

ONCOLOGY REPORT 2016



A Look at *Breast Cancer*
Prevention, Detection and Treatment



Our Lady of Bellefonte Hospital

Breast Cancer: *the Cell, the Genes, the Patient*

by Kirti Jain, M.D.



Kirti Jain, M.D.
Oncologist

A report from the Cancer Committee Chairman

As noted in my last chairman's letter, oncology is undergoing a revolution currently. The learned knowledge is completely changing how we think of cancer and its treatment, turning it upside down. Breast cancer is no exception. At OLBH, every year we designate one common cancer as our focus for the year. For 2016, it was breast cancer.

In the last few years, we have learned about breast cancer stem cells to better understand the biologic properties of breast cancer, have figured out that breast cancer is not one but multiple diseases, have deepened our understanding of how lifestyle factors influence the risk of developing breast cancer, advanced our understanding of inheritance of breast cancer, developed a comprehensive database of breast cancer genes, have used genes to predict which low risk cancers require less treatment avoiding toxicity to countless people, have developed better algorithms for prediction of breast cancer risk, predicted risk of recurrence with greater accuracy using prognostic markers leading to more optimal treatments, learned that one size does not fit all and personalized treatments have become the standard rather than exception, precision therapy has become incorporated into the treatment regimen, have started harnessing our own immune systems better to prevent and fight cancer everywhere in the body – and the list goes on!

“We approach these with the healthy mix of enthusiasm, vigilance and more importantly, a human touch.”

– Kirti Jain, M.D.

At OLBH, we are committed to offering patients state-of-the-art treatments. It means staying current with the rapidly expanding knowledge base through multiple channels of learning, providing each patient the benefit of multidisciplinary therapy through cancer conference and offering clinical trials to advance the knowledge as well as providing an option of the cutting-edge therapies to our patients.

One effect of all these advances is increasing the number of breast cancer survivors. There are greater than three million breast cancer survivors in the United States – more than from any other cancer. To put that number in perspective, consider the fact that 20 out of 50 U.S. states have a population less than three million. The sheer number of survivors shows great strides that have been made in awareness, early detection and treatment of breast cancer. With an increasing number of all-cancer survivors (close to 15 million today – only four states have population greater than 15 million!), the life issues of survivors has given birth to a new science – cancer survivorship.

As the treatment for breast cancer ends, the patient is confronted with a new set of issues and concerns. Physical side effects can include fatigue, lymphedema, infertility and premature menopause; mental issues may include difficulties in concentrating and memory problems; emotional challenges can manifest as anxiety, depression, body image and sexual adjustments; known long term side effects include increased risks of some cancers while unknown side effects may exist with the long term toxicities of newer therapies; social problems must also be considered like discrimination at work and insurance coverage – these concerns are but a few!

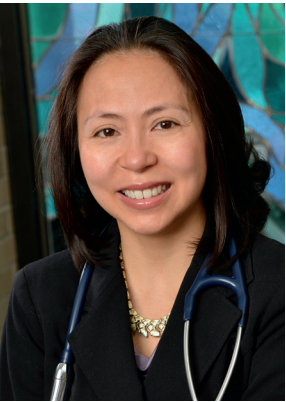
Once again, OLBH is at the forefront of it. We are actively implementing survivorship recommendations of expert panels, better coordinating care between providers, educating our patients, treating these symptoms early and monitoring them for the long term.

We are cognizant that new frontiers and new opportunities also bring about a new set of challenges. And as always, we approach these with the healthy mix of enthusiasm, vigilance and, more importantly, a human touch.

Kirti Jain, M.D.
Chairman, Cancer Committee

Advances in Breast Cancer Treatment

by Anna Melissa Murillo, M.D.



Anna Melissa Murillo, M.D.
Oncology/Hematology

In 2016, an estimated 246,660 new cases of invasive breast cancer were expected to be diagnosed in women in the U.S., along with 61,000 new cases of non-invasive breast cancer. Approximately 2,600 new cases of invasive breast cancer were expected to be diagnosed in men in 2016. Last year, there were more than 2.8 million women with a history of breast cancer in the U.S. This includes women currently being treated and women who have finished treatment.

However, this is not the full story. Breast cancer incidence rates in the U.S. began decreasing in the year 2000, after increasing the previous two decades. Rates dropped by seven percent from 2002 to 2003 alone. One theory is the decrease was partially due to the reduced use of hormone replacement therapy (HRT) by women after the results of a large study called the Women's Health Initiative were published in 2002. These results suggested a connection between HRT and increased breast cancer risk. Death rates from breast cancer have been decreasing since 1989. Women under age 50 have experienced larger decreases in the death rate from cancer. These decreases are thought to be the result of treatment advances, earlier detection through screening and increased awareness.

We have made many advances in the treatment of breast cancer over the years. We no longer treat cancer simply by its type or stage. In the era of precision medicine, treatments are now based on the genomic profile of each patient and the tumor. We manage once-debilitating side effects to the point that many patients can continue their daily activities during treatment, and can even continue to work while undergoing treatment. The focus on the genetic and molecular makeup of breast cancer will continue to reveal how the disease works and how the body can be mobilized to fight it. Breast cancer is made up of many types and sub-types and each patient is different. There is a shift toward a greater and more thorough understanding of the biology of each subtype of cancer. The more we understand about the exact molecular mechanisms of cancer, the more we will be able to identify therapies that will be more effective than the drugs we have now, many of which simply kill all cells that divide, rather than just

breast cancer cells. We will see increased use of molecular profiling tools that result in more personalized treatment regimens.

Targeted therapy focuses precisely on molecules in or on cancer cells or in the tissue surrounding a tumor. Genetic changes can cause cells to make too much of a certain protein or to produce abnormal proteins. Targeted therapy works by blocking or switching off such proteins that cause the cells to keep growing and dividing. Several recent advances illustrate how specific molecular vulnerabilities in cancer can be exploited to develop powerful new treatments.

One of the most promising treatments for cancer is immunotherapy. The immunotherapy concept is simple: unleash or enhance the body's immune system to attack cancer cells. It has proven extremely difficult, however, to develop treatments that deliver real, consistent results and immunotherapy for breast cancer is not yet available.

The year 2015 brought an entirely new treatment option for women with ER-positive advanced breast cancer. This is the most common type of breast cancer, accounting for two thirds of cases. ER-positive breast tumors need the hormone estrogen to grow. Blocking estrogen production or its receptor is the cornerstone of ER-positive breast cancer therapy. In recent years, scientists discovered that proteins called CDK4 and CDK6 also play a critical role in ER-positive breast cancer growth. Two large clinical studies subsequently showed that blocking CDK4 and CDK6 with the new oral drug palbociclib improved patient outcomes. In February 2015, the FDA granted accelerated approval of palbociclib to be used with letrozole as initial therapy for women with ER-positive, HER2-negative advanced breast cancer.

We continue to make advances in the understanding of the complex interplay between cells that cause cancer cells to grow and in understanding how to utilize this knowledge to produce treatments that help patients fight, and sometimes, even beat the disease. It is an exciting time for our patients because we are learning new ways to help them in their fight against cancer.



OLBH Accredited by Commission on Cancer

OLBH has received accreditation from The Commission on Cancer (CoC). There are approximately 1,500 CoC accredited cancer programs in the United States and Puerto Rico. Patients who obtain care at a CoC accredited cancer program can be confident in knowing they will receive:

- Quality cancer treatment
- Comprehensive care offering a range of state-of-the-art services and equipment
- A multidisciplinary, team approach to coordinate cancer treatment
- Access to cancer related information and education
- Options for genetic assessment and counseling, as well as palliative care services
- Information concerning clinical trials and new treatment options
- Follow-up care at the completion of treatment which includes a survivorship care plan
- A cancer registry that collects data on cancer type, stage, and treatment results, and that offers life-long patient follow-up

In order to achieve accreditation, OLBH undergoes a voluntary evaluation of diagnostic, treatment and support service. OLBH is committed to providing high-quality cancer prevention, treatment and patient-centered care as evidenced by its CoC accreditation. To learn more visit facs.org/cancer.

ONCOLOGY TEAM



Christi McKinney, MSN, RN, OCN, Director of Oncology Services



Nikki Layne, BSN, RN, Clinical Trials Coordinator



Barb Fitzpatrick, CTR, Cancer Registrar

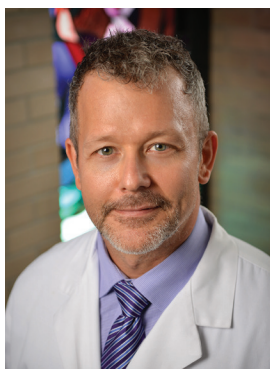


Margaret Ward, APRN, Breast Care Navigator



Leigh Ann Holt, RN, Lung Health Navigator

Physicians who perform breast surgery at Our Lady of Bellefonte Hospital



Tim Jones, M.D.



Carlos Malave, M.D.



Deborah Chadwick, M.D.



James H. Martin, Jr., M.D.

What is *Lymphedema?*



Amber Schweickart,
OTR/L

The lymphatic system is essentially a drainage network that has two major roles in your body: 1) it maintains the balance of fluid by working right along with the cardiovascular system and 2) it plays a key part in the immune system by recognizing toxins and foreign substances (protein, waste, cellular debris, bacteria, viruses). The toxins and foreign substances are filtered, broken down and eliminated through lymph nodes located primarily in your neck, armpits, and groin.

When the lymph vessels are unable to transport lymph fluid back into circulation, it accumulates resulting in swelling. If left untreated, it may result in hardening of skin tissue. This buildup of protein rich lymph fluid is known as lymphedema. Removal of lymph nodes or trauma to the lymphatic system increases the chances of lymphedema occurring.

LYMPHEDEMA SIGNS AND SYMPTOMS

Just as with breast cancer, detecting lymphedema early increases the likelihood of successful treatment. Early detection can be challenging, though, because first symptoms are often subtle. Lymphedema occurs as a gradual onset. A change of just two centimeters in the circumference of the arm can suggest lymphedema is developing, but you may not notice the change. Lymphedema may develop within a few months after a procedure, years later, or not at all. Symptoms to look for include:

- Achiness, tingling, discomfort, increased warmth in the hand, arm, chest, breast or underarm
- Feelings of fullness or heaviness in the hand, arm, chest, breast or underarm
- Tightness or decreased flexibility in nearby joints, such as shoulder, hand or wrist
- Tenderness in the elbow
- Slight puffiness or swelling in the arm, hand, chest, or breast with a temporary indentation of the skin when pressed by a finger
- Trouble fitting the arm into a jacket or shirt sleeve that fit well before
- Bra feels tighter, does not fit the same, or leaves an indentation on the skin
- Difficulty getting watches, rings or bracelets on/off
- Rash, itching, redness, pain, or warmth of the skin
- Fever or flu like symptoms

See your doctor if you experience any of these symptoms, even if they go away on their own. Even without visible changes to the skin, symptoms such as fever, fatigue, or generally not feeling well could be a sign of infection and should be checked out.

CAUSATIVE FACTORS

It is important to note the onset of lymphedema is not restricted to the time period immediately following surgery, but may occur years afterwards. The best way to prevent this late development is to know and avoid the factors that contribute to it.

1. Muscle Strain: Tissue trauma that may bring swelling to the area
2. Sunburn
3. Overheating
4. Constriction
 - Avoid carrying a heavy purse on the involved arm
 - Avoid clothes with tight wrist and ankle bands and tight jewelry
5. Air Travel
6. Infection

TREATMENT FOR LYMPHEDEMA

Treatment should only be performed by a certified lymphedema therapist with the goal of reducing the swelling and maintaining the reduction. There is no cure for lymphedema. Treatments include:

- Complete Decongestive Therapy (CDT)
- Manual Lymph Drainage (MLD)
- Graduated Compression Garments or Bandages
- Meticulous Skin Care
- Therapeutic Exercise

For information concerning lymphedema treatments available at OLBH, contact the Human Motion Vitality Center at (606) 833-3515.

Support Services

For Cancer Patients & Families

SUPPORT GROUPS

Breast Cancer Support Group: Each month at OLBH's Breast Cancer Support Group a new topic is presented to those whose lives have been affected by a diagnosis of breast cancer.

Healing Journeys: Each month OLBH offers this support group for all cancer patients and caregivers.

Look Good. Feel Better: This support group helps women cope with the appearance-related side effects of cancer treatment by teaching tips that enhance appearance and strengthens self-image. Additionally, Look Good. Feel Better features experts trained to help patients deal with the physical side effects of cancer treatment and to promote good hygiene. The support group is offered monthly in conjunction with the American Cancer Society, the Personal Care Products Council Foundation and the National Cosmetology Association.

Man to Man: Man to Man offers monthly support meetings for those whose lives have been affected by a diagnosis of prostate cancer.

Smoking Cessation: OLBH offers a free, 12-week smoking cessation support group using the Cooper - Clayton method and nicotine replacement to assist individuals in kicking the habit of using tobacco products.

To learn more concerning OLBH's free cancer-related support groups, call the OLBH **CareLine** at **(606) 833-CARE (2273)**.

NURSE NAVIGATORS

OLBH's nurse navigators are advocates for the hospital's patients. They provide education, support and help "navigate" a patient through every facet of care. Navigation begins when a problem is identified and continues through diagnosis and treatment. OLBH's nurse navigators support cancer patients by simplifying the care process and connecting patients to the services they require.



Lung Nurse Navigator
Leigh Ann Holt (left)
with Women's Center
Nurse Navigator
Margaret Ward



CANCER REHABILITATION

OLBH's Cancer Rehabilitation is a comprehensive multidisciplinary program designed to offer outpatient rehabilitation services to patients and survivors. Customized programs are created to address rehabilitation needs for a variety of conditions including, but not limited to:

- | | |
|------------------------|----------------------------------|
| Fatigue | Difficulty swallowing |
| Numbness in feet/hands | Postural changes |
| Weakness | Cognitive/communication problems |
| Scar tissue formation | Pain |
| Poor endurance | Energy conservation |
| Lymphedema | Difficulty walking |
| Decline in balance | |

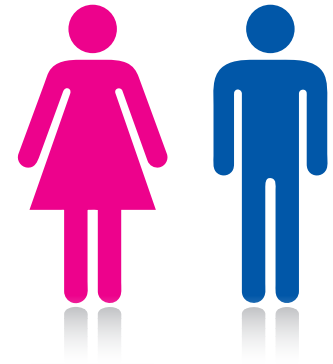
Those experiencing problems that were not present prior to a cancer diagnosis, especially those that affect daily function and quality of life, might be candidates for cancer rehabilitation. For more information concerning OLBH's Cancer Rehabilitation program, call the Human Motion Vitality Center at **(606) 833-3517**.

WOMEN'S CENTER & BOUTIQUE

The staff at the OLBH Women's Center is dedicated to female health. The center, located on the ground floor of Bellefonte Centre (1000 Ashland Drive), offers digital mammography, pap tests, breast ultrasound, surgical consultations, minimally invasive breast biopsy, DEXA-scan to screen for osteoporosis, genetic testing, clinical breast exams, a women's library, and the OLBH Women's Center Boutique.

The OLBH Women's Center Boutique offers prosthesis, wigs, bras and other items. The boutique employs certified mastectomy fitters specifically educated and trained in breast prostheses and post-mastectomy services. The OLBH Women's Center Boutique is operated by WeCare Medical, LLC. The boutique can be reached at **(606) 833-2130** and the OLBH Women's Center can be contacted at **(606) 836-PINK (7465)**.

2016 Cancer Data Summary



Percentage of OLBH Cancer Incidence by Primary Site

TONGUE	1	BREAST, FEMALE & MALE	19
SALIVARY GLANDS	.4	CERVIX	1
GUM & HARD PALATE	.4	ENDOMETRIUM (CORPUS UTERI)	1
OROPHARYNX	.4	OVARY	.7
ESOPHAGUS	2	OTHER FEMALE GENITAL ORGANS	.4
STOMACH	1	PROSTATE	8
SMALL INTESTINE	.4	TESTIS	.4
COLON	12	OTHER MALE GENITAL ORGANS	.4
RECTUM/ANUS	6	BLADDER	4
LIVER	.4	KIDNEY	3
PANCREAS	4	OTHER URINARY ORGANS	1
LARYNX	.4	THYROID	1
TRACHEA, BRONCHUS, LUNG-SMALL	3	HODGKIN'S	.4
TRACHEA, BRONCHUS, LUNG-NSC	15	NON-HODGKIN'S LYMPHOMAS	4
OTHER RESPIRATORY	.4	PLASMA CELL TUMORS	1
BONE	.4	LYMPHOCYTIC LEUKEMIAS	.7
CONNECTIVE & SOFT TISSUE	.4	MYELOPROLIF. & MYELOYDYSPLAS	.4
MALIGNANT MELANOMA	4	UNKNOWN PRIMARY	1

Cancer Registrar's Report

OLBH began its cancer registry in 1991 to collect data from every patient diagnosed or treated for cancer at the hospital. The data plays an important role in the ongoing evaluation of cancer care. The cancer registry is a computerized data collection and analysis center that contributes to patient treatment, planning, staging, and continuity of care through data retrieval, annual analysis and long term follow-up.

The OLBH cancer registry is a member of Kentucky Cancer Registry and the American College of Surgeons. Information is submitted annually to Kentucky Cancer Registry and the National Cancer Data Base, which is designed to provide an annual review of patient care, a comparative summary of hospital cancer statistics and a data edit report.

All information collected for the registry is kept strictly confidential. General data however is available for presentation, publications, reports, etc. For more information regarding the OLBH cancer registry, call **Barb Fitzpatrick, CTR**, at **(606) 833-3252**.

2016 Cancer Committee

Robert Barker, MAR
Pastoral Care

April Broun, SWK

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Urologist, Cancer Liaison

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Lung Health Navigator

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Radiation Oncology

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Manager, 2 Center

Margaret Ward, APRN
Breast Care Navigator

Diana Williams, MSN, RN
Director of
Community Resources



OLBH is affiliated with UK Markey Cancer Center. The UK Markey Cancer Center Affiliate Network enhances access to cancer services and programs through collaboration with community hospitals.