Swedish/Edmonds Cancer Program
2012 Annual Report
(2011 Data)
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As I sit down to write this, my fourth annual report as the Chairman of the Swedish/Edmonds Cancer Control Committee, I am struck by the fact that in this rapidly changing health-care environment I continue to see one constant…a profound commitment to excellence in patient care. This commitment is commonly held on the campus of this hospital and unites us all – physicians, nurses, administrators, receptionists, technicians and laboratory personnel to name a few.

Last year I wrote of our then new affiliation with the Swedish system and all the change that it brought. Although these changes were almost all positive, some feared loss of our identity in the larger scheme of Swedish. Just as we assimilated to our new affiliation we learned that Swedish too was adjusting to major changes as it began its own affiliation with the Providence Health Services accompanied by excitement and, of course, anxiety. While these affiliations continue to evolve, I think most of us have realized that our strengths as a medical community have been recognized, embraced and encouraged. Our identity is preserved and enhanced.

Perhaps the greatest day-to-day challenge for us in the year 2012 was the implementation of EPIC, a fully electronic health record, in September 2012. This system is amazing in its capacity to organize patient data and make it available to all necessary providers without compromising patient confidentiality. Now, there are no issues of illegible or unclear orders, and there is less potential for medication error as the system provides several layers of “double checking” orders for accuracy and appropriateness. Our providers can access the system remotely from off campus further enhancing the capacity on an “on-call” doctor to make the best patient-care decisions. Not all of our Swedish/Edmonds physician offices are using EPIC in the outpatient setting, but many are and more “conversions” are planned in the near future. This massive community undertaking has not been without hurdles to clear. Training for all was extensive and, at times, overwhelming. There is a tremendous learning curve for the efficient use of a system like EPIC and I think it’s safe to say we are still climbing the “EPIC mountain” but we are climbing and progressing together.

Our new building, Swedish Cancer Institute, Medical Oncology, at Edmonds opened April 2 this year. As you drive on Highway 99, you can now see our beautiful building next to Radia Imaging. This state of the art cancer center will support medical encounters including doctor visits, chemotherapy administration and a full array of pharmaceutical services. It is but one step on our way to the final conception and implementation of a “master campus plan” for Swedish/Edmonds.

On a similar note, our radiation oncology facility will obtain a second linear accelerator this year with many new “bells and whistles” that will allow our radiation oncologists to utilize the newest technologic advances in the provision of radiation therapy. Radiation Oncology at Swedish/Edmonds is now also fully accredited by the Radiation Therapy Oncology Group which supports a
vast network of clinical trials that will be made available to our radiation therapy patients.

I am looking forward to our accreditation survey with The Commission on Cancer in the fall of 2013. Swedish/Edmonds has maintained full accreditation with the Commission since our first application years ago as Stevens Hospital. The Commission on Cancer is supported by The American College of Surgeons and provides a rigorous review of eligible and willing cancer programs across the country. Accreditation is not easily obtained nor maintained, but I am proud to say that the Swedish/Edmonds Cancer Control Committee works hard all year, every year to be sure we “measure-up.”

These comments bring me full circle. With so much changing every week one might even develop a fear of chaos. This is not our reality. I believe strongly that the devotion of the medical community at Swedish/Edmonds has stayed strong; all are working even harder to maintain patient-focused care regardless of our level of distraction and adaptation to change. All are willing and committed to minimizing any adverse effects of these changes on our patient community while embracing the changes that allow us to continue to enhance the quality of care we provide.
Greetings and welcome to our annual report! The year 2012 was a learning period for me in taking on the role of Cancer Liaison Physician (CLP) of Swedish/Edmonds. I have represented the Commission on Cancer within our Cancer Control Committee meetings. I queried the National Cancer Database and compared our cancer performance with that of our geographic neighbors and with centers around the country. We had productive discussions around multiple aspects of cancer care including socioeconomic trends, time to definitive treatment, and trends in stage presentation for different disease sites. Specific sites discussed included prostate cancer, breast cancer and non small-cell lung cancer.

On a separate note, the services offered by the American Cancer Society (ACS) have been utilized by a record number of our patients this year! Our most popular programs include the “Look good, Feel Better” program and our volunteer ride programs.

Looking forward, our goals for 2013 are to improve quality of care, promote advocacy and to further partner with the American Cancer Society (ACS). In addition, we strive to improve patient outcomes through clinical trial enrollment and use of proper staging and treatment guidelines. I look forward to oncoming challenges and continued growth. I am enthusiastic about enacting new programs through our cancer control program at Swedish/Edmonds to improve the quality of care for our patients and community.
Swedish Cancer Institute, Radiation Oncology, at Edmonds remains committed to delivering the highest quality treatment using state-of-the-art equipment in a patient-centered care environment. Many of our patients receive intensity-modulated radiation therapy (IMRT), a technique which improves accuracy, minimizes toxicity and increases radiation dose thereby improving cure rates. We offer IMRT augmented by image-guided radiation therapy (IGRT). Implanted fiducial markers allow visualization of the target area with each treatment, which in turn allows for smaller treatment fields and fewer side effects than “standard” IMRT. We continue to offer samarium and stronitium therapy, an intravenous targeted radionuclides used for palliation of painful bone metastases. We also offer radioactive monoclonal antibody therapy in appropriate patients with lymphoma. Comprehensive services, including on-site physics and dosimetry personnel, radiation oncology nursing, radiation therapists, social services, and nutritional counseling, are available to provide individualized and compassionate care to patients and their families.

In 2013, we will have a new linear accelerator to treat patients side by side with the existing unit. The new unit will have the ability to offer advanced treatments, such as cone-beam CT and stereotactic body radiosurgery. This addition will allow us to offer patients greater flexibility for their treatment times.

An in-house CT-simulator helps us maintain our world class standard of care. This provides more convenient patient service by allowing the treatment planning visit to take place all under one roof. The model is a “large bore” CT, which enhances patient comfort and optimizes patient positioning. This CT has 4D radiation treatment capabilities, which accounts for respiratory motion.

We have a robust prostate brachytherapy program at Swedish/Edmonds. Utilizing the new urology operating suite, we have all-new, high-end equipment. Prostate brachytherapy is the implantation of radioactive seeds to cure prostate cancer with a high degree of precision utilizing ultrasound guidance. Long-term data confirms cure rates equivalent to surgery, but without many of the surgery-related morbidities. Our association with the Seattle Prostate Institute was instrumental in building this program and offering it to our community.

Through participation in the weekly Tumor Board and close cooperation with our medical oncology colleagues, surgeons and other specialists at Swedish/Edmonds, we continue to offer the most up-to-date multidisciplinary treatment approaches to our patients. Our alliance with the other Swedish Cancer Institute practice sites, Seattle Prostate Institute, and the Tumor Institute Radiation Oncology Group allows us to offer all modern radiation oncology services. This includes Gamma Knife® and Cyberknife® radiosurgery, high dose rate brachytherapy for gynecologic and urologic malignancies, systemic radiation therapy, external beam radiation therapy (IMRT-IGRT) and the premier radioactive seed implantation program in the United States. Due to our technology and expertise, residents and fellows from the top training programs in the country regularly travel to Seattle to observe these therapies.
Puget Sound Cancer Centers

Puget Sound Cancer Center on the Swedish/Edmonds campus has been serving this community for over 30 years. We have grown through the years to our current five-physician practice specializing in the medical aspect of cancer care. We offer chemotherapy, immunotherapy, biologic therapy radioimmunotherapy and supportive care all supervised by our board-certified physicians and administered by our oncology-care certified nurses. We have an extensive array of clinical trials available on site as well. We are blessed with a talented and devoted support staff as well as highly skilled medical colleagues in the fields of radiation oncology, surgery, urology, orthopedics, gynecology, pathology, radiology and gastroenterology to name a few. We also boast of a talented group of medical administrators at Swedish/Edmonds who understand and value quality cancer care and who work to ensure that our medical staff has available all the necessary tools to provide that care.

Our big news this year is that we will be moving in 2013. Don’t worry, we aren’t going far. In fact, one can see our new building from our current offices. Our patients and staff have watched with fascination and enthusiasm as the new facility has seemed to appear out of thin air in a matter of weeks. Our new home will be a 17,000-square-foot, two-story, state-of-the-art cancer treatment center that will open for business April 2, 2013. When you visit us at our new site, you will see all the old familiar faces, but they will be surrounded by all new equipment in an environment that will allow more efficient and comfortable patient care. Our new name will be Swedish Cancer Institute, Medical Oncology, at Edmonds. We will be outfitted with all new computer software for scheduling, billing and medical records. Our staff has been using an electronic medical record for seven years, but we will be switching to the EPIC system which is also utilized for inpatients at Swedish/Edmonds and by many other surrounding clinics. While this change may be difficult for us in many aspects, we know it will provide better interoffice communication and thus, enhance patient care.

While we face these exciting changes we want the community to rest assured that we are taking all necessary steps to continue to monitor and improve the quality of care we provide. We remained certified by the Quality Observation Performance Institute (QOPI) administered by The American Society of Clinical Oncology. This certification remains rigorous and is currently granted to less than 20 percent of medical oncology practices across the nation. We also remain accredited with commendation by the Commission on Cancer which reviews our program in depth every three years to ensure that we meet the highest standards and that we are also continuously looking for further program enhancements. We will undergo a review again this fall and will have our first chance to show off our new facility. Our physicians meet twice weekly in our cancer conferences which provide a multidisciplinary review of nearly all new cases of cancer on our campus making sure no appropriate treatment option is overlooked. Battling cancer is a full-time job for our patients and their families. It is equally paramount in our lives as providers and we continue to pledge our commitment to this battle and to this community.
The Tumor Board and Breast Cancer Conferences are each held weekly at Swedish/Edmonds. These conferences bring together physician representatives who specialize in diagnostic radiology, pathology, surgical treatment, medical oncology and radiation oncology, as well as physicians from other specialties and allied health professionals to create a multidisciplinary group.

A case presentation at the cancer conference includes the patient’s medical history, clinical findings, diagnostic studies, pathology results and immunohistochemical studies. Discussions include staging workups, treatment modalities, National Comprehensive Cancer Network Guidelines and research data. Cancer conferences also coordinate the evaluation and management of patients at risk for hereditary cancer.

As a cancer program accredited by the American College of Surgeons, Commission on Cancer (CoC), Swedish/Edmonds is required to present a minimum of 15 percent of our annual analytic caseload. Out of the cases presented, 80 percent must be prospective.

In 2011, the Swedish/Edmonds Tumor Board and Breast Cancer Conferences presented a total of 403 cases. (See Chart 1 this page). Ninety-seven percent of analytic cases discussed have been prospective.

Cases from the top five sites are regularly presented as well as sites that bring physicians from particular specialties to share their expertise in the treatment planning. (See Chart 2 next page).

The goal of the Swedish/Edmonds Cancer Program is to conduct meetings that hold meaningful multidisciplinary discussions that facilitate, manage and provide outstanding quality of care for patients at Swedish/Edmonds.

Our dedicated team of physicians and members from other specialties achieve this goal by bringing their expertise and experience to the conferences each week.

**Number of Cases Presented at Cancer Conferences in 2011**

*Chart 1: The cancer team meets weekly to present cases and provide multidisciplinary treatment planning. The Swedish/Edmonds cancer team presents well over the percentage of cases required by CoC.*
Cases Presented at Swedish/Edmonds Cancer Conferences in 2011 by Primary Site

Chart 2: Swedish/Edmonds holds weekly tumor board conferences presenting all types of cancers. A site-specific cancer conference for breast cancer is also held weekly so the majority of the breast cases diagnosed and/or treated at Swedish/Edmonds are provided comprehensive multidisciplinary treatment planning specific to standards of care for breast cancer. Cases presented at both cancer conferences include the top five cancers seen at Swedish/Edmonds (1-Breast, 2-Prostate, 3-Lung, 4-Melanoma and 5-Bone Marrow/Lymphoma). Other less common primary sites are presented as well, providing the most effective treatment plan specific to the those sites.
The cancer registry is one of the major components of our comprehensive cancer program at Swedish/Edmonds. The registry staff, under the supervision of the Cancer Control Committee, is responsible for meeting state and national cancer reporting requirements, coordinating cancer conferences, and providing support for all cancer program activities required for accreditation by the American College of Surgeons, Commission on Cancer (CoC).

The registry has been collecting data on all cancer patients diagnosed and/or treated at Swedish/Edmonds since January 1, 1974. Data collected includes patient demographics, cancer identification, and treatment and follow up documentation. These data contribute to treatment planning, staging and the continuity of care for patients. Accurate and complete registry data are the underpinnings that permit Swedish/Edmonds to plan and optimize its cancer program. Since 1974, 15,652 analytic cases have been collected in the registry.

Stevens Hospital became Swedish/Edmonds with the Swedish Health Services affiliation in September 2010, causing an expansion in our scope of service. This affiliation, along with the growth of our local community, has increased the cancer registry's annual caseload to 700 new cancer cases in 2011. (See Chart 1 this page and Chart 2 next page). The five most frequently reported cancers at Swedish/Edmonds in 2011 included breast, prostate, lung/bronchus, melanoma, and leukemia/lymphoma/myeloma.

As Figure 1 shows (next page), Swedish/Edmonds’ diagnostic incidence of breast cancer continues to be higher than the national incidence of breast cancer. Swedish/Edmonds has a well-coordinated cancer-care team that provides diagnosis, treatment and regular follow-up to the breast cancer patients in our community. The melanoma and prostate percentages are also higher in comparison with the national percentages due to the cancer registry connecting with the clinics closely associated with Swedish/Edmonds in an effort to better represent the cancer incidence in the overall community. Head and neck cancers have also had a gradual increase compared to the national percentages.

The cancer registry performs annual follow-up for patients in the registry since our re-assigned reference year of 2000. CoC requires that an 80 percent follow-up rate be maintained for all analytic cases from the cancer registry reference date, and a 90 percent follow-up rate for all analytic cases diagnosed in the last five years. Swedish/Edmonds’ current follow-up rate for all analytic patients in the registry since our reference year of 2000 is 95.3 percent. The current follow-up rate for patients diagnosed in the last five years is 94.6 percent.

The Swedish/Edmonds Cancer Registry shares data with the Washington State Registry and the National Cancer Data Base (NCDB). The NCDB is a nationwide oncology outcomes database which monitors changes and variations in patterns of cancer care and outcomes. The Swedish/Edmonds Cancer Registry strives to provide accurate and quality data that will help improve the quality of cancer care.

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**Chart 1: Based on a total annual caseload of 700 cases.**

**Frequency of Cancers Seen at Swedish/Edmonds in 2011**

- Breast, 134
- Prostate, 120
- Lung/bronchus, 71
- Skin, melanoma, 58
- Leukemia/lymphoma/myeloma, 55
- Colon/rectum, 49
- Bladder, 34
- Head & Neck, 29
- Kidney/renal pelvis, 18
- Stomach/GE Junction, 14
- Endometrium, 17
- Thyroid, 19
- Pancreas, 13
- Other cancers, 55
- Liver, 7
- Ovary, 7
- Stomach/GE Junction, 14
- Endometrium, 17
- Kidney/renal pelvis, 18
- Thyroid, 19
- Head & Neck, 29
- Bladder, 34
- Colon/rectum, 49
- Leukemia/lymphoma/myeloma, 55
- Skin, melanoma, 58
### 2011 Cancer Treatment Frequency by Site and Gender - Male

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<thead>
<tr>
<th>Site</th>
<th>Swedish/Edmonds</th>
<th>National*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Kidney/Renal Pelvis</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Liver</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Lung &amp; Bronchus</td>
<td>8%</td>
<td>14%</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Melanoma</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>Multiple Myeloma</td>
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<td>1%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Prostate</td>
<td>34%</td>
<td>29%</td>
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<tr>
<td>Testis</td>
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<td>1%</td>
</tr>
<tr>
<td>Thyroid</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Other Cancers</td>
<td>10%</td>
<td>13%</td>
</tr>
</tbody>
</table>

### 2011 Cancer Treatment Frequency by Site and Gender - Female

<table>
<thead>
<tr>
<th>Site</th>
<th>Swedish/Edmonds</th>
<th>National*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Breast</td>
<td>39%</td>
<td>30%</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Kidney/Renal Pelvis</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Liver</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Lung &amp; Bronchus</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Melanoma</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>Multiple Myeloma</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Ovary</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Thyroid</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Uterine Corpus</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Other Cancers</td>
<td>9%</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Figure 1**

*Swedish/Edmonds 2011 Analytic Cases (700)

**Source for National Percentages: 2011 American Cancer Society, Inc. Surveillance Research

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### Chart 2: With the Swedish Health Services affiliation and the growth of the local community, the annual caseload at Swedish/Edmonds has shown a steady increase in all types of cancer. Breast, being the cancer most often seen at Swedish/Edmonds, continues to increase in frequency. Our prostate annual caseload has grown by 36 percent. The Swedish/Edmonds cancer registry has worked to connect with local urologist’s offices in order to capture a better representation of the incidence of prostate cancer in our community.
Breast Cancer

Breast cancer will affect approximately 220,000 women and just over 2,000 men in the United States this year. It is the most common malignancy affecting women and the second leading cause of cancer mortality for women. One in eight American women will be afflicted with breast cancer in her lifetime. The good news is that 80 percent of these women will be cured and that breast cancer mortality rates have been steadily dropping since 1990. The journey to cure can be arduous and efforts now focus on identifying the imperative treatments for any one woman and sparing those for whom such treatments are not necessary. Furthermore, with a recent decline in post menopausal hormone replacement therapy, better equipment for early detection, more advanced prevention strategies and improved treatment modalities, we intend to bring mortality rates even lower. The physicians at Swedish/Edmonds have decided to update you on breast cancer in this year’s annual report as we take great pride in the work we do with this patient population in our community.

The last time our annual report highlighted breast cancer was 2005. A lot has happened since then. The new buzz phrase in the treatment of cancer is “personalized therapy,” the concept that each cancer is unique and that therapy should be uniquely adapted to the specific patient and her specific cancer. Breast cancer is the poster child of this treatment trend. The idea isn’t really new. We have been personalizing therapy in breast cancer for decades. Traditional TNM staging of a cancer accounting for tumor size (T), presence of cancer in lymph nodes (N), and distant metastatic sites of spread (M) was purposed not only to address the risk of cancer recurrence, but also to assist in picking therapies best suited to the patient. Today we use computerized models based on an ever growing database which emphasizes both patient and tumor characteristics. These data delineate the individual patient’s risk and the relative benefits that can be derived from various treatments. And since 2005, tests that assess risk of recurrence

*Based on 580 breast cases
based on a cancer’s genetic profile have allowed us to identify which early stage cancers are wolves in sheep’s clothing, requiring aggressive chemotherapy to decrease risk, as well as those which are not as aggressive and may not need chemotherapy at all.

The Breast Radiologist by Sally Browning, M.D.

Most women visiting the Swedish Edmonds Breast Center have no breast symptoms and are seen yearly, starting at age 40, for a screening digital mammogram. These mammogram images are interpreted by a physician (a radiologist) who sub-specializes in breast imaging. Less than 12 percent will have a finding requiring further evaluation.

A very small number of women known to be at high risk for breast cancer, based on personal or family medical history will undergo screening with breast MRI in addition to mammography. MRI is not a substitute for mammography. There are associated risks of increased false positives (an abnormal finding that is not a real clinical problem) and the necessary IV contrast material injected may cause kidney damage.

A smaller number of patients come to the Breast Center for evaluation of breast symptoms, or of a finding detected at screening mammography (or MRI). This is called “diagnostic” imaging. A diagnostic evaluation often includes ultrasound in addition to special mammographic views. Most of these diagnostic studies reveal no suspicious abnormalities.

For the small number of patients whose diagnostic imaging evaluation reveals an abnormality with features suggestive of cancer, an imaging guided biopsy is usually recommended. Once the tissue has been injected with local anesthetic, threads of the abnormality are removed by the radiologist using a special needle.

All patients for whom a biopsy is recommended are counseled by a Breast Center radiologist and also by an R.N. “nurse navigator”. The nurse explains in detail how the needle biopsy will be done, and obtains enough medical history to be sure that the procedure is appropriate and can be performed safely.

Within 48 working hours after a biopsy, the pathologist provides the tissue diagnosis. The Breast Center radiologist and nurse review the results and work with the referring provider to inform the patient of the results. The majority of women do not have cancer and a follow up imaging study in six months will be recommended.

For the patient whose biopsy shows breast cancer, the nurse works with the patient’s provider to arrange consultation with a surgeon. Where appropriate, a breast MRI and/or additional biopsies may be recommended to evaluate the extent of disease. All patients with a new diagnosis of breast cancer are offered an educational consultation with the nurse navigator to receive or review the pathology diagnosis. The nurse also gives these patients a general overview of the treatment of breast cancer.

The Breast Center radiologist and nurse participate in the weekly multidisciplinary Breast Cancer Conference at Swedish/Edmonds. One of the roles of the radiologist is to help the surgeon determine if the patient is a candidate for breast conservation (lumpectomy plus radiation) versus mastectomy. The radiologist reviews the imaging studies at conference demonstrating the extent of disease to the physicians who will be treating the patient. For the patient suspected of spread of cancer outside the breast, additional imaging studies may be recommended.
Patients undergoing breast conservation will usually undergo post-treatment mammography of the affected breast every six months for three years with yearly screening of the unaffected breast.

Some patients will become “high risk” based on their breast cancer diagnosis and may be offered yearly breast MRI screening in addition to their mammograms.

The Pathologist by Ernie Kawamoto M.D.

The Pathology Department at Swedish/Edmonds plays a vital role in the quick and accurate diagnosis of breast cancers so that the cancers can undergo timely and optimal management. Our Pathology Department strictly follows standardized guidelines for the laboratory processing and pathologic characterization of breast cancers. These standardized guidelines were instituted by the College of American Pathologists (CAP) and by the American Society of Clinical Oncology (ASCO), and also adopted by the American College of Surgeons and by the National Comprehensive Cancer Network (NCCN). These guidelines are actually requirements since the CAP and American College of Surgeons check adherence during inspections for accreditation. The characterization of cancers include the type of breast cancer, the microscopic assessment of cancer aggressiveness (histologic grading), assessment of lymphatic and vascular involvement (early evidence of likely tumor spread), predictive responsiveness to hormonal manipulation (estrogen and progesterone receptors) and the potential presence of excessive growth factor genes (Her-2Neu amplification status).

The pathologist reviews tissue typically removed by the breast radiologist during image-guided biopsy in order to make a diagnosis of breast cancer. Due to the small amount of tissue that is obtained, all breast core biopsies are reviewed by at least two pathologists to ensure 1) the accurate diagnosis and characterization of newly diagnosed breast cancers and 2) to ensure that benign lesions are not diagnosed as cancers. In addition to this review process of needle biopsies, any other type of biopsy with a newly diagnosed breast cancer is reviewed by at least one other pathologist to confirm the diagnosis of cancer.

The Pathology Department at Swedish/Edmonds prides itself on a quick turn-around-time for the evaluation of breast biopsies. The reports of the biopsies are typically completed in one day after the biopsy is performed and almost always completed within two days except for diagnostically challenging cases in which several pathologists examine the specimen to ensure accuracy. Our pathologists are motivated by the knowledge of the psychological and emotional impact on women who are waiting for results of the biopsies. The completed report is immediately sent to the breast nurse navigator and to the Breast Radiology Department to ensure that the radiologic abnormality was not missed by the biopsy. The report of a benign breast biopsy is also quickly reported to the breast nurse navigator and to the Breast Radiology Department to quickly allay the fears of women without breast cancer.

The pathologic findings of new breast cancers, especially breast cancers diagnosed by core needle biopsies, are reviewed at the Swedish/Edmonds weekly multidisciplinary breast cancer conference where they are
discussed by physicians involved in the diagnosis and treatment of breast cancers. Prior to this conference, the pathology findings are re-reviewed to ensure accuracy.

**The Surgeon by Kurt Harmon, M.D.**

Surgery was the first and principal treatment for breast cancer until the advent of radiation and chemotherapy. As we have developed a comprehensive approach to treating breast cancer, surgery has become less invasive, less painful and less disfiguring. Swedish/Edmonds continues to provide advanced surgery for women with breast cancer.

As more and more women are being diagnosed with early-stage breast cancer, we are able to offer women a partial mastectomy (or “lumpectomy”) and avoid a total mastectomy. When we add radiation treatment to the affected breast the term “breast conserving therapy” (BCT) is used. Women treated with this approach enjoy the same chance of cure as those who undergo mastectomy. At Swedish/Edmonds, in 2012, 64 percent of women underwent partial mastectomy or “lumpectomy” and avoided a total mastectomy. With the use of ultrasound and pre-operative localization, many women are having cancer surgery through very small incisions and enjoy excellent cosmetic results.

Many women who undergo a mastectomy have no choice as they are not BCT candidates, but despite more refined surgical techniques some women still chose mastectomy even when they could have less aggressive surgery. They do so for a variety of reasons. A few are not interested or able to attend six weeks of radiation treatment post-operatively, some are unhappy with the size or shape of their breasts, and some chose to have simultaneous surgery on the opposite breast for fear of facing breast cancer a second time. This treatment, called Contralateral Prophylactic Mastectomy (CPM) may also enable some to have a more “symmetric” reconstruction. Swedish/Edmonds surgeons perform both skin-sparing and nipple-sparing mastectomy and offer a full range of reconstruction options. Some women are even candidates for immediate reconstruction at the time of their cancer operation. Swedish/Edmonds has a team of breast cancer and reconstruction surgeons which regularly performs these procedures.

Another exciting area of progress is the way we manage the axillary lymph nodes in breast cancer. For more than 10 years we have routinely performed Sentinel Lymph Node Biopsy on women with breast cancer, which enables us to “sample” the armpit lymph nodes, and if the sentinel node does not have tumor in it, women can avoid the more aggressive Axillary Lymph Node Dissection (ALND). Swedish/Edmonds surgeons sample an average of 2.4 lymph nodes per patient, and with this minimally invasive technique can decrease the chance that a patient will develop lymphedema. This past year a new study has shown that some women with a small volume of cancer in the lymph nodes can also avoid an axillary dissection. We are proud to have a number of women who met that criteria in 2012 and avoided a full axillary dissection.

Breast cancer surgery is a frightening prospect for many women. Our surgeons always attend the weekly
Breast Cancer Conference and are active participants in decision making regarding patient treatment options. We at Swedish/Edmonds are confident that women who choose to be treated in our community receive comprehensive, state-of-the-art surgery with an excellent chance of both cure and cosmetic satisfaction.

The Radiation Oncologist by Skyler Lindsley, M.D.

Radiation therapy plays a pivotal role in the treatment of breast cancer in both early and late stages of the disease. In early stage breast cancer, radiation is most commonly used as a component of breast conservation therapy. Large randomized studies have shown that most women with early stage breast cancer may choose to conserve the breast without any decline in survival. In such cases, a lumpectomy (sometimes called partial mastectomy) is performed to remove the tumor while leaving the majority of the breast in place. Following recovery from surgery, radiation is delivered to reduce the risk of tumor recurrence within the breast. Most commonly, radiation is given on a daily Monday through Friday basis over a span of approximately six and a half weeks. The radiation only takes a few minutes to deliver, although several additional minutes are required to ensure accurate positioning. Fortunately, due to the external location of the breast relative to the thoracic cavity, radiation therapy to this site is generally well tolerated. The most common acute side effects, skin irritation and moderate fatigue, usually subside within a few weeks following completion of the treatment. Long-term side effects are less common, but may include the development of edema or fibrosis (scar tissue) within the breast. Recent advances in three-dimensional radiation planning techniques have reduced the incidence of long-term side effects by allowing a more even radiation dose distribution throughout the treated breast. Standard beam modifying devices, called wedges, provide some smoothing of the dose distribution, but cannot accommodate for the full diversity of breast shapes and sizes. Newer techniques employing forward planning IMRT (intensity modulated radiotherapy) allow greater individualization of the beam modification to accommodate virtually any shape or size. Three-dimensional treatment planning also allows improved sparing of the underlying lung tissue, and for left sided cancers near the heart.

Recent randomized studies have sought to address the duration of radiation treatments for woman with early stage breast cancer. Results suggest that a shortened course (often referred to as the Canadian Regimen) delivered over approximately four weeks, provides acceptable results in a select group of woman with early stage invasive breast cancer. These abbreviated courses of treatment utilize a higher dose of radiation per daily fraction to allow the treatment to be completed over a reduced number of treatment days, a technique called “hypo-fractionation”. Due to the shorter follow-up available for these studies, hypo-fractionated regimens are not currently recommended as standard of care in younger woman. As additional, longer-term follow-up becomes available, these shorter, and hence more convenient regimens may become more applicable to a wider range of woman. Other ongoing studies are addressing the use of partial breast irradiation (PBI) for select woman with early stage invasive breast cancer. In addition to allowing a significantly shorter treatment course (one to
two weeks, PBI provides improved sparing of the normal tissues in comparison to standard whole breast radiation. Again, additional follow-up will be required to fully define the best criteria for selecting women who are good candidates for this technique. If the initial encouraging results with PBI are validated, Swedish/Edmonds will be well positioned to offer this additional choice through the brachytherapy, Cyberknife, and IMRT expertise of Swedish Cancer Institute.

For women with locally advanced breast cancer, radiation therapy may be indicated following mastectomy to reduce the risk of recurrent disease at the chest wall or within the regional lymph nodes. Radiation planning techniques are critical to ensure maximum protection of underlying organs and normal tissues to reduce the risk of acute and long-term side effects. In preparation for radiation, all patients undergo a treatment planning CT scan performed in a precisely reproducible position. The images are transferred to a sophisticated planning system which provides a three-dimensional visualization of the beam paths through the body. This allows optimization of the radiation beam angles and custom design of blocks where necessary for shielding of the underlying lung and heart. An individualized plan is designed for each patient with input from a team of radiation specialists including the radiation oncologist (physician), dosimetrist and physicist. Each plan is reviewed in a rigorous fashion with overlapping checks and balances to ensure optimal delivery of the radiation. The delivered dose is also directly measured at the start of each treatment course with in-vivo dosimeters to provide additional quality assurance.

While attention to detail is paramount in optimizing the technical aspects of radiation therapy, we recognize that the best treatment involves caring for the whole person. Our doctors and nurses are readily available on a daily basis to personally address any questions or concerns of patients. Our nursing staff is highly experienced in patient education and in providing the best management strategies for both acute and long-term side effects of treatment. We offer onsite social services to help patients deal with the potentially overwhelming emotional, financial and social challenges that can accompany a cancer diagnosis. Of course, our radiation oncologists are active participants in the weekly Breast Cancer Conference previously mentioned.

The Medical Oncologist by Jeffrey Ward, M.D.

The medical oncologist is responsible for delivering drug therapy in the treatment of breast cancer when appropriate (they often act as the overall treatment plan coordinator as well). There are two main scenarios in which medication is used to treat breast cancer. The first, called “adjuvant therapy” involves administering medication after surgery with curative intent. In this situation the medicine, chemotherapy and/or hormone therapy, is utilized to reduce the likelihood that the cancer will recur outside the breast; such recurrences are almost always incurable and thus strong efforts at prevention are quite warranted. The medical oncologist also administers hormone and/or chemotherapy in the metastatic setting; that is, when the cancer is known to have spread and efforts are aimed at slowing progression or producing remission of disease. The actual medications used in these situations are the same but the choices of sequence and drug combination vary significantly with the clinical situation.
Hormonal therapies that exploit the relative estrogen dependence of two-thirds of breast cancers are the earliest example in oncology of a targeted therapy, one that discriminates between cancer cells and normal cells, thereby treating the cancer with minimal toxic effects for the patient. By 2005, we were personalizing our hormonal therapy by menopause status, but the hormonal therapy of today is more sophisticated yet. In the past year, one study in metastatic disease has demonstrated the benefits of dual therapy, utilizing one drug that blocks estrogen production and another that attacks the estrogen receptor. Another study has shown that by blocking the mTOR cellular pathway, previously not thought to be a player in breast cancer, we can take cancers that have become resistant to hormonal therapy and resurrect a robust response. And though long in the making, the ATLAS (Adjuvant Tamoxifen – Longer Against Shorter) study results were released this year showing that 10 years of tamoxifen improved survival and reduced rates of recurrence in the adjuvant setting when compared to the traditional five years of therapy.

Her2-neu, a receptor for epidermal growth factor is overexpressed in 20 percent of breast cancers. Mutations in the receptor represent another 2.5 percent of breast cancer patients. Though pertinent for a minority of patients, anti-her2-neu treatments have become a major front of activity in personalized therapy. Trastuzumab (Herceptin) and lapatanib (Tykerb) are commercially available and have remarkably changed the natural history of both metastatic and early stage her2-neu overexpressed cancers. Pertuzumab (Perjeta), like trastuzumab, a monoclonal antibody, but targeting a different part of the receptor, used in combination with trastuzumab and chemotherapy as first line therapy in metastatic disease vastly improves response rates. However, the most promising advance for this group of patients may be represented by T-DM1, a fusion of trastuzumab and the chemotherapy drug emtansine that is still in clinical trials. This “smart bomb” uses trastuzumab to lead emtansine, a drug too toxic to be used in higher doses by itself, to the cancer and has had remarkable efficacy in trastuzumab and lapatanib resistant disease; it may be better than trastuzumab in first line metastatic therapy as well.

Finally, another front of personalized breast cancer therapy is being forged in “triple negative” cancers, those devoid of estrogen, progesterone, and her2-neu receptors and particularly resistant to chemotherapy. Here, drug classes with names like PARP and HDAC inhibitors have shown inklings of the same kind of success that trastuzumab brought to her2-neu overexpressed malignancies. The use of these and other drug treatment options is an important topic of discussion at our Breast Cancer Conference.

It is an exciting time to treat cancer, and breast cancer in particular. The term “personalized therapy” may bring to mind cancer care with personal touches, also an important part of the treatment we provide at Swedish/Edmonds, but in this context it is a powerful toolbox that, as it fills with specialty tools, will bring greater benefit with lower toxicity to our patients. The medical oncologists at Swedish/Edmonds work hard to stay up to date with the latest treatment breakthroughs in breast and other cancers, but we also help generate the data referenced...
by actively participating in clinical trials. We routinely have a myriad of treatment trials available to our patients with breast cancer that help investigate these new drugs and define new standards of care. This is a privilege we cherish and a responsibility we take very seriously.

The breast cancer treatment team at Swedish/Edmonds is pleased to offer this summary for your edification. We appreciate the trust you place in us in caring for you and your loved ones and we pledge to continue to provide the highest level of care available in the years to come.
## Community Services

### Diagnostic Services
- Radiology
- MRI/CT Scanner
- Mammography/Ultrasound
- Laboratory/Pathology
- Sentinel Lymph Node Biopsy
- PET/CT Scanning

### Treatment Planning
- Weekly Tumor Board
- Weekly Care Conference
- Weekly Breast Cancer Conference

### Survivorship Programs
- Look Good Feel Better Classes
- Reach to Recovery
- ABC - After Breast Cancer Education Class
- Breast Cancer Support Group Referral
- Cancer Support Group Referral
- I Can Cope (Free Online Classes)
- Free Wigs/Fittings

### Treatment
- Oncology Surgery
- Chemotherapy
- Radiation Therapy
- Inpatient/Outpatient Services
- Pain Management
- Physical/Occupational Therapy
- Lymphedema

### Supportive and Continuing Care Services
- Clinical Nutrition
- Spiritual Care
- Social Services
- Speech
- Respiratory
- Cardiology
- Neurology

### Free Community Programs

#### Want to Quit Smoking Program
Helpful guidelines for quitting as well as information on the use of tools like nicotine patches and gum.

#### Bereavement Support
Includes support groups, luncheons, service of remembrance and a lending library as opportunities for assistance in the grief process and is staffed by a professional bereavement coordinator, hospital chaplains and trained volunteers.