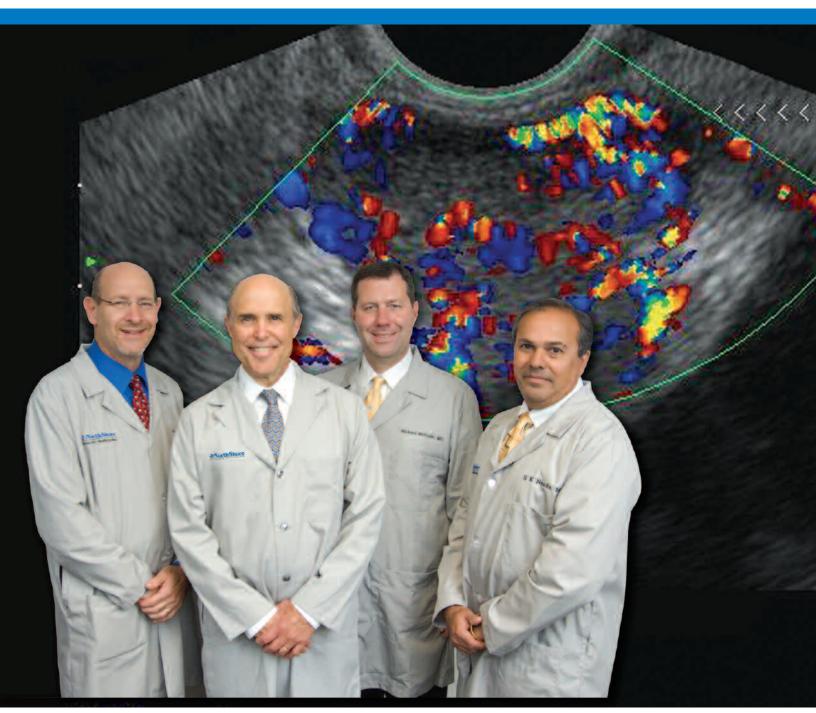


# Providing collaborative care in cancer diagnosis, treatment and research

## 2009 ONCOLOGY ANNUAL REPORT



Cancer care is centered entirely around the patient at NorthShore University HealthSystem (NorthShore). We strive to create an environment that allows each and every patient to focus on getting well while we take care of the rest. It's our collaborative, one-stop approach that provides the patient with the best possible healthcare experience throughout the entire cancer care continuum.

Our focus on the patient is most evident in some of these exciting new programs and achievements:

**Guided Patient Support (GPS) System**—Made possible through the exceptional fundraising efforts of the Auxiliary of Evanston and Glenbrook Hospitals, GPS assists patients with their every need. The "nurse navigator" collaborates with each member of the care team to manage the patient's case from diagnosis through treatment and beyond.

**New Kellogg Cancer Care Center at Evanston Hospital**—Set to open in February 2010 and designed with input from the NorthShore Oncology Patient Advisory Board, the center will make the patient experience more comfortable while respecting every individual's privacy and dignity. The new clinic space is structured around multidisciplinary pods, providing staff with easier access to their patients, and has dedicated space for numerous supportive and integrative services.

New Center for Breast Health at Evanston Hospitall—The state-of-the-art Center features all-digital mammography equipment and diagnostic services, such as breast MRI and biopsy. All mammograms are read by board-certified subspecialist radiologists, which research shows improves the rate of detection. The Center provides an opportunity for collaboration between radiology, surgery and education. Our breast surgeons have offices in the suite, as does a specialized nurse practitioner offering education and guidance for patients.

Accreditation by the National Accreditation Program for Breast Centers (NAPBC)—An initiative of the American College of Surgeons, the NAPBC's goal is to establish consistent and excellent care at breast centers for breast disease patients. NAPBC accreditation is given only to those centers that have achieved performance measures for high-quality, multidisciplinary breast care established by national healthcare organizations. NorthShore is one of only four in the State to have received this accreditation.

**New Oncology Pharmacy**—The Kellogg Cancer Care Center pharmacy opened in July at NorthShore's Evanston Hospital Rm. G400. Specially trained oncology pharmacists help patients with questions about chemotherapy drugs, symptom-management medications, medication adherence and patient assistance options.

**Teaching affiliate of the University of Chicago Pritzker School of Medicine**—Beginning in July 2009, this partnership reinforces our commitment to medical education and research. Numerous collaborations are under way.

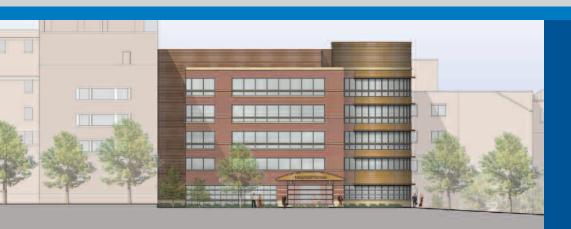
The information in this booklet will help you learn more about the collaborative care provided by each of the tumor site teams of the NorthShore Oncology Program. To consult with one of our physicians, please call the appropriate number at the end of each article.

Sincerely,

Bruce E. Brockstein, M.D. Head, Division of Hematology Oncology

Chairman, NorthShore University HealthSystem

Cancer Committee



The new Kellogg Cancer Care Center at Evanston Hospital is set to open in 2010. The new clinic space is structured around multidisciplinary pods, providing staff with easier access to their patients, and has dedicated space for numerous supportive and integrative services. In 2009, it is estimated that nearly 200,000 American men will be diagnosed with prostate cancer and nearly 30,000 will die of this disease. This translates to a new prostate cancer diagnosis every 2 1/2 minutes, and a man dying of prostate cancer every 20 minutes.

Historically, the approach to prostate cancer treatment has been fragmented. Once given a diagnosis, patients often seek out individual specialists in different treatment disciplines with no integrated plan of care. Medical specialists typically recommend the treatment they provide, and it is therefore left up to the patients to choose which one is best. This fragmented and uncoordinated approach leads to unnecessary fear and frustration.

At NorthShore University HealthSystem (NorthShore), we take a different approach. Over the past three years, we have assembled a team of 24 clinicians, scientists, nurses and support staff, all of whom are dedicated to providing the best possible care to men with prostate cancer. In our Comprehensive Prostate Cancer Center, newly diagnosed men with prostate cancer and their family members are given an opportunity to meet with multiple specialists from different medical disciplines in a single setting on a single day and come away with a consensus plan of treatment. Integration of care is greatly enhanced by the fact that NorthShore has an electronic medical record system that allows for rapid and complete communication of medical information to physicians and patients.

Depending on the patient's age, stage of disease and overall health, initial consultations may involve a urologist, a radiation oncologist and/or a medical oncologist. In addition to these three primary treatment disciplines, we also offer important support services including those focused on sexual health, nutritional and integrative medicine, genetic counseling, psychosocial issues and also a survivorship program. Our clinicians work closely with our team of scientists. Our research focuses on developing better biomarkers to predict prognosis, the impact of obesity and other metabolic disorders on prostate cancer risk and progression, and the development of new therapies for men with advanced prostate cancer.

#### **DIAGNOSIS**

#### **Molecular Diagnostics and Metabolic Tissue Profiling**

Until recently, pathologists relied solely upon microscopic examination of tissue samples to diagnose prostate cancer and to determine tumor aggressiveness. This approach obviously requires obtaining tissue either by biopsy or surgical removal of the prostate.

Our Molecular Diagnostics Laboratory, under the direction of Karen Kaul, M.D., Ph.D., is investigating molecular markers that may allow us to identify prostate cancer and predict prognosis without obtaining prostatic tissue. One of these markers is early prostate cancer antigen-2 (EPCA-2), which is a nuclear matrix protein that is expressed much more highly in cancerous tissue than in benign prostatic tissue. Unlike prostate-specific antigen (PSA), a secretory protein that is expressed by both benign and malignant prostatic tissue, EPCA-2 is produced almost exclusively by malignant prostate cells. Early results suggest that detection of EPCA-2 in the blood is extremely accurate in diagnosing prostate cancer with a specificity of 95 percent.

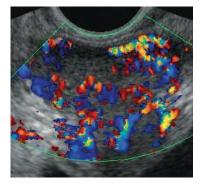
Another exciting new marker is prostate cancer gene 3 (PCA3), which is a non-coding messenger RNA that, like EPCA-2, is preferentially expressed by malignant prostate cells. PCA3 is detected in





Charles Brendler, M.D.





#### **Imaging**

NorthShore is the first medical institution in the Chicagoland area and one of only a few centers in the United States to use the new technique of color Doppler, 3-dimensional (3D) ultrasonography. Currently, we lack the radiographic capability to distinguish prostate cancer from adjacent benign prostatic tissue. Traditional prostatic biopsy using gray-scale ultrasonography has a 30-40 percent false negative rate in detecting prostate cancer and a 30 percent risk of undergrading prostate cancer aggressiveness when compared with the final pathology in a total prostate specimen.

NorthShore is also developing advanced imaging technology to be utilized during robotic surgery to better distinguish the prostate from the surrounding nerves and blood vessels. One of our urologists, William K. Johnston III, M.D., Director of Laparoscopic and Minimally Invasive Urology, is developing fluorescent dyes that are attached to a protein antibody that specifically bind to and highlight prostate cancer cells in bright green, thus distinguishing prostatic tissue from the adjacent nerves and blood vessels.

This technology should allow for improved visualization and potentially increase recovery of sexual function postoperatively without compromising cancer control. Dr. Johnston has already completed his initial studies and is refining his technique in anticipation of bringing this technology to the operating room in the near future.

the urine after prostatic massage, and it appears that PCA3 levels in the urine correlate with tumor volume more closely than does serum PSA.

In addition, Susan Crawford, M.D., a pathologist and cancer biologist who joined NorthShore last year from Northwestern Memorial Hospital, is developing a Metabolic Core Facility. In this new facility, Dr. Crawford will use mass spectroscopy to analyze metabolic profiles in prostatic tissue to more accurately predict prognosis on an individual basis.

#### TREATMENT - EARLY PROSTATE CANCER

#### The Only Active Surveillance Program in the Chicago Region

Although prostate cancer is the second leading cause of cancer deaths in American men, most prostate cancers grow slowly, and many men, particularly those older than 65, undergo treatment unnecessarily. Recent studies suggest that 35-55 percent of men with prostate cancer are overtreated and that 47 men need to be treated to prevent 1 man from dying from prostate cancer. Furthermore, all treatments for prostate cancer can potentially affect both urinary and sexual function, and a recent paper reported that only 53 percent of men who undergo surgery for prostate cancer are permanently cured of their disease and regain both normal urinary and sexual function.

NorthShore is committed to providing appropriate treatment for men whose prostate cancers appears life-threatening, but we also have the only IRB-approved prostate cancer active surveil-lance trial in the Chicago area. Men older than 60 with early stage, low grade prostate cancer who enroll in this trial are followed closely without initial treatment, and treatment is recommended and initiated when there is evidence of significant disease progression.

In this active surveillance trial, we not only follow patients with regular examinations and PSA blood tests, but we also monitor disease progression using new molecular biomarkers, including EPCA-2 and PCA3. Men also undergo annual surveillance needle biopsies of the prostate using our new color–Doppler 3D ultrasonography equipment. Soon we anticipate using mass spectroscopy in our Metabolic Core Facility to analyze metabolic tissue profiles to better predict prognosis. The ultimate goal of this trial is to identify those men who should undergo immediate treatment for their prostate cancer while sparing other men unnecessary treatment and side effects.

#### First in Illinois to use da Vinci S Robotic Surgery System

NorthShore was the first medical institution in Illinois to use the da Vinci S Surgical System, and, over the past several years, we have developed a robust robotic-assisted laparoscopic radical prostatectomy program. We are fortunate to have three fellowship-trained urologists, Dr. William K. Johnston III, Dr. Amanda Macejko and Dr. Michael McGuire, all of whom have great expertise in this new surgical technology. In experienced hands, robotic surgery appears to yield equivalent results to traditional open surgery with a more rapid recovery and return to a normal lifestyle.

#### **Radiation Therapy**

Our team of radiation oncologists, led by Dr. William Bloomer, Clinical Professor and Chairman of the Department of Radiation Oncology, offers both external beam radiation and brachytherapy to treat prostate cancer. New techniques in external beam radiation therapy include intensity-modulated radiation therapy (IMRT), in which computerized guidance allows maximal radiation to be delivered to the prostate with minimal effect on adjacent organs, and image-guided radiation therapy (IGRT), in which gold fiducial markers are implanted in the prostate prior to treatment to better focus the radiation beam on the prostate itself.





Thomas C. Keeler, M.D.

William Bloomer, M.D.

Daniel Shevrin, M.D.

#### Research

#### **Nutrition and Metabolism**

Obesity has become a health epidemic in the United States, affecting nearly 30 percent of the population, and it is becoming increasingly evident that fat tissue fuels diseases such as prostate cancer. The growth of blood vessels, angiogenesis, is a process necessary for tumor progression. Cancer biologist Jennifer Doll, M.D., focuses her research on leptin, a protein secreted by fat cells that stimulates angiogenesis, and two other proteins, pigment epithelium derived factor (PEDF) and thrombospondin-1 (TSP-1), that block leptin, thereby inhibiting angiogenesis. PEDF and TSP-1 are expressed in high amounts by normal prostate tissue but not by prostate cancer. By studying the signaling pathways linking fat tissue, fatty acid metabolism and angiogenesis inhibitors, we hope to identify the mechanism by which fat fuels cancer and thus identify novel targets for prostate cancer therapy.

#### **Stem Cell Research**

On average, about 20 percent of men undergoing prostate cancer surgery will have positive surgical margins, meaning that small clusters of tumor cells may be left behind, thus increasing the risk of local or metastatic spread of the disease. Susan Crawford, M.D., is working with biomedical engineers at Northwestern University to develop a unique therapeutic strategy using an adhesive containing neural stem cells and anti-angiogenic proteins. The intra-operative "bio-paint" is a novel hydrogel composed of a unique set of marine mussel adhesive protein mimetic polymers that allow for strong tissue adherence. Application of the stem-cellenriched adhesive to the surgical wound site has the potential to deliver a prompt local and systemic blockade to tumor cell growth and metastases.

#### **CLINICAL TRIALS**

Under the direction of Daniel Shevrin, M.D., Director of Urologic Medical Oncology, our prostate cancer clinical trials program continues to thrive. Clinical trials are now in place for all stages of prostate cancer. NorthShore recently became a member of the Prostate Cancer Clinical Trials Consortium, an exclusive national clinical research group funded by the Department of Defense. Furthermore, NorthShore's new affiliation with the University of Chicago has led to access to other innovative clinical trials in prostate cancer through its Phase II Consortium. NorthShore is also a member of the regional prostate cancer SPORE (Specialized Program of Research Excellence), a nationally funded research initiative that also includes the University of Chicago and Northwestern University, and which is one of only 11 such programs in the U.S. Our goal is to provide access to innovative treatments for patients with all stages of prostate cancer and offer hope for longer survival and improved quality of life.



Dr. Prem Seth

#### ADDITIONAL SUPPORT SERVICES

#### **Sexual Health**

Since all treatments for prostate cancer can adversely affect sexual health, we have adopted a proactive approach to helping men maintain and regain their sexuality. We discuss sexuality with both the patient and his partner prior to treatment, explain the risks involved with each type of prostate cancer treatment and review all of the available treatment options. Following therapy, we work closely with the patient and his spouse in an effort to restore their sexual relationship as quickly and completely as possible.

#### **Integrative Medicine**

Our Integrative Medicine Program, led by Leslie Mendoza-Temple, M.D., offers a host of complementary and alternative medicine strategies to help improve well-being, reduce stress and optimize treatment outcomes for patients with prostate cancer. These strategies blend safely and effectively with conventional cancer therapies, allowing for a well-rounded, evidence-based approach to fighting prostate cancer. Therapies offered include Traditional Chinese Medicine (acupuncture), nutrition, mind-body therapies for anxiety reduction (yoga, breathing, meditation, guided imagery), vitamins, herbs and supplements, homeopathy, exercise therapies, counseling, and bodywork.

#### **Support Group**

We have also formed a chapter of US TOO, a national prostate cancer organization that provides support and education for prostate cancer patients and their families.

#### **Nutrition**

There is increasing evidence that nutrition plays a significant role in prostate cancer risk and progression. NorthShore is fortunate to have two registered oncology dietitians, Cindy Rheingruber and Colleen Takagishi, who provide comprehensive nutritional consultations for our patients. They review each patient's diet thoroughly and recommend changes to transition to a healthier, plant-based diet rich in antioxidants. They have developed a comprehensive prostate cancer nutrition manual that is given to each patient in a loose-leaf binder so that it can be updated as new information becomes available.



#### **Gene Therapy**

In its advanced stage, prostate cancer metastasizes to bone, resulting in bone destruction, pain, and, ultimately, death. Prem Seth, M.D., **Director of the NorthShore Gene** Therapy Program, and his team are developing a unique gene therapy approach that not only attacks prostate cancer cells but also inhibits bone metastases. He is targeting transforming growth factor beta (TGFß) because TGFß enables prostate cancer cells to invade bone. Dr. Seth has modified the common cold adenovirus so that it no longer attacks normal respiratory cells, but specifically attacks prostate cancer cells and produces a protein that inactivates TGFB.

Initial studies have shown that this virus effectively inhibits bone metastases in an animal model, and Dr. Seth hopes to test this new therapy in men with advanced prostate cancer in the near future.

Colleen Takagishi, R.D.

Leslie Mendoza-Temple, M.D.

#### **Medical Genetics**

Prostate cancer has the highest proportion of cancer cases that could be prevented by understanding familial risk: 20 percent, as compared with 10 percent for breast cancer and 1-3 percent for most other cancers. Medical geneticists Wendy Rubinstein, M.D., Ph.D., Director, and Peter Hulick, M.D., MSc, along with a team of licensed genetic counselors, provide consultations for individuals with a family history of cancer at the Center for Medical Genetics. The Center is the busiest adult genetics center in the Midwest.

Our Center for Medical Genetics is also participating in an international prostate cancer screening study (The IMPACT Study) and provides free genetic testing for the BRCA1 and BRCA2 genes for men with a family history of breast or ovarian cancer and a known mutation in their family.

#### **Psychosocial Support**

David Victorson, Ph.D. is a licensed health psychologist and outcomes researcher whose work focuses on helping men with prostate cancer learn ways to manage symptoms, side effects and issues related to quality of life. Dr. Victorson is developing an online symptom monitoring and self management support system called CHAMPION (Comprehensive Health Assessment and Management Program - Interventions, Outcomes, Navigation). This system will empower men diagnosed with prostate cancer to closely track and monitor their symptoms and side effects and receive "real time" symptom self management support from physicians, nurses, nutritionists and other staff through e-mail, virtual discussion boards and brief video podcasts. In addition, Drs. Victorson and Brendler are leading one of the first randomized clinical trials to examine the effectiveness of a health promotion and stress reduction program for men (and their spouses or significant others) enrolled in our active surveillance protocol.

#### **First Cancer Survivorship Program**

Our cancer survivorship team, led by Carol Rosenberg, M.D., Director of the Living in the Future (LIFE) Program, provides an integrated team approach to caring for prostate cancer patients. LIFE was the first cancer survivorship program in Illinois. Patients and their families have an opportunity to meet individually with a specialized cancer nurse, develop a personalized, long-term Survivorship Care Plan and are afforded access to survivorship workshops and support resources.

For more information, please call (847) 657-5730.

#### **Prostate Cancer Conference**

Evanston Hospital, Walgreen G520 A&B 1st and 3rd Thursdays. 5:30 p.m.



Wendy Rubinstein, M.D., Ph.D.





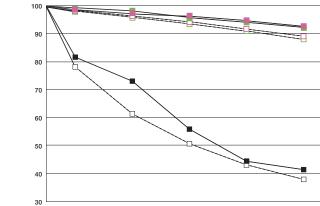
William K. Johnston, III, Director of Laparoscopy and Minimally Invasive Urology. Dr. Johnston was the first in Illinois to use the da Vinci S Surgical System.

At all stages survival outcomes compare favorably with national benchmarks, as shown in the Prostate Survival graph (below), which compares outcomes for men treated for prostate cancer at NorthShore with those treated nationally.

#### **PROSTATE SURVIVAL BY STAGE\*:**

Comparison of National Cancer Data Base (NCDB) to NorthShore Data

Observed Survival for cases diagnosed 1998-2001



Stage II	Dx	1 Year	2 Year	3 Year	4 Year	5 Year
NorthShore -	100.0	99.1	97.9	95.8	94.2	92.5
NCDB -	-100.0	98.4	96.3	93.7	91.0	88.1
Stage III						
NorthShore -	100.0	98.0	97.0	95.9	94.8	92.6
NCDB -	100.0	98.6	96.7	94.4	91.8	89.1
Stage IV						
NorthShore -	100.0	81.7	73.1	55.9	44.4	41.4
NCDB -	- <b>-</b> 100.0	78.2	61.4	50.7	43.1	37.9

<sup>\*</sup>Insufficient cases to display survival information for Stage I.



Carol Rosenberg, M.D.

## **THORACIC**

The NorthShore University HealthSystem (NorthShore)
Thoracic Oncology Program (TOP) is dedicated to improving
the care and outcomes of patients with lung cancer and
other thoracic malignancies. Our multidisciplinary program
comprises a specialized team of healthcare professionals who,
through collaboration, are dedicated to preventing, diagnosing,
treating and managing lung cancer and esophageal, pleural,
mediastinal and chest wall tumors.

John Howington, M.D., Clinical Associate Professor of Surgery, and Thomas Hensing, M.D., Assistant Clinical Professor of Medicine, serve as Co-Directors of the program. Other members of the TOP team include board certified physicians and mid-level practitioners from thoracic surgery, medical and radiation oncology, pulmonary medicine, pathology and radiology. Arif Shaikh, M.D. is the radiation oncologist specializing in lung cancer. His expertise allows the team to offer patients traditional external beam radiotherapy as well as the latest technology including stereotactic body radiation therapy (SBRT). SBRT has the ability to focus radiation precisely to the tumor while sparing surrounding normal lung tissue thereby allowing delivery of larger and more effective radiation doses in a shorter time period with fewer side effects. The multidisciplinary team meets weekly to discuss patient cases in detail and develop an individualized treatment plan.

In addition to the primary treatment disciplines, the team also includes critical support services. Oncology certified nurses and pharmacists along with dieticians and the psychosocial team all work together to provide a comprehensive cancer program. And to help the patient with their every need, the nurse navigator, Gail Ronkoske, R.N., collaborates with each member of the care team to manage the patient's case from diagnosis through treatment and beyond.

"I am very pleased with the level of care my patient received at NorthShore University HealthSystem. My patient's care was expedited from the time of the abnormal finding on the CT, to the diagnosis and beginning of treatment, thanks to the coordination of the thoracic oncology program team."

> Scott Cienkus, M.D. Attending Physician, Internal Medicine for the NorthShore Medical Group

During the past year, TOP has added two new physicians to the team:

Alla Gimelfarb, M.D., joined the Division of Hematology/Oncology and Kellogg Cancer Care Centers in September after completing her fellowship at Rush University Medical Center.

Subhasis Chatterjee, M.D., joined the Division of Thoracic Surgery after completing his fellowship in Advanced Cardiac Surgery at Vanderbilt University.

This year also brought about a new academic affiliation with the University of Chicago Pritzker School of Medicine. Both organizations are deeply rooted in and committed to research. This academic affiliation with the University of Chicago will only enhance TOP and the patients and families we serve through clinical and research collaboration.

For more information, please call (847) 570-2518.

#### **Thoracic Cancer Conferences**

Evanston Hospital, Walgreen G520 A&B, Tuesdays, 7 a.m. Highland Park Hospital Videocast



John Howington, M.D. is one of a few surgeons in the country able to remove a portion of the lung without cutting large muscles or spreading open the ribs. (shown above)



John A. Howington, M.D.



Thomas Hensing, M.D.



Arif Shaikh, M.D.



Gail Ronkoske, R.N.

The Comprehensive Breast Health Program of NorthShore University HealthSystem (NorthShore) serves more than 600 breast cancer patients annually, making it the largest program of its kind in the state and the largest academic multispecialty breast cancer practice in Illinois.

It is also the first program in the Chicago region to be accredited by the American College of Surgeon's National Accreditation Program for Breast Centers. This helps to ensure high-quality, integrated care from our radiologists, breast surgeons, medical oncologists, radiation therapists and support staff.

Placing a major emphasis on early detection, NorthShore peforms more than 80,000 mammograms annually. The NorthShore Breast Health Program has become a pre-eminent imaging center in the Chicago region, offering:

- Same-day screening mammogram appointments.
- Fast-track scheduling for diagnostic procedures and appointments with breast surgeons.
- State-of-the-art breast imaging technology, including digital mammography, ultrasound and MRI.
- All images interpreted by sub-specialized radiologists—which research shows improves the rate of cancer detection.
- Eight screening facilities located near Chicago—including at the new Center for Breast Health at Evanston Hospital.
- Evaluation of breast problems and risk assessment by a multidisciplinary team of breast specialists.

Once a cancer diagnosis is made, the focus quickly turns to treatment. The NorthShore Comprehensive Breast Health Program offers high quality, integrated care from our radiologists, breast surgeons, medical oncologists, radiation therapists and support staff. The treatment plan is focused entirely on the individual patient with each new case presented at a weekly multidisciplinary breast conference.

### The Breast Research Program

#### **Basic Science**

There are four basic science labs at the NorthShore Research Institute dedicated to breast cancer research. An entire team of researchers is dedicated to the ongoing discoveries of breast cancer, including:

- Sue Crawford, M.D., is looking at crosstalk among adipocytes, endothelial cells and breast tumor cells to try to determine mechanisms responsible for the link between obesity and more aggressive tumor phenotypes.
- Qingshen Gao, M.D., is investigating novel cancer susceptibility genes in BRCA 1/2 mutation negative breast cancer patients.
- Prem Seth, M.D. is developing a gene therapy strategy in which a common cold virus (adenovirus) is modified for the treatment of breast cancer.
- Sam Ming Wang, M.D., is working with David J. Winchester, M.D., Clinical Professor of Surgery and Division Chief of General Surgery and Surgical Oncology, on gene signatures for node positive breast cancers.



The NorthShore breast cancer program is a comprehensive, high quality team approach to a complex problem. They have always approached my referrals efficiently and have communicated expediently to me, the primary care physician. The patients and families have felt cared for and supported through a difficult period of their lives.

Edward Blumen, M.D.

David J. Winchester, M.D.

David P. Winchester, M.D.

Katharine Yao, M.D.

Ermilo Barrera, M.D.

#### **Clinical Trials**

NorthShore has a variety of nationally based clinical studies for newly diagnosed breast cancer patients and patients with metastatic disease. NorthShore medical oncologists work to offer the latest in clinical trials through their involvement with the following groups:

- American College of Surgeons Oncology Group
- Eastern Cooperative Oncology Group
- National Surgical Adjuvant Bowel and Breast Project
- Cancer and Leukemia Group B
- Southwestern Oncology Group

#### **Imaging Studies**

The Center for Advanced Imaging conducts research into new MRI techniques of the breast. In addition, Robert Edelman, MD, PhD, Chair, Department of Radiology and Director the Center, received a grant from the Grainger Foundation to study new MRI techniques for many different disease processes and we plan to expand this to include breast disease. Katharine Yao, M.D., Clinical Assistant Professor of Surgery, received funding from the NorthShore Research Institute to prospectively study the role of breast MRI in newly diagnosed breast cancer patients.

#### **Genetic Studies**

The Center for Medical Genetics, directed by Wendy Rubinstein, M.D., Ph.D., leads a broad spectrum of laboratory and clinical breast cancer research designed to bring rapid benefits to patient care. The Center established a registry for families with a high risk of developing breast cancer where a causative gene has not been successfully identified. The goal is to identify new breast cancer susceptibility genes that predispose these families to breast cancer. The Center is collaborating with the University of Pennsylvania on a study of women who are BRCA1 and BRCA2 mutation carriers to explore how lifestyles, habits, exposures, hormones, preventive surgery and other interacting genes influence cancer risk.

#### **Surgical Research**

Researchers are also studying new operative techniques. Michael Howard, M.D., Clinical Assistant Professor of Plastic Surgery. received funding from the NorthShore Breast and Ovarian Research Program to study outcomes and quality of life issues for nipple sparing mastectomy. Surgeons at NorthShore have been performing nipple sparing mastectomies for risk reduction and breast cancer for over three years with good clinical outcomes.

Under the auspices of David P. Winchester, M.D., Clinical Professor or Surgery, NorthShore was chosen as a test site for the American College of Surgeons National Cancer Database participant use file. With this designation, NorthShore will be one of two sites in the country to query the National Cancer Database for key questions regarding surgical outcomes in breast cancer.

Additionally, the Auxiliary at Evanston and Glenbrook Hospitals has generously agreed to support a two-year breast cancer research fellowship. This fellowship will provide an opportunity for residents in surgical training to learn more about basic science research and to bolster our research programs.



Elaine Lee Wade, M.D.



Leon Dragon, M.D.



Co-directors of the new Center for Breast Health at Evanston Hospital. From left Jan Jeske, M.D., breast imaging specialist, and Katharine Yao, M.D., surgical oncologist.

## Breast Clinical Program

- The Center for Medical Genetics is the busiest genetics program in the Midwest, with 1100 visits and more than 600 new patients annually. Center Director Wendy Rubinstein, M.D., Ph.D., leads a staff that includes two geneticists and four full-time genetic counselors.
- The Lymphedema Treatment Program, where licensed physical and occupational therapists provide decongestive therapy to lymphedema patients, under the direction of Joseph Feldman, M.D.
- The Living in the Future (LIFE) Cancer Survivorship Program, directed by Carol Rosenberg, M.D., creates a bridge for continued care of post treatment cancer survivors back to the community, family and primary care setting. The program has received support from the Lance Armstrong Foundation, Myra Rubenstein Weis Health Resource Foundation, Kemper and the Healthcare Foundation of Highland Park.

In conclusion, the breast program at NorthShore University HealthSystem has grown throughout the years to become a regionally and nationally recognized program. With the support of the HealthSystem, the community and our patients, we will continue to build our clinical, teaching and research programs to maintain our tradition of excellence.

For more information, please call the Department of Surgery at (847) 570-1700 or Medical Oncology at (847) 570-2110.

#### **Breast Cancer Conferences**

Evanston Hospital, Walgreen G520 A&B, Mondays, 7 a.m.

Highland Park Hospital, AV Hall, 2nd and 4th Wednesdays, 8 a.m.



Douglas Merkel, M.D.



Janardan Khandkar, M.D.

## **GYNECOLOGY**

The Division of Gynecologic Oncology at NorthShore University HealthSystem (NorthShore) combines compassionate and comprehensive care with the most advanced technologies and research trials—all within the NorthShore community.

Patients experience a multidisciplinary team approach that includes pathologists, radiologists, radiation oncologists, geneticists and gynecologic oncologists. Specialists within our program are members of the National Cancer Institute (NCI)-sponsored clinical trial group called the Gynecologic Oncology Group (GOG). In that capacity, many of our physicians are active members of GOG committees that discuss and implement novel clinical and translational research trials for the treatment of women's cancer.

The Division of Gynecologic Oncology at NorthShore is directed by Gustavo Rodriguez, M.D. All members of the Division have a passion for and expertise in the care of women with precancerous and cancerous conditions of the gynecologic tract. Jean Hurteau, M.D., heads the clinical trials and translational research program in the Division and Carolyn Kirschner, M.D., heads the minimally invasive program in gynecologic oncology.

"It's a pleasure to work with the members of the Division of Gynecologic Oncology at NorthShore University HealthSystem. My patients have had excellent care from a group of specialists who are at the forefront of gynecologic cancer care. They have communicated well with my patients and my office to keep me abreast of all issues related to the care of my patients. This division has been an asset to the NorthShore family."

The minimally invasive surgery program in women's cancer incorporates the most up-to-date technology to treat patients. This includes the daVinci S robotic surgical system that allows cancer surgeons to operate through tiny incisions that result in reduced blood loss, decreased pain, shorter hospital stays and an earlier return to daily activities.

Dr. Rodriguez is leading an investigative team with the goal of developing an effective pharmacological strategy for ovarian cancer prevention. Based on his groundbreaking laboratory research, Dr. Rodriguez is currently the Principal Investigator for GOG 214. This innovative clinical trial is trying to validate, in a prospective fashion, that progestational agents can reduce the risk of developing ovarian cancer. It is hoped that this trial will lead to more effective ovarian cancer prevention therapies that can be implemented in our community.

The Division of Gynecologic Oncology at NorthShore continues to move forward in its efforts to make sure that innovative clinical trials, research and technology are available to the NorthShore community. Dr. Hurteau is the Principal Investigator of GOG 198. In this NCI-sponsored clinical trial, women who have recurrent ovarian cancer based only on an elevated CA125 were randomized to receiving either Tamoxifen or Thalidomide. The trial showed that Tamoxifen was a reasonable treatment option for this group of women. These results are interesting in view of recently presented data from Europe in a similar patient population. In the European trial, asymptomatic patients with recurrent ovarian cancer were randomized to receive either immediate or delayed treatment with chemotherapy. Results of the European trial suggest that delaying treatment in women with recurrent ovarian cancer based solely on a CA125 elevation was not detrimental to clinical outcome. Both of these trials will be presented at the national meeting of the Society of Gynecologic Oncology in 2010 for further debate.

For more information, please call (847) 570-2639.

#### **Gynecology Cancer Conference**

Evanston Hospital, Walgreen G520 A&B, Thursdays 7 a.m.







Jean Hurteau, M.D.



Carolyn Kirschner M.D.

## GASTROENTEROLOGY

NorthShore University HealthSystem (NorthShore) places a major emphasis on prevention and early detection of colorectal cancer by offering services through the Multidisciplinary High Risk Colorectal Cancer Center at Glenbrook Hospital.

The Center provides an opportunity for patients who have a personal or family history of colorectal cancer or other personal risk factors to meet with specialists in one convenient visit.

Clinicians from the divisions of colorectal surgery, gastroenterology, medical genetics and nutrition collaborate with each patient to develop comprehensive recommendations for colorectal cancer prevention and/or treatment. Gastroenterologists help develop a personalized screening plan specific to each patient's medical and family history.

Genetic counselors determine if there is a hereditary explanation for the patient's personal and family medical history and discuss the risks and benefits of genetic testing.

If surgery is in a patient's treatment plan, the department of colon and rectal surgery offers advanced technology with a focus on minimally invasive approaches. Laparoscopic procedures are used in more than 80 percent of our patients, which is well above the national average. Newer technologies for the treatment of rectal cancer, including robotic surgery and the recent addition of transanal endoscopic microsurgery for early rectal cancers, place NorthShore at the forefront of colon and rectal cancer surgery.

Research shows that diet and lifestyle play a significant role in colorectal cancer risk; therefore, our registered dietitians discuss diet and lifestyle changes to modify these risk factors.

Clinical trials for early cancer detection and chemoprevention are also available to patients. Hemant K. Roy, M.D., director of gastroenterology research and nationally recognized leader in colon cancer research, directs research initiatives at the Women's GI Cancer Risk and

NorthShore Medical Oncologist Jennifer Obel, M.D., focuses on improving public understanding of issues in cancer treatment. She is a member of the communications committee of the American Society of Clinical Oncology (ASCO), which is charged with identifying breakthrough oncologic research and explaining it to the



Jennifer Obel, M.D.

mainstream media and the public. Dr. Obel has given interviews to highlight ASCO's position on KRAS testing for patients with metastatic colorectal cancer, a marker that is predictive of response to certain chemotherapy. She has also developed publicity to focus on the latest advances in quality care and survivorship for patients living with cancer.

Prevention Clinic at Evanston Hospital. Roy and his team are studying gender-specific facets of GI issues such as colon cancer in women, and working to more clearly define the differences and clinical implications of colonic tumors in women and men.

In addition, Dr. Roy is pioneering light-scattering technology as a minimally-invasive, highly accurate colorectal screening test. Roy's collaborative research with Northwestern University on this fiber optic

technology has been published in prestigious peer-reviewed journals including Gastroenterology and Cancer Research.



Hemant K. Roy, M.D.

The research, thus far, has shown that this technology has the potential to be a valuable screening tool for enhancing polyp detection and could lead to improvements in colon cancer prevention.

#### **GI Cancer Conference**

Evanston Hospital, Walgreen G520 A&B, Fridays, 7 a.m.
Highland Park Hospital Videocast, Meeting Room 1B

Matthew Adess, M.D.

Scott Weissman, M.S.

Joseph P. Muldoon, M.D.

Laura Bianchi, M.D.

Kristen Vogel, M.S.

## **PANCREATIC**

NorthShore University Health System (NorthShore) provides an established comprehensive pancreatico-biliary and liver disease program. This expanding clinical program offers patients with pancreatico-biliary diseases and malignancies multidisciplinary, patient-centered consults with gastroenterology, surgery, medical genetics, medical oncology and radiation oncology. NorthShore's recent affiliation with the University of Chicago offers collaborative opportunities in basic science investigations and clinical trials.

NorthShore employs three dedicated hepato-pancreatico-biliary surgeons: Mark Talamonti, M.D., Michael Ujiki, M.D., and Marshall Baker, M.D. Each has had advanced fellowship training specifically focused on pancreas, liver and biliary disease at the best such programs in the United States. Together, they have more than 25 years of clinical practice experience and have published over 200 contributions to the medical literature regarding these diseases. These surgeons employ the most advanced surgical approaches to these problems. They are experienced in minimally invasive (laparoscopic) pancreas and liver resection. Their expertise extends to providing state-of-the-art natural orifice transluminal surgery (NOTES) and single incision laparoscopic surgery (SILS) for benign hepato-biliary procedures such as cholecystoectomy. Research is also underway to determine the role of NOTES and SILS in oncologic surgeries.

NorthShore medical and radiation oncologists have extensive clinical and research experience specifically focused on gastrointestinal (GI) oncology. They offer the latest neoadjuvant and adjuvant chemotherapy protocols as well as state-of-the-art stereotactic guidance systems for radiotherapy treatments in an effort to provide site-directed therapy that is well tolerated. Participation in premier clinical trials is a fundamental part of their treatment strategies.

Patients with pancreatico-biliary malignancy are discussed each week at our multidisciplinary GI Oncology conference. Individual cases are reviewed with surgeons, medical oncologists, radiation oncologists, interventional gastroenterologists and GI radiologists. The applicability of newly advanced and experimental treatment protocols are also discussed in the context of each presentation. The treatment plan for each patient is individualized and developed through physician consensus.

For more information, please call (847) 570-2271.

#### **GI Cancer Conference**

Evanston Hospital, Walgreen G520 A&B, Fridays, 7 a.m.

Highland Park Hospital Videocast, Meeting Room 1B



Michael Ujiki, M.D.

Mark S. Talamonti, M.D.

Marshall Baker, M.D.

## **NEURO**

"NorthShore has the finest neuro-oncology program in the Midwest, if not nationwide. We refer them our patients because of their outstanding care and the collaborative nature of their program."

James E. Ruffer, M.D. Medical Director, Radiation-Oncology Good Shepherd Hospital Cancer Care Center

The Neuro-Oncology Program at NorthShore University HealthSystem is the oldest and most established program in the Chicago area. The program was founded by Nicholas A. Vick, M.D., who is considered one of the "fathers" of the field. Nina A. Paleologos, M.D., is Director of the Program and the Stanley C. Golder Chair of Neuroscience Research. In 2008, the program added a third neuro-oncologist, Ayman Omar, M.D., Ph.D. Dr. Omar is fellowship trained in neuro-oncology and has a special interest in the treatment of metastatic cancers involving the brain.

The Neuro-Oncology Program provides diagnosis and comprehensive management for patients with primary tumors of the brain and spinal cord, nervous system metastases, paraneoplastic syndromes and





Nina A. Paleologos, M.D.

Ayman Omar, M.D., Ph.D.

neurologic complications of cancer treatment. In addition to Drs. Paleologos, Vick and Omar, the program includes neurosurgeons, radiation oncologists, neuro-oncology nurses and a social worker with expertise in neuro-oncology.

The Neuro-Oncology Program at NorthShore is recognized throughout the country for its extraordinary level of expert care, which is why a large percentage of our patients are referred from beyond the NorthShore service area.

The NorthShore Neuro-Oncology Program is a member of a number of consortiums and participates in multiple clinical trials evaluating novel treatments.

Following are just a few of the latest leading-edge clinical trials available at NorthShore:

- Multicenter Phase III Trial of Bevacizumab, Temozolomide and Radiotherapy in Patients with Newly Diagnosed Glioblastoma
- Phase II Study of Bevacizumab and Erlotinib after Radiation Therapy and Temozolomide in Patients with Newly Diagnosed Glioblastoma without MGMT promoter methylation
- Evaluating the Treatment Effects of Surgery plus GLIADEL Wafer in Patients with Metastatic Brain Cancer
- Quality of Life Study
- GLIOGENE Brain Tumor Linkage Study

For more information, please call (847) 570-1808.

#### **Neuro-Oncology Cancer Conferences**

Evanston Hospital, Walgreen G520 A&B

2nd and 4th Wednesdays, 7:45 a.m.

## MELANOMA AND SARCOMA

# Collaboration among a multidisciplinary team of experts is important in providing patients with the highly specialized care needed for treatment of melanoma and sarcoma.

The melanoma and sarcoma group of NorthShore University HealthSystem (NorthShore) consists of surgical oncologists, medical oncologists, radiation oncologists, dermatologists, pathologists and radiologists with expertise and research interests in these cancers. Other members rounding out the team include specialists from plastic and reconstructive surgery, physical medicine and rehabilitation, physical therapy, psychosocial oncology and nursing. The team meets twice monthly to discuss individual cases and research-related subjects.

NorthShore surgical oncologists were among the first in the region to perform sentinel node biopsy as a selection factor for elective lymphadenectomy in melanoma. NorthShore remains a regional referral center for isolated limb perfusion and infusion for sarcoma and melanoma.

Our center was the first in the region to have access to Gleevec (imatinib mesylate), the tyrosine kinase inhibitor/targeted therapy, which revolutionized the treatment of gastrointestinal stromal tumor (GIST), for which we maintain an active research program.

One of the main focuses of clinical research in both sarcoma and melanoma is rationally targeted therapy. We are currently enrolling or following patients on three such clinical trials in sarcoma. Two of these combine the traditional "first-line" chemotherapy agent doxorubicin with a targeted therapy drug. AMG-655 is a "TRAIL-like drug"—a drug involved in enhancing the signaling for a cancerous cell to undergo apoptosis, or cell death. IMC-A12 is an antibody directed at IGFR-1 (insulin like growth factor receptor-1), involved in the cell signaling and proliferation process. Both of these drugs provide a potential for enhancement of the effect of the traditional chemotherapy component. Brivanib is a multitargeted tyrosine kinase inhibitor being tested in patients with recurrent or metastatic sarcoma.

Additionally, on a national level, Bruce E. Brockstein, M.D., is Track Leader of the Sarcoma Scientific Program Committee for the 2010 American Society of Clinical Oncology Annual Meeting.

#### **Melanoma and Sarcoma Cancer Conferences**

Evanston Hospital, Walgreen G520 A&B

1st and 3rd Thursdays, 8 a.m

## **HEMATOLOGY**

The Hematologic Malignancy Program at NorthShore University HealthSystem (NorthShore) prides itself on offering state-of-the-art care to patients with acute and chronic leukemias, myeloma, Hodgkin and Non Hodgkin lymphomas. Leading the team of specialists for the hematology oncology program are Lynne Kaminer, M.D. and David Grinblatt, M.D. The program operates fully at all three Kellogg Cancer Centers and is a coordinated effort among laboratory scientists, pathologists, clinicians, specialty-trained nurses, psychologists and nutritionists. The close collaboration of the physicians and nurses who are also specialists in the management of hematologic diseases, further enhances our world-class patient care.

A strong emphasis on clinical research provides innovative approaches for the management of some of the most difficult hematologic conditions. A dedicated hematology coordinator strives to streamline patient evaluations to minimize anxiety-provoking waiting times. Additional efforts this year include the use of the electronic medical record system to identify hospitalized cancer patients at risk for thromboembolic events to ensure they receive effective prophylaxis.

For more information, please call (847) 570-3921.

## HEAD AND NECK

The NorthShore University HealthSystem head and neck cancer group comprises experts in the field of head and neck surgical oncology, radiation oncology and medical oncology, along with critical support from plastic and reconstructive surgery, dental medicine, physical medicine and rehabilitation, psychosocial oncology, physical therapy, radiology, pathology and nursing. Members of our team take an active role in multiple national organizations, such as peer review editorial boards and online resources including the influential online textbook *Up To Date*.

The team offers the highest levels of tertiary care, including skull-based surgery, intraoral endoscopic laser surgery, IMRT, stereotactic radio-surgery and advanced organ preservation protocols. Our team meets twice monthly to discuss individual cases and research-related subjects. We have been able to bring high-priority clinical trials to NorthShore, allowing access to important new drugs and techniques for our patients. In 2008 we initiated an educational and support group for patients and their families or friends, at which an educational topic is presented and support and discussion time is designated for patients and their families. We are now an official chapter of the group "SPONCH" (Support for People with Oral and Head and Neck Cancer).

#### **Head and Neck Cancer Conferences**

Evanston Hospital, Walgreen G520 A&B

1st and 3rd Wednesdays, 8 a.m.

## 2008 CANCER DATA SUMMARY

#### **Incidence of Cancer 2008**

In 2008, 3,155 new cancer cases were accessioned into the NorthShore University HealthSystem (NorthShore) Cancer Registry. Of those 2,822 cases (89 percent) were analytic. By definition, analytic cases are those patients newly diagnosed with malignant neoplasm and or those who have received all or part of their first course of treatment at one of our hospitals. The remaining 333 cases (11 percent) were non-analytic. Non-analytic cases are patients initially diagnosed and treated at another facility who now are receiving treatment for progression or recurrence of their disease at NorthShore. Details by site are provided in Table 1 (see page 13).

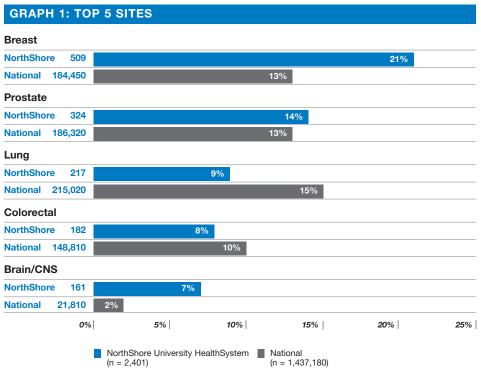
#### Class of Case 2008

Class 0, 1 and 2 are considered analytic cases; class 3, 4, 5, 6 and 7 are non-analytic.

Class 0 and Class 1, which account for 2,217 cases, were those malignancies diagnosed at one of our three Hospitals. Once diagnosed with cancer, 2,129 (96 percent) of our patients remained at NorthShore for their treatment. Class 2, totaling 605 cases, were diagnosed elsewhere and referred here for treatment. Class 3, a total of 307 cases, were diagnosed and treated elsewhere and referred here for treatment of a recurrence or progression of disease. The remaining 26 cases are divided among other non-analytic classes.

# **Comparison of Top Five NorthShore Sites**

This comparison excludes in situ carcinomas. Breast cancer continues to be our top site, representing a striking 21 percent of the total analytic cases seen at NorthShore. The next most frequent cancers seen were: prostate (14 percent), lung (9 percent), colorectal (8 percent) brain and other CNS tumors (7 percent). These top five sites represent 58 percent of all newly diagnosed cases. Graph 1 shows how our top five sites compare with national figures.



Source: American Cancer Society: Cancer Facts and Figures 2008.

## Distribution by AJCC Stage for the Top Five Sites Seen at NorthShore

Eighty-eight percent of our breast cancers were diagnosed at an early stage (stages 0, 1 and 2), reflecting the National (80 percent) trend toward early detection. Eighty-six percent of our prostate cancers (National: 77 percent), 34 percent of our lung cancers (National: 26 percent), and 49 percent of our colorectal cancers (National: 50 percent) were also diagnosed at early stages. There is no staging schema for brain and other CNS tumors. In each of the top sites seen at NorthShore, detection at an early stage was significantly higher or equal to that seen nationally. National data was supplied by the NCDB, Commission on Cancer, ACoS Benchmark Reports, v9.0. (2006 data).

# **Cancer Incidence Comparison Site and Sex**

Table 2 (see page 13) compares NorthShore 2008 data to national statistics provided by the American Cancer Society: Facts and Figures 2008, by site and gender for the national top 5 leading sites. These figures exclude in situ carcinomas except urinary bladder.

The most common primary sites for men are prostate, lung, colorectal, bladder and lymphoma. These five sites represent 63 percent of all male invasive cancers nationally and 59 percent seen at NorthShore.

The most common primary sites for women are breast, lung, colorectal, uterine corpus and lymphoma. These five sites represent 62 percent of all female invasive cancers nationally and 64 percent seen at NorthShore.

#### TABLE 1: INCIDENCE OF CANCER— 2008 DATA SUMMARY

Primary Site Percent	Analytic	Non-Analytic	Total	
Oral Cavity	52	5	57	1.8%
Tongue	12	0	12	0.4%
Salivary Glands	3	1	4	0.1%
Floor of Mouth Gum and Other Mouth	3 12	0 0	3 12	0.1% 0.4%
Nasopharynx	2	1	3	0.4%
Tonsil	13	0	13	0.4%
Oropharynx	4	3	7	0.2%
Hypopharynx	3	0	3	0.1%
Digestive System	454	58	512	16.2%
Esophagus	26	4	30	1.0%
Stomach Small Intestine	44 22	6 2	50 24	1.6%
Colon	130	13	143	0.8% 4.5%
Rectosigmoid Junction	16	0	16	0.5%
Rectum	47	3	50	1.6%
Anus	10	2	12	0.4%
Liver	19	1	20	0.6%
Gallbladder Unspec Digestive Orgs & Pts of Biliary	8 26	1 2	9 28	0.3% 0.9%
Pancreas	∠6 103	22	∠o 125	4.0%
Retroperitoneum	0	1	1	0.0%
Peritoneum, Omentum & Mesentery	3	1	4	0.1%
Respiratory System	241	21	262	8.3%
Nasal Cav, Middle Ear & Accessory Sinus	3	1	4	0.1%
Larynx	20	1	21	0.7%
Lung & Bronchus	218	19	237	7.5%
Bones and Joints	4	0	4	0.1%
Soft Tissue – incl Heart & Mediastinum	19	4	23	0.7%
Skin	133	25	158	5.0%
Melanoma – Skin	123	23	146	4.6%
Other Non-epith Skin	123	23 2	146	0.4%
Breast	646	50	696	22.1%
Female Genital System	138	8	146	4.6%
Cervix Uteri	21	1	22	0.7%
Corpus Uteri Ovary	76 25	3 2	79 27	2.5% 0.9%
Vagina	5	1	6	0.9%
Vulva	9	0	9	0.3%
Other Female Genital	2	1	3	0.1%
Male Genital System	345	90	435	13.8%
Prostate	324	88	412	13.1%
Testis	21	1	22	0.7%
Penis	0	1	1	
Urinary System	188	12	200	6.3%
Bladder	95	6	101	3.2%
Kidney	89	4	93	2.9%
Ureter	4 0	1 1	5 1	0.2% 0.0%
Other Urinary Orgs				
Eye & Orbit	15	1	16	0.5%
Brain & Other Nervous System	161	30	191	6.1%
Brain	59	19	78	2.5%
Other Nervous System	102	11	113	3.6%
Endocrine System	169	11	180	5.7%
Thyroid	96	5	101	3.2%
Other Endocrine, incl Thymus	73	6	79	2.5%
Lymphomas	119	9	128	4.1%
Nodal	92	7	99	3.1%
Extranodal	28	2	30	1.0%
Multiple Myeloma	19	2	21	0.7%
Leukemias	74	4	78	2.5%
		•		,0
Other Hematopoietic & Reticulendo System	14	2	16	0.5%
Mesothelioma	5	0	5	0.2%
Miscellaneous	26	1	27	0.9%
Total	2,822	333	3,155	100.0%
			_	_

#### TABLE 2: TOP 5 SITES COMPARISON BY GENDER—2008 DATA

AC	S	NorthShore	
Incidence	* %	Incidenc	e* %
182,460	26%	506	38%
100,330	15%	131	10%
74,610	11%	94	7%
40,100	6%	76	6%
34,490	5%	52	4%
431,990	62%	859	64%
692,000	100%	1,339	100%
	182,460 100,330 74,610 40,100 34,490 431,990	182,460 26% 100,330 15% 74,610 11% 40,100 6% 34,490 5% 431,990 62%	Incidence*         %         Incidence           182,460         26%         506           100,330         15%         131           74,610         11%         94           40,100         6%         76           34,490         5%         52           431,990         62%         859

	AC	North	NorthShore	
Male	Incidence	e* %	Incidenc	e* %
Prostate	186,320	25%	324	31%
Lung	114,690	15%	90	8%
Colorectal	79,270	11%	87	8%
Bladder	51,230	7%	63	6%
Lymphoma	39,850	5%	61	6%
Total	471,360	63%	625	59%
Total All Sites	745,180	100%	1,062	100%

Source: American Cancer Society: Facts and Figures 2008.

Percentage may not add up due to rounding.

<sup>\*</sup>Analytic Cases only, excludes in situ except bladder.

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