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Cancer Annual Report 1993

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1993 CANCER COMMITTEE MEMBERS

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New programs, new people, new projects - the story of the Cancer Committee in 1993 at St. Luke's Medical Center. In addition, other activities were guided in part by the following priority goals for the year. The goals were chosen by the committee and overseen through the year by one physician and one program staff member. Efforts were begun in all areas, however reportable accomplishments will not be achieved until next year.

Cancer Committee Goals for 1993-1994

- Monitor and react to health care reform as it relates to cancer service
- Collaborate with other hospital programs including Women's and Men's Health
- Develop strategies to involve primary care physicians in the cancer program
- Develop a service management plan for all oncology departments
- Develop comprehensive, quality disease site programs in a cost-effective manner

There were many programmatic highlights this year. The 1st Surgical Oncology Conference was coordinated by the energetic surgical oncology subcommittee featuring four internationally known speakers addressing diverse topics. Radiology saw the opening of a new Breast Imaging Center, including the use of stereotaxic needle biopsy in the new outpatient facility. Under the guidance of the Rehabilitation Medicine Department, a program for oncologic rehabilitation was initiated which was aimed at outpatients. For the first time Tumor Conferences continued for the summer, with a new format of co-moderators. Intense work was also begun on developing a coordinated program for the care of patients with breast cancer with departmental standards developed by each involved department and/or section.

Ongoing quality assurance activities with the American College of Surgeons included long and short term review studies of patients with cervical and prostate cancer. Additionally, institutional studies were done evaluating the oncology Beta-indicator study for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and a study looking at the correlation of CT directed needle biopsies of the lung with open biopsies for patients with undifferentiated malignancies.

Activities through the Vince Lombardi Cancer Clinic (and supported by the generous efforts of the Lombardi Classic and Ball) included outreach lectures on oncologic topics given by our staff and visiting speakers. Highlights included “Survivorship Issues” discussed by Susan Leigh from the National Coalition for Cancer Survivors and Susan Ford addressing her experience with her mother’s breast cancer to a large audience at the Italian Community Center. Other community efforts included co-sponsorship with the American Cancer Society of the Bike-a-thon and a 24 Hour Relay. Lombardi efforts also continued to support a number of institutional research projects.

Ann LeFever, Ph.D., was added as a research scientist in the immunotherapy and bone marrow program and Marcia Marino started as the Cancer Center chaplain. We also saw the departure of Nancy Nowak as Program Director to warmer environs.

Another year well done by all members of the cancer committee and the entire oncology program.

Marcia J.S. Richards, M.D.
Chair of Cancer Committee
SCREENING MAMMOGRAPHY FOR PRE-MENOPAUSAL WOMEN: A MEDICAL CONTROVERSY

According to the American Cancer Society, there will be 3,800 new cases of breast cancer in the state of Wisconsin in 1994. Although most of these patients will present with early stage disease, approximately 25 percent of these patients will succumb to their breast disease.

Among the prognostic factors for breast cancer, early age at diagnosis (usually less than or equal to age 35) and pre-menopausal status, has been found to be an adverse prognostic factor. It is interesting when factored with size, axillary lymph node status, and other biochemical factors, age looses its significance. Nonetheless, younger women who develop breast cancer tend to have worse disease. What makes it more significant is that many of these patients, due to their age, have full time occupations and often have young children at home. Their deaths pose a problem for caregivers.

One of the significant factors in the advance for cancer detection has been mammography. The technical aspects, equipment and expertise of physicians interpreting the studies has significantly improved in the last 20 years. This is where the controversy begins.

Thus far, there have been more than 8 randomized studies in looking at the efficacy of mammography improving survival. To discuss their findings in detail is beyond the scope of this article but suffice to say, their scientific conclusion thus far is as follows:

The first is that women 50 years of age or over definitely benefit from screening mammography. There is a significant reduction in mortality from breast cancer in women routinely screened compared to patients followed by their physicians alone.

The second is that there is no specific survival advantage in the age group 40-49.

There could be many reasons why that is so. But an obvious one is that the greatest risk of a woman to developing breast cancer is her age. That is why by screening older women, one can pick up more cancer cases and hence make a difference in survival.

The National Cancer Institute therefore recommends screening mammography to begin yearly at age 50 based on this scientific evidence thus far. The American Cancer Society, however, still recommends yearly screening at age 40-49. You may ask, “Why?”. This is because the data in the same randomized studies also cannot disprove the hypothesis that screening is not beneficial for younger patients. Being more of a patient advocacy group, the American Cancer Society has decided not to change its recommendation for the last 20 years.
What is a clinician to do? A good history and physical is important. In patients with a strong family history of breast cancer, history of endometrial cancer, etc., mammography may be needed at an earlier age. For most patients, screening mammography is indicated after age 40. We still do not have a national policy on breast cancer screening, but HMO or managed care practice guidelines may later our practice behavior before long. Longer follow-up of the randomized studies may also give us the answer to the above questions.

William J. Pao, MD

1993 Breast Cancer
Age at Diagnosis

According to the 1993 National Cancer Data Base, Breast Cancer is primarily a disease of older patients, with approximately 75% of patients being over the age of fifty. In 1992, 3,442 patients were diagnosed with breast cancer in Wisconsin, of these patients, 2,757 (80%) were 50 years of age or older. St. Luke's Medical Center reports similar figures, in that 77% of our patients were over fifty years of age when diagnosed with breast cancer.

Total Number of Breast Cancer Cases
Accessioned: 248

Female: 246 (99.2%)
Male: 2 (0.8%)

(The 2 male cases were patients diagnosed between the ages of 65-69 and have been included in the above numbers)
"In the United States, no woman is at such low risk from breast cancer that she can be excluded from education and screening programs appropriate for her age. Even if no risk factors are present, one woman of every 11 develops this disease". Henney JE., deVita Jr. VT., Harrison’s Principles of Internal Medicine. Several factors have been identified as increasing the risk of a woman developing cancer of the breast, such as: family history, age, exposure to radiation, migration from one country to live in another, ethnic ancestry and exposure to diethylstilbestrol. The risk associated with family is higher when the mother had bilateral tumors (before menopause), less when there is an affected first degree relative with uni or bilateral tumors (post menopausal), and for a woman who is nulliparous or had the first child after 30 and is 50 years old. In 1990 Mary Clair King reported that 5 to 10% of the cases of breast and ovarian cancer are due to the inheritance of a gene (BRCA1) conferring predisposition to develop one or both tumors, when other genetic changes specific to the target breast and ovarian cell take place. This observation divides women into two groups with dramatically different risks:

Cummulative Risk of Breast cancer to Women in the United States

![Graph showing cumulative risk of breast cancer](image)

While the BRCA1 has not been isolated and characterized yet, its determination by linkage at the present time and by direct mutation analysis when the gene is identified, will allow for the precise risk assessment in families where both, affected and non-affected women are available for analysis. Some will have the mutated gene and will be at high risk, some will have the normal gene and they will be at low risk. It is very likely that the gene will be isolated in the near future. The recognition of the precise mutation will lead to exact diagnosis of predisposition and hopefully to better preventive diagnosis and care. St. Luke’s Medical Center and the Medical Genetics Institute will offer integrated diagnosis and care in the near future.
The National Cancer Institute estimates that 180,000 women are diagnosed with cancer of the breast each year. Breast cancer will strike 1 in 8 women in their lifetimes. While the statistics are alarming, data has shown that death from breast cancer can be delayed or averted by early detection and treatment. High-quality x-ray mammography is clearly the single most important factor in early detection. Unfortunately, a significant overlap exists in the mammographic morphology of lesions, and the nonspecific signs of malignancy frequently make benign conditions indistinguishable from malignant processes. Only one in five biopsies performed for mammographically-detected (nonpalpable) lesions is found to be malignant!

A nonsurgical technique has been developed that takes core biopsies of mammographically suspicious areas. The procedure, called stereotactic core biopsy, has been shown to be as accurate as traditional surgical biopsy following needle localization.

Stereotactic core biopsy uses x-ray images and computer analysis to localize the suspicious area in the breast. Initially, with the patient in the prone position, the breast is placed through a round opening in the biopsy table. (Please refer to Figure 1) With the breast in compression, stereo views of the suspicious area are obtained. Using a workstation, the radiologist enters the location of the lesion into the computer. Following skin preparation, local anesthetic, and a small skin nick, a 14-gauge biopsy needle is passed into the breast to a predetermined depth using the coordinates assigned by the computer. Stereo views are obtained prior to and following biopsy to ensure that the needle passes through the lesion. (Please refer to Figure 2) A minimum of six biopsies are performed depending on the adequacy of samples.

Advantages of stereotactic core biopsy over conventional needle localization and surgical biopsy include: significantly decreased cost, elimination of the potential for disfigurement, and decreased time required for arranging and performing the biopsy. The technique has the potential to greatly reduce the number of surgical biopsies for benign breast disease. Stereotactic core biopsy will play an increasingly significant role in the diagnosis and management of breast cancer.

Mark Wenzel, M.D.
A variety of features have been evaluated as pathologic factors and prognostic indicators for breast carcinoma. The most important factors that could influence the management of breast carcinoma include: (A) morphologic aspects, (B) steroid receptors, (C) immunohistochemical markers, (D) tumor oncogenes, (E) proliferative rate, and (F) nuclear morphometry.

(A) Morphologic Features - Some lesions that constitute a risk factor for the subsequent development of invasive breast carcinoma include: intraductal hyperplasia and sclerosing adenosis (slight risk), atypical intraductal and lobular hyperplasia (moderate risk), and intraductal carcinoma in-situ (high risk). The relative risk doubles when there is a family history of breast cancer. Patients with tumors two centimeters in diameter or smaller (gross) have a significantly better prognosis and survival than larger tumors. Medullary, Tubular, Mucinous (Colloid), Adenoid Cystic Secretory, Cribriform and Papillary carcinomas are low grade histologic cancer types associated with a low frequency or absence of axillary node metastasis and a relatively good prognosis. Poorly differentiated, Signet ring cell carcinomas, Inflammatory carcinomas and Carcinosarcomas are generally considered aggressive neoplasms. Stromal invasion is the most significant prognostic indicator since non-invasive carcinomas are almost invariably cured by mastectomy. Tumor grade is important in that high grade tumors have a higher frequency of axillary node metastasis, tumor recurrences and death from metastatic disease. The presence of 25% or more intraductal component is associated with decreased nodal metastasis and a more favorable prognosis. The prognostic significance of lymphoplasmacytic host response is controversial. Lymphatic, blood vessel and perineural invasion are prognostically unfavorable findings in node-negative patients treated by mastectomy. Regarding axillary lymph nodes status, the ten year surgical failure for patients is 86.5% with four or more positive nodes, 64.5% with one to three positive nodes and 24% with no positive nodes. The presence of gross, rather than microscopic metastasis in these nodes, adversely affects the prognosis. The presence of metastatic tumor in internal mammary nodes, especially when associated with axillary and supraclavicular nodes, portends an ominous outlook. Unfavorable prognosis also include extranodal tissue extension of tumor in patients with three or fewer involved nodes and involvement of the axillary apical lymph nodes.

(B) Steroid Receptors - Determination of estrogen receptors (ER) and progesterone receptors (PR) in invasive breast carcinomas prior to therapeutic manipulations has become standard practice. Tumors that are better differentiated are more likely to be ER positive and PR negativity has correlated well with high grade tumors. Patients with ER and PR positive carcinomas have a better overall survival than patients with only one negative receptor or patients with ER and PR negative carcinomas. There is indication that PR correlates better than ER with tumor recurrence regardless of lymph node status and that PR negative patients have a shorter disease free interval than PR positive patients.

(C) Immunohistochemical Markers - BETA-1 Glycoprotein (SP-1) positive tumors have a higher frequency of axillary node metastases. Tumor cells reactive to two specific Lectins (blood group isoantigens) have significantly reduced recurrence-free and overall survival. Vimentin has been correlated with tumor grade and has been significantly associated with a higher growth rate as measured with the Ki-67 antibody.

(D) Oncogenes - Insight into the genetic changes involved in the development and progression of malignant neoplasms has been gained from the study of oncogenes. Disease free survival is significantly reduced in C-erb B-2 (HER-2/neu) positive patients with axillary metastases but not among those with
negative nodes. Also, overall survival is significantly lower in C-erb B-2 positive patients regardless of nodal status. Patients with altered C-myc gene expression and amplification of hst-1/int-2 have a significantly shorter disease-free and overall survival. High levels of Cathepsin D appear to be associated with aggressive tumor behavior, shortened relapse-free and overall survival in node-negative breast cancer patients but is not an independent predictor of outcome because of its strong association with several well-established prognostic indicators.

(E) Proliferative Rate - The rate of DNA synthesis has been correlated with prognosis and is determined by the thymidine labeling index (TLI), Bromodeoxyuridine (BrdU) and recently by labeling index (3H-Tdr), for example; high TLI has been associated with higher frequency of recurrence, earlier recurrence and shorter survival after recurrence. P53 overexpression is an independent marker for shortened 6 year relapse-free and overall survival in node-negative patients with resectable breast cancer. Combined ploidy and S-phase fraction (SPF) define two categories as favorable (diploid, low SPF) and unfavorable (diploid, high SPF or any aneuploid subgroups). Patients in the favorable category have a better five year post recurrence survival rate and disease-free survival when compared to the unfavorable category.

(F) Nuclear Morphometry - Inverse relationships have been observed between mean nuclear area, mean nuclear diameter, mitotic index, and prognosis.

Jorge G. Pellegrini, M.D.

10 Most Frequent Histologies For Breast Cancer in 1988

<table>
<thead>
<tr>
<th>Histology</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infiltrating Duct Cell Carcinoma</td>
<td>135</td>
</tr>
<tr>
<td>Intraductal Carcinoma, Non-Infiltrating</td>
<td>17</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>9</td>
</tr>
<tr>
<td>Lobular Carcinoma In Situ</td>
<td>8</td>
</tr>
<tr>
<td>Lobular Carcinoma</td>
<td>6</td>
</tr>
<tr>
<td>Medullary Carcinoma</td>
<td>5</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>3</td>
</tr>
<tr>
<td>Mucinous Adenocarcinoma</td>
<td>3</td>
</tr>
<tr>
<td>Carcinoma In Situ</td>
<td>3</td>
</tr>
<tr>
<td>Malignant Neoplasm</td>
<td>2</td>
</tr>
<tr>
<td>All others (5 with counts not displayed)</td>
<td>1</td>
</tr>
</tbody>
</table>

10 Most Frequent Histologies For Breast Cancer in 1993

<table>
<thead>
<tr>
<th>Histology</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infiltrating Duct Cell Carcinoma</td>
<td>160</td>
</tr>
<tr>
<td>Lobular Carcinoma</td>
<td>20</td>
</tr>
<tr>
<td>Intraductal Carcinoma, Non-Infiltrating</td>
<td>19</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>8</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>7</td>
</tr>
<tr>
<td>Medullary Carcinoma</td>
<td>5</td>
</tr>
<tr>
<td>Lobular Carcinoma In Situ</td>
<td>4</td>
</tr>
<tr>
<td>Inflammatory Carcinoma</td>
<td>3</td>
</tr>
<tr>
<td>Mucinous Adenocarcinoma</td>
<td>3</td>
</tr>
<tr>
<td>Comedocarcinoma</td>
<td>2</td>
</tr>
<tr>
<td>All others (7 with counts not displayed)</td>
<td>8</td>
</tr>
</tbody>
</table>
The two main options for the treatment of invasive breast cancer remain either lumpectomy with axillary dissection and radiation therapy or modified radical mastectomy. The cure rates are equal in Stage I and Stage II disease. This means that even if lymph nodes are palpable preoperatively, the patient can still be a candidate for breast conservation with equivalent results to those obtained with modified radical mastectomy in terms of cure rates. Although the American College of Surgeons has gone on record with the recommendation to utilize breast conservation when possible because of its equal cure rate, many women still undergo modified radical mastectomy. This can be secondary to a woman’s preference or can occur because of a surgeon’s recommendations. In Wisconsin, less than 20% of the women in the Medicare population with the diagnosis of invasive breast cancer undergo breast conservation procedures. It is interesting to speculate why this is the case.

Contraindications to breast conservation include: relatively large tumor size in comparison to breast size, multifocal or multicentric breast carcinoma, inflammatory breast carcinoma, and possibly invasive breast carcinoma with an extensive intraductal component.

When modified radical mastectomy is performed, it can often be accompanied by an immediate reconstruction technique such as an implant or expander placement. Flap reconstruction can also be used. Immediate reconstruction can be a viable option even if post operative chemotherapy is contemplated. However, many plastic surgeons will recommend against immediate reconstruction if post operative radiation is likely to be recommended.

Non-invasive breast cancer can be treated by wide excision alone, wide excision with radiation therapy or with a total mastectomy. The NSABP study B17 showed that the local recurrence rate for patients who underwent lumpectomy alone without radiation therapy was much higher than in those who underwent the lumpectomy followed by radiation therapy. Seventy-two women (18%) of those undergoing lumpectomy alone had a local recurrence in the operated breast. Only thirty-two (8%) of those undergoing lumpectomy with radiation therapy had local recurrence. Because of these results, at this time, lumpectomy with post operative radiation should be the standard of care for non-invasive breast cancer for those who desire breast conservation. Total mastectomy decreases the local recurrence rate even more, but does not eliminate the chance of recurrence. Again, if a mastectomy is chosen, immediate reconstruction is a reasonable option if the patient desires it.

One issue that needs to be resolved in the future is the utility of axillary dissection. Lymphedema occurs in a small number of women, but its morbidity is not negligible. At this time, axillary dissection is used in invasive breast cancer to help with staging and give prognostic information. With many women having node negative breast cancer often receiving recommendations for chemotherapy, and as tumor markers and other prognostic indicators become more accurate, it may well be that within the next decade or so the utility of an axillary dissection will become much less and it will only be done for therapeutic rather than prognostic or diagnostic reasons.
Following a mastectomy or lumpectomy with axillary dissection, exercise is essential to regain full use of the involved arm and prevent loss of function during daily activities. Immobilization of the arm after surgery can result in tightness of the shoulder, abnormal posture and decreased strength. Early initiation of a comprehensive exercise program including range of motion, strengthening and good posture exercises help to assure return of full use of the involved arm after surgery. Routine range of motion can also prevent excessive swelling from developing in the arm or hand.

Good posture is essential in providing good alignment of the neck, back and shoulder girdle to provide optimal function of the shoulder. Good posture also helps prevent chest wall tightness from developing. Precautions to be followed after surgery include: avoiding heavy lifting, carrying the purse on the opposite shoulder, wearing watch or jewelry on unaffected arm, and wearing loose fitting rubber glove on hand when washing dishes. Also, the patient should avoid injections and blood pressures on the involved arm.

The patient's physician will typically recommend when to start exercise (usually 2-4 days after surgery). Exercise instructions may vary depending on the physician or a nurse may also show the patient some exercises before leaving the hospital. A volunteer from the American Cancer Society “Reach to Recovery” program may visit the patient's home and show them some exercises. A Physical or Occupational therapist offers instructions in an individualized exercise program for posture, range of motion, gentle stretching and strengthening, as well as massage if needed to prevent excessive scar tissue tightness. A physician's referral is necessary for Physical or Occupational Therapy.

Remember, daily exercise is essential post mastectomy for the patient to regain full use of their arm. Good posture, a thorough exercise program and following specific precautions can help speed up recovery.

Jackie Lamberton, P.T.
Reconstruction of the breast cancer patient in the 90's frequently involves reconstruction following mastectomy. Many women find an external prosthesis unsatisfactory for a variety of reasons. Though not a perfect replacement, a reconstructed breast will allow the patient greater freedom of clothing and activity. Numerous studies support the efficacy of breast reconstruction following modified radical mastectomy. Patient satisfaction is quite high, over 90% in most studies.

A review of patients treated at St. Luke's Medical Center in 1988 and in 1993 have revealed certain trends. In 1988, a total of 15 patients underwent reconstruction out of a total of 188 seen and treated for primary carcinoma of the breast, for a total of 7.9%. In 1993, 19 patients or 7.6% of the total 248 women with breast cancer, underwent reconstruction. This probably reflects two trends, one would be the smaller pool of patients available for reconstruction because of the greater trend toward breast conservation. Out of this smaller pool, however, more women do seem to be opting for reconstruction.

The basic techniques for reconstruction have been available for the last 10 years. Refinements and improvements, however, continue to take place. Improvements in the surface characteristics of implants have generally led to softer, more natural results with reconstruction. Both saline and gel filled implants are currently available for the patient undergoing breast reconstruction. Companies involved in the manufacture of implants are working with material that is better tolerated by the patient and more radiographically "friendly".

### Type of Reconstruction

<table>
<thead>
<tr>
<th>Year</th>
<th>Type</th>
<th>Percentage</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>Implant or Tissue Expander</td>
<td>79%</td>
<td>(15) (19 Patients)</td>
</tr>
<tr>
<td></td>
<td>Tram</td>
<td>21%</td>
<td>(4)</td>
</tr>
<tr>
<td>1993</td>
<td>Implant or Tissue Expander</td>
<td>41%</td>
<td>(9) (22 Patients)</td>
</tr>
<tr>
<td></td>
<td>Tram</td>
<td>59%</td>
<td>(13)</td>
</tr>
</tbody>
</table>
Another trend that is occurring is that toward using autologous tissue. In 1988, only 4 out of the 19 patients underwent TRAM (Transverse Rectus Abdominous Musculocutaneous) flap reconstruction. The remaining 15 all were reconstructed with implants with or without a first stage use of tissue expander. In 1993, TRAM flaps outnumbered implant reconstruction by 13 to 9. Part of this no doubt is due to the negative publicity surrounding breast implants. On the other hand, most studies support the conclusion that reconstruction with the TRAM flap leads to a better cosmetic result.

Another trend observed is the increasing performance of breast reconstruction at the time of the mastectomy. Many studies support the safety of this type of a procedure. The benefit to the patient is now unquestioned. In 1988, ten of the reconstructions were done immediately and 9 in a delayed fashion. In 1993, 18 reconstructions were done immediately and only 4 in a delayed fashion.

Finally, the widespread use of the TRAM flap has led to the ability to salvage the patient with chest wall recurrence following radiation. Several patients have undergone extensive chest wall resections which can be reconstructed using the TRAM flap.

In conclusion, we have seen that Milwaukee reflects national trends in the treatment of breast cancer. Estimates of the numbers undergoing reconstruction nationwide range from 5 to 20%. There are definite trends toward the greater use of autologous tissue, primarily the TRAM flap, and reconstruction being done at the time of the mastectomy.

Paul W. Loewenstein, MD
The use of ionizing radiation to treat patients with cancer of the breast started within a few years of the discovery of X-rays by Wilhelm Roentgen in 1895. Early practitioners of radiation therapy benefited their patients by improving the local control of breast cancer and relieving or decreasing their symptoms produced by advanced disease. Modern radiotherapy rational and techniques pursue these same goals for patients, but with a better defined understanding of how to more frequently achieve the desired patient outcomes with the least treatment related acute and long term morbidity.

Additionally, new questions about the application of radiation therapy and/or methods of delivery for breast cancer patients are being asked with the advent of more limited surgical techniques, better screening methods which identify earlier disease, and systemic treatments effective in preventing and/or delaying distant relapse. Many issues posed by these changes in breast cancer and its treatment are currently being addressed in clinical trials in which patients at St. Luke's may participate.

Post-operative radiation therapy for breast cancer is utilized to improve local control. It is delivered following breast conserving surgery in patients with early cancer, after mastectomy in patients with large primary tumors (>5 cm) and/or with extensive regional node involvement (>4 nodes or 25% of axillary lymph nodes involved). In both situations, randomized trials have documented a reduction in the local recurrence rate from 20-40% without post-operative radiation to 5-10% with post operative radiation at 5-10 year follow-up. No definite benefit on survival is clearly apparent, but achieving local control, considering the problems which may be associated with uncontrolled local disease, adds significantly to the potential quality of an individual’s life.

Palliative radiation therapy for breast cancer is utilized to relieve symptoms in patients with advanced disease. Occasionally this may be aggressive local treatment in patients with advanced disease. This is something which is justified in such patients with cancer of the breast because of occasional long term survival, even with locally advanced disease at diagnosis. Shorter palliative courses, usually from 1-3 weeks are more commonly given to patients with distant metastasis to alleviate symptoms such as bone pain, neurologic problems from metastatic disease, or symptoms from visceral obstruction. Improvement in life quality, as measured by symptom relief, should be expected in 80% of the patients. This is usually achieved with a small investment of time, competitive costs, and minimal volume resulting in limited treatment side effects for the patient. When the patient’s symptoms originate from limited areas of disease involvement, radiation treatment is often preferable to systemic management alone because of the lack of whole body side effects during treatment, the rapidity of response of symptomatology, and the local eradication of the disease process. In many cases the need for continued systemic management of symptoms is significantly reduced or eliminated.
Current radiation research issues include efforts to decrease the late morbidity of post-operative radiation through improved techniques in radiation planning and efforts to limit both the treatment volumes and doses based on patient parameters. Issues related to the timing of systemic therapy and integration with radiation are also under investigation. Better methods for patient selection of different local treatment options based on pathologic and prognostic studies of the tumor are also being studied. The use of radiation therapy in non-invasive breast cancer is under extensive evaluation, since between 5-10% of the women diagnosed with breast cancer now present with this histologic pattern.

In summary, radiation therapy's major achievement is improvement in quality of life for patients with cancer of the breast. For women with early disease, breast conserving treatment is possible and often preferable, and for patients with advanced disease local symptoms are usually relieved.

Marcia J.S. Richards, M.D.

The incidence of breast cancer has been rising dramatically in the United States since 1982, based on data collected by the Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute. Over this period of time, incidence rates for in situ and localized invasive tumors have been said to increase, while rates for regional and distant tumors have remained stable. According to the National Cancer Data Base (NCDB), the percentage of in situ cancers increased between 1985 and 1988 but was essentially constant between 1988 and 1990. Because in situ carcinoma is identified only by mammography, this data suggests a plateau in the use of mammographic screening. When reviewing St. Luke's data, we note an increase in the incidence of breast cancer from 1988 to 1993 and little change in the percentage of regional and distant stage patients from 1988 to 1993, but unlike the NCDB, we note a decrease in the percentage of patients diagnosed with in situ carcinoma.
Surgery and radiation are LOCAL treatments for breast cancer, while chemotherapy and hormonal agents represent a SYSTEMIC approach. Immunotherapy is also a systemic modality but is still experimental.

Treatment is either ADJUVANT or PALLIATIVE. In the former, all palpable or gross disease has been surgically removed and only microscopic disease remains. Adjuvant treatment therefore aims to cure the patient of her breast cancer by preventing a relapse. In palliative treatment however, the breast cancer is not curable and the aim of therapy is to control the disease, thereby eliminating symptoms and prolonging life. When breast cancer has metastasized outside of the breast, it is generally incurable.

Whatever the aim of therapy, the drugs used may be the same.

The most frequently used hormonal agents in breast cancer are Tamoxifen, an anti-estrogen, and Megace, a progesterone-like drug. These drugs bind to proteins on the surface of breast cancer cells known as hormone receptors and theoretically interfere with cell growth. Typically these drugs work slowly and it may take weeks to see a response. Both are in pill form and are relatively easy to tolerate. Tamoxifen may cause or aggravate “hot flashes” in a third of women. Other side effects are very infrequent but potentially serious, such as blood clots, uterine cancer, and effects on the retina. Megace typically stimulates appetite, causes some fluid retention and may also cause blood clots.

Used in the adjuvant setting, Tamoxifen is the hormonal drug of choice. Following breast surgery (mastectomy or lumpectomy), a patient whose cancer cells demonstrate estrogen and progesterone receptors is prescribed 20 mg/day of Tamoxifen, for 2 to 5 years. Other “good side effects” include about a 40% decrease in the risk of a second breast cancer, a decrease in myocardial infarction and protection from osteoporosis. In the palliative setting, either hormonal agent is given for 8 to 12 weeks. If the patient responds, it is continued indefinitely or until the breast cancer becomes resistant to the drug. A patient who achieves a significant response to one hormonal agent is very likely to have another response to a second hormonal agent.

Breast cancer is fairly sensitive to chemotherapy. There are at least 15 drugs commercially available that may be used. The most active are Doxorubicin (Adriamycin) and Taxol. Chemotherapy works more quickly than hormonal agents and responses are more dramatic. In the adjuvant setting, chemotherapy is favored over hormones when the patient is younger (pre-menopausal), when the cancer lacks hormone receptors and when the risk of relapse is very high (e.g. many axillary lymph nodes with cancer). Usually combinations of 3 drugs are used, such as “CMF” (cyclophosphamide, methotrexate and 5-flourouracil). These are given in various schedules once or twice a month for at least 6 cycles. In recent years it has been found that dose-intensity, or giving enough of these drugs to substantially lower the white blood cell count, is as important as which drugs are used. When going for a cure, it is important to try not to reduce chemotherapy doses, and to deliver these on schedule. Autologous bone marrow transplantation represents the greatest dose-intensity of chemotherapy. It is still being studied and is currently reserved for patients whose chance of relapse is virtually certain.
Side effects common to most of these combinations include some nausea, hair loss, low white cell count (and therefore increased risk of infection), mucositis and fatigue. Adriamycin also has the additional toxicity of affecting the heart muscle, usually after cumulative large doses.

Chemotherapy for metastatic breast cancer is used when the disease is hormone resistant, when there is life-threatening visceral disease (e.g. liver metastasis), and in the younger patient. Therapy is continued until the maximum response is achieved or the cancer becomes resistant. Often, patients will receive a combination of both chemotherapy and hormones, either all at once, or in sequence.

In summary, chemotherapy and hormonal therapy for breast cancer treats the entire patient. The treatment should be individualized to the patient and the breast cancer. New drugs are needed to overcome resistant cancers and to cross the blood-brain barrier.

Margery Strack, MD

**SLMC 5-Year Survival - Breast Cancer**

By General Summary

Comparison of Breast Cancer Survival Rates for SLMC and SEER

<table>
<thead>
<tr>
<th>Stage</th>
<th>SLMC</th>
<th>SEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>76.4%</td>
<td>78%</td>
</tr>
<tr>
<td>Local</td>
<td>84.4%</td>
<td>93%</td>
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<tr>
<td>Regional</td>
<td>60.7%</td>
<td>71%</td>
</tr>
<tr>
<td>Distant</td>
<td>14.5%</td>
<td>18%</td>
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</table>

SEER survival rates, per Cancer Facts & Figures - 1993, are based on patients diagnosed between 1983-87, and followed through 1989. SLMC survival rates are based on 150 analytic breast cancer patients diagnosed and/or treated in 1988 and followed through 1993.

According to 1981-1987 SEER (Surveillance, Epidemiology and End Results) data, printed within Cancer Facts & Figures - 1993: The 5 year survival rate for localized breast cancer has risen from 78% in the 1940’s to 93% today. In situ (non-invasive) breast cancer survival approaches 100%. If the cancer has spread regionally, however, the survival rate is 71%, and for persons with distant metastases, the survival rate is 18%. Survival rates for St. Luke’s patients diagnosed in 1980 are displayed above and are similar to those published by SEER.
According to an article from Ca-A Cancer Journal for Clinicians: Trials have showed comparable outcomes for patients treated with CS + RT (conservative surgery + radiation therapy) and with mastectomy. At a National Institutes of Health Consensus Development Conference on the treatment of early-stage breast cancer in June 1990, data on CS + RT and mastectomy was reviewed. Based on the results of the trials, the panel concluded that breast conservation treatment is an appropriate method of primary therapy for the majority of women with Stage I and Stage II breast cancer, and is preferable because it provides survival equivalent to total mastectomy and axillary dissection while preserving the breast. Histology, patient age, tumor size, physical condition and of course, patient preference must be considered when treatment is being planned. The graphs above show that over 75% of breast cancer patients diagnosed or treated here at St. Luke's in 1988 and in 1993 were Stage I or II and may have been eligible for conservative surgery + radiation therapy.

AJCC STAGE BY FIRST COURSE OF TREATMENT - 1993 BREAST CANCER

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>IN SITU</th>
<th>STAGE I</th>
<th>STAGE II</th>
<th>STAGE III</th>
<th>STAGE IV</th>
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<tbody>
<tr>
<td>Surgery only</td>
<td>12</td>
<td>44</td>
<td>17</td>
<td>2</td>
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<tr>
<td>Radiation only</td>
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<tr>
<td>Surg, Rad</td>
<td>11</td>
<td>17</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Surg, Chemo</td>
<td>0</td>
<td>5</td>
<td>18</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Surg, Horm</td>
<td>0</td>
<td>6</td>
<td>14</td>
<td>0</td>
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<td>Chemo, Horm</td>
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<td>0</td>
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<td>0</td>
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<tr>
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<td>0</td>
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<td>3</td>
<td>13</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Surg, Rad, Horm</td>
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<td>14</td>
<td>7</td>
<td>1</td>
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<td>0</td>
</tr>
<tr>
<td>Surg, Chemo, Horm</td>
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<td>5</td>
<td>1</td>
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<tr>
<td>Rad, Chemo, Horm</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Surg, Rad, Chemo, Other</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<td>Surg, Rad, Chemo, BRM</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Surg, Rad, Chemo, Horm</td>
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<td>2</td>
<td>5</td>
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<td>0</td>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>TOTALS</td>
<td>24</td>
<td>93</td>
<td>91</td>
<td>17</td>
<td>15</td>
<td>8</td>
</tr>
</tbody>
</table>
The Vince Lombardi Cancer Clinic provides state of the art, comprehensive care, to persons diagnosed with cancer. It is committed to the goal of providing optimal medical and nursing care in an ambulatory setting. Therefore, the clinic is open 7 days a week to meet the needs of the patient’s home and work schedules. Our philosophy of care is patient/family centered. Diagnostic and therapeutic interventions are available in the clinic to maximize continuity of care (such as Chemotherapy, Immunotherapy, Symptom management).

The Vince Lombardi Cancer Clinic supports the Autologous Bone Marrow Reinfusion Program by providing apheresis services and pre and post transplant care. To provide total support to women who have undergone breast cancer surgery, members of the staff are certified breast form fitters. Breast Forms and foundation garments are available to women as a service of the clinic.

With the support of the Vince Lombardi Memorial Classic Funds, the Vince Lombardi Cancer Clinic offers cancer prevention education (such as breast self examination), early detection screenings, and funding for cancer-related research. The Vince Lombardi Cancer Hotline provides a link to the Wisconsin community. The Hotline receives calls from health professionals, patients, family members and interested consumers, requesting information about the latest approaches and research for treatment of specific cancers.

In 1993, three new research studies were funded:

- Management of diarrhea due to acute radiation bowel reaction
- Inherited pattern of dihydropyrimidine dehydrogenase deficiency
- A randomized study of Duoderm Hydrocolloid dressings vs. Nugel hydrogel dressings in the management of radiation skin reactions

The Vince Lombardi Cancer Clinic is committed to making cancer a preventable and controllable disease. The clinic strives to bring Southeastern Wisconsin the best cancer care possible.

Marija Bjegovich, RN
Vince Lombardi Cancer Clinic
AutoLOGous Bone Marrow REInfusion For Breast Cancer

High dose chemotherapy with autologous bone marrow/peripheral stem cell reinfusion has been available at St. Luke’s since 1991 as a therapeutic option for some women with breast cancer. Since April 1991 more than 65 women have undergone this treatment here. This therapy can offer improvements (over conventional chemotherapy/radiation therapy) in long term survival in women with Stage III or high risk Stage II disease. A select group of women with locally recurrent or metastatic disease (those with minimal tumor burden and chemotherapy responsive tumors) may also benefit from this approach.

This treatment is based on high dose chemotherapy. The reinfusion of autologous hematopoietic cells is carried out as a rescue from the marrow toxic side effects of the chemotherapy. The chemotherapy and reinfusion are done on an inpatient basis, with a 21 day average length of stay. For most patients, radiation therapy is given to the area of original disease on an outpatient basis beginning 40-50 days post reinfusion. This is done in order to help prevent local recurrence.

While this therapy offers hope for many women with aggressive breast cancer, it is not without risks and side effects. Most patients will experience nausea, vomiting, diarrhea and other chemotherapy related side effects. Patients are at risk for infection and bleeding during the period of myelosuppression following the treatment. Disease recurrence, in spite of aggressive therapy, is also possible. Future work in the Autologous Bone Marrow Transplant Program will focus on ways to further reduce treatment related toxicity and decrease the incidence of recurrence following high dose chemotherapy/stem cell reinfusion.

Robert Taylor, MD
ST. LUKE’S MEDICAL CENTER ABMT PROGRAM

The first Autologous Bone Marrow Transplant patient was “transplanted” at St. Luke’s Medical Center on April 5, 1990. As of June of 1994, 108 patients have undergone treatment for the following diseases:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Non-Hodgkin’s Lymphoma</td>
<td>4</td>
<td>2</td>
<td>10</td>
<td>4</td>
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<td>22</td>
</tr>
<tr>
<td>Hodgkin’s Disease</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>10</td>
</tr>
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<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Other (Sarcoma, Glioma, Ovarian cancer)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Breast Cancer, Adjuvant</td>
<td>0</td>
<td>1</td>
<td>14</td>
<td>10</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>Breast Cancer, Advanced</td>
<td>0</td>
<td>8</td>
<td>10</td>
<td>14</td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>TOTAL</td>
<td>9</td>
<td>13</td>
<td>40</td>
<td>30</td>
<td>16</td>
<td>108</td>
</tr>
</tbody>
</table>

All statistics are non-actuarial. Patients less than 3 months post ABMT are not included in the analysis below.

Non-Hodgkin’s Lymphoma (N = 21)

- Survival: 13 pts (62%)
- Median Survival: 19 mths
- Survival Range: 4-50 mths
- Disease Free Survival: 12 pts (57%)
- Median Disease Free Survival: 19.5 mths
- Disease Free Survival Range: 4-50 mths

Hodgkin’s Disease (N = 10)

- Survival: 7 pts (70%)
- Median Survival: 28 mths
- Survival Range: 4-46 mths
- Disease Free Survival: 7 pts (70%)
- Median Disease Free Survival: 28 mths
- Disease Free Survival Range: 4-46 mths

Multiple Myeloma (N = 3)

- Survival: 2 pts (66%)
- Median Survival 14 mths
- Disease Free Survival: 1 pt (33%)
- Median Disease Free Survival: 14 mths

Breast Cancer, Adjuvant (N = 28)

- Survival: 26 pts (92%)
- Median Survival: 17 mths
- Survival Range: 3-31 months
- Disease Free Survival: 23 pts (82%)
- Median Disease Free Survival: 16 mths
- Disease Free Survival Range: 3-31 mths

Breast Cancer, Advanced (N = 36)

- Survival: 14 pts (38%)
- Median Survival: 9.5 mths
- Survival Range: 3-32 mths
- Disease Free Survival: 10 pts (27%)
- Median Disease Free Survival: 6 mths
- Disease Free Survival Range: 3-32 mths

For more information regarding the ABMT program at St. Luke’s Medical Center, please call 649-6472 or 649-6540.
THE CANCER PROGRAM TEAM

The Cancer Program team is a dynamic representation of many disciplines from multiple departments and programs, such as: administration, inpatient and outpatient nursing, clinical nurse specialists, social services, women's health, pharmacy, dietary, ministry, autologous marrow transplant, immunotherapy and cancer outreach. This comprehensive team addresses all areas of cancer care from prevention and early diagnosis to the ongoing support and treatment follow-up for patients and families. Monitoring and care for survivors and program development is also addressed.

A major effort was initiated toward community outreach. Far too many people were developing cancers which were preventable. These concerns are being addressed with a focus on community education by the Cancer Outreach Coordinator through direct support from Vince Lombardi Memorial Classic Funding. A community based lecture series, education & screenings, and a physician-directed newsletter, are all part of the coordinator's activities. These activities are supported by the time and expertise of the Cancer Program team. Team members not only address issues with both patients and loved ones to promote total well being of the family, they work with consumers and community based organizations to help facilitate the goal of making cancer a curable or controllable disease.

Marija Bjegovich, RN
In recognition of Breast Cancer Awareness Month in October 1993, St. Luke's Medical Center Cancer Program presented a free public education program featuring Susan Ford Bales, the daughter of former President Gerald Ford and Mrs. Betty Ford.

Susan, a national spokesperson for breast cancer awareness for the past nine years, is recognized as one of the most visible advocates for breast cancer awareness. In her moving presentation, she shared her story as the daughter of a woman with breast cancer, emphasizing the importance of early detection and proper treatment. Marcia J.S. Richards, M.D., Medical Director of Radiation Oncology at St. Luke's, also spoke on the latest advancements in breast cancer treatment and research.

The event drew an audience of 300 women and men to the Italian Community Center. In addition to the educational presentations, St. Luke's cancer care specialists were available at educational booths to provide information about breast cancer prevention, detection, screening and treatment.

Earlier in the day, Susan discussed her story with reporters and representatives from the Lombardi Foundation. The program was made possible through support from the Vince Lombardi Memorial Classic.

Mary Fields

Susan Ford
For people whose lives have been touched by cancer, support groups provide education, a sharing of experiences, and inspiration. St. Luke's Medical Center offers support groups that meet the needs of a variety of individuals.

Support groups offer people a time to gather together for hope, information, education and friendship. For one of the women in the ovarian cancer awareness group, "The support group has given me the chance to make changes in my life and learn to deal with this illness during my recovery. It has given me the opportunity to meet other women who have gone through treatment and see their courage and give me hope. I also have new friendships who I see as an inspiration to me and have a greater appreciation of my friends."

"Make Today Count", brings together people with cancer or other life-threatening illnesses so they can help each other learn to live in a positive, meaningful manner. For the men and women that make today count, each day is a gift to be enjoyed as fully as possible.

For the child who must cope when a parent has cancer, the "Kids Connection" provides an avenue for kids to express their fears and concerns in a nurturing environment. Innovative interventions and creative activities are used to facilitate expression of feeling.

Connection to others is a cornerstone for support groups. "Your Caring Connection" enables persons diagnosed with cancer, family members, and friends to discuss their experience of living with cancer. Through sharing their stories, people discover similarities in their experiences and learn from others how to cope and enjoy life.

The newest support group brings together the men and women who have undergone an Autologous Bone Marrow Transplant. This support group meets monthly on the first Thursday of the month from 6:30 pm to 8:00 pm in the Vince Lombardi Cancer Clinic. One patient, when asked why he came, said "I know it's hard but you can do it. I came to help the next person get through it." Among members of the support group, encouragement and hope are shared.

Kerry Twite, RN, MSN, OCN
Jeannette Wade, RN, BSN
Mary Schmidt, RN, MS, OCN
Many ongoing support groups are offered by St. Luke's Medical Center to the surrounding community. The support groups available cater to a wide variety of needs. Here are the groups offered for cancer support and grief support:

**Cancer Support**

"Kids Connection," A support group to help children, ages 5 through 15, cope when a parent has cancer. FREE. Registration is required. Call the Vince Lombardi Cancer Hotline at 649-7200, for specific times and dates.

"Make Today Count," A support group for families and persons with cancer or other life-threatening illnesses, sponsored by St. Luke's Medical Center, it is held the fourth Thursday of each month from 7:30-9 p.m. at Cudahy United Methodist Church, 5865 S. Lake Dr. FREE. Call the Vince Lombardi Cancer Hotline at 649-7200.

"Your Caring Connection," A support group for patients experiencing cancer, their families and friends, is held at the Vince Lombardi Cancer Clinic, at St. Luke's Medical Center, on the second and fourth Monday of each month, from 6:30-8 p.m. FREE. Call the Vince Lombardi Cancer Hotline at 649-7200.

"Ovarian Cancer Awareness Group," A support group for women with ovarian cancer, their families and women who feel at risk for ovarian cancer, is held at St. Luke's Medical Center, the first Tuesday of each month from 6:30-8 p.m. FREE. Call the Vince Lombardi Cancer Hotline at 649-7200.

"Bone Marrow Support Group," meets on the first Thursday of each month from 6:30-8 p.m. at the Vince Lombardi Cancer Clinic. For more information, call the Vince Lombardi Cancer Hotline at 649-7200.

**Grief Support Groups:**

"Loss of Parent for Adults," support group meets Thursdays for six weeks, from 6:30-8:30 p.m., is held at St. Luke's Medical Center. A $10 donation is suggested, but may be waived. For more information, call 649-7315.


"Recently Widowed," A support group meets on Tuesdays from 1-3 or 7-9 p.m. at St. Luke's Medical Center. A $10 donation is suggested, but may be waived. For more information, call 649-7315.

"Survivors Helping Survivors," A self-help group for persons mourning the death of a loved one by suicide, is held the second Tuesday of each month from 7-9 p.m. at St. Luke's Medical Center. FREE. For more information, call 649-6230.

For more information on these and other support groups available at St. Luke's Medical Center, please call 649-7114.
Cancer Registry Report

In 1993, the Cancer Registry at St. Luke's Medical Center accessioned 1,483 new cases: 1,330 analytic and 153 non-analytic. Of these new cases, 59% (875) of the patients were first diagnosed here and 30% were diagnosed elsewhere and received their first course of treatment here. The five most common cancer sites in 1993 were breast, skin, lung, prostate, and colon which is consistent with Wisconsin predictions. According to the American Cancer Society's Cancer Facts & Figures 1993, the most common estimated sites for Wisconsin in 1993, (not including Basal Cell Carcinoma or Squamous Cell Carcinoma of the skin) were to be prostate, breast, colon/rectum, and lung. At St. Luke's, females accounted for slightly over half of the new cases (50.8%) with males accounting for 49.2%. A majority of the patients (1,122 or 76%) were between the ages of 55 and 84. Malignancy was confirmed by tissue confirmation in over 97% of the cases. Adenocarcinoma was the most frequent histology followed by Infiltrating Duct Cell Carcinoma, Squamous Cell and Basal Cell Carcinomas.

The Cancer Registry data base now includes information on over 22,000 cancer patients, approximately 5,000 of which are being followed on an annual basis. With the assistance of physicians, office staff, area hospitals and fellow Cancer Registrars, we have maintained a 98% follow-up rate. The remaining 2%, our lost to follow-up patients, are well within the 10% allowed by the American College of Surgeons.

The registry supplies data to physicians, administrative staff, and others for research, surveys, and marketing. We have participated in various studies and audits and always appreciate the opportunity to supply needed data to requestors. The graphs and charts throughout this 1993 Cancer Program Report can only present a brief overview of cancer diagnosis and treatment at St. Luke's Medical Center. Comparisons to State and National data, with narratives, have been done when available. For further information, please direct requests to the Cancer Registry Staff at 649-6720.

Sandy Blixt, RRA
Cancer Registry Coordinator

According to Cancer Facts & Figures - 1993: The following is a comparison of national and state estimates for cancer diagnosis and St. Luke's Medical Center (SLMC) 1993 actual figures. It reveals a higher than estimated number of breast cancer cases but a lower than expected distribution of prostate and colorectal cancer here at St. Luke's.

<table>
<thead>
<tr>
<th>SITES</th>
<th>1993 - U.S.A. (Estimated no. of cases)</th>
<th>1993 - WISCONSIN (Estimated no. of cases)</th>
<th>1993 - SLMC (Actual no. of cases)</th>
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</thead>
<tbody>
<tr>
<td>Breast</td>
<td>182,000 (15.6%)</td>
<td>3,600 (15.7%)</td>
<td>246 (16.6%)</td>
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<tr>
<td>Lung</td>
<td>170,000 (14.5%)</td>
<td>2,800 (12.2%)</td>
<td>210 (14.2%)</td>
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<tr>
<td>Prostate</td>
<td>165,000 (14%)</td>
<td>3,800 (16.5%)</td>
<td>147 (10%)</td>
</tr>
<tr>
<td>Colorectal</td>
<td>152,000 (13%)</td>
<td>3,200 (13.5%)</td>
<td>150 (10.1%)</td>
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1993 CANCER ANNUAL REPORT STATISTICS

Class Of Case At Diagnosis

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<thead>
<tr>
<th>Number Of Cases</th>
<th>Class Of Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Class 0 - First Diagnosed At This Facility And All First Course Of Therapy Elsewhere</td>
</tr>
<tr>
<td>875</td>
<td>Class 1 - First Diagnosed And All Or Part Of First Course Of Therapy Done At This Facility</td>
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<tr>
<td>446</td>
<td>Class 2 - First Diagnosed Elsewhere And All Or Part Of First Course Of Therapy Done At This Facility</td>
</tr>
<tr>
<td>151</td>
<td>Class 3 - First Diagnosed And All Of First Course Of Therapy Elsewhere, Subsequent Courses Of Therapy At This Facility</td>
</tr>
<tr>
<td>2</td>
<td>Class 5 - First Diagnosed At Autopsy, An Incidental Finding Of Cancer At Time Autopsy Performed</td>
</tr>
</tbody>
</table>

1993 Site Distribution

- Breast: 248 cases
- Skin: 216 cases
- Lung: 210 cases
- Prostate: 147 cases
- Colon: 103 cases
- Bladder: 61 cases
- Rectum, Rectosigmoid Junction: 47 cases
- Lymph Nodes: 39 cases
- Kidney, Renal Pelvis: 38 cases
- Hematopoietic System: 36 cases
- Endometrium: 32 cases
- Pancreas: 31 cases
- Brain, CNS: 31 cases
- Lip, Oral Cavity, Pharynx: 25 cases
- Ovary: 25 cases
- Cervix: 25 cases
- Stomach & Ill-Defined Digestive Organs: 22 cases
- Thyroid: 22 cases
- Liver, Gallbladder, Bile Ducts: 22 cases
- Male Genitalia: 16 cases
- Thymus, Heart, Mediastinum: 14 cases
- Female Genitalia: 14 cases
- Soft Tissue: 9 cases
- Esophagus: 8 cases
- Eye & Lacrimal Gland: 7 cases
- Small Intestine: 7 cases
- Trachea: 7 cases
- Accessory Sinuses: 1 case
- Peritoneum: 1 case

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1993 CANCER ANNUAL REPORT STATISTICS

1993 New Case Distribution By Age

Total number of Patients Accessioned: 1,483
Female: 754  (50.8%)
Male: 729  (49.2%)

DIAGNOSTIC CONFIRMATION

<table>
<thead>
<tr>
<th>Type of Confirmation</th>
<th>Number of Cases/Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSITIVE HISTOLOGY</td>
<td>1386 (93.5%)</td>
</tr>
<tr>
<td>POSITIVE CYTOLOGY</td>
<td>53 (3.6%)</td>
</tr>
<tr>
<td>POSITIVE MICROSCOPIC</td>
<td>1 (.1%)</td>
</tr>
<tr>
<td>LABORATORY TEST/</td>
<td>2 (.1%)</td>
</tr>
<tr>
<td>MARKER STUDY</td>
<td></td>
</tr>
<tr>
<td>VISUAL CONFIRMATION</td>
<td>6 (.4%)</td>
</tr>
<tr>
<td>RADIOGRAPHIC</td>
<td>18 (1.2%)</td>
</tr>
<tr>
<td>CLINICAL DIAGNOSIS</td>
<td>13 (.9%)</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>4 (.3%)</td>
</tr>
</tbody>
</table>

Over 97% of all SLMC cancer cases in 1993 were microscopically diagnosed. This helped determine the cell type and other characteristics of the tumor which is used in treatment planning and sometimes to identify the primary site or the extent of tumor spread. Cancers not diagnosed microscopically tended to be cases for which surgery was not performed or for which further work-up was not provided due to the patient's refusal or death, or on the advice of the physician.
For most types of cancer, the extent of tumor spread at the time of initial diagnosis contributes to prognosis. Treatment of cancers diagnosed before spread is more often treated by surgery or by radiotherapy of a small area, while cancers that have spread require more systemic treatment. The charts reveal that in 1993, 4.2% of our patients were diagnosed with in situ disease and 53.6% were diagnosed with local disease. Almost 17% of our patients were diagnosed with distant disease. A comparison is made between 1993 SLMC (St. Luke's Medical Center) data, 1992 state of Wisconsin data (most current figures available) and 1983-87 SEER Program data. A comparison of stage at diagnosis for skin cancer is not available since the Wisconsin Cancer Reporting System and SEER exclude non-melanomas of the skin from their published totals and we include them. St. Luke's has a larger percentage of lung, colon, and prostate cancer patients diagnosed with local disease than both Wisconsin and SEER. Other figures vary with our facility averaging between those of Wisconsin and SEER in many cases.
Stage at diagnosis comparisons for skin carcinomas are not available for state and national figures. These figures include Basal Cell Carcinomas and Squamous Cell Carcinomas in addition to Melanomas and other skin cancers.

**Skin (216 patients)**

In situ: 10 (4.6%)
Local: 201 (93.1%)
Regional: 2 (0.9%)
Distant: 1 (0.5%)
Unknown: 2 (0.9%)

**Lung (210 patients)**

In situ: 10 (4.6%)
Local: 201 (93.1%)
Regional: 2 (0.9%)
Distant: 1 (0.5%)
Unknown: 2 (0.9%)

---

*1993 SLMC 1992 WI 1983-87 SEER*

<table>
<thead>
<tr>
<th></th>
<th>1993 SLMC</th>
<th>1992 WI</th>
<th>1983-87 SEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>39%</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td>Regional</td>
<td>25%</td>
<td>30%</td>
<td>32%</td>
</tr>
<tr>
<td>Distant</td>
<td>31.9%</td>
<td>38%</td>
<td>37%</td>
</tr>
</tbody>
</table>

---

216
### Prostate (147 patients)

<table>
<thead>
<tr>
<th></th>
<th>*1993 SLMC</th>
<th>1992 WI</th>
<th>1983-87 SEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>74.8%</td>
<td>69%</td>
<td>58%</td>
</tr>
<tr>
<td>Regional</td>
<td>10.2%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Distant</td>
<td>10.2%</td>
<td>7%</td>
<td>18%</td>
</tr>
</tbody>
</table>

### Colon (103 patients)

<table>
<thead>
<tr>
<th></th>
<th>*1993 SLMC</th>
<th>1992 WI</th>
<th>1983-87 SEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>36.9%</td>
<td>33%</td>
<td>34%</td>
</tr>
<tr>
<td>Regional</td>
<td>33%</td>
<td>41%</td>
<td>40%</td>
</tr>
<tr>
<td>Distant</td>
<td>18.4%</td>
<td>16%</td>
<td>20%</td>
</tr>
</tbody>
</table>
TUMOR BOARD CONFERENCE:
Conferences were held on the first, second and fourth Mondays of every month at noon. A new format began in 1993 with a physician and pathologist, working together as co-moderators, identifying potential cases for presentation and discussion at Tumor Conference. Moderators included representatives from Radiation Oncology, Medical Oncology, Surgery, Urology, and Pathology. This patient oriented, multi-disciplinary conference has the advantage of a moderating pathologist who identifies and provides “newly diagnosed” and/or uncommon cancers cases immediately. The second moderator, a specialist, may select his/her own current cases or choose those of other physicians. The cases are then given to the Cancer Registry who contacts Laboratory Medicine, Radiology, Nuclear Medicine and other departments to request the slides and films necessary for case presentation. A summary of the patient’s work-up and treatment to date is then typed for distribution at the conference. All physicians involved in the cases are invited to attend. The conferences provide a setting for interdisciplinary discussion of treatment options and at the same time a teaching experience for residents, medical students and hospital employees. The conferences have an average attendance of 40. For more information regarding the Tumor Conference, or to make arrangements to have a case presented, please call 649-6720.

Tumor Conference - Review of Cancer Sites

<table>
<thead>
<tr>
<th>Site</th>
<th>No. of Cases</th>
<th>Site</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>15</td>
<td>Small Intestine</td>
<td>2</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>12</td>
<td>Pancreas</td>
<td>2</td>
</tr>
<tr>
<td>Breast</td>
<td>10</td>
<td>Appendix</td>
<td>2</td>
</tr>
<tr>
<td>Brain/CNS</td>
<td>8</td>
<td>Liver</td>
<td>2</td>
</tr>
<tr>
<td>Hodgkin’s Disease</td>
<td>5</td>
<td>Pituitary</td>
<td>2</td>
</tr>
<tr>
<td>Bladder</td>
<td>5</td>
<td>Ovary</td>
<td>2</td>
</tr>
<tr>
<td>Stomach</td>
<td>5</td>
<td>Histiocytoma</td>
<td>2</td>
</tr>
<tr>
<td>Endometrium</td>
<td>5</td>
<td>Esophagus</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>Leukemia</td>
<td>1</td>
</tr>
<tr>
<td>Thyroid</td>
<td>4</td>
<td>Melanoma</td>
<td>1</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>4</td>
<td>Sarcoma</td>
<td>1</td>
</tr>
<tr>
<td>Prostate</td>
<td>3</td>
<td>Thymoma</td>
<td>1</td>
</tr>
<tr>
<td>Kidney</td>
<td>3</td>
<td>Kaposi’s Sarcoma</td>
<td>1</td>
</tr>
<tr>
<td>Testis</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HEAD AND NECK TUMOR CONFERENCE:
Conferences were held on the third Monday of every month at noon. They were held to discuss selected difficult head and neck tumors from a multi-disciplinary approach. Some of the sites discussed include the sphenoid, ethmoid, maxillary sinus, tongue, larynx, piriform sinus, nasal sidewalls, trachea, and lymphomas. For more information regarding the Head and Neck Tumor Conference, please call 649-3900.
June 7, 1993  The Role of Mammography  
Edward A. Sickles, M.D.  
Professor of Radiology  
University of California - San Francisco  

Sponsored by the Schroeder Fellows Program in  
Clinical Oncology

September 18, 1993  The First Annual St. Luke’s Schroeder Cancer  
Conference For Physicians  

Sponsored by the Schroeder Fellows Program in  
Clinical Oncology

“Teen Management of Esophageal Cancer”  
David J. Sugarbaker, M.D.  
Associate Professor of Surgery  
Chief, Division of Thoracic Surgery  
Lung Transplant Program  
Harvard Medical School  
Brigham and Women’s Hospital  
Boston, MA

“PSA and Prostate Cancer: What Physicians  
Need To Know”  
Joseph E. Oesterling, M.D.  
Associate Professor of Urology  
Mayo Clinic  
Rochester, MN  
Editor-in-Chief, Urology

“Hereditary Cancer and Cancer Genetics”  
Robert R. Lebel, M.D.  
Genetic Services  
Elmhurst, IL

“The Management of Minimally Invasive  
Breast Cancer”  
Richard G. Margolese, M.D., FRCS (C)  
McGill University  
Director of Clinical Oncology  
McGill Comprehensive Cancer Center  
Director, Department of Oncology  
Sir Mortimer B. Davis Jewish General Hospital  
Montreal (Quebec), Canada

September 29, 1993  High Dose Chemotherapy in Primary and Metastatic  
Breast Cancer  
William Peters, M.D.

October 7, 1993  The Immunotherapy of Solid Tumors  
D. Schwartzentruber, M.D.  
Security Bank Lecture
COMMUNITY EDUCATION

January 21, 1993  “Cancer Prevention and Early Detection”
Paul P. Hartlaub, MD, Assistant Professor,
Family Medicine & Practice
Sharon Thompson, Registered Dietitian
Becky Pogacor, RN, Pulmonary Medicine
Kerry A. Twite, RN, Clinical Nurse Specialist

March 1, 1993  “Prostate Cancer - What You Need to Know”
Stuart Fine, MD, Urologist

May 20, 1993  “Survivorship: Living With, Through, and Beyond Cancer”
Susan Leigh, RN, President of the National Coalition for Cancer Survivorship

July 22, 1993  “Skin Cancer: Advancements in Treatment
Overview of Skin Cancer, Radiation Therapy & Skin Cancer, Immunotherapy and Melanoma”
Thomas J. Russell, MD
James E. Bruckman, MD
John P. Hanson, MD
GLOSSARY

Adjuvant Chemotherapy: One or more anti-cancer drugs used in combination with (in addition to) surgery or radiation therapy as a part of cancer treatment.

Analytic Cases: Cases which are first diagnosed and/or given their first course of treatment at St. Luke's Medical Center.

Biopsy: A procedure where a piece of tissue or fluid (a group of cells) is taken from a person's body and examined with a microscope to see if the cells are normal or not.

Bone Marrow: The soft, spongy center of the bone, the "factory" that produces blood.

BRM: (Biological Response Modifier) Any agent that boosts the body's immune system by stimulating it, modifying it or restoring it.

Chemotherapy: Treatment with powerful drugs that attack cancer cells.

Clinical Trials: Studies designed to evaluate promising new treatments by helping researchers learn which approaches are more effective than others.

Combined Therapy: Refers to any combination of surgery, radiation, chemotherapy, hormone therapy or other therapy administered jointly as a single course of treatment.

Diagnostic Only: Cancer related treatment was not given due to the patient refusing treatment or his/her general condition being unsatisfactory for treatment.

Diethylstilbestrol: (DES) A synthetic estrogenic compound prescribed in the past to prevent spontaneous abortion.

Distant Stage: A neoplasm that has spread to other organs or lymph nodes from the primary tumor.

First Course Treatment: The tumor directed treatments started within the first four months after diagnosis.

Immunotherapy: Use of the immune system or the products of the immune system to control, damage, or destroy malignant cells.

In situ: A tumor classified microscopically as in situ, non-invasive, pre-invasive, non-infiltrating, intraductal, intraepithelial or intraepidermal.

Local Stage: Tumor restricted to the organ of origin, but may be invasive or infiltrating within the organ of origin.

Lump: A thickness under the skin that can be felt by the fingers, either by the person who has it or by a doctor. A lump can be a sign of cancer, but most lumps are not cancerous.

Lumpectomy: Surgical removal of the cancerous portion of the breast and a small amount of surrounding tissue.

Lymph: A nearly clear fluid collected from tissues around the body and returned to the blood via the lymphatic system.

Lymphedema: Unilateral or bilateral edema of the extremities due to accumulation of interstitial fluid as a result of stasis of lymph, which is secondary to obstruction of lymph vessels or disorders of the lymph nodes.

Lymph Nodes: Small bean-shaped structures scattered along the vessels of the lymphatic system. The nodes filter bacteria and cancer cells that may travel through the system.

Mammography: A low-dose X-ray of the breast that can detect cancer in the early stages.

Metastasis: The spread of cancer from its original site to distant areas. The cancer cells are carried to distant sites by blood and lymph.

Non-Analytical: Cases which are seen at St. Luke's Medical Center after the first Course of treatment.

Palliative Treatment: The use of medical remedies to relieve pain, symptoms, and/or prevent further complications rather than to cure.

Partial Mastectomy: Surgical removal of up to one quarter of the breast tissue and all or some of the lymph nodes in the armpit.

Prognostic Indicators: A symptom or sign on which a prognosis may be based.

Prone Position: Lying face downward.

Radiation Therapy: Treatment with high-energy radiation from x-rays or other sources of radiation that damages or kills cells.
GLOSSARY

Radical Mastectomy: The removal of the breast and skin, the underlying muscle of the chest wall, the axillary lymph nodes, and fat tissue.

Regional Stage: A tumor that has extended beyond the limits of the organ of origin into 1) surrounding organs or tissues by direct extension, 2) regional lymph nodes by metastasis, or 3) a combination of 1 and 2 and appears to have spread no further.

Recurrence: The return of cancer after a disease-free interval.

Regression: Growing smaller or disappearing. Used to describe shrinkage or disappearance of a cancer.

Risk Factors: Factors such as age, early onset of menstruation, late menopause, and family history of breast cancer that may increase the risk of breast cancer.

Stage: A term used to describe the size and extent of spread of the cancer.

TRAM Flap: (Transverse Rectus Abdominus Musculocutaneous Flap) Uses tissue from the lower abdominal wall overlying the rectus abdominus muscle area. The tissue from this area is often sufficient to create a breast shape satisfactory enough not to require an internal implant.

REFERENCES


National Cancer Data Base Annual Review of Patient Care - 1993, American Cancer Society, Inc., Atlanta, Georgia.