

2009  
Swedish Cancer Institute



# Annual Report



# 2009 Cancer Committee Membership Roster

Ralph Aye, M.D.

*Thoracic Surgery*

Janet Bagley, R.N., M.S., AOCNS

*Manager, Medical and Surgical Oncology*

David Beatty, M.D.

*Surgical Oncology/special emphasis  
on breast problems*

Candy Bonham, CTR

*Cancer Registry*

Mark Bonnema, M. Div

*Spiritual Care*

Patricia Dawson, M.D.

*General Surgery/limited to disease of the breast*

Albert Einstein Jr., M.D.

*Executive Director  
Swedish Cancer Institute*

Stephen Eulau, M.D.

*Radiation Oncology*

Sylvia Farias, MSW

*Social Services*

Daniel Flugstad, M.D.

*Orthopedic Surgery*

Greg Foltz, M.D.

*Neurosurgery*

Philip Gold, M.D.

*Medical Oncology*

Patra Grevstad, R.N., M.N.

*Research*

David Haseley, M.D.

*Diagnostic Radiology*

Walter Holder, M.D.

*General Surgery*

Gordon Irving, M.D.

*Medical Director, Pain Services*

Sandra Johnson, LICSW

*Oncology Social Work*

Mary Kelly, M.D.

*Diagnostic Radiology*

Barbara Kollar, B.S., CHES

*Patient Education/Integrated Care*

Daniel Labriola, N.D.

*Naturopathic Services*

Juanita Madison, R.N., M.N., AOCNS

*Inpatient Clinical Nursing*

Sarah Mathison

*ACS Patient Navigator*

Michael Milder, M.D.

*Medical Oncology*

Jay Parikh, M.D., FRCP

*Diagnostic Radiology*

Bruce Porter, M.D.

*Diagnostic Radiology*

James Porter, M.D.

*Urology*

Robert Resta, M.S., CGC

*Hereditary High Risk Clinical Program*

Carlotta Reynolds, R.N.

*Nurse Manager Oncology*

Sara Rigel, B.S., CHES

*Community Education*

Eric Rosen, M.D.

*Diagnostic Radiology*

Alexis Takasumi

*Medical Education*

Nancy Thompson, R.N., AOCNS, MSN

*Outpatient Clinical Nursing*

Ronald Tickman, M.D.

*Pathology\**

Dan Veljovich, M.D.

*Gynecology Oncology*

John Wynn, M.D.

*Psycho-Oncology*

Jim Yates, MSPH, MBA, FACHE

*Administrative Director*

*Swedish Cancer Institute*

Jon Younger, M.D.

*Internal Medicine/Hospice Director*

John Zarek

*System Clinical Manager, Pharmacy*

David Zucker, M.D., Ph.D.

*Physical Medicine*

*\*Cancer Committee Chairman*

## Letter From Cancer Leadership at Swedish

In spite of a less-than-ideal economy, the Swedish Cancer Institute (SCI) continued to expand in 2009 – in expertise, programs and services, and geographic reach. A lengthy roster of new surgeons may be the best illustration of growth. During the year, the SCI hired eight new cancer surgeons: four for colorectal; two for head and neck; one for thoracic; and one for breast. With the addition of these specialists, the Cancer Institute now has the variety and depth of surgical expertise available at other major cancer centers in the country.



Albert B. Einstein Jr., M.D.  
Executive Director  
Swedish Cancer Institute

Growth was a theme in many other areas as well this past year. The SCI's Colorectal and Head and Neck Cancer Programs both underwent significant expansion. And plans for the True Family Women's Cancer Center are rapidly evolving. Targeted to open in late 2010, this 24,000-square-foot facility will be the largest, most comprehensive center in the Pacific Northwest treating women with cancer.

On the Eastside, at the site of Swedish's future Issaquah hospital complex, plans for a new outpatient cancer center are also progressing. The center will offer surgery, radiation therapy and medical oncology as well as patient support, education and other integrated care services.



Ronald J. Tickman, M.D.  
Cancer Committee Chairman  
Swedish Medical Center

Partnering with hospitals in neighboring communities has always been integral to the SCI's mission to deliver exceptional cancer care throughout the region. This focus continued with a new thoracic surgery partnership between Swedish and Valley Medical Center. Thoracic surgeons from Swedish regularly travel to Valley to discuss complex thoracic surgery cases with their specialists. If complex surgery is needed, patients come to Swedish, then return to Valley for the remainder of their care whenever possible.

Wherever SCI experts work, enhancing quality of care is of highest priority. Quality assurance efforts this past year at the SCI included:

- The establishment of a new multidisciplinary subcommittee of the Cancer Committee that will centralize, as well as measure and evaluate, quality initiatives throughout the cancer program.
- Implementation of the Epic electronic clinical information system in several SCI outpatient clinics as well as on Swedish inpatient floors, including the oncology unit.
- Work to ensure that the cancer program at Swedish is meeting all requirements of the next American College of Surgeons, Commission on Cancer (CoC) survey. Last November, the CoC awarded the SCI its Outstanding Achievement Award with commendation, the highest level of achievement possible for a hospital cancer program. Each survey cycle lasts three years, and the SCI is working towards achieving this award again in 2011.

All of our efforts at the SCI – enhancing quality, bringing new services to communities across the region, and hiring the finest physicians we can find – fit into our mission of delivering the best possible treatment and supportive care to our patients.

Albert B. Einstein Jr., M.D.  
Executive Director

Ronald J. Tickman, M.D.  
Cancer Committee Chairman

# Swedish Cancer Institute: Program Highlights 2008-2009

At the Swedish Cancer Institute, we strive to offer the latest options for treatment and supportive care, but also to improve the quality and depth of all the services we provide. Over the past year, we have accomplished these goals in many different ways – ranging from the hiring of eight cancer surgeons, to the implementation of innovative quality assurance initiatives, to plans for new programs and facilities such as the True Family Women’s Cancer Center.

**T**he next few pages highlight just a few of the many projects and activities that the SCI has been involved in this year. You will also find lengthier articles about our Colorectal Cancer Program and Head and Neck Cancer Program on pgs. 13 and 10 respectively. And the last few pages of the report include a bibliography listing recent publications and presentations from SCI members and affiliated physicians.

## New Surgeons Join SCI in 2009

With the addition of eight new cancer surgeons in 2009, the Swedish Cancer Institute has greatly expanded its surgical breadth and depth. The surgeons include:

**Colorectal Cancer Surgery — Richard Billingham, M.D., Daniel Froese, M.D., Rodney Kratz, M.D., Amir Bastawrous, M.D.**

Drs. Billingham, Froese and Kratz have been in private practice and affiliated with Swedish for many years. They started at the SCI in March 2009. Dr. Bastawrous came from John Stroger Hospital (formerly Cook County Hospital) in Chicago. He is specially trained in minimally invasive techniques for treating colorectal cancers. (More on page 13.)

**Head and Neck Cancer Surgery – David Moore, M.D., Namou Kim, M.D.**

Dr. Moore, a longtime surgeon affiliated with Swedish, was hired by the SCI to establish and develop a formalized Head and Neck Program. Joining him in practice is Dr. Namou Kim.

Most recently, Dr. Kim served on staff at the Mayo Clinic in Scottsdale for five years. Prior to that, he completed a head and neck surgery and microvascular reconstruction fellowship. Dr. Kim and Dr. Moore both started at the SCI in October 2009. (More on page 10.)

**Thoracic Surgery – Alexander Farrivar, M.D.**

Dr. Farrivar joined the SCI in August 2009. Prior to coming to Seattle, he worked at Brigham and Women’s Hospital in Boston. He completed a cardiothoracic surgery fellowship from the University of Washington and has also received specialty training in mesothelioma management. He will be joining the Swedish Thoracic Surgery clinic, which includes Ralph Aye, M.D., Eric Vallières, M.D. and Brian Louie, M.D.



**Breast Cancer Surgery — Shannon Tierney, M.D.**

Dr. Tierney practiced most recently at Memorial Sloan Kettering Cancer Center in New York City, where she completed a breast-surgery fellowship. In July 2009, she joined the SCI and the Swedish Breast Surgery group, which includes Pat Dawson, M.D., David Beatty, M.D., James Hanson, M.D., and Claire Buchanan, M.D., as well as general surgeons Darlene Barr, M.D., and Christine Lee, M.D.



## The True Family Women's Cancer Center

Slated to open in late 2010, The True Family Women's Cancer Center will be the Pacific Northwest's largest, most comprehensive center devoted to treating cancers that affect women. The 24,000-square-foot center will be the hub for treatment programs that address breast cancer, gynecologic cancer and other cancers that women face. High-risk screening and genetic counseling for breast, ovarian and colon cancers will be available as well.

The center will also address the unique physical, psychosocial and educational needs that women with cancer, and their families, experience as they go through treatment and survivorship. These women may deal with bone-density changes; reproductive issues such as early menopause; identity and appearance concerns as a result of disease and treatment; and a genetic predisposition to certain female cancers.

"The new center offers a truly unique opportunity to bring together all of these resources for women with cancer, essentially under one roof," says Patricia Dawson, M.D., a breast-cancer surgeon at Swedish.

In addition to providing greater patient convenience and support, the center will increase the level of interaction and collaboration among specialists. Their focus will be on developing optimal treatment plans for each patient right from the time of diagnosis.

Other plans for the center include:

- A research and clinical trials program
- A women's health-education center
- A multidisciplinary consultative and treatment-planning program
- A wide range of integrative and supportive programs

The Swedish Foundation is currently raising \$10 million to build the True Family Women's Cancer Center is \$10 million. To date, Swedish has secured more than \$6 million, thanks in large part to generous lead gifts, including a \$2 million naming gift from the True family.

## Epic Goes Live at the SCI

As the Epic clinical information system goes live across Swedish campuses, the Swedish Cancer Institute (SCI) is a key participant.

The benefits of Epic, and the centralized electronic medical record it makes possible, are many. It will allow for more accurate and complete documentation that can be shared by physicians, nurses and staff – no matter where they are located. And within the SCI, where patients often receive many types of care, all clinical and support services will be combined into one record.

The physician order entry process will potentially lead to better legibility of orders; standardization of protocols; accessibility to chemotherapy orders for multiple providers; and a greater ability to monitor chemotherapy drug use and track utilization patterns for drugs. All of this translates into greater patient safety.

Physicians on the Swedish medical staff can easily access electronic medical records at their offices and at home. The SCI is also working with Epic staff to generate summary reports of each patient's treatments, which can be sent to his or her referring private physician. The goal is to use Epic to help facilitate regular communications of patient records to referring physicians.

## Eastside Cancer Center Progress

With excavation underway for Swedish's new Issaquah hospital, the SCI's Eastside cancer plans are one step closer to becoming reality. An important component of the Issaquah hospital complex will be a new outpatient cancer center. It will include:

- Cancer diagnostics
- Cancer surgery and consultations with surgical oncologists



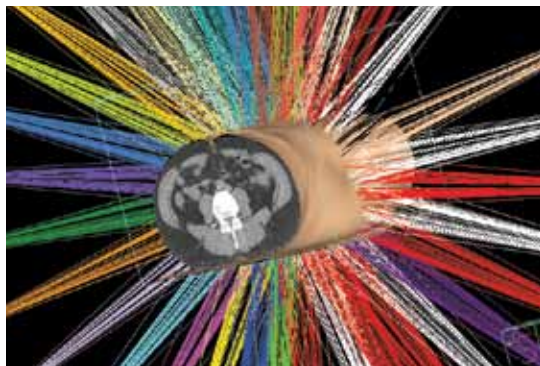
- A medical oncology practice with a chemotherapy infusion suite
- Radiation therapy services
- Patient support, education and integrated cancer care
- Access to clinical trials

The new cancer center in Issaquah is scheduled to open in 2011.

## SCI Experts are Leaders in VMAT Therapy

Clinicians and physicists at the SCI's Center for Advanced Targeted Radiotherapies have played a leading role in the development and clinical implementation of Volumetric Modulated Arc Therapy (VMAT), a breakthrough radiation therapy delivery technique. VMAT makes it possible to deliver highly conformal radiation dose distributions with unprecedented efficiency. For the most complex cases, treatment times have been reduced from 20 minutes to less than five minutes using VMAT.

David Shepard, Ph.D., and Daliang Cao, Ph.D., medical physicists at the Swedish Cancer Institute, developed the first robust planning tools for VMAT. In 2007, they also published a manuscript demonstrating that VMAT can match or exceed the plan quality available with the most advanced radiation therapy delivery systems.



This image visualizes a VMAT treatment plan for a patient with prostate cancer. Beams of radiation are delivered from all angles and converge on the targeted region, concentrating the radiation damage in the tumor with a rapid falloff in damage outside of the target.

Their work has led to partnerships with Elekta and Philips Medical, two of the leading providers of radiation therapy equipment. Collectively these partnerships have provided Swedish with over one million dollars in research grants.

In January 2008, Elekta installed its first VMAT delivery system in the country at the Swedish Cancer Institute. Since that time, Drs. Shepard and Cao have worked closely with their colleagues Fan Chen, Ph.D., and Min Rao, Ph.D., in testing Elekta's VMAT solution.

Swedish treated their first VMAT patient in July 2008. The patient had been diagnosed with pancreatic cancer, and the use of VMAT made it possible to significantly reduce the radiation exposure to surrounding sensitive areas, such as the spinal cord, left and right kidneys, and the liver.

To date, more than 30 patients have been treated with VMAT at the SCI. These have included patients with tumors of the brain, abdomen and pelvis.

Vivek Mehta, M.D., director of the SCI's Center for Advanced Targeted Radiotherapies, is the principal investigator on a VMAT clinical trial.

"VMAT has already had a positive impact on patient care," says Dr. Mehta. "We are currently treating patients who we would not have been able to otherwise, and treating them with a degree of precision and accuracy that was nonexistent just a few years ago."

The introduction of the VMAT technique is just one recent example of the pioneering work that is occurring as part of the Center for Advanced Targeted Radiotherapies at the SCI. The center's objectives are to implement and optimize new technologies, such as VMAT, in order to improve clinical care. In the last year, the VMAT work has been presented by Drs. Mehta and Shepard at regional, national and international meetings.

## Thoracic Surgery Partnership with Valley Medical Center

Thoracic surgeons with the Swedish Cancer Institute have been traveling south to Renton as part of a new partnership with Valley Medical Center. As a result, an increasing number of patients with thoracic cancers are benefitting from this unique collaboration, which began in September 2008.

“Every two weeks, one of our surgeons goes to Valley to attend their Tumor Board, where we discuss complicated thoracic cases with the physicians and support staff, and make a team plan on how to best approach the problem,” says Eric Vallières, M.D., thoracic surgeon at the SCI.

“Valley’s Tumor Board is top quality with superb input from all consultants, including radiology and pathology services,” adds Dr. Vallières.

If further testing is needed, the patient will usually complete those at Valley. Internet access to radiology services at Valley helps enhance this part of the process, says Dr. Vallières.

When complex surgery is the next step, the patient will come to Swedish. Each patient meets with their surgeon once at Swedish for consultation, and then returns for surgery. After discharge from the hospital, the Swedish surgical team will see the patient once or twice in their clinic until full recovery. At this point, he or she will then go back to Valley for long-term follow-up care.

To date, approximately 25 surgical patients have been referred to the thoracic surgeons at Swedish.

“We appreciate the knowledge and expertise that the SCI Thoracic Surgery group brings to our Tumor Board and to our patients,” says Virginia Concannon, oncology nurse navigator at Valley Medical Center.

At Swedish, Dr. Vallières’ thoracic surgeon colleagues include Ralph Aye, M.D., Brian Louie, M.D., and Alexander Farrivar, M.D. Currently all four surgeons go to Valley on a rotating basis.

## Cancer Survivorship Activities

The Swedish Cancer Institute is addressing the needs of cancer survivors by focusing on two important audiences – patients and providers. In 2009, the SCI continued building its survivorship program for patients. For providers, it hosted a successful symposium in May called Medical Issues in Cancer Survivors.

### Provider Education

The goals of the survivor symposium were to enhance the knowledge, skills and performance of clinicians who see patients with potential medical long-term and late effects of cancer and its treatment. It also focused on the psychosocial issues faced by survivors. Presenters from around the country and region spoke on a range of topics, including:

- Medical late and long-term effects
- Psychological and cognitive adverse outcomes of cancer
- Surveillance for second malignancies
- Cardiac and pulmonary issues among survivors
- Diet, nutrition and post-treatment follow-up care

### Patient Education and Support

The SCI is currently piloting a survivor program with breast-cancer patients. The objective of the program is to provide patients and their primary care providers with a complete summary of cancer treatments received at the SCI. The program also offers information about Swedish and community resources that address the medical and psychosocial issues that patients may experience after completing treatment. In the future, plans are to expand the pilot program to other types of cancer.

Other components of the Survivorship Program for patients include classes, support groups and a survivor e-newsletter, *Life to the Fullest* (please e-mail [full.life@swedish.org](mailto:full.life@swedish.org) to receive a copy).



## Swedish Physicians Involved in CyberKnife Research

With the only CyberKnife™ in the Puget Sound region, the Swedish Cancer Institute continues to explore innovative treatment applications with this technology. Swedish, for example, is the lead site in a clinical trial evaluating the efficacy of CyberKnife compared to other treatment options for early stage prostate cancer.

Approximately 300 patients from more than 10 sites nationwide are enrolled in the trial, which will meet accrual in early 2010. Preliminary results show that adequate doses can be delivered for disease control with minimal side effects. Robert Meier, M.D., a radiation oncologist affiliated with the Swedish Cancer Institute, is the principal investigator for the study.

Current CyberKnife research at Swedish also includes:

- A breast-cancer protocol that delivers a full course of radiation in one week instead of the standard six-and-a-half week treatment. Headed by Sandra Vermeulen, M.D., a radiation oncologist affiliated with the Swedish Cancer Institute, this national CyberKnife study is designed to study tumor control rates and cosmetic outcomes.

- A national study using CyberKnife as a replacement for early stage resection of lung cancers. Treatment consists of three consecutive CyberKnife sessions of less than one hour each. No hospitalization is necessary, and there are no risks of infection or need for the healing time typically required after surgery.
- The use of CyberKnife with heart patients, specifically those with cardiac arrhythmias. Electrophysiologists at Swedish will soon be working with the CyberHeart system – the first non-invasive robotic ablation treatment for cardiac arrhythmias such as atrial fibrillation or ventricular tachycardia.

The CyberKnife system, which has been available at Swedish since 2006, is a form of stereotactic radiosurgery. It uses an advanced, robotically controlled linear accelerator to concentrate hundreds of high-energy radiation beams on the tumor. By using real-time image guidance, the CyberKnife adjusts for patient movement, targeting with 1 mm precision. CyberKnife typically treats small, complex tumors and lesions in the brain, head and neck, spine, lung, liver, pancreas, kidney, prostate and pelvis. Worldwide 50,000 people have been treated with CyberKnife, which is available in 140 locations.



# Head and Neck Cancer Program Offers Full Array of Services

Head and neck cancer patients will greatly benefit from the Swedish Cancer Institute's (SCI) recent focus on enhancing this clinical specialty. Leading this effort is David Moore, M.D., a longtime Swedish-affiliated head and neck surgeon.

The SCI hired Dr. Moore in October 2009 to develop and establish a formalized Head and Neck Cancer Program. At the SCI, the various clinical components to treat head and neck cancer patients have always been available. But now, under the leadership of Dr. Moore, all of these services will be brought together into a structured multidisciplinary, multimodality program.



Dr. Moore

Within the new program, Dr. Moore has been joined by Namou Kim, M.D., who also started in October. Dr. Kim comes most recently from Arizona. After completing a head and neck microvascular surgery fellowship, he was on staff at the Mayo Clinic in Scottsdale for five years.



Dr. Kim

In 2010 the Head and Neck Program plans to round out its expertise by hiring a surgeon specializing in treatment for endocrine cancers, including minimally invasive surgical techniques. This means that head and neck cancer patients at Swedish will have access to all of the latest surgical techniques, ranging from

microvascular reconstruction to minimally invasive procedures such as trans oral laser tumor microsurgery.

## Multidisciplinary, Multimodality Approach to Care

In addition to a focus on surgical expertise, the Head and Neck Cancer Program will feature increased collaboration between specialists. As with many types of cancers, multimodality treatment that includes surgery, radiation therapy and/or chemotherapy is proving successful and becoming more and more common.

“Typically at Swedish a surgeon will see head and neck patients first, do the initial evaluation, then start a discussion with other specialists as to what the best treatment will be for that particular patient,” says Dr. Moore.

“We work very closely with radiation and medical oncologists as well as radiologists, pathologists and thoracic surgeons in some cases. Many patients, especially those with more advanced tumors, require combined therapy to include radiation, chemotherapy and surgery,” says Dr. Moore.

A Head and Neck Tumor Board is part of the vision for the program. Once introduced, it will meet regularly so a variety of specialists can review complicated head and neck cases and determine the optimal course of action.

Head and neck cancer specialists at Swedish treat cancers of the oral cavity; salivary glands; paranasal sinuses and nasal cavity; pharynx (nasopharynx, oropharynx, hypopharynx); larynx; upper esophagus; parotid glands; thyroid and parathyroid; and skin cancers of the head and neck region.

Such cancers make up approximately 3 to 5 percent of all cancers in the United States. At Swedish, head and neck cancer volumes in 2008 were 96, plus 103 thyroid cancers.

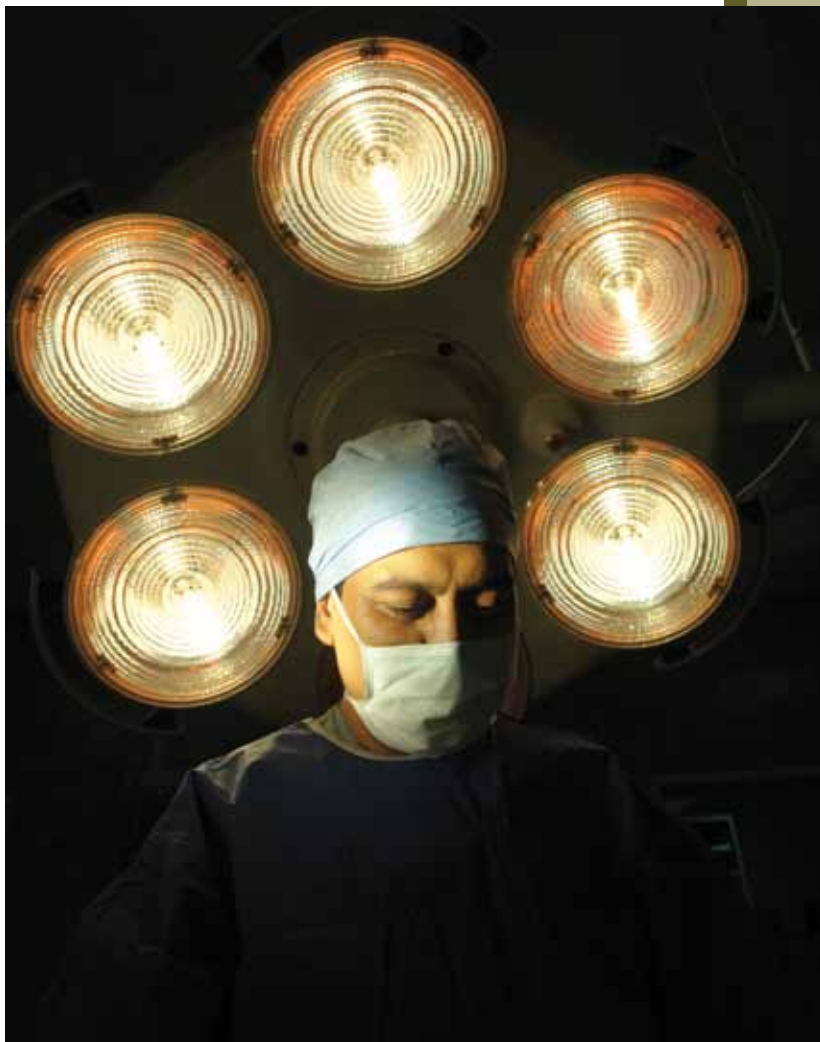
### Quality of Life and Treatment Side Effects

Because of the nature of the organs involved, head and neck cancer patients are at high risk of side effects from treatment. Speech may be impaired, requiring speech therapy. Treatment may impact the esophagus, tongue or mouth, leading to swallowing or other problems that impact nutrition.

As a result, a patient may need help from a variety of other clinical experts, including speech and language pathologists, physical and/or occupational therapists, registered dietitians and oncology social workers.

At Swedish, all of these experts are available to patients and will be more easily accessible with the formalization of the new Head and Neck Program.

“Offering these kind of support services is part of the continuum that Swedish has offered for many years, but now it will be much easier for patients to have the entirety of their services provided in one location,” says Dr. Moore.



# Swedish Cancer Registry 2008

## Analytic Cancer Site Listing

CANCER SITES	NUMBER	PERCENT
<b>Neuro/Central Nervous System</b>		
Brain	139	3.4%
Other Central Nervous System	105	2.6%
<b>Head and Neck</b>		
Lip and Oral Cavity	27	0.7%
Pharynx	30	0.7%
Nasal Cavity/Sinuses/Middle Ear	7	0.2%
Major Salivary Glands	7	0.2%
Larynx	23	0.6%
<b>Gastrointestinal</b>		
Stomach	29	0.7%
Small Intestine	11	0.3%
Colon	109	2.7%
Rectum/Rectosigmoid	75	1.8%
Anus, Anal Canal, Anorectum	17	0.4%
Liver	38	0.9%
Gallbladder	3	0.1%
Bile Ducts	8	0.2%
Pancreas	67	1.6%
Other Digestive	3	0.1%
<b>Thoracic</b>		
Esophagus	38	0.9%
Trachea	1	0.0%
Bronchus and Lung	377	9.2%
Thymus	3	0.1%
Heart/Mediastinum/Pleura	10	0.2%
<b>Breast</b>	<b>900</b>	<b>22.0%</b>
<b>GYN</b>		
Vulva	17	0.4%
Vagina	5	0.1%
Cervix	57	1.4%
Uterus	279	6.8%
Ovary	152	3.7%
Other	11	0.3%

CANCER SITES	NUMBER	PERCENT
<b>Genitourinary</b>		
Prostate	774	18.9%
Testis	28	0.7%
Kidney/Renal Pelvis	85	2.1%
Ureter	1	0.0%
Bladder	94	2.3%
Other Urinary Organs	2	0.0%
<b>Hematology</b>		
Hematopoietic/Reticuloendothelial	104	2.5%
Hodgkins Disease	21	0.5%
Non-Hodgkin's Lymphoma	111	2.7%
<b>Musculoskeletal</b>		
Bones/Joints/Cartilage	3	0.1%
Connective and Soft Tissue	28	0.7%
Retroperitoneum/Peritoneum	9	0.2%
<b>Endocrine</b>		
Thyroid	103	2.5%
Other Endocrine Glands	62	1.5%
<b>Skin</b>		
Melanoma	35	0.9%
Non-Melanoma	13	0.3%
<b>Other</b>		
Eye and adnexa	21	0.5%
Other Ill-Defined Sites	1	0.0%
Unknown Primary Site	50	1.2%
<b>TOTAL</b>	<b>4091</b>	<b>100.0%</b>

*This site listing reflects the number of analytic cases seen at Swedish Medical Center (all campuses). An analytic patient is one who has been diagnosed or received all or part of their first course of treatment at Swedish.*

# Leaders in Colorectal Cancer Expertise

Colorectal cancer services at the Swedish Cancer Institute (SCI) have a long history of excellence – for treatment as well as screening and diagnosis. In the past year, the program has grown even stronger with the addition of four fellowship-trained, board-certified colorectal surgeons.



Dr. Billingham

**R**ichard Billingham, M.D., Daniel Froese, M.D., and Rodney Kratz, M.D., joined the SCI in March 2009, while Amir Bastawrous, M.D., started in August. With these surgeons on board, the SCI now offers the largest practice of fellowship trained, board-certified colorectal surgeons in the Pacific Northwest.



Dr. Froese

“By adding these surgeons to the SCI, we can assure that their expertise is well integrated into our Gastrointestinal Oncology Program. It also allows us to provide enhanced colorectal cancer screening, diagnosis and treatment, and to grow our colorectal offerings and expertise within the institution,” says Albert Einstein Jr., M.D., executive director of the SCI.



Dr. Kratz

The addition of the surgeons also underscores the SCI’s focus on a multidisciplinary approach to cancer care. The surgeons work in close coordination with medical oncologists and radiation oncologists to come up with optimal treatment plans for each patient.



Dr. Bastawrous

At Swedish, colorectal cancer – which includes cancer of the colon, rectum and rectosigmoid – is the fourth most commonly treated cancer. In 2008, the SCI reported 184 new cases of the disease.

Nationally, an estimated 148,810 cases of colon and rectal cancers occurred in 2008 as well as 50,000 deaths – accounting for nine percent of all cancer deaths. Mortality rates, however, have been declining in the past two decades with the steepest decline in recent years.

## Screening and Diagnostics

Experts attribute the decline in mortality rates to improvements in treatment, prevention and early detection.

“We’ve seen an increasing number of people getting colonoscopies. The guidelines for screening are developed by the American Cancer Society, American College of Surgeons and dozens of similar groups. More primary care doctors are recommending compliance with this screening,” says Richard Billingham, M.D., a colorectal surgeon at the Cancer Institute.

Colonoscopy helps detect the polyps that are predecessors of colon cancer. Finding and removing these polyps prevents the development of colorectal cancers in nearly all cases. However, many people still fail to comply with current screening guidelines, which recommend that most adults begin their colorectal cancer screenings at age 50.

“Everyone over 50 should get screened. In 90 percent of cases, colorectal cancer could have been prevented,” says SCI colorectal surgeon Daniel Froese, M.D.

Physicians at Swedish have specialized training and expertise in screening and diagnosing colorectal cancer. Optical (traditional) colonoscopy remains the gold standard for screening. At Swedish, this test is performed thousands of times a year by colorectal surgeons and gastroenterologists.

Experts within the Cancer Institute also use another type of screening in selected cases to determine an individual’s risk for colorectal cancer. Genetic screening, which is offered through the SCI’s Hereditary Cancer Clinic, focuses on patients and families at risk for hereditary cancers, including colorectal cancers.

The results of genetic testing can significantly influence a patient's treatment plan, as well as indicate appropriate screening tests and medical procedures for relatives who may be at risk of cancer.

## Surgery and Multimodality Treatment

Surgery is the most common treatment for colorectal cancer. At the SCI, surgeons offer all forms of colorectal laparoscopic procedures, as well as total mesorectal excision for complete lymph node clearance, which results in significantly diminished local recurrence.

SCI surgeons have a track record for innovation and are currently experimenting with the use of robotic surgery to treat colorectal cancers. At Swedish, other physicians have used robotic surgery to successfully treat prostate cancers as well as gynecologic cancers. For colorectal cancers, the technique is still under evaluation.

Swedish has a particularly strong focus on treating people with rectal cancer. Treatment of this cancer by board-certified colorectal surgeons, combined with the institute's high case volume and access to the latest surgical techniques, optimizes patient outcomes and survival rates.

"Patients with rectal cancer have significantly higher survival rates when treated by board-certified colorectal surgeons, who have received training in specialized techniques that are taught at the fellowship level,"\* says Dr. Froese.

In addition, treatment by board-certified surgeons reduces the chance that patients with rectal carcinoma will experience debilitating side effects, including a permanent colostomy. The increase in successful multimodality treatment protocols is also a factor in fewer colostomies for patients.

"There are many multidisciplinary techniques that have developed in recent years and have helped people avoid the need for permanent colostomies," says Dr. Billingham. "When

someone comes in with rectal cancer, we may determine that it's better to give radiation or chemotherapy before surgery. This can shrink the tumor and make it more manageable from a surgical perspective. It may result in fewer complications and side effects, and may make it possible to do a sphincter-sparing operation."

Multimodality approaches are a common topic at the SCI's biweekly Gastrointestinal Program Tumor Board conferences. Here physicians present complex cases, including colon and rectal cases, which are discussed by surgeons, medical oncologists, radiation oncologists and other specialists who attend the conferences. Sharing knowledge and expertise helps physicians devise treatment plans to better address complicated cases.

## A Full Array of Radiation Therapies

The Swedish Cancer Institute offers all of the major radiation therapies for treating rectal cancer, including some technologies that were used at the SCI before anywhere else in the region. Image Guided Radiation Therapy (IGRT) is one example. Swedish was the first in the Northwest, and among the first in the world, to offer this procedure. A linear accelerator is coupled with a CT scanner for near real-time imaging of tumors prior to treatment. This improves the precision of radiation delivery by adapting the radiotherapy field as the tumor changes shape and size, thereby reducing the radiation exposure of normal tissue.

"With IGRT, we can treat more accurately than ever before. We're now probably within 3 mm or less of hitting the target, which is about 70 to 80 percent better than what we could do before. IGRT has become a defacto standard of treatment at Swedish for rectal cancer," says Vivek Mehta, M.D., a radiation oncologist at the Swedish Cancer Institute and director of the Center for Advanced Targeted Radiotherapies.

Other advanced radiation therapies at the SCI include CyberKnife and VMAT. CyberKnife is a form of stereotactic body surgery (SBRT) that involves giving a patient very high doses of

radiation during just a few sessions. CyberKnife radiosurgery has allowed physicians to treat patients who have previously received radiation. This technique has improved quality of life for some SCI patients.

Volumetric Intensity Modulated Arc Therapy (VMAT) is a new technology that cuts radiation treatment times by one-half to two-thirds by delivering the beam of radiation from thousands of angles and using specialized treatment planning software. (For more information about both VMAT and CyberKnife, please see pages. 7 and 8).

Thanks to the array of advanced radiation therapies available, radiation oncologists at Swedish can treat patients whose rectal and colon cancers have recurred, including some who may have been considered untreatable elsewhere.

“These cancers are notoriously hard to treat. But because we have so many different options, we often can help patients who might not have been candidates for treatment elsewhere. We can pick the best platform possible for their case – whether its IGRT or VMAT or SBRT – and individualize treatment,” says Dr. Mehta.

## Chemotherapy and Biologic Therapy

Medical oncologists at Swedish work closely with surgeons and radiation oncologists to devise the best treatment plans for colon and rectal cancer patients. Part of this involves investigating new ways to employ the latest therapies.

“The Swedish Cancer Institute has participated in every major study in the past decade of new chemotherapy and biologic therapy for colorectal cancer, plus we’ve developed our own phase 1 and phase 2 clinical trials,” says medical oncologist Philip Gold, M.D., who focuses on patients with gastrointestinal cancers and is also director of clinical research at the SCI.

“We are not only exploring new agents, but are also trying to find more appropriate applications for some existing agents,” adds Gold.

All of the SCI specialists focusing on colorectal cancer are devoted to using the best therapies, technologies and surgical techniques to improve patient outcomes. They are also very dedicated to promoting the value of screening and prevention.

“Screening is so important with colorectal cancer,” emphasizes Dr. Froese. “If screening rates dramatically increased and cancer was prevented, I’d be happy to be put out of business,” he says.

*\*Research studies have confirmed that patients with rectal cancer have significantly higher survival rates when treated by board-certified colorectal surgeons. One commonly referenced study is from the Annals of Surgery; February, 1998; Issue 2; pages 157-167; “Surgeon-Related Factors and Outcomes in Rectal Cancer.”*

## Colorectal Cancer Survival Data: Five-Year Survival Rate

COLON	NATIONAL	SWEDISH	RECTUM	NATIONAL	SWEDISH
Stage 0	78.50%	**	Stage 0	80.90%	**
Stage I	74.90%	79.10%	Stage I	74.70%	86.80%
Stage II	63.90%	68.90%	Stage II	60.40%	65.90%
Stage III	49.90%	61.00%	Stage III	52.00%	55.90%
Stage IV	6.50%	5.80%	Stage IV	6.70%	11.10%

\*\* Insufficient data.

Sources: National Cancer Data Base (NCDB) and Swedish Medical Center Cancer Registry for patients diagnosed between 1998 and 2001.

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