BREAST CANCER AWARENESS 2018

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THE SALEM NEWS
Thursday, October 11, 2018

BREAST CANCER AWARENESS

NUMBERS AND FACTS

1 in 8 women will be diagnosed with breast cancer

Every 2 minutes a case of breast cancer is diagnosed

Breast cancer is the most common cancer for women in the USA

Every 13 minutes a woman dies of breast cancer in the USA

HOW TO REDUCE RISK

Exercise regularly

Don't smoke

Drink less alcohol

Have an annual mammogram

THERE IS A HOPE

2.9 million female survivors live in the USA.

If breast cancer is found early and confined to the breast, survival rate is 99%.

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TO OUR READERS

A journey of hope, strength and courage

It's been seven years since we began our annual Breast Cancer Awareness campaign to highlight the realities of a complex disease that's had a far-reaching impact on our North of Boston communities.

And in that time, we've seen some positive advances made — in detection, in treatment and in lives saved.

The statistics are encouraging.

The American Cancer Society says breast cancer death rates among women declined by 39 percent from 1989 to 2015. That progress is attributed to improvements in early detection and treatment protocols.

Over the last 25 years or so, 322,000 lives have been saved from breast cancer. Currently, the five-year net survival rate in the U.S. is 85 percent.

Breast cancer incidence rates also have been decreasing since 2000 after increasing for the previous two decades.

Still, the disease continues to take its toll. Each year brings news of a family member, friend or co-worker being diagnosed with breast cancer at all stages.

An estimated 266,120 new cases of invasive breast cancer and 63,960 new cases of noninvasive, or in situ, breast cancer are expected to be diagnosed in women in the U.S. this year, according to Breastcancer.org.

We strongly believe many of those patients will successfully recover and go on to live full lives. Sadly, we know all too well that others, through no fault of their own, will face more devastating outcomes.

That tells us that more work needs to be done — in research toward a cure and in advances in treatment to guarantee all women and men afflicted with breast cancer are afforded the chance to survive.

In this year's special section, you will find stories of survivors who share their experiences and offer hope for those facing their own diagnoses. We provide recommendations and advice from the medical community who are

caring for the patients in our cities and towns. We highlight breakthroughs in genetic testing and offer places to turn for more information and support — not only for those fighting the disease, but for their loved ones, too.

We are grateful for the dozens of community and business leaders who have once again stepped forward to support our campaign with their sponsorship. You'll find them throughout these pages, and we hope you join us in thanking them for making this effort possible through their generosity.

Additional copies of this special report are available in the front lobby of The Salem News. Please stop by our office at 32 Dunham Road in Beverly if you'd like a few extra to pass along to those you care about.

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The Salem News and
North of Boston Media Group

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A Q&A with breast health navigator Debra Gentile

Debra Gentile, RTRM, CN-BI
North Shore Medical Center

Q: I turn 40 this year. Do I really need to begin getting mammograms if I don't have a family history of breast cancer?

A: Yes, beginning annual mammograms at the age of 40 is the single most effective method for detecting breast cancer early. The exam also helps identify changes in the breast that might go unnoticed by you or your doctor. Advances in technology such as tomosynthesis, or 3D mammography, also lead to better detection and greater peace of mind.

Q: In addition to getting an annual mammogram, what else can I do to be more proactive about my breast health?

A: Monthly self-breast exams make it easier for you to detect changes in size, shape or color. If you do recognize a change, call your doctor right away. It's also important to live a healthy lifestyle — to stay active and

maintain a healthy weight. Being overweight or obese, especially after menopause, increases the risk of breast cancer. Making careful choices about alcohol consumption can also decrease breast cancer risk. Studies have shown that women who have three drinks per week have a 15 percent higher risk of developing breast cancer than those who do not drink alcohol.

Q: I recently had a mammogram and an abnormality was detected. Should I be worried?

A: Most abnormalities are noncancerous breast conditions such as cysts. With further examination, including one or more specialized tests and procedures, physicians can take a more detailed look at the breast and determine whether cancer is present or a mass is benign — or not cancerous. A biopsy of breast tissue may sometimes be recommended in order to test areas of concern for breast cancer cells. Often, breast biopsy results are benign.

Q: My friend is going through treatment for breast cancer and was assigned a breast health navigator? What role does she play?

A: Breast health navigators assist patients through the testing and treatment process and answer any questions and concerns. They act as a liaison between the patient and her physician and even talk things through with family members. Having someone to talk to is very reassuring for many patients.

Q: My sister recently had a mammogram and completed a risk assessment questionnaire. What is this?

A: During a patient's annual mammogram, North Shore Medical Center offers a risk assessment questionnaire that helps identify women who may be at an increased risk of developing breast or other cancers based on personal and family history information. If a patient is identified as having increased lifetime risk of breast cancer, she will be directed toward additional testing and counseling as necessary. This assessment also adds valuable information to the patient's health record.

Q: I'm a busy working mom. How can I fit a mammogram into my schedule?

A: North Shore Medical Center offers mammography in four locations throughout the North Shore, with many offering evening and weekend hours. Mammography services are available at:

- **NSMC Salem Hospital:** 81 Highland Avenue, Salem
- **NSMC Outpatient Services:** 1 Hutchinson Drive, Danvers
- **Massachusetts General/North Shore Center for Outpatient Care:** 102-104 Endicott St., Danvers
- **NSMC Union Hospital:** 500 Lynnfield St., Lynn
- **Lynn Community Health Center:** 269 Union St., Lynn

Q: If additional testing reveals cancer, where do I go for treatment?

A: In the event that you do receive a cancer diagnosis, the Mass General/North Shore Breast Health Center offers care on the North Shore, provided by professionals from both North Shore Medical Center and Massachusetts General Hospital. Services include:

- Breast MRI
- Breast cancer diagnostics
- Breast surgery
- Cancer care
- Patient support services

Debra Gentile, RTRM, CN-BI, is a breast health navigator at North Shore Medical Center. To learn more about the breast health program at NSMC, visit nsmc.partners.org/breast_health.

Courtesy photo

Breast health navigators like Debra Gentile at North Shore Medical Center act as a liaison between a patient and a physician and provide guidance through the testing and treatment process.

Mammograms: Screening out the myths

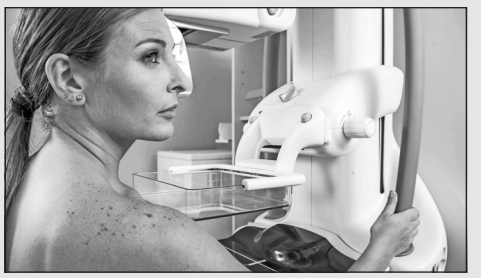
Mammograms have long been an important tool in women's fight against breast cancer. But for as long as mammograms have been recommended, myths have prevailed concerning the procedure and its benefits and risks. Learning to distinguish between mammogram myths and facts can help women recognize the importance of these effective screenings.

Myth: I'm too young for a mammogram.

Fact: A yearly mammogram is recommended for women age 40 and older to help detect breast cancer early. This may lead to less aggressive treatment and a higher rate of survival.

Myth: I don't need an annual mammogram because I have no symptoms or family history.

Fact: The American College of Radiology recommends annual screening mammograms regardless of symptoms or family history. Early stage breast cancers may not exhibit symptoms. Women whose breast cancer is caught in its earliest stages have a five-year survival rate of 99 percent.



Mammograms are considered an effective tool to help women detect breast cancer — sometimes two to three years before a lump can even be felt.

Myth: I have breast implants, so I can't get screened.

Fact: Women with breast implants can still have regular mammograms. Special positioning and additional images may be needed, but the procedure is possible.

Myth: Mammograms are ineffective.

Fact: According to British Columbia Cancer Screening, mammograms are the gold standard for detecting breast cancer early. Mammograms may detect breast cancer two to three years before a woman or a health care provider can feel lumps.

Myth: Mammograms are foolproof.

Fact: Mammogram screenings are not perfect and are just one tool in helping to detect cancer. Age or breast density can influence the appearance of breast tissue on mammograms. It's important to note that the inherent qualities of the cancer and how it responds to treatment can affect outcome — even if the breast cancer is detected earlier, according to Johns Hopkins Medicine.

Myth: Mammograms are the only imaging tools.

Fact: Breast MRI, breast ultrasound and newer 3D breast mammography are alternative imaging methods that can help obtain different views of breast tissue, particularly for women with dense breasts.

Myth: I can't get a mammogram without a prescription.

Fact: In many cases, women do not need to obtain a doctor's order or a prescription to get a screening mammogram. Individuals can self-refer for an annual appointment.

Mammograms can detect breast cancer early, dramatically improving women's chances of beating the disease. Having a better understanding of mammograms can help women calm any concerns they may have regarding these valuable screenings.

Knowing breast anatomy is important for health

The breast cancer advocacy and research group Susan G. Komen indicates that, according to the most recent data available, 1.7 million new cases of breast cancer occurred among women worldwide in 2012.

Western Europe, North America and northern Europe have the highest breast cancer incidences in the world, according to the International Agency for Research on Cancer and the World Health Organization.

Women diagnosed with breast cancer may want to begin their treatment journeys by educating themselves on the anatomy of the breast so they can better understand their disease and how it develops.

The structure of the breast is complex and composed of fat, glandular tissue, connective tissue, lobes, lobules, ducts, lymph nodes, blood vessels and ligaments.

The following is a breakdown of the common components of the breast:

■ **Fat cells:** The female breast is largely fat cells called adipose tissue. This tissue extends from the collarbone down to the underarm and across to the middle of the rib cage. The main purpose of adipose tissue is to store energy in the form of fat and insulate the body.

■ **Lobules:** Each breast contains several sections that branch out from the nipple. Lobule glands make milk and are often grouped together to form lobes. There may be between 15 and 20 lobes in each breast, according to the Cleveland Clinic. Each lobe has roughly 20 to 40 lobules.

■ **Ducts:** Connecting the lobules are small tubes called ducts. The ducts carry milk to the nipples of the breasts. There are around 10 duct systems in each breast, each with its own opening at the nipple.

■ **Nipple:** The nipple may be the most recognizable part of the breast. It is in the center of the breast. The lobules will squeeze milk into the ducts, which then transfer it to the nipples. Most nipples protrude outward, but according to Health magazine's medical editor Roshini Rajapaksa, M.D., some women have flat or inverted nipples. The nipples do not have a singular hole for the milk to come out like an artificial bottle nipple. Rather, there are many lactiferous duct outlets in each nipple that correspond to the ducts in each breast.

■ **Lymph system:** Snaking through the adipose tissue are lymph vessels and nodes. The lymph system distributes disease-fighting cells and fluids as part of the immune system, according to the National Breast Cancer Foundation Inc. Bean-shaped lymph nodes in fixed areas through the system filter abnormal cells away from healthy tissue.

■ **Areola:** The areola is pigmented skin surrounding a nipple. The areola contains tubercles called Montgomery's glands, which secrete lubricating materials to make breastfeeding more comfortable.

Changes in any areas of the breast may be indicative of cancer. That is why women are urged to understand their breasts' "normal" appearance and feel so they can recognize any changes and address them with a doctor right away.

BRYAN EATON/Staff photos

From left, Dina Crawford, Carol Gamble, Ilene Harnch-Grady and Arleen Damon, together with Rose Russo, not pictured, are the founders of North of Boston Cancer Resource, a comprehensive digital resource guide to complementary health care services for cancer patients and their families.

A complementary assist

North of Boston Cancer Resource offers a place for patients, families to turn

By Jill Oestreicher Gross
CONTRIBUTING WRITER

People diagnosed with cancer — and their loved ones — need special support to get through the challenges of the illness, and a new website portal is helping to provide just that.

North of Boston Cancer Resource offers a database of vetted services designed to complement chemotherapy, radiation and surgery.

It was conceived by five area women with a connection to cancer.

The steering committee, all volunteers, first convened in August 2016, and this past June, the first part of their dream was realized when the website launched.

"Complementary therapies are incredibly important to go alongside conventional treatment," said founding member Ilene Harnch-Grady.

Harnch-Grady is the director of the YWCA of Greater Newburyport's Encore, a free, 12-week program for people with a cancer diagnosis.

"This is a critical piece of going through your treatment and beyond," she said. "If we can make life easier for people with a diagnosis, that changes their world, it makes the journey that much easier. The big word here is support."

The comprehensive digital resource guide spans several cities, including Newburyport, Haverhill,

Danvers, Salem, Andover and Lynn. Hundreds of complementary programs integrated with cancer treatment are listed, such as wig fitting, oncology massage, gentle yoga and exercise programs, and support and stress reduction groups.

"When people can release tension and stress and relax, treatment goes better," said Carol Gamble, another founding member of the resource network with decades of health care experience.

She is a certified yoga teacher and volunteer at the Anna Jaques Cancer Center in Newburyport. Arleen Damon, Rose Russo and Dina Crawford are also part of the steering committee.

The group used input from cancer survivors to structure the guide and is continually adding to it. In order to be included on the website, each resource completes an application that includes a personal statement, a listing of credentials and an interview — a process that authenticates the listings for patients and medical providers.

Gamble recalls a cancer survivor at one of her recent yoga classes.

"She was standing in mountain pose and just beaming," Gamble said, explaining how rewarding it was to see her student at peace while overcoming her diagnosis with a complementary therapy.

The founding members of the resource network used input from cancer survivors to get started.

Many programs on the site have a fee, but some programs are available for no charge or on a sliding scale, such as Healing With Hope, a yoga and meditation support group run by Harvey Zarren, M.D., at North Shore Medical Center in Lynn, and a gentle yoga class led by steering committee member Damon, a two-time breast cancer survivor, at Roots to Wings Yoga & Healing in Newbury.

Initial funding for the development of the site and related promotional materials came from Anna Jaques Hospital, Lahey Health, Swasey Foundation, and Montbleau and Associates. The group attracts the attention of patients and potential resources that seek to be included through area medical providers, cancer-related events, Facebook and word-of-mouth.

"North of Boston Cancer Resource and the complementary care they are providing, both in our clinic and in the community, has already shown measurable benefits in patient care and continues to exceed our expectations," said Jonathan D. Eneman, M.D., medical director for Anna Jaques Cancer Center, affiliated with Beth Israel Deaconess Medical Center. "I cannot thank this group enough for all of their dedication and care."

Gamble said oncology physicians understand the need for additional patient services and support before, during and after treatment.

"Physicians want to know people are reliable," Gamble said of the programs and services listed on the site, which she stresses is still a work in progress. "They're entrusting us with these very special people."

Harnch-Grady agrees.

"Providers understand it's not just chemotherapy, radiation or surgery," she said. "It's also about the process before and after.

"The whole idea is to enhance the well-being of people who have cancer," she said, emphasizing the physical, emotional and spiritual programs available for cancer patients and their families on the North Shore.

While concrete figures on the number of site visitors and clicks on the website are not yet available, the steering committee is looking to the future and the dream of one day possibly opening a physical wellness center for people with cancer, using the Dempsey Center in Lewiston, Maine, as inspiration.

Fundraising and possibly obtaining an official nonprofit status are next on the group's to-do list.

"We're looking to expand the network and the support for it," Gamble said. "This has to be sustained. It can't just be a pretty website."

A DATABASE OF SUPPORT

North of Boston Cancer Resource is a compilation of verified resources for patients with a cancer diagnosis and their families.

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- nbcancerresource.org
- facebook.com/nbcancerresource

A BOOST FOR #KARASTRONG

Beverly softball squad rallies for teammate with breast cancer

Kara McGarigal poses with her teammates and her daughter, Sophie, during the "Bras Out for Breast Cancer" fundraiser on Aug. 16.

When you're part of a team and one of your teammates is in need, there's only one thing you do — you grab the ball and pitch in.

That's exactly what members of Kara McGarigal's softball team did over the summer.

The Beverly Women's Softball League turned its final regular-season games on Thursday, Aug. 16, at Innocenti Park into a "Bras Out for Breast Cancer" fundraiser to help McGarigal with her medical expenses. The single mother from Beverly was diagnosed with breast cancer in June.

The players dressed in pink and added bras to their uniforms in honor of McGarigal, who threw out the first pitch of her team's game.

McGarigal was touched by the show of support by the league and her team, which went on to win the league championship the following week.

Between donations collected at "Bras Out for Breast Cancer" and the contributions that followed, the effort raised $4,000 for McGarigal, who underwent a mastectomy last month.

As McGarigal recovers, her friends have created the hashtag #karastrong and have been sending a cardboard cutout of McGarigal — whom they have named Kickass Kara — around on adventures to show their continued support for their teammate, as well as to make her smile.

Another fundraiser — a "Cash for Kara" benefit featuring R-rated hypnotist Frank Santos Jr. — takes place Saturday, Oct. 13, from 7 to 10 p.m. at St. Peter's Episcopal Church in Beverly. The event will also include raffles, music and light refreshments. Tickets are $20.

For more information or to make a donation, call Trish Shatford at 978-578-2774.

JARED CHARNEY/Courtesy photos

Romayne Kwiatek makes a statement at first base.

Kara McGarigal kisses her daughter, Sophie, a senior at Beverly High School.

McGarigal poses with Kerri Boudreault as teams gather at the fundraiser.

McGarical serves as coach at third base, occupied by Monique Fiahlo.

McGarigal checks out Spencer Deschenes' T-shirt before the games kick off.

McGarigal wipes away tears before throwing out the first pitch of her team's game.

Signs hanging up around the field lend support, along with team T-shirts stating, "Breast cancer just picked a fight with the wrong chick."

McGarigal admires Liz Hering's personalized shirt before the start of the action.

Standing up to an epidemic

Cape Ann researcher's new book takes aim at origins of cancer

By Gail McCarthy
STAFF WRITER

When Susan Wadia-Ells lost a friend to breast cancer, she took her years of research skills and immersed herself in the subject of breast cancer and what women can do to protect themselves from the disease that now claims the lives of 113 women in the United States each day.

Manchester-by-the-Sea resident Susan Wadia-Ells is the author of the forthcoming book "Busting Breast Cancer: with four simple steps to keep breast cancer out of your body: Our Personal Revolution."

HADLEY GREEN/Staff photo

Wadia-Ells, from Manchester-by-the-Sea, did her master's degree work in energy economics and political development at Tufts University in Medford, and her doctorate is in feminist psychology and autobiographical writing.

But she has now spent the past decade investigating published research on what is known about why one woman develops breast cancer, while another does not.

"Breast cancer has been a massive and growing American epidemic for the past three decades, but no one is calling it that," she said. "Yet, more than 250,000 women in the U.S. will be diagnosed with breast cancer during 2018, according to the American Cancer Society — and the actual numbers might even be higher."

Wadia-Ells' forthcoming book "Busting Breast Cancer: with four simple steps to keep breast cancer out of your body: Our Personal Revolution," is the result of her decadelong project to uncover blacked-out, ignored and misrepresented research that finally can explain to women why and how that first breast cancer cell is created, she said.

"We can no longer wait for the cancer industry to protect women's lives," Wadia-Ells said. "Breast cancer treatment is a thriving multibillion-dollar industry today. Women must take charge of our own bodies, prevent this disease and shut down this industry."

She said her book will describe:

- Why and how obesity in women of all ages helps create that first breast cancer cell.
- Why and how all birth control drugs, some IUDs and menopausal drugs are causing thousands of breast cancer diagnoses in women who may use any of these progestin-based drugs.
- Why and how sufficient vitamin D-3 can provide protection against developing breast cancer.
- Ways to address whole-body inflammation, which raises risk factors.

After many years of research, Wadia-Ells said she had a breakthrough moment when Boston College biologist Thomas Seyfried's groundbreaking book "Cancer as a Metabolic Disease: On the Origin, Management, and Prevention of Cancer" was published in 2012.

Wadia-Ells said that Seyfried's work pieced together long-ignored published research from past decades that illustrates and proves how cancer is "best defined as a mitochondrial metabolic disease rather than as a genetic disease."

"Happily for me, his work is the reason I was able to finally finish my 'how to' book because he pieced together a biologically sound theory on how that first breast cancer cell starts," said Wadia-Ells, who

A working cover is shown for Susan Wadia-Ells' new book, which is due out in December from Girl Friday Productions. For more information, visit bustingbreastcancer.com.

Courtesy image

contacted Seyfried to ask for his guidance and oversight as she completed her book.

"Most of the epidemiological studies about breast cancer prevention 'do's and don'ts' that I had uncovered since 2008 now fell into place, once I understood the metabolic theory."

"The new metabolic theory of cancer is all good news," she said. "We finally understand why one woman develops breast cancer, while another does not."

Seyfried wrote the foreword to Wadia-Ells' breast cancer prevention book, including the following: "I applaud Dr. Wadia-Ells in boldly tackling the underlying causes of the breast cancer epidemic, and in providing practical solutions to reduce the epidemic. All women, and anyone interested in preventing cancer, will benefit from reading this book."

Wadia-Ells said her book seeks to empower women to take responsibility for preventing breast cancer by focusing on losing excess body fat, reducing chronic stress from bad relationships and careers, and increasing vitamin D-3 levels to at least 60 ng/ml.

"Using a ketogenic lifestyle to lose all of your excess body fat, and keeping very high levels of vitamin D-3 in your body, year-round, are two of the most important steps a woman can take to keep breast cancer out of her body," she said.

> *"Breast cancer has been a massive and growing American epidemic for the past three decades, but no one is calling it that. Yet, more than 250,000 women in the U.S. will be diagnosed with breast cancer during 2018, according to the American Cancer Society — and the actual numbers might even be higher."*
>
> **Susan Wadia-Ells**

"By incorporating a ketogenic lifestyle, at least a few weeks each month, you can turn your body's operating system into a fat-burning machine, enabling a woman to block breast cancer cells from taking root."

Additionally, she touts the benefits of detoxification, which includes daily meditation practice, dry skin brushing and infrared saunas, among other methods.

"It's critically important to cleanse the body of stress and chemicals that suffocate our breast cells' power batteries, thus creating those first cancer cells," she said.

Determining risk factor is a key tool for women in planning their approach to breast cancer.

BEYOND ANGELINA JOLIE

ASSESSING BREAST CANCER RISK

Lahey Health

When Angelina Jolie made the decision in 2013 to have a bilateral prophylactic mastectomy in order to reduce her risk of developing breast cancer, the Hollywood icon unknowingly started a trend.

Dubbed the "Jolie Effect," research has shown that in the years following the actress's public decision to have the procedure, mastectomy rates nearly doubled.

After seeing an uptick in the years following Jolie's decision, Lahey Hospital & Medical Center has now started to see a decline in breast cancer patients opting for a prophylactic mastectomy.

According to Dr. Julie O'Brien, medical director of the Comprehensive Breast Health Center at Lahey Hospital, breast cancer patients used to reference Jolie when making the decision to have a prophylactic mastectomy.

Jolie had a genetic mutation, BRCA1, that drastically increased her chances of developing breast and ovarian cancer. In fact, because of that mutation, Jolie had a 60 percent to 80 percent chance of developing breast cancer over her lifetime, compared to a less than 12 percent chance for a woman with no family history and no genetic mutation.

There are a number of reasons for the decline in mastectomy rates, according to O'Brien.

At Lahey, for example, patients debating the procedure are encouraged to consult with Dr. Cary Meyer, a behavioral psychologist to discuss additional options. There's also a focus on personalized care at Lahey that focuses on making the right decision for the patient.

However, according to O'Brien, for breast cancer patients, a prophylactic mastectomy does not improve their overall chance of survival, and it comes with its share of risks.

"It is important to note that Angelina Jolie did not have breast cancer. She had a genetic mutation in the BRCA1 gene, which put her at a high risk for the future development of breast cancer," O'Brien said. "Having the procedure can increase the chances of potential complications, and there are also side effects to mastectomy from a physical and emotional standpoint. For example, patients have permanent numbness of the chest wall following the procedure."

To help patients understand their lifetime risk of developing breast cancer, patients at any Lahey facility who are scheduled for a mammogram take a risk assessment survey that helps determine what is their calculated risk for developing breast cancer and what is their risk for having a genetic mutation. According to O'Brien, determining a patient's risk is much more informative, since only 5 percent to 10 percent of breast cancer diagnoses are secondary to a known genetic mutation, while 90 percent to 95 percent of breast cancer patients likely develop the disease from aging, hormone exposure, diet and environmental exposures.

"We are focused on getting patients to understand their lifetime risk for developing breast cancer and from there, if necessary, evaluate patients in the breast center to discuss high-risk breast cancer screening with bilateral breast MRI in combination with routine screening 3D mammography, as well as to refer patients to genetics for counseling and possible genetic testing," O'Brien said.

"Patients oftentimes rush into a decision after learning they have breast cancer because a breast cancer diagnosis is an emotionally charged one," she said. "However, the impacts from having a prophylactic surgery can be life-altering, and so, the focus must be on educating patients of their options so that they may make an informed decision."

Mastectomy surgery: WHAT TO EXPECT

Mastectomy is a treatment for women diagnosed with breast cancer or those who are genetically predisposed to cancer. The removal of one or both breasts, mastectomy surgery may involve removing just the breast tissue or, in some cases, the lymph nodes, as well.

Women on the precipice of mastectomy surgery will naturally have many questions concerning the procedure and projected recovery. The process of recovering is different for everyone, and not all mastectomies are the same.

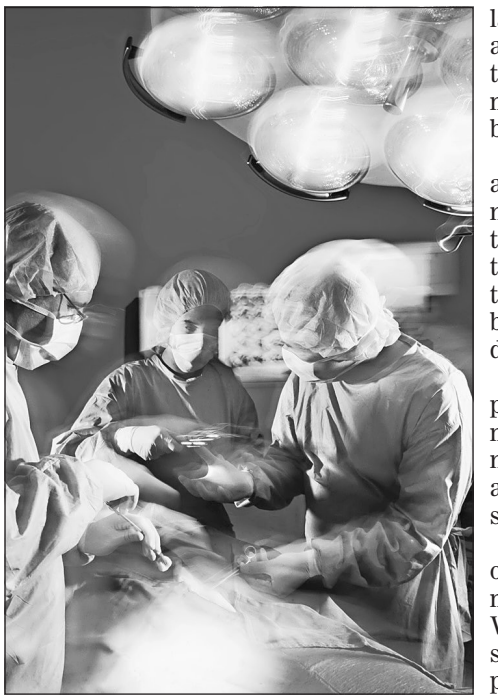
The following is a general idea of what patients can expect before and after mastectomy surgery.

Before surgery

A mastectomy is performed under general anesthesia, advises the nonprofit group Susan G. Komen. Therefore, patients should expect to undergo routine physical exams and may require a surgical pre-clearance from a doctor and the surgical hospital or center. Blood tests and an EKG may be ordered, as well.

Prior to surgery, patients can begin making plans for child care, meal preparation, shopping, work requirements and more. As mastectomy is an invasive procedure, patients may experience pain and fatigue after surgery. Having various plans in play well before the surgery date can relieve some stress and help patients focus on their recoveries.

Purchase comfortable clothing that will be loose around the arms and chest. Zip-up tops or those with front buttons afford easy access. Some women also opt to get fitted for post-op garments, including a lymphedema sleeve. Lymphedema is a swelling of the area, and it is a common side effect. It is helpful to be prepared before such items are needed.



Before undergoing mastectomy surgery, it's a wise idea to understand what's involved.

After surgery

Mastectomy surgeries typically last between two and three hours. Some may last longer if reconstruction is performed at the same time. Patients will be admitted to a hospital stay for a day or two and moved to a recovery room, and will need to be driven home upon discharge.

Expect to be bandaged and possibly have a surgical drain at the wound site. The nonprofit resource Breastcancer.org says that the drain usually remains in place one to two weeks after surgery. Fluid will have to be emptied from the detachable drain bulb a few times per day. Sutures that are dissolvable will not require removal.

Patients should follow the recovery plans outlined by their doctors. Rest is most important during this time, so do not overdo exercise or other activities, although some movements to relieve shoulder stiffness may be advised.

Pain, numbness, itching and myriad other symptoms may occur. Take pain medications only as needed and directed. Weakness is expected in the arms and shoulders. Ask for help lifting, moving or picking up items.

Emotional side effects can be just as profound as physical ones. Fear of the cancer, body image issues and a sense of loss can occur. Having a strong support team can help, as can speaking with a professional counselor.

It can take several weeks to start feeling like oneself again after mastectomy surgery. Women should not hold themselves up to anyone else's standards and be patient and hopeful because this challenging time is temporary. Learn more at Breastcancer.org.

Weighing the breast density factor

Breast cancer risk is influenced by many things, including heredity, age and gender. Breast density is another factor that may affect cancer risk and the ability to detect breast cancer in its earliest stages, say some experts.

According to the report "Mammographic density and the risk and detection of breast cancer," published by The New England Journal of Medicine, as well as data from the National Cancer Institute, women with high breast density are four to five times more likely to get breast cancer. Only age and BRCA1 and BRCA2 mutations increase risk more. However, at this time, health care providers do not routinely use a woman's breast density to assess her breast cancer risk, according to Susan G. Komen.

Density does not refer to the size or shape of the breast, and it may not be apparent by just looking at the breasts. Usually, women do not learn they have dense breasts until their first mammograms. Dense breasts have more glandular and fibrous tissue. Density may be hereditary, meaning mothers and daughters can share similar breast characteristics.

Dense breasts cannot easily be seen through on a mammogram, which can make detecting lumps and other abnormalities more difficult. This can lead to missed cancers or cancers that are discovered at later stages. Women with dense breasts may require additional screening methods, such as a breast ultrasound or an MRI, in addition to yearly mammogram screenings.

Education about breast density is gaining traction in some areas, thanks to informed women and advocacy groups like AreYouDense.org. Some states in the United States are part of "inform" lists, in which radiologists include information about breast density on mammogram reports so women and doctors can make decisions about extra testing.

Even if a woman does not live in a state where density is shared, she can request the information from the radiologist or doctor. Dense breasts show up with more pockets of white on mammograms than gray fatty tissue in less dense breasts. Cancer also appears white, and, therefore, tumors can be hidden.

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Breast cancer primer: A glossary of medical terms

Axillary nodes: The lymph nodes under the arm.

Benign: Not cancer.

Bilateral: Affecting or about both the right and left sides of body. For example, a bilateral mastectomy is removal of both breasts.

Biobank (tissue repository): A large collection of tissue samples and medical data that is used for research studies.

Bioinformatics: The field of endeavor that relates to the collection, organization and analysis of large amounts of biological data using networks of computers and databases.

Biopsy: Removal of tissue to be looked at under a microscope.

BRCA1/BRCA2 Genes (breast cancer genes): Genes that help limit cell growth. A mutation in one of these genes increases a person's risk of breast, ovarian and certain other cancers.

Breast cancer: An uncontrolled growth of abnormal breast cells.

Breast density: A measure used to describe the relative amounts of fat and tissue in the breasts as seen on a mammogram.

Calcifications: Deposits of calcium in the breast that appear as bright, white spots on a mammogram.

Cell: The basic unit of any living organism.

Chemotherapy: A drug or combination of drugs that kills cancer cells in various ways.

Clinical breast examination: A physical exam done by a health care provider to check the look and feel of the breasts and underarm for any changes or abnormalities, such as lumps.

Clinical trials: Research studies that test the benefits of possible new ways to detect, diagnose, treat or prevent disease. People volunteer to take part in these studies.

Core needle biopsy: A needle biopsy that uses a hollow needle to remove samples of tissue from an abnormal area in the breast.

CT scan (computerized tomography scan): A series of pictures created by a computer linked to an X-ray machine. The scan gives detailed internal images of the body.

Cyst: A fluid-filled sac.

Data mining: The ability to query very large databases in order to satisfy a hypothesis ("top-down" data mining); or to interrogate a database in order to generate new hypotheses based on rigorous statistical correlations ("bottom-up" data mining).

Diagnosis: Identification of a disease from its signs and symptoms.

DNA (deoxyribonucleic acid): The information contained in a gene.

DNA sequencing: The technique in which the specific sequence of bases forming a particular DNA region is deciphered.

Expression (gene or protein): A measure of the presence, amount and time-course of one or more gene products in a particular cell or tissue. Expression studies are typically performed at the RNA (mRNA) or protein level in order to determine the number, type and level of genes that may be up-regulated or down-regulated during a cellular process, in response to an external stimulus, or in sickness or disease.

Family history: A record of the current and past health conditions of a person's blood-related family members that may help show a pattern of certain diseases within a family.

Genes: The part of a cell that contains DNA. The DNA information in a person's genes is inherited from both sides of a person's family.

Gene expression: Process in which a gene gets turned on in a cell to make RNA and proteins.

Genetic testing: Analyzing DNA to look for a gene mutation that may show an increased risk for developing a specific disease.

Genome: The total genetic information of an organism.

Genomic testing: Analyzing DNA to check for gene mutations of a cancer tumor.

Genomics: The study of genes and their functions.

Hormones: Chemicals made by certain glands and tissues in the body, often in response to signals from the pituitary gland or the adrenal gland.

Immunotherapy: Therapies that use the immune system to fight cancer. These therapies target something specific to the biology of the cancer cell, as opposed to chemotherapy, which attacks all rapidly dividing cells.

Implant: An "envelope" containing silicone, saline or both, that is used to restore the breast form after a mastectomy.

Informatics: The science of information; the collection, classification, storage, retrieval and dissemination of recorded knowledge treated both as a pure and as an applied science.

Courtesy photo

Tomosynthesis, or 3D mammography, uses a digital mammography machine to take multiple two-dimensional X-ray images of the breast, which are then combined into a three-dimensional image through computer software. The technology is known to better detect invasive breast cancers.

Invasive breast cancer: Cancer that has spread from the original location into the surrounding breast tissue and possibly into the lymph nodes and other parts of the body.

Lesion: Area of abnormal tissue.

Linear accelerator: The device used during radiation therapy to direct X-rays into the body.

Lumpectomy (breast conserving surgery): Surgery that removes only part of the breast — the area containing and closely surrounding the tumor.

Lymph nodes: Small groups of immune cells that act as filters for the lymphatic system. Clusters of lymph nodes are found in the underarms, groin, neck, chest and abdomen.

Lymphedema: Swelling due to poor draining of lymph fluid that can occur after surgery to remove lymph nodes or after radiation therapy to the area.

Malignant: Cancerous.

Mammogram: An X-ray image of the breast.

Mastectomy: Surgical removal of the breast. The exact procedure depends on the diagnosis.

Medical oncologist: A physician specializing in the treatment of cancer using chemotherapy, hormone therapy and targeted therapy.

Metastasize: When cancer cells spread to other organs through the lymphatic and/or circulatory system.

MRI (magnetic resonance imaging): An imaging technique that uses a magnet linked to a computer to make detailed pictures of organs or soft tissues in the body.

Mutation: Any change in the DNA of a cell. Gene mutations can be harmful, beneficial or have no effect.

Nipple-sparing mastectomy: A breast reconstruction procedure that removes the tumor and margins, as well as the fat and other tissue in the breast, but leaves the nipple and areola intact.

PET (positron emission tomography): A procedure where a short-term radioactive sugar is given through an IV so that a scanner can show which parts of the body are consuming more sugar. Cancer cells tend to consume more sugar than normal cells do. PET is sometimes used as part of breast cancer diagnosis or treatment, but is not used for breast cancer screening.

Prognosis: The expected or probable outcome or course of a disease.

Protein: Any of various naturally occurring extremely complex substances that consist of amino acid residues joined by peptide bonds, contain the elements carbon, hydrogen, nitrogen, oxygen, usually sulfur and occasionally other elements.

Proteomics: The cataloging of all the expressed proteins in a particular cell or tissue type, obtained by identifying the proteins from cell extracts.

Prophylactic mastectomy: Preventive surgery where one or both breasts are removed in order to prevent breast cancer.

Radiation oncologist: A physician specializing in the treatment of cancer using targeted, high-energy X-rays.

Radiation therapy: Treatment given by a radiation oncologist that uses targeted, high-energy X-rays to kill cancer cells.

Radiologist: A physician who reads and interprets X-rays, mammograms and other scans related to diagnosis or follow-up. Radiologists also perform needle biopsies and wire localization procedures.

RNA (ribonucleic acid): A molecule made by cells containing genetic information that has been copied from DNA. RNA performs functions related to making proteins.

Sentinel node biopsy: The surgical removal and testing of the sentinel nodes — the first axillary nodes in the underarm area filtering lymph fluid from the tumor site — to see if the node contains cancer cells.

Stage of cancer: A way to indicate the extent of the cancer within the body. The most widely used staging method for breast cancer is the TNM system, which uses Tumor size, lymph Node status, and the absence or presence of Metastases to classify breast cancers.

Targeted therapy: Drug therapies designed to attack specific molecular agents or pathways involved in the development of cancer. Herceptin is an example of a targeted therapy used to treat breast cancer.

Tomosynthesis (3D mammography, digital tomosynthesis): A tool that uses a digital mammography machine to take multiple two-dimensional X-ray images of the breast. Computer software combines the multiple 2D images into a three-dimensional image.

Tumor: An abnormal growth or mass of tissue that may be benign (not cancerous) or malignant (cancerous).

Ultrasound: Diagnostic test that uses sound waves to make images of tissues and organs. Tissues of different densities reflect sound waves differently.

Sources: Susan G. Komen; Federal University of Rio Grande do Sul, Brazil

Key factors help determine breast cancer stage

When receiving treatment for breast cancer, women will learn about cancer staging. According to the nonprofit organization Breastcancer.org, determining the stage of the cancer helps patients and their doctors figure out the prognosis, develop a treatment plan and even decide if clinical trials are a valid option.

Typically expressed as a number on a scale of 0 through 4, breast cancer stage is determined after careful consideration of a host of factors. The staging system, sometimes referred to as the TNM system, is overseen by the American Joint Committee on Cancer and ensures that all instances of breast cancer are described in a uniform way. This helps to compare treatment results and gives doctors and patients a better understanding of breast cancer and the ways to treat it.

Breastcancer.org notes that the TNM system was updated in 2018, but before then was based on three clinical characteristics:

- **T:** The size of the tumor and whether or not it has grown into nearby tissue.
- **N:** Whether the cancer is present in the lymph nodes.
- **M:** Whether the cancer has metastasized, or spread to others parts of the body beyond the breast.

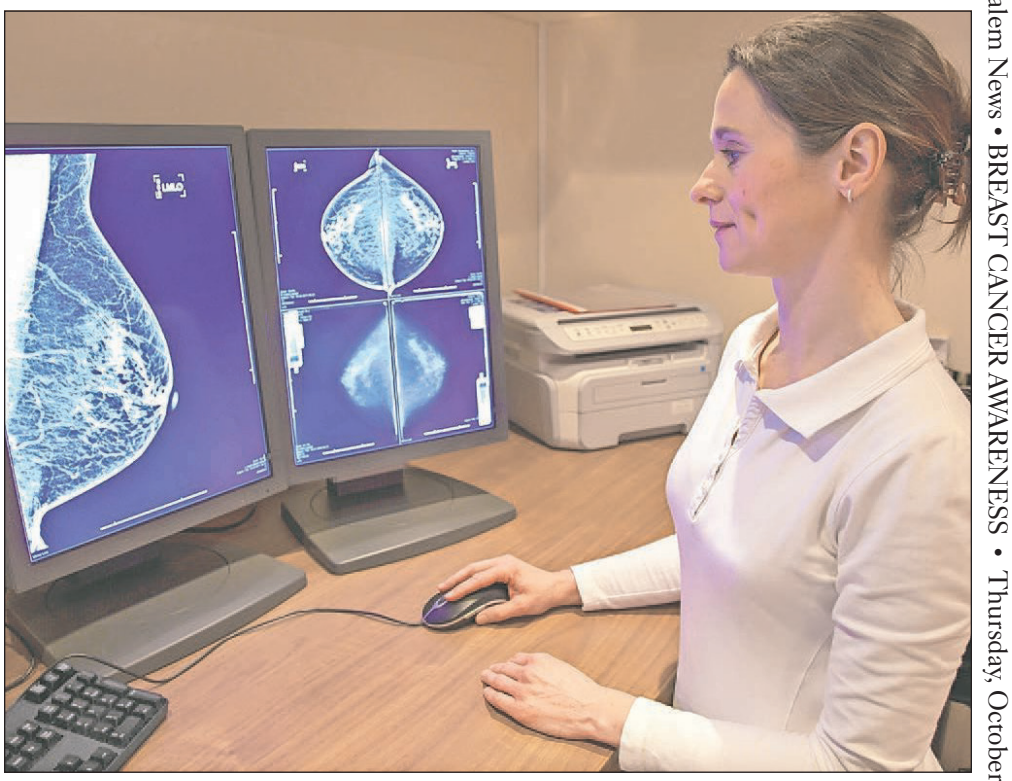
While each of those factors is still considered when determining breast cancer stage, starting in 2018, the AJCC added additional characteristics to its staging guidelines, which make staging more complex, but also more accurate.

- **Tumor grade:** This is a measurement of how much the cancer cells look like normal cells.
- **Estrogen- and progesterone-receptor status:** This indicates if the cancer cells have receptors for the hormones estrogen and progesterone. If cancer cells are deemed estrogen-receptor-positive, then they may receive signals from estrogen that promote their growth. Similarly, those deemed progesterone-receptor-positive may receive signals from progesterone that could promote their growth.

Testing for hormone receptors, which roughly two out of three breast cancers are positive for, helps doctors determine if the cancer will respond to hormonal therapy or other treatments. Hormone-receptor-positive cancers may be treatable with medications that reduce hormone production or block hormones from supporting the growth and function of cancer cells.

- **HER2 status:** This helps doctors determine if the cancer cells are making too much of the HER2 protein. HER2 proteins are receptors on breast cells made by the HER2 gene. In about 25 percent of breast cancers, the HER2 gene makes too many copies of itself, and these extra genes ultimately make breast cells grow and divide in ways that are uncontrollable. HER2-positive breast cancers are more likely to spread and return than those that are HER2-negative.
- **Oncotype DX score:** The oncotype DX score helps doctors determine a woman's risk of early stage, estrogen-receptor positive breast cancer recurring and how likely she is to benefit from post-surgery chemotherapy. In addition, the score helps doctors figure out if a woman is at risk of ductal carcinoma in situ recurring and/or at risk for a new invasive cancer developing in the same breast. The score also helps doctors figure out if such women will benefit from radiation therapy or DCIS surgery.

Determining breast cancer stage is a complex process, but one that can help doctors develop the most effective course of treatment.



A variety of factors are considered when determining what stage of breast cancer a patient is in, including an evaluation of cancer cells.

Did you know? Pathology reports

Pathology reports are documents that contain diagnoses after doctors have examined cells and tissues under a microscope. According to the National Cancer Institute, pathology reports, which play an important role in diagnosing and treating cancer, also may contain information regarding the size, shape and appearance of a specimen as it looks to the naked eye.

People who are diagnosed with breast cancer may receive pathology reports that indicate the presence of tumor necrosis. According to Breastcancer.org, the presence of tumor necrosis means that dead breast cancer cells were found within the tissue sample. Tumor necrosis, though it is often limited to a small area within the tissue sample, suggests a patient is battling an aggressive form of breast cancer.

'BELIEVE' IN WHAT'S POSSIBLE

Through new foundation, cancer patient looks to help others in need

Despite having stage 4 breast cancer herself, Priscilla Westaway has made a commitment to aiding other cancer patients through her new foundation, Believe Anything and Everything is Possible.

By Mike LaBella
STAFF WRITER

What began as a small exhibition of photographs to raise money to help cancer patients and their families with expenses has transformed into a non-profit organization with the same meaningful goal.

Priscilla Westaway, a Salem native now living in Methuen, says she knows how hospital bills for cancer treatment can strain a family's finances because she's a cancer patient herself.

To raise money to help ease the financial burden of people undergoing cancer treatment at seven Lahey Health Cancer Centers, including the Lahey Clinic in Peabody where she is treated, Westaway is holding a two-day Art Gala on Thursday, Oct. 18, and Friday, Oct. 19, in the Hartleb Technology Center on the Haverhill campus of Northern Essex Community College.

More than 100 pieces of art, including paintings, photographs, sculptures, pottery, cigar-box guitars and other works, will be available for purchase.

"I also take blown-glass classes, so my blown glass will be for sale at this event, as well," she said.

All of the artwork is being donated to the fundraiser — the proceeds from which will support Westaway's new foundation, Believe Anything and Everything is Possible.

Courtesy photos

After years of pursuing her photography, Priscilla Westaway has recently taken to the art of blown glass. Her pieces will be for sale at her Art Gala fundraiser on Oct. 18 and 19 at Northern Essex Community College in Haverhill.

The Art Gala is Westaway's first big event since launching her nonprofit foundation.

Westaway, 51, was diagnosed in 2015 with stage 4 breast cancer, for which she continues to receive treatment.

An art major at Northern Essex Community College, she launched her first "Photo for a Cause" fundraiser last October.

"I felt compelled to do something, so I combined my love of art and photography for the pressing need not currently being addressed," she said about her reasons for initiating her original fundraiser.

For that inaugural event, Westaway assembled 100 black-and-white and color photographs donated by 50 artists to display and sell at an exhibition, held in the Hartleb center.

Bolstered by the success of "Photo for a Cause," Westaway brought her fundraising to a new level by obtaining nonprofit status for her new foundation.

"We continue to give to families within the Essex County areas, and so far, we have given $8,300 to families in need," she said. "I know that does not sound like a lot, but for a foundation just starting out, I feel that we are helping a lot of families at this time."

As she explains on her foundation's new website, believeanything.org, Westaway provides patients and their families going through cancer treatments with financial assistance so that they don't have to choose between the basic necessities versus the treatments and medications they need.

"Assistance is provided in the form of gasoline cards so that patients can get to and from treatments, grocery cards so that patients do not have to choose between food and copays for medications and taxi rides so that patients can make it to medical appointments," she said.

Westaway, a registered and certified pharmacy technician, is fully aware of what a cancer diagnosis can do to a family's budget.

"The costs are many, including PET scans, various treatments, medication, labs, doctor's visits, lengthy hospitalizations and more," she said. "And like many other cancer patients, I do holistic treatments, as well, including reiki, acupuncture and sound healing, and I eat all organic, which can get very expensive."

Westaway works closely with social workers at Lahey, who inform her of families in need.

"I've been told that the reaction by patients is often overwhelming," she said.

"We'll be hosting two or three fundraising events per year, and I'll also be seeking grants, which I could not do without my nonprofit status," she said.

In addition to her support from NECC, Westaway said Merrimack College in North Andover wants to become involved with the two-day art event, with the school's students and faculty potentially donating artwork for display and sale.

IF YOU GO

- **What:** Believe Anything and Everything is Possible Art Gala
- **Where:** Northern Essex Community College's Hartleb Technology Center, 100 Elliott St., Haverhill
- **When:** Thursday, Oct. 18, 9 a.m. to 5 p.m., and Friday, Oct. 19, 11 a.m. to 8 p.m.
- **How much:** Free admission
- **More information:** believeanything.org

SEEKING A CURE

Scientists, backed by federal agencies, study cancer at the molecular level

By Randy Griffith
CNHI News Service

A multi-agency government cancer research program has its roots in work that started nearly 20 years ago with one freezer unit and some advanced computer equipment in a wing of a local hospital.

The Clinical Breast Care Project of Walter Reed Army Hospital began in 2000 as a partnership with the Windber Medical Center, now Chan Soon-Shiong Medical Center at Windber, and the then-newly founded Windber Research Institute.

The collaboration has grown to include all forms of cancer research through what is now Walter Reed National Military Medical Center in Bethesda, Maryland.

Studies involve tissue specimens taken from cancer tumors and benign tissue, along with blood samples and anonymous patient data sets collected at military medical facilities around the country, and at Joyce Murtha Breast Care Center in Windber.

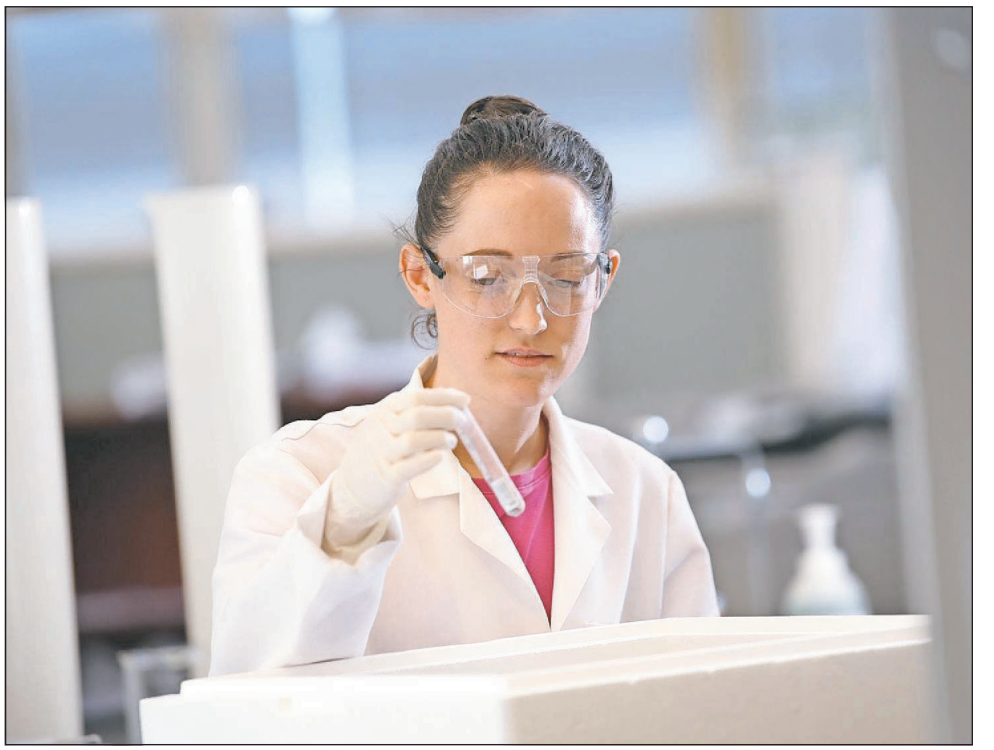
The specimens are cataloged with details about the cancer, the patient, treatment and outcome using software developed at the research institute, now Chan Soon-Shiong Institute of Molecular Medicine at Windber. The tissue and blood are stored in a growing collection of high-tech freezers in the institute's Richard Mural Biorepository, commonly called the biobank or tissue bank.

There are now more than a dozen barrel-sized freezers, which use liquid nitrogen to keep tissue samples frozen for storage.

Studies on the tissue generally fall into two areas:

- **Proteomics,** which analyzes molecular makeup of the proteins created by cancer cells and normal cells to look for differences that could be targets for cancer drugs.
- **Genomics,** which looks at the genetic makeup of the cells to identify those cancer targets.

Because both approaches involve thousands of pieces of information, they are analyzed using specially developed computer programs. The science of processing data for storage and retrieval is called informatics. When applied to cellular research, the process is sometimes called bioinformatics.



JOHN RUCOSKY/CNHI News Service

Research associate Amber Greenawalt looks over blood samples in the lab at Chan Soon-Shiong Institute of Molecular Medicine at Windber in Pennsylvania.

California cancer surgeon Dr. Patrick Soon-Shiong — who has been called the richest man in medicine — purchased the Windber centers in 2015 through his NantWorks organization. Soon-Shiong is minority owner of the Los Angeles Lakers and recently purchased the Los Angeles Times.

Soon-Shiong has said his medical mission is to revolutionalize how doctors tackle cancer by personalizing treatment for patients — even in rural areas.

APOLLO project takes off

Success of Walter Reed's research has attracted the interest of other agencies, which have gotten together as the Applied Proteogenomics Organizational Learning and Outcomes network, also called the APOLLO project. The network represents a collaboration between National Cancer Institute, the Department of Defense and the Department of Veterans Affairs to explore cancer at the molecular level.

There are four pilot studies underway using existing specimens, primarily from Windber's biobank, and with analysis and cataloging with an informatics network developed and managed by Windber's experts.

The APOLLO pilot studies have begun analysis of unique proteins found in the cells of breast, lung, prostate and gynecological cancer patients.

"Windber has built its strength in biobanking and informatics," said retired Army Col. Craig Shriver, director of the John P. Murtha Cancer Center. "That's where we are centering everything we do here at Walter Reed. It rests on those programs at Windber."

Both areas will soon require additional expansion, both in infrastructure and staff, Shriver said.

Stella Somiari is senior director of the biobank, where nearly 10,000 specimens are now stored for future and ongoing research.

"All of the centers that will be contributing tissues to APOLLO will all be working through our biobank," Somiari said. "We will be working with other centers

to determine how the tissue will be collected — writing the guidelines.

"It will be coming to Windber."

Storing tissue and information

Tissue banking, also called biobanking, for research is more than storage. Detailed information is maintained for each specimen, including cancer type, genetic makeup and protein profile — along with information about the patient's age, health, race, socioeconomic situation, medical treatment and clinical outcome.

Additional analysis will be done on new tissue to meet specific research needs defined by the scientists leading future projects, she added.

"We will work with the general team to process and ship to other centers," Somiari said. "We will be doing very specific analysis of the tissue to ensure the material is formatted as needed and sent to the specialized technical centers for the next level of analysis."

JOHN RUCOSKY/CNHI News Service

Research associate Preston Lehman checks samples in the tissue bank at Chan Soon-Shiong Institute of Molecular Medicine at Windber.

Studies of breast, lung, prostate and gynecological cancers are already underway by APOLLO researchers, using existing material, said Hai Hu, Windber's vice president for research.

Hu develops and oversees the informatics infrastructure used to catalog millions of data points for the specimens being studied, as well as results of those studies, which can be related back to the specimens and the original patient profiles.

"We are using them as a pilot study for the (future) studies," Hu said. "We can go through the path from beginning to end using these four pilot studies so we can better prepare for the major studies."

Researchers may include examining such areas as cancer grading — the extent cancer has spread from the original site; hormone receptors — parts of the cancer cell that attract hormones, which regulate cell functions; and analysis of lymph nodes — tiny bean-sized glands in the body's lymphatic system, where cancer cells often travel.

"We are studying full genome sequencing, RNA and global proteomics," Hu said. "It is all being put together for analysis."

Data mining at the DNA level

Genome sequencing involves analysis of the cells' basic building blocks: DNA, or deoxyribonucleic acid. Scientists break the DNA down to the sequence of compounds known as nucleotides that make up nucleic acid. They are compounds that include nitrogen, carbon sugars and phosphate. The process is sometimes called genome sequencing.

RNA, or ribonucleic acid, is present in all living cells. It acts as a messenger from DNA for controlling how cells function.

If the information is organized and accessible, researchers can use the file sets to identify possible new research, Windber scientist Leonid Kvecher said.

"With data mining, here's the data; do whatever you can," Kvecher said. "If you find something meaningful, design the experiment."

The advancing world of cancer research has required some adjustments at the Chan Soon-Shiong Institute.

Many of the traditional test-tube, lab-bench research has been automated or outsourced, Hu said.

"Technology has evolved a lot," he said. "In the past, one professor could start a lab doing one molecule for the whole life of the professorship.

"It's a thing of the past. Nowadays, thousands or tens of thousands of genes and proteins can be studied at the same time."

Growing area of science, medicine

Windber had two genome sequencing machines, but Hu said the analysis is better done by specialists.

"That sequencing is done most efficiently at a sequencing center," Hu said. "Heavy-duty sequencing is the mainstream study right now for genomics. Following these trends, we are outsourcing this work."

But the expansion of programs in the institute's wheelhouse areas of informatics and biobanking has required additional staff, with more expected, Somiari said.

Tom Kurtz, president and CEO of both Chan Soon-Shiong Medical Center and the research institute, said employment has fluctuated between 40 and 50 staff positions in recent years.

"Next year, we are budgeting for 50," Kurtz said.

"Our work has increased," Somiari said. "We may be needing more people to help us do what we are doing."

In a 2016 interview with The Tribune-Democrat, Soon-Shiong said the research happening at the Windber center will help revolutionize treatment by allowing doctors to better understanding the specific nature of an individual patient's cancer concerns.

"The solution was to take the tissue and allow the tissue to speak to you about what's going on with that cancer," Soon-Shiong said. "Then develop a vaccine to fight it so that the human body's own immune system is going to kill this cancer."

Study: Low-fat diet found to significantly reduce complications after breast cancer

Women who consumed a low-fat diet had a significantly reduced risk of death after breast cancer. However, women with other cancers who were also on a low-fat diet did not experience the same effect, according to results from the Women's Health Initiative Dietary Modification Trial that were discussed at the 2018 American Society of Clinical Oncology Annual Meeting.

In order to determine the effects of a low-fat dietary pattern on cancer outcomes, Rowan Chlebowski, M.D., Ph.D., a research professor with City of Hope's Department of Medical Oncology & Therapeutics Research in California, and colleagues from the Women's Health Initiative conducted additional analyses of a randomized primary cancer prevention clinical trial.

For the trial, 48,835 postmenopausal women ages 50 to 79 were randomly assigned to a low-fat diet; about 19,600 women were part of this group, and a nutritionist instructed them on how to reduce their fat intake to 20 percent of their daily calories, as well as eat more fruits, vegetables and grains. In the other group, approximately 29,300 women were taught about good nutrition and a healthy diet, but they did not have to change their eating habits.

Women on the low-fat diet continued it for 8.5 years; they also continued to have contact with a nutritionist. The study's results are now being reported after 17.7 years cumulative follow-up.

Women randomly assigned to a low-fat dietary pattern had a significantly reduced risk of death after breast cancer, according to a recent study.

After long-term follow-up, women randomly assigned to a low-fat dietary pattern had a significantly reduced risk of death after breast cancer; a favorable effect was more likely in those with evidence of central obesity who had lost some weight as part of the diet.

"The dietary intervention was successful in significantly reducing dietary fat intake with an associated reduction in weight of about 5 pounds," Chlebowski said. "Such a modest reduction in fat intake with minimal weight loss represents an easily achievable goal for many women, and one that can have significant health benefits."

However, there was no reduction in cancer mortality among women who were on the low-fat diet and had colon and rectum, ovarian, and endometrium cancers.

"It could be that the influence of the low-fat dietary pattern on breast cancer may reflect the more common role of progestins as drivers of breast cancer progression," Chlebowski said.

Chlebowski presented the research at the American Society of Clinical Oncology Annual Meeting, which each year attracts more than 38,000 oncology professionals and others who attend the conference to learn about the latest scientific research on cancer treatment, detection and prevention. City of Hope is an independent research and treatment center for cancer, diabetes and other life-threatening diseases. Designated as one of only 49 comprehensive cancer centers, the highest recognition bestowed by the National Cancer Institute, City of Hope is also a founding member of the National Comprehensive Cancer Network, with research and treatment protocols that advance care throughout the world.

Asparagine: Why it might be worth limiting

Healthy diets that include plenty of antioxidant-rich fruits and vegetables that can boost the body's natural immune system can help people in their fight against cancer. While some foods, namely unhealthy, high-fat/high-caloric foods, are best avoided, women who have been diagnosed with breast cancer who want to prevent the spread of cancer to other areas of their bodies may also want to cut some surprising foods from their diets.

Preliminary research now suggests limiting the consumption of asparagine, an amino acid, to dramatically reduce the ability of cancer to spread to other parts of the body. A study published in the journal Nature found that reducing asparagine consumption in laboratory mice with triple-negative breast cancer could dramatically reduce the ability of the cancer to travel to distant sites in the body.

Asparagine is found in foods like asparagus, whole grains, soy, seafood, eggs, poultry, beef, legumes and more. While reducing asparagine will not affect the original breast cancer tumor, it could stop cancer from showing up elsewhere in the body. Researchers suspect that many women with breast cancer do not lose their lives to the original breast cancer tumor, but instead they succumb to metastases or subsequent growths away from the primary site.

"Our study adds to a growing body of evidence that suggests diet can influence the course of the disease," said Simon Knott, Ph.D., associate director of the Center for Bioinformatics and Functional Genomics at Cedars-Sinai in California and one of two first authors of the study.

The research from this study was conducted at more than a dozen institutions. Apart from dietary restrictions, metastasis also could be greatly limited by reducing asparagine synthetase using chemotherapy drug L-asparaginase.

More research is needed as to whether similar results can be produced in human trials, making avoiding asparagine currently a helpful, but not entirely foolproof, method for preventing the spread of breast cancer to other areas of the body.

Entering menopause? Pay heed

Menopause occurs when a woman's reproductive cycle is over and she can no longer produce offspring.

For many women, menopause occurs around age 50.

While menopause itself is not a risk for breast or other cancers, it's important to know that some symptom treatments and other factors can increase the risk for cancer among menopausal women.

The North American Menopause Society says that a woman going through perimenopause and menopause may experience various symptoms, which can range from hair loss to food cravings to hot flashes to vaginal dryness.

The National Institutes of Health indicates some women undergo combined hormone therapy, also called hormone replacement therapy, or HRT, to help relieve menopausal symptoms such as hot flashes and osteoporosis. This therapy replaces estrogen and progestin, which diminish in a woman's body after menopause sets in.

However, NIH's Women's Health Initiative Study has found that women undergoing HRT have a higher risk of breast cancer, among other conditions.

WebMD says that evidence suggests that the longer a woman is exposed to female hormones, whether it's those made by the body, taken as a drug or delivered by a patch, the more likely she is to develop breast cancer.

That means that HRT can increase breast cancer risk and also indicates that the longer a woman remains fertile, the greater her risk for certain cancers.

Females who began menstruating before age 12 or entered menopause after age 55 will have had many ovulations. This increases the risk of uterine, breast and ovarian cancers, according to the American Society of Clinical Oncology. It also may impact a woman's chances of developing endometrial cancer.

Gaining weight after menopause can also increase a woman's risk of breast cancer, states the MD Anderson Cancer Center.

Therefore, maintaining a healthy weight or even losing a little weight can be beneficial.

Women who enter menopause are not necessarily at a higher risk for breast cancer, but some factors tied to menopause can play a role.

Females who want to lower their risk for various cancers are urged to eat healthy diets, quit smoking and maintain healthy body weights.

Some factors associated with menopause have been found to play a potential role in developing breast cancer.

Breast cancer in men: What to watch for

While the vast majority of breast cancer diagnoses involve women, men are not immune to the disease.

According to the American Cancer Society, the lifetime risk of getting breast cancer is about 1 in 1,000 among men in the United States. By comparison, the risk for women in the United States is 1 in 8.

While a man's risk for breast cancer is considerably lower than a woman's, the American Cancer Society still estimates that roughly 480 men will die from breast cancer in 2018, when more than 2,500 new cases of invasive breast cancer will be diagnosed in men.

In addition, the ACS notes that black men diagnosed with breast cancer tend to have a worse prognosis than white men.

Though breast cancer may be a disease widely associated with women, men should not hesitate to report any discomfort to their physicians, as the National Cancer Institute notes that men are often diagnosed with breast cancer at a later stage than women.

The ACS suggests that men may be less likely to report symptoms, thereby leading to delays in diagnosis. The more advanced the cancer is at the time of diagnosis, the lower the patient's survival rate.

Men are urged to report any discomfort or abnormalities in their chests to their physicians immediately.

Alcohol tied to increased rates of disease, experts say

Many people unwind with a glass of wine or a cocktail after a stressful day, and some research suggests that mild to moderate consumption of alcoholic beverages can have various health advantages.

According to the Mayo Clinic, moderate consumption of alcohol has been linked to a lower risk of developing and dying from heart disease, possibly reducing the risk of ischemic stroke and potentially reducing the risk of diabetes.

However, for some people, the risks of consuming alcohol may outweigh the benefits.

Breastcancer.org states that women who have three alcoholic drinks per week have a 15 percent higher risk of breast cancer than women who don't drink at all.

Many studies show that drinking alcohol may increase the risk of breast cancer, advises the Susan J. Komen organization.

The group says that pooled analysis of data from 53 studies found that, for each alcoholic drink consumed per day, the relative risk for breast cancer increases by about 7 percent.

Researchers aren't quite sure why there is an increased risk of breast cancer associated with alcohol intake, but experts at MD Anderson Cancer Center in Houston have some theories.

Some theorize that alcohol can increase levels of estrogen and other hormones that affect breast cancer formation and growth. Excess fat can lead to an increased cancer risk, and the consumption of empty calories through drinking alcohol can lead to unwanted weight gain. Furthermore, those who consume alcohol have increased amounts of folic acid in their systems, which can increase cancer risk.

Breastcancer.org states that, compared to women who don't drink at all, women who have three alcoholic drinks per week have a 15 percent higher risk of breast cancer. Experts also estimate that the risk of breast cancer goes up another 10 percent for each additional drink women regularly consume each day.

Keep in mind that a drink is defined as 12 ounces of beer, 5 ounces of wine or 1.5 ounces of liquor.

Women who want to do all they can to reduce their risk of developing breast cancer may want to avoid alcohol.

RYAN HUTTON/Staff photo

Breast cancer survivor June Black, a longtime aide to Congresswoman Niki Tsongas, is this year's recipient of the Rosalyn Kempton Wood Award for Inspirational Leadership given out by the Greater Lawrence Family Health Center. The award will be presented Oct. 27.

Spotlight shines on 'courageous role model'

Congressional aide to be honored for 'inspirational leadership'

By Paul Tennant
STAFF WRITER

If you have a problem with a federal agency, such as getting your Social Security check or receiving benefits from the Department of Veterans Affairs, and you live in the 3rd Congressional District, chances are you're going to be helped by June Black or one of the nine constituent service specialists she supervises.

Black, a lifelong Lawrence resident, is the district director for U.S. Rep. Niki Tsongas, D-Lowell, who is preparing to retire Jan. 3 after representing the 3rd District for the past 11 years.

Black, who earned her bachelor's degree in government from Simmons College in Boston and holds a Master of Public Administration from the University of New Hampshire, and her staff handle thousands of requests for help from the roughly 735,000 people who live in the district, which is centered in the Merrimack Valley.

She is also a two-time survivor of breast cancer and a tireless advocate for people who have been afflicted with that disease and other health challenges.

Her work has not gone without recognition. The Greater Lawrence Family Health Center has chosen her to be this year's recipient of the Rosalyn Kempton Wood Award for Inspirational Leadership.

The honor will be presented to her at the ninth annual In Pink Brunch and Comedy Show, which will take place Saturday, Oct. 27, from 11 a.m. to 2 p.m. at Andover Country Club.

She will share the spotlight with Loretta LaRoche, a comedian, stress coach and motivational speaker.

The first time Black was diagnosed with breast cancer was in 1990 when she was 37. Women are generally advised to start having regular mammograms when they reach 40, but Black underwent the procedure ahead of time.

Her family, she explained, has a history of cancer. It's a good thing she went for that early screening because it detected a malignant growth.

Early detection probably saved her life, she said. She underwent surgery, as well as chemotherapy and radiation, being treated at Dana-Farber Cancer Institute in Boston.

Black described her chemotherapy treatment as "short, but strong."

"I had excellent health care," she said.

For the next 24 years, she was cancer-free. Her activism in the Whitman Street Neighborhood Group in Lawrence led to a job as manager of the Lawrence office for then-Congressman Martin Meehan, D-Lowell.

Then, in 2014, a mammogram showed what she called "a tiny spot" that turned out to be malignant. Again, she underwent surgery, chemotherapy and radiation.

Medical treatment for cancer had improved considerably from her first bout, she discovered.

Black also learned she has the BRCA1 gene. It's "highly likely" a person with that gene will have cancer, she said. Because of that genetic factor, her daughters, Theresa Taft and April Black, receive regular mammograms.

Black herself has either a mammogram or an MRI every six months, just to make sure she's cancer-free, she said. So far, she has remained healthy for the

IF YOU GO

- **What:** Ninth annual In Pink Brunch and Comedy Show hosted by Greater Lawrence Family Health Center featuring Loretta LaRoche, silent and live auctions, raffles, and a full breakfast buffet
- **When:** Saturday, Oct. 27, 11 a.m. to 2 p.m.
- **Where:** Andover Country Club, 60 Canterbury St.
- **How much:** $50; proceeds to support women's health care, particularly for the underserved
- **More information:** glfhc.org/inpink2018

Work and breast cancer

STRIKING A HEALTHY BALANCE

Age is a risk factor for breast cancer, as the organization Susan G. Komen notes that the older a woman is, the more likely she is to get breast cancer. However, data from the National Cancer Institute indicates that breast cancer rates in women begin to increase after age 40, meaning many women diagnosed with breast cancer have to juggle both their disease and their careers.

The nonprofit organization Breastcancer.org says that breast cancer treatments can produce some cognitive side effects that affect thinking and memory. Memory loss and difficulty concentrating are two such side effects that can make it difficult for working women to do their jobs while being treated for breast cancer.

Professional women diagnosed with breast cancer may be able to take advantage of short- and long-term disability programs that provide a percentage of their incomes if they are diagnosed with an illness that prevents them from doing their jobs. In addition, Breastcancer.org notes that, in the United States, the Family and Medical Leave Act allows employees to maintain their benefits and keep their jobs while taking up to 12 weeks of unpaid leave to heal from serious health conditions.

It's important to set realistic goals at work while undergoing treatment for breast cancer.

Despite those options, many women may want to continue working while receiving treatment for breast cancer. Such women can heed the following tips, courtesy of Breastcancer.org, to overcome any cognitive effects of treatment so they can continue to perform their jobs capably.

■ **Start taking notes.** Start taking notes during meetings, important work-related conversations and even doctor's appointments to counter any issues with memory. Keep such notes on a tablet or smartphone so they can be quickly and easily accessed throughout the day.

■ **Write down deadlines and work schedules.** Accomplished professionals may keep lists of deadlines and work schedules in their heads, but that internal list might not be so reliable while women are being treated for breast cancer. Make use of the calendar function on your smartphone or tablet to note deadlines, even setting alerts so you receive routine reminders when important dates are coming up.

■ **Make and routinely update a to-do list.** Some professional women diagnosed with breast cancer may be juggling work, treatment and their families. Keeping a to-do list and checking items off as they're completed can help women effectively manage such juggling acts and save time.

■ **Set realistic goals.** Breast cancer treatment can produce a host of side effects, including fatigue. So women who plan to continue working during treatment should be sure to set realistic goals that take into account the effects that treatment may have on their energy levels. If need be, delegate more tasks and ask for more help.

Many women continue working while being treated for breast cancer. A few simple adjustments can help such women overcome many treatment-related obstacles.

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past four years.

She said that she has two things going for her in her two-time struggle with breast cancer. First, the cancer was detected early both times.

Second, she has been covered by excellent health care plans.

"I was very fortunate," she said.

In addition to her duties as a top aide to the Merrimack Valley's congresswoman, Black works hard to increase awareness about breast cancer. This includes participation in the Jimmy Fund Walk and Relay for Life, both of which raise money for cancer research and treatment.

She was the keynote speaker for the Lawrence Mayor's Health Task Force Annual Breakfast in 2015. In her role as district director for Tsongas, she often provides the Greater Lawrence Family Health Center with information on legislation and policy matters, according to Mary Lyman, development and community relations manager for the center.

"June Black is a truly deserving recipient of the third annual Rosalyn Kempton Wood Leadership Award," said John Silva, president and chief executive officer of the Greater Lawrence Family Health Center. "While tirelessly working for many years to improve the lives of Merrimack Valley residents, she has also served as a courageous role model and advocate for women's health, especially for those who suffer from serious and life-threatening illness. We in the Valley are proud of her leadership and commitment to better health for our community."

Like her boss, Black will be retiring when the new Congress is sworn in on Jan. 3.

"It's time," she said. If the 3rd District's new representative or his or her staff have questions, "I'm a phone call away," she added.

Again, like Tsongas, Black is looking forward to spending more time with her grandchildren: Nolan, 7; Samuel, 4; and Lydia, 2. They are all the children of Drew and Theresa Taft.

She said that she and her husband, Stephen Black, have remained in Lawrence because of "family and community."

COPING WITH BREAST CANCER

Preparation and support are key to navigating diagnosis and treatment

By John Zaktansky
CNHI News Service

The steps leading up to a life-changing diagnosis — such as breast cancer — can take many routes, but the general buildup can be similar.

"A test is done because there is a concern. A doctor calls you and wants to talk with you about it. You know there could be some bad news, but you aren't sure what that may be," said Dr. Anthony Ragusea, a psychologist in Pennsylvania.

One way to navigate such a potentially pivotal appointment? Bring a loved one or friend.

"Once you hear a big diagnosis, you may not hear what is said next, such as treatment recommendations or a prognosis," Ragusea said. "It can be hard to think rationally when you are dealing with something so potentially emotional."

Dr. Julie Hergenrather agreed.

"You definitely want to bring a second set of ears and eyes. You will receive a lot of information on what the cancer is, what the treatment may be, side effects to expect, and so on," she said. "We know that when patients are stressed, they only remember about 30 percent of what their providers say. It is good to have a second set of ears, and that person should take notes and ask questions."

If you think of questions after the initial shock of the appointment, don't be afraid to make a phone call to your doctor or nurse navigator.

Dr. Rosemary Leeming said that she has learned to handle those early appointments differently with patients.

"Years ago, when I was first in practice, I'd ask people to come in and sit down, but in many cases, they already could guess what was about to come. I began to worry about people driving in anxiously and getting in an accident," she said. "I began to ask people when and where they wanted to get results by phone. I may call a woman after-hours if I know she'll be home with her spouse."

One of the first things she stresses in such a conversation is the realities of breast cancer — that the condition isn't an automatic death sentence and is quite treatable in many cases if caught early and treated properly.

"One diagnosis isn't an end-all diagnosis in many cases," she said. "A vast amount of people do very well with breast cancer, and it may not mean having to go through the course of treatment we subscribe initially."

The psychological impact of a breast cancer diagnosis is different for each person, and it can manifest itself in ways that are hard to predict, Ragusea admitted.

"Initially, there is some shock and an inability to understand the depth of the diagnosis, but then in a day or two or so, things may seem to become OK. Then, a couple of days or weeks later, the patient may be upset again," he said. "There can be different levels of sadness, anger and even guilt if you feel a diagnosis is your own fault."

Over time, things typically stabilize as the patient comes to terms with the diagnosis and better understands and gets used to the treatment and how the whole process will affect lifestyles, according to Ragusea.

"But then sometimes things can take a turn for the worst, treatments all of a sudden become harder or it all feels like things are falling apart. Things may go well for a period of time with treatments and little to no side effects, but then the patient feels like she is hit by a ton of bricks," he said. "You have to be prepared to address those downturns, too."

The psychological impact of a breast cancer diagnosis is different for each person, and it can manifest itself in ways that are hard to predict, according to one psychologist.

One coping strategy that can be helpful during the roller-coaster process of a breast cancer course of treatment is distraction, according to Hergenrather.

"We recommend people stick to their normal routine. Get some exercise and talk to people that are important to you. Do some things that are fun and engaging to you," she said. "It is not helpful for you to stop going to work and sit at home and stew about the situation. These sort of patients seem to ruminate on the topic and feel worse."

Some people tend to cope by going online and Googling the diagnosis and what may be next — and that process can be beneficial if done correctly, according to Leeming.

"As a general rule, more information is better. The more people know, the more details we can discuss throughout the process. However, it is important to question what is good online," she said. "We recommend good, well-researched websites such as those for the National Cancer Institute or the American Cancer Society. There are less-known sites and a lot that people can put out there on any health-related topic can be completely inaccurate and frightening."

Ragusea recommended developing a strong personal support system for tackling some of the scariest parts of the diagnosis and treatment process.

"It can be really important, but not everyone has one. Leaning on trusted friends and family can be a big relief, but you have to be willing to ask for help despite feeling guilty for burdening others with your problems," he said.

"Often, friends, family and co-workers are more than willing to help, but don't want to initiate the conversation because they don't want to presume the patient needs help or make the patient feel worse. Meanwhile, the patient assumes no one cares because no one is saying anything. It is up to the patient to initiate things and guide those close to them with what sort of help they need."

Caretakers of those dealing with a breast cancer diagnosis are also part of the process and need to prioritize open communication with the patient, according to Hergenrather.

"It helps avoid frustration, assumptions and reduces the chances that both sides get upset with each other. It is OK to talk about what it is like being the caretaker and what it is like being the patient," she said. "It is also good to get more than one person involved in the caretaking process so that one person doesn't have to handle every step of the process."

It can be hard for women to put more burden on their family members — especially those that are the primary caretakers of the household, according to Ragusea.

"It is important for the family to let the patient know that it is OK that they are taking on more responsibility so the patient can focus on treatment — in many cases, this is a way that those close to the patient can contribute and feel useful during the process," he said. "You can tell the patient, 'I can't go through the treatments or take the pain away for you, but I can do this.'"

Ultimately, all breast cancer patients are encouraged to connect with psychology services during their treatment process, even if only to make a connection with counselors in case, down the road, more involved services are needed.

"Many patients right off the bat feel they are handling the initial diagnosis just fine. For me, the first visit many times isn't about trying to address something, but more about getting some face time, making sure the patient knows I am available," he said. "If the patient is later struggling more than she thought she would be, or something changes in treatment, they may say they want to come back."

Some of the warning flags that Ragusea shares with patients and their caretakers include the inability to function as they once did.

"The patient may not enjoy things she once used to enjoy, may not be able to do her job or even possibly struggle with tasks of daily living, such as cleaning the house or getting dressed or showered or eat appropriately," he said. "This can be a risky time for a patient. They see they aren't functioning well, and may start to ask if it is worth continuing."

These are areas that medical professionals can help the patient and those close to her maneuver through — whether via counseling services or changes to the treatment process. Counseling can also help a patient deal with personal struggles that may come from procedures such as a mastectomy that can alter physical appearance and cause some personal doubts on attractiveness and sexuality.

"If you feel like treatment could affect a sense of yourself as a mother or wife or woman in general, that can be explored through psychotherapy, where we can explore the basis of those fears," Ragusea said.

"If it is a matter of worrying about if your husband will no longer find you attractive, we can talk with the husband, determine if those fears are well-founded or not and work to find a viable solution."

Ultimately, Ragusea said that there are certain traits of patients who tend to navigate the process well.

"The best outcomes come in patients who are assertive about the process, try to get more information and have an active coping style," he said. "These are patients who have a plan for their own self-care during treatment, a plan for problems they anticipate may come up and a plan for getting help if things start to spiral downward."

A UNIVERSAL MISSION

Lawrence General Hospital focuses breast health outreach on Latinas

By Zoe Mathews
STAFF WRITER

Lawrence General Hospital wants to have a "charla" — or chat — about breast health.

The hospital has been holding charlas at various locations across the Merrimack Valley in coordination with the YWCA, to provide local women with education and information about breast health.

In churches, beauty salons, homes and other informal gathering spaces, women and men receive vital information through the hospital's Latina Breast Health Outreach Program, in collaboration with the YWCA Northeastern Massachusetts in Lawrence.

The program, which began in 2011, has served more than 5,500 Latinas in the community, providing essential education about the importance of mammograms and maintaining overall breast health.

"The charlas are a way to get into the community," said Debra Dailey, director of radiology at Lawrence General.

"In addition to providing education on breast health, we also schedule screenings and connect women to additional services like health insurance and primary care," she said. "Once a screening is scheduled, we also make reminder calls to ensure that patients get to appointments, and assist with navigation should they need follow-up visits or treatment."

Elena Santana, a mammographer at Andover Medical Center, said the bilingual aspect makes all the difference, given that a call from a doctor is intimidating on its own, let alone with a language barrier.

Debra Dailey, left, director of radiology at Lawrence General Hospital, and Elena Santana, bilingual breast health coordinator and mammography supervisor, stand beside an imaging machine at the women's health imaging center at Andover Medical Center. Both women say that increasing access to the Latina population is among their priorities.

TIM JEAN/Staff photos

Lawrence General Hospital serves women through its Latina Breast Health Outreach Program at its women's health imaging center on the third floor of Andover Medical Center, pictured, as well as at the main hospital campus in Lawrence.

CONNECTING TO CARE

Mammographies and other breast health services are provided at:
- **Lawrence General Hospital,** 1 General St., Lawrence
- **Andover Medical Center,** 323 Lowell St., Andover

To learn more about the Latina Breast Health Outreach Program, call 978-946-8000, ext. 2437.

"When patients come in, Latinas who need additional imaging ... we find speaking to them in Spanish" really helps, she said. "The communication part is so important."

Latinas tend to be diagnosed with late-stage breast cancer more often than most other ethnicities, according to the Susan G. Komen Foundation. This is due to lower mammography rates among them, as well as more delays in receiving follow-up care when a screening finds an abnormality.

This cultural disparity reinforces why the Breast Health Outreach Program continues to be relevant and important. The program primarily targets Latina women in Lawrence, but is open to men and women across the Merrimack Valley.

The Breast Health Outreach Program is staffed by two employees who work in close collaboration with a team of bilingual YWCA outreach health ambassadors.

The program recently was awarded a $10,000 grant from the Eastern Bank Charitable Foundation.

Santana said the grant will be used to continue their outreach, pay for wigs for patients in treatment, buy transportation vouchers for those who need assistance getting to and from appointments, and help with copays.

LOOKING GOOD AND FEELING BETTER

BRYAN EATON/Staff photos

Jeanette Cattan, left, fits Marie Quigg of Haverhill with a wig at the Gerrish Breast Care Center at Anna Jaques Hospital in Newburyport. Cattan, a breast cancer survivor, runs the American Cancer Society's Look Good Feel Better program at the center.

Breast cancer survivor helps boost patients' self-confidence

By Katie Lovett
CONTRIBUTING WRITER

The news of a cancer diagnosis changes one's life in an instant and brings with it a lot of emotions. There's fear, worry and loss — the loss of self-esteem, self-confidence and control over much of your life.

Diagnosed with breast cancer in 2013, Jeanette Cattan underwent six months of chemotherapy and six weeks of radiation, as well as a mastectomy and reconstructive surgery.

Cattan, who was living in Newton, New Hampshire, at the time with three very young children, sought treatment at Anna Jaques Hospital in Newburyport. She said having access to state-of-the-art care and resources locally without having to commute into Boston helped ease some of her stress.

Anna Jaques' state-of-the-art Gerrish Breast Care Center located across from the hospital at Newburyport Medical Center and its affiliation with Beth Israel Deaconess Medical Center gave her added confidence in her decision and further eased her stress, Cattan said.

But the rigorous treatment and its impact on her appearance took a toll, said the 43-year-old who grew up in Peabody and now lives on Plum Island in Newburyport. That ultimately became another thing that cancer would have control of.

She found a way to take some of that control back through Look Good Feel Better — a free national program offered through the American Cancer Society. Cattan first became aware of it as a high school student at Whittier Regional Vocational Technical High School in Haverhill.

Cattan says that the American Cancer Society's Look Good Feel Better program is a wonderful way for cancer patients to gain some self-esteem. She initiated the program at Anna Jaques after her own breast cancer diagnosis.

A hairstylist today, Cattan attended a presentation on the program, which teaches makeup and hair techniques to cancer patients, and it struck her as something she would like to volunteer with one day.

Life got in the way of that plan for a while — until Cattan was undergoing her treatment.

Discouraged and suffering from low morale, Cattan looked up the program. The closest hospital at that time to offer Look Good Feel Better sessions was Lahey Hospital in Burlington. She made the drive, unsure of what she'd find. She worried the session would be depressing.

"I found it was just the opposite," she said. "It boosted my self-confidence."

Cattan knew she wanted to bring the program to Anna Jaques, and she received full support from staff.

She recalled words she heard from Dr. Peter Hartmann, the medical director of the Gerrish Breast Care Center, as she was undergoing her treatment. The better you can feel with a positive mental attitude, he told her, the better you can get through the course of treatment.

"The Look Good Feel Better program is one of the first ways you can gain control over a very uncontrollable situation," Cattan said.

At Anna Jaques, the two-hour program is offered four times a year and is open to patients of all ages with all types of cancer. Patients undergoing treatment at any hospital are welcome to attend.

Participants are given a bag full of over $200 worth of cosmetics and beauty products, all donated from major companies, such as Lancome, Avon and Smashbox. They also watch a video presentation by fashion consultant and TV star Stacy London, which discusses wardrobe textures and colors intended to ease the discomfort of cancer treatment and also boost morale.

Cattan, in addition, has started a wig bank for cancer patients, which is available at each session, as well as by appointment. The natural and synthetic-hair wigs are offered free to women who have a financial need.

For more information on the wig bank or the Look Good Feel Better program through Anna Jaques Hospital in Newburyport, call Cattan at 978-204-4720 or visit lookgoodfeelbetter.org.

Treatment Troubles:
3 potential side effects

According to the Sidney Kimmel Cancer Center, breast cancer treatments can create both long-term side effects and ones that present themselves later.

Long-term side effects are those that begin during treatment and continue after all treatments have stopped, while late side effects refer to symptoms that can appear weeks, months or even years after treatments have ended.

The list of potential side effects of breast cancer treatments is lengthy, but may include the following conditions or issues.

Fatigue

Breastcancer.org notes that fatigue is the most common side effect of breast cancer treatments, with some estimates suggesting it affects as many as 90 percent of all patients. Some breast cancer patients may experience fatigue after treatment and find it's worsening because they are eating less and not getting enough nutrients. In such instances, the initial fatigue may make people too tired to cook, ultimately contributing to more fatigue when they are not eating or eating convenient yet potentially unhealthy foods. Cooking healthy foods in bulk when fatigue is not overwhelming and accepting others' offers to cook is a great way for cancer patients to ensure their diets are helping them combat fatigue and not making fatigue worse.

Lymphedema

Johns Hopkins School of Medicine notes that, following breast cancer treatment, some patients may suffer from lymphedema, a condition characterized by the accumulation of lymphatic fluid in the tissues. Lymphedema most often occurs in the arms, but can contribute to swelling in other parts of the body as well. Why some people suffer from lymphedema after treatment and others don't is a mystery, though surgeons at Johns Hopkins Breast Center have noticed a low occurrence of lymphedema in patients who have undergone sentinel node biopsies or axillary node dissection. Breast cancer patients are at risk of lymphedema for the rest of their lives after treatment, and while there's no way to prevent it, patients should avoid getting needle sticks or blood pressure tests in arms where lymph nodes were removed. In addition, any injuries or cuts in arms where lymph nodes were removed should be treated with vigilance.

Infertility

Many women will stop menstruating while undergoing chemotherapy or after chemo treatments, and that cessation is often temporary. These irregularities may be traced to hormonal therapies that make the ovaries stop producing eggs. However, in some instances, even premenopausal women may have trouble getting pregnant after hormonal therapy. Breastcancer.org notes that women whose periods do not return after treatment may still be fertile, but also notes that women who are close to menopause when beginning chemo may become permanently infertile. Women who have been diagnosed with breast cancer who are concerned about post-treatment infertility should speak with their physicians immediately about their prospects of getting pregnant after treatment, including fertility treatments and the potential safety risks of getting pregnant after being diagnosed with breast cancer.

Regrowing and caring for hair after chemotherapy

Chemotherapy and radiation are common treatment options for people who have been diagnosed with cancer. While radiation may be targeted at specific areas, chemotherapy is systemic. This means it affects the entire body. As a result, as chemotherapy kills fast-growing cancer cells, it also kills or slows the growth of healthy cells, including hair cells, that divide and grow quickly, explains the National Cancer Institute.

When chemotherapy treatment is completed, the body is typically capable of regenerating new hair, but that can take some time. Women who consider their hair a large part of their identity may have strong concerns and fears regarding hair loss and what their hair may look like when it begins to regrow. Understanding what to expect and what they can do to facilitate the regrowth of hair can help women better handle what lies ahead.

New hair typically begins to grow within one to two months of the last chemo treatment. Breastcancer.org says people who have undergone chemotherapy may notice soft fuzz forming on their head roughly two to three weeks after the end of chemo. This will be followed by real hair growing at its normal rate one month afterward.

Two months after the last treatment, an inch of hair can be expected. How hair grows back elsewhere on the body, such as the eyelashes, eyebrows and pubic area, varies from person to person. Experts at the Robert H. Lurie Comprehensive Cancer Center's Dermatologic Care Center at Northwestern University in Chicago recommend speaking with a doctor if hair is not regrowing quickly, which can be the result of low levels of iron or zinc or even thyroid problems.

To help the process along, some doctors suggest the use of supplements like biotin. The National Institutes of Health says biotin is a B vitamin found in many foods that helps turn carbohydrates, fats and proteins into energy. There is some evidence that taking biotin can help thicken and speed up the growth of hair and nails, but more research is needed. Rogaine, the baldness treatment, also may be advised, as it's been shown to speed hair regrowth in breast cancer patients who have lost their hair, advises Health magazine.

Experts say that while the body is typically capable of regenerating new hair following chemotherapy, the process can take some time and patience.

It is not uncommon for hair grown after chemotherapy to look and feel different from hair prior to treatment. Someone who once had straight hair may develop a wavy mane afterward. While drastic changes are not common, blond hair may darken.

As hair grows in, certain areas on the head may grow faster than others. Working with an experienced stylist can help a person achieve a look that is evened out and stylish at any length. Rosette la Vedette, a headwear retailer and cancer resource, suggests making a first trip back to the salon a special experience with a glass of Champagne. Cutting hair won't make it grow faster, but it can help a woman return to a sense of normalcy.

It can be nerve-wracking to wait for hair to regrow after chemotherapy. But patience and an understanding of the road ahead can assuage any fears breast cancer patients may have about regrowing their hair.

for the Movement" dance performance she spearheaded just months after her first surgery.

"It takes a community to heal," she said on a recent afternoon. "I was incredibly blessed. People were so kind and thoughtful. They were so appreciated."

Her journey with cancer started almost 25 years ago while pregnant with her first daughter. She discovered a lump in her left breast. The precancerous mass was biopsied and removed, and yearly mammograms became a part of her annual health care routine.

For years, mammography did not show anything concerning, but when Leonard-Flynn was 44, she felt a change in her breast tissue and knew something was amiss.

"Those things work if you use them," she said of the laminated instruction cards designed to hang in showers. "If you know your body, you know your body."

Her local physician referred her to Dana-Farber Cancer Institute in Boston, where she was diagnosed with stage 3 breast cancer, ductal carcinoma, HER2 negative. The tumor was on her chest wall, and she underwent a bilateral mastectomy.

"I am constantly reminded," she said of her battle with cancer. "Every time I get in the shower, every time I change my clothes. It never goes away. You look at life as every day, you don't live it in the future."

The self-proclaimed "dance mom" to her second daughter, Jessica, knew she wanted to find a way to help others with cancer. It was during a six-hour car ride in 2012 to upstate New York that she and her family brainstormed the idea of gathering dancers to perform at a benefit at Haverhill High School. The show sold out and raised $5,000. People had to be turned away at the door due to room capacity limits.

"I couldn't believe how successful it was," she said.

Every year since, she and her husband, James Flynn, have organized a much larger "Move for the Movement" dance performance. This year, it will feature a series of six individual shows over two weekends, staged with the help of more than 20 local volunteers.

Rose Leonard-Flynn poses with her husband, James, and their daughters, Rachael and Jessica.

"I'm giving back to all of my friends and family, the doctors, everyone who helped me," she said. "It's to help find a cure.

"One day, someday hopefully, this will make their lives easier," she said of people with a cancer diagnosis.

Upcoming shows are scheduled for Jan. 12 in Sutton and Jan. 19 and 20 in Andover. Around 2,500 elite dancers from performance schools across the region are set to present 40 different acts, she said. "Move for the Movement" has such a following that many dance schools now contact Leonard-Flynn to volunteer to perform.

"That's a very humbling thing," she said. "It's not just about me. It's about moving forward and fundraising.

"They've given back in the most powerful way," she said of the dancers.

Funds are primarily generated through ticket sales and are donated to the American Cancer Society through Leonard-Flynn's Rosie's Riveters, a team she created for Haverhill's annual Relay for Life at Northern Essex Community College. For the last six years, her team has committed to walking or running for 24 hours straight, with Leonard-Flynn herself trekking up to 25 miles during 24 hours.

"I'm still here. I'm still alive, so I'm going to do that for me," said Leonard-Flynn, who is already gearing up for next year's Relay for Life on June 7.

Leonard-Flynn has always loved working with children and was a career nanny before her diagnosis, which allowed her to stay home with her two daughters, Rachael, 23, a graphic designer, and Jessica, 20, a professional dancer with BoSoma Dance Company.

Leonard-Flynn was raised in Tupper Lake, New York, and currently works as an educational support aide at Tilton School, a Haverhill elementary school.

She calls her husband, also a graphic designer, her rock.

"I can't do this without him," she said. "He's been everything from day one. He's been there. He's put up with me."

In 2017, he successfully nominated her to be a YWCA Northeastern Massachusetts' Tribute to Women honoree.

"There's a stronger bond than before," Flynn said of his relationship with his wife. "If any good has come out of it, that would be it. I see us as more than just husband and wife. We're actually best friends."

Cracking the code of breast cancer risk

By Calley Hair
TRIBUNE NEWS SERVICE

For Irene Gielen, it was better to know.

Her grandmother had died of breast cancer when she was 40. At 30, Gielen, who works in an oncology clinic, started advocating to her health care provider that she needed to start breast screening younger than the recommended age of 45.

Then, in December 2015, doctors found a tiny suspicious spot in her breast. Gielen decided to undergo genetic testing for any mutations she could have inherited that would heighten her risk for certain cancers.

A few weeks later, Gielen found out she was BRCA1 positive. It meant she had a hugely increased lifetime risk for cancer — around 60 percent for breast cancer and around 50 percent for ovarian cancer.

Her reaction was unexpected.

"I felt relief. Because I knew there was something," Gielen said, recovering in her home in Washington State 17 days after an operation to remove her ovaries and fallopian tubes.

"I have an answer, and I know what my game plan is going to be."

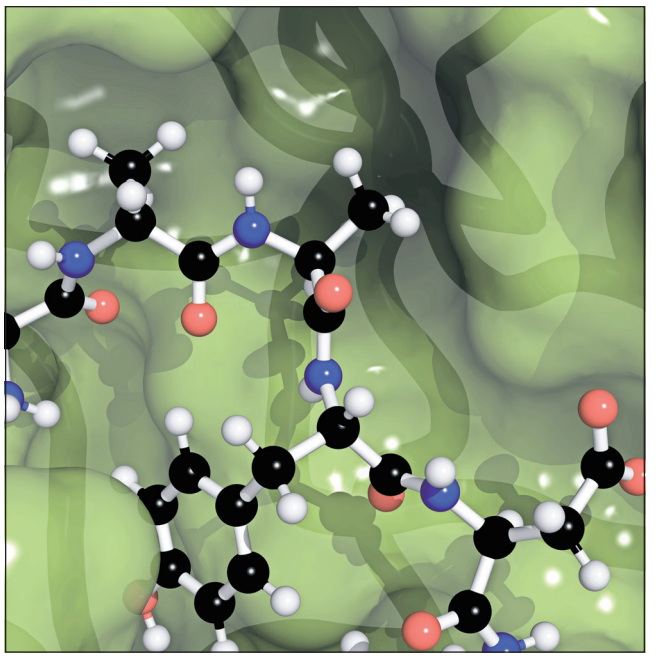
That game plan involved four surgeries, and possibly a fifth. Gielen underwent a double mastectomy in 2016, followed up by two breast reconstruction surgeries. She had her tubes and ovaries removed in August, and plans to keep an eye on her uterus to see if a hysterectomy will eventually become necessary.

It's a hard, draining process, both physically and emotionally, she said. But it was an easy decision. A mother of two teenage boys, Gielen is also studying to obtain her master's degree from Gonzaga University and become a nurse practitioner.

She worries less about the future now.

"I think it was harder on my husband than it was on me. Because for him, it was the unknown. But I felt like I could handle it," Gielen said.

Now 41, Gielen is adding to the growing chorus of patients, doctors and counselors who are advocating for genetic testing as a tool to gauge cancer risk. Genetic tests arm people with the information to make potentially difficult, but necessary, choices about their health — ideally, before they become a cancer patient.



Certain mutations in the BRCA1 gene are associated with increased breast cancer risk.

Know your mutations

BRCA1 is one of many genetic mutations linked to an increased risk of cancer.

There are more than 1,000 mutations being studied, but only 35 have been solidly linked to an increased risk of cancer. Of those, BRCA1 and BRCA2 are most common, making up about half of breast cancer cases traced to a genetic mutation.

Women with an altered BRCA1 gene have a 50 percent to 85 percent risk of developing breast cancer by age 70, and their risk of developing ovarian cancer is 40 percent to 60 percent by age 85. For BRCA2, the breast cancer risk is the same, though the risk of

ovarian cancer is lower, at 16 percent to 27 percent.

Other less common mutations are also linked to breast cancer — PALB2, PTEN, CDH1, and dozens of others make up an alphabet-soup's worth of potential markers of increased risk.

However, the vast majority of breast cancer cases aren't linked to any identified mutation. Genetics only account for between 5 percent and 10 percent of breast cancer cases, as far as we know. But it's a rapidly changing body of research, said Dr. Gina Westhoff, an oncologist specializing in gynecology.

"What we're seeing now are that the number of genes being discovered are being better characterized, regarding how much risk they are," Westhoff said. "More and more genes are being added to the list where we should be offering risk-reducing surgery."

The pros and cons of risk-reducing surgeries, like the ones undergone by Gielen, depend on a combination of variables. How high is the risk? How old is the patient? What's the family history? What kind of cancer is the patient at risk for? Is it an easily identifiable cancer like breast cancer, or something like ovarian or pancreatic cancer, that can't be caught early with consistent screening?

It's a dizzying decision. Westhoff strongly feels that any decision requires a guide, preferably one with a medical degree, to help patients sift through all the competing factors.

Once upon a time, genetic tests cost thousands of dollars and could only be ordered by a health care provider. But that's changing, fast.

"What is new is our ability to massively sequence DNA in a very quick and cheap way," Westhoff said. "Now, it's so much easier for people to get tested, because the test is cheap."

A growing number of doctors and counselors are advocating for genetic tests as a way to provide people with information to make potentially difficult, but necessary, choices about their health.

Genomes for all

"There are parts of all of us yet to be discovered," declared a recent commercial for 23andMe, a popular genetic testing company. "And through our DNA, we are all connected."

Seemingly overnight, 23andMe became the choice for direct-to-consumer genetic testing, with viral videos of people discovering facts about their heritage, ancestry and health snagging millions of views. The company got an additional boost last year, when it became the first direct-to-consumer testing company approved by the Food and Drug Administration to test for 10 genetic mutations linked to certain diseases.

A 23andMe kit for health and ancestry costs around $200. The sample can be collected in your home, with results sent via mail.

Both Westhoff and her colleague, Dr. Cory Donovan, an oncology surgeon focused on breast health, agree that the democratization of genetic testing is a double-edged sword.

On the one hand, Donovan said, widespread genetic testing is "bringing out a conversation about our families. I feel like people should be talking with their families about who had what, and when. That, I think, is way more valuable."

"I had a patient who recently found out that her cousin had a genetic mutation, and then she found out she had breast cancer. And she would never had been screened if she had never found out about her cousin," Donovan continued.

But there are definite concerns about the false sense of security that can come with a genetic test, especially one that doesn't require any kind of professional counseling to obtain. For instance, 23andMe has been approved to screen for three mutations linked to breast cancer, but none of them are for the most common red flags. The test screens for a series of rarer mutations, usually found in people with Ashkenazi Jewish ancestry.

"If you didn't know you had Ashkenazi Jewish heritage, if you found out you had one of these mutations, that could be really life-altering and important, and I don't think that information should be necessarily curtailed. But what's important for people to understand is that's only three of very many mutations we know on BRCA1 and 2," Donovan said.

"What I worry about is that people get tested by 23andMe; have a negative test result; and say, 'I'm safe. Done. I'm not at risk for breast cancer, I'm not going to get my screening, why would I bother?'"

Westhoff said there are other genetic panels patients can order through their doctor that are more comprehensive. Those, too, tend to be relatively affordable, and can give a more complete picture of a person's genetic makeup. But there's still plenty we don't know.

"All genetic testing, you can be falsely reassured, because we only can test for what we understand right now," Westhoff said. "Even the bigger panels, we don't understand all the genes very well and what the magnitude of risk is, so we don't know what to do with that information."

There's another concern, too, linked to privacy.

Genetic testing results go into a national database, and insurers can access that data to guide their decisions on who to cover.

"Health insurance, we have the protection currently (under) the Affordable Care Act. You can't be charged more or dropped off health insurance based on any pre-existing conditions, and cancer genetic mutations are considered pre-existing conditions," Westhoff said.

But for life insurance and disability insurance, no such protection exists.

That shouldn't scare patients off of getting tested if they're concerned about their family history — objectively, getting cancer is worse than being denied life insurance, Westhoff pointed out — but it's one of many factors to consider. And it's a count against testing everyone, for everything, regardless of their family history.

"The biggest barrier to implementing universal testing for everyone, and the biggest barrier to you ordering the test on yourself today, is there is absolutely no protection in disability and life insurance discrimination," Westhoff said. "Every person I test, I talk to them about those risks, and I say, you just have to go in eyes wide open."

Open eyes

Irene Gielen saw Westhoff for a post-op checkup on Sept. 21. The appointment cleared her for a Sept. 24 return to work, where she cares for patients at the PeaceHealth Southwest Infusion Center in Vancouver.

Her medical training prepared her for becoming a patient, she said. At the checkup, she sat side-by-side at the computer with her nurse, poring over the details of her condition.

Becoming a patient has also made her a better health care provider, she said. Having been on both sides of the process, she can empathize.

"Address the emotional aspect with the patient. Let them know you're here for them," Gielen said. "Having that experience made me a stronger caregiver."

The emotional side of being a patient, though, was still a gut-punch. In particular, Gielen said the decision to remove her breasts meant cutting off a part of her identity. Reconstruction was excruciatingly painful.

"It does not prepare you," she said. "I felt like I went through a complete emotional loss at that time. You lost what you had identified to you. I felt the same way about my ovaries, but not so much. This had more impact."

Despite that, Gielen has zero regrets. The eldest of 10 siblings, she persuaded all of her sisters to get tested for a BRCA mutation. They all tested negative.

"Women in general, we're very strong people, very strong inside physically, mentally, cognitively, spiritually," Gielen said. "Just like I told my sisters — if there's any kind of doubt, you do need to go get tested."

We're banking on a cure.

October is Breast Cancer Awareness Month.

But for survivors, it is every single day. We celebrate those who have shown and continue to show courage and perseverance in facing cancer head on.

Stop by any Institution for Savings office during the month of October to pick up a free pink ribbon pin and make a donation to a local community breast cancer support organization.

COUTURE *for a* CURE

JOIN US! OCTOBER 25, 2018

This year's exciting 'Celebrating Survival' event will be held at the Blue Ocean Event Center in Salisbury and will be emceed by North of Boston Media Publisher Karen Andreas. The event will feature a 'marketplace' of local businesses showcasing 'Look Good, Feel Good' related products and services, as well as a fabulous fashion finale! **All proceeds will go directly to the Gerrish Breast Care Center at Anna Jaques Hospital to improve services and support patients and their families.**

For tickets and info, visit: **ajh.org/CelebratingSurvival**

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