was treated successfully.

Previously, patients with achalasia were treated using five minimally invasive incisions through the abdominal wall. Because POEM does not require any external incisions, patients can recover quicker with similarly successful outcomes.

“As our physician teams perform more POEM procedures, our surgeons can gradually expand the number of disorders and diseases we can treat with this advanced surgical technique,” says Dr. Aye. “Eventually we can help a wide variety of patients in Washington who suffer from esophageal and stomach disorders, including some very early cancers”

For more information about POEM at Swedish, contact the Swedish Thoracic Surgery Clinic at 206-215-6800.
Swedish Cancer Institute Launches New Hematologic Malignancies Program

The Swedish Cancer Institute (SCI) has launched a Hematologic Malignancies program for the expanded treatment and research of blood-based cancers, such as leukemia, multiple myeloma and lymphoma. Newly recruited international hematology expert John Pagel, M.D., Ph.D., will serve as chief of the new program.

“Dr. Pagel brings with him a world-class reputation for research and excellence in patient care,” said SCI Executive Director Thomas Brown, M.D., MBA. “This new program will add to our existing strengths in caring for patients with hematologic malignancies and further develop our autologous hematopoietic stem cell program. These efforts allow the Swedish Cancer Institute to continue providing the most versatile and comprehensive cancer care in the Pacific Northwest.”

Dr. Pagel's practice will include caring for patients with acute and chronic leukemias, multiple myeloma, Hodgkin and non-Hodgkin lymphomas, and myelodysplastic syndromes, as well as other myeloproliferative disorders. In addition to providing established treatments, such as autologous stem cell transplants, the program will develop novel therapies for the treatment of blood-based diseases through research collaborations and studies initiated by SCI physicians.

Dr. Pagel, who joined SCI Sept. 2, is leading an expert group of hematologic malignancy clinicians. The program combines clinical and key elements of translational science research with the extraordinary care that SCI patients are accustomed to receiving. One hallmark of the program is its integrated approach with SCI's focus on personalized medicine, which will assist the hematologic malignancies team in identifying or developing personalized treatment options for patients based on their individual cancer's genomic profile.

“I am incredibly excited to be joining the team at the Swedish Cancer Institute,” Dr. Pagel says. “The work being done here is life-changing for patients and I am looking forward to developing a program that will deliver new advancements in cancer treatment for patients in the Pacific Northwest and beyond.”

Prior to joining Swedish, Dr. Pagel spent more than a decade as an associate member of the Clinical Research Division at the Fred Hutchinson Cancer Research Center and associate professor in the Medical Oncology Division at the University of Washington. Since 2001, he has also served as the attending physician on the hematopoietic cell transplantation and hematologic malignancy services, as well as serving as a clinic attending physician at the Seattle Cancer Care Alliance.

To consult on or refer a patient, please call 206-215-3245.

DocTalk Videos for Healthcare Professionals

Swedish Health Services posts online video didactics presented by physicians. Check out the following videos at www.swedish.org/doctalk:

- Transfemoral Aortic Valve Replacement Overview
- Contemporary Management of Fecal Incontinence
- Diagnosis and Management of Hearing Loss in Adults
- Celiac Disease Testing in Children: A Primer for General Practitioners
- Vascular Disease: A Practical Overview
- Sleep Disorders: A Case-Based Approach
U.S. News & World Report Recognizes Swedish

*U.S. News & World Report* once again recognized Swedish as one of Washington State’s top hospital systems in its 2014 Best Hospitals rankings. Swedish First Hill and Swedish Cherry Hill were ranked in the top 15 percent statewide out of the 108 hospitals included in the Washington survey. Each campus was ranked eighth in the “Seattle Metro Area” and twelfth in the state of Washington. In the “Puget Sound” category, Swedish Cherry Hill was recognized for high performance in neurology and neurosurgery. Swedish First Hill earned credit for high performance in orthopedics.

The Newest Members of the Swedish Medical Staff

The following individuals joined Swedish during the third quarter of 2014. We invite you to view their online profiles at www.swedish.org/physicians.

Steven Albrecht, M.D.  
**Family Medicine**

Angela Hanna, M.D.  
**Pediatric General Surgery**

Robin Houck, M.D.  
**Interventional Cardiology**

Crystal Houlton, M.D.  
**Obstetrics & Gynecology**

Rebecca Katzman, M.D.  
**Family Medicine**

Anna McDonald, M.D.  
**Family Medicine**

John Mignone, M.D.  
**Interventional Cardiology**

Elizabeth Misch, M.D.  
**Infectious Disease**

Susan Montgomery, M.D.  
**Oncology**

Kristin Nierenberg, M.D.  
**Family Medicine with Obstetrics**

John O’Mara, M.D.  
**Interventional Cardiology**

John Pagel, M.D., Ph.D.  
**Oncology**

Jennifer Pense, D.O.  
**Family Medicine**

Adam Pourcho, D.O.  
**Physical Medicine & Rehabilitation**

Eric Powell, DPM  
**Podiatry**

Laurel Saliman, M.D.  
**Pediatric Orthopedic Surgery**

Kimberlee Smith, M.D.  
**Pediatrics/Hospitalist**

Steven Stanos, D.O.  
**Physical Medicine & Rehabilitation**

Somasundaram Subramaniam, M.D.  
**Oncology**

Kevin Yuen, M.D.  
**Endocrinology**

Toby Zirkle, M.D.  
**Family Medicine**

CME Course Listing – September – October 2014

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.

**18th Annual Pain Management Symposium:**  
*Be an Einstein – Use the Brain to Treat Pain*  
Friday, Sept. 26

**Physician Well-Being 2014**  
Friday, Oct. 3

**Advances in Orthopedics:**  
*What Every Primary-Care Physician Should Know*  
Friday, Oct. 10

**12th Annual West Coast Colorectal Cancer Symposium**  
Friday, Oct. 17

Join our email list: swedish.org/CMEProfile

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