

## An Improved Journey for Breast-Cancer Patients

PROVIDERS ARE OFFERING CARE THAT'S FASTER, MORE DETAILED, AND MORE PRECISE.

by Shari Held

TODAY, THERE ARE MORE THAN 2.8 million breast-cancer survivors in the United States. And new advancements in diagnoses, treatments, and care are increasing that number every year.

"There's a tremendous amount of research being directed toward breast cancer," says Sam Heiser, M.D., a surgeon affiliated with Riverview Health subspecializing in breast surgery. "The treatment is constantly changing and improving as research continues."

Local hospitals are keeping pace, offering comprehensive care that

incorporates the most up-to-date technology. And though a cancer journey is never easy, what that means for patients is an experience that's likely to be more comfortable with better options and improved outcomes.

#### Speeding up the biopsy process

The mammogram remains the most common way to find breast cancer.

"That's why a mammogram is so important," Heiser says. "You can find the cancer before you can feel it and before any physical findings occur."

According to the American Cancer Society, breast-cancer symptoms include lumps—a painless, hard lump with uneven edges is most likely to be cancerous, although spots can be tender, soft, or rounded—swelling, pain, dimpling, and skin irritation. In the nipple, indications are pain, discharge, redness, and thickening of the skin, and a nipple that turns inward. A lump or swelling in the lymph nodes in the armpit or around the collarbone are also symptoms that need to be checked out by a physician.

If breast cancer is suspected, a biopsy is typically ordered. At Riverview, turnaround time used to be up to one week, but in the last year or so, the organization has reduced that time to 24 to 48 hours in most cases.

"Breast biopsies generate more anxiety than any other biopsy that we do,"

changes over the last several years have led to less-extensive surgeries needed, lowering the risk of lymphedema, or swelling of the arm.

"Surgeons now perform a sentinel node biopsy, or selective removal of the first few nodes draining the involved breast," Heiser says. "If two or less Jason Scott, director of imaging/cardiac diagnostics/pulmonary/neurodiagnostics/wound care for Witham Health Services.

"But the main ones are, it has a wide opening that makes it more comfortable for patients and decreases their chance of feeling claustrophobic, and it's the quietest scanner on the market today. It reduces the noise by 90 percent."

The new MRI, which was put into service in April, also allows Witham to perform non-contrast MRAs (magnetic resonance angiographies) so it can treat patients who are allergic to the dye used in contrast MRAs or who have kidney issues.

"We're very excited that our physicians have another tool to help diagnose breast disease processes," Scott says. "Often a physician will order a diagnostic mammogram and ultrasound but the results are inconclusive. Breast MRI offers much sharper detail compared to the other modalities."

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JASON SMITH, DIRECTOR OF IMAGING/CARDIAC DIAGNOSTICS/PULMONARY/ NEURODIAGNOSTICS/WOUND CARE FOR WITHAM HEALTH SERVICES

Heiser says. "A woman's life basically stops until she gets that biopsy result, be it good or bad.

In recognition of this reality, Riverview expedites all breast cancer biopsies.

"It's not magic," Heiser says. "It's just a bit of empathy combined with efficiency. Our approach is not going to change someone's prognosis, but it provides a patient relief if their biopsy is negative and the chance to grab the bull by the horns if cancer is present."

If a cancer diagnosis is confirmed, an appointment for the patient will be made with an appropriate physician, and the educational process begins.

"We want patients to be aware of all the options and the risks and benefits of each," Heiser says. "Sometimes there aren't many options, and we need to start treatment right away, but in most cases a woman has the luxury of educating herself. We want her to take enough time to really think it through and make sure whatever decision she makes is one she's going to be happy with 10, 20, 30 years later."

Should breast cancer spread, Heiser says, it usually travels to the lymph nodes first. Surgeons have always addressed that issue by removing nodes from the axilla (armpit) to control the local spread of the tumor and to help the oncologist best treat the patient from a pharmaceutical perspective. Now,

of these nodes are metastatic, and the patient is having a lumpectomy with radiation, no further surgery is needed. If three or more nodes are metastatic, or the patient is having a mastectomy, more nodes may need to be removed. The goal continues to be accomplishing a cure but with as little surgery as necessary."

## Increasing comfort while providing more detailed results

While the mammogram is still the gold standard in breast imaging, MRI (magnetic resonance imaging) is also a valuable diagnostic tool. It may be suggested as a replacement or in addition to the mammogram for women who:

- Have a 20 percent or higher risk of breast cancer based on family history.
- Have had chest radiation between the ages of 10 and 30.
- ▶ Have mutations in genes, such as *BRCA1* or *BRCA2*, that greatly increase the chance of developing breast cancer or who have close family members with genetic mutations.
- Are known to have breast cancer and need to determine tumor size.

When Witham was looking for the latest-and-greatest MRI, one of the criteria was that it had to add breast MRI to the hospital's toolbox.

"We selected the Toshiba Vantage Titan 1.5T MRI for a lot of reasons," says

### Educating and providing answers for high-risk patients

Franciscan St. Francis opened its High-Risk Clinic about a year ago. Run by a nurse practitioner who specializes in gynecology and breast oncology, the clinic offers risk assessments and genetic-counseling services. It's open Thursdays at the hospital's Indianapolis location, although high-risk patients can be accommodated on other days.

"We felt like there was some confusion about who's at increased risk for breast cancer and what they could do about it," says Erika Rager, M.D., MPH, a breast surgeon and member of Franciscan Physician Network Breast Specialists.

Several factors can place a woman in the high-risk category:

- A family history of breast and ovarian cancer—particularly if premenopausal family members or a male family member developed breast cancer or if a single relative had both breast and ovarian cancer.
- Ashkenazi Jewish or Eastern European heritage.
- Previous biopsies that showed a precursor to breast cancer, such as atypical hyperplasia or lobular carcinoma in situ.

- Chest-wall radiation treatments between the ages of 10 and 30.
- A family history of known genetic mutations—*BRCA1* or *BRCA2*.

While those factors are non-modifiable, women can help decrease their risk of developing the disease by:

- Maintaining a healthy body weight.
- Exercising regularly.
- Using hormone replacement therapy to treat menopausal symptoms in small doses for only a short period of time.
- Limiting alcoholic beverages to one per day.

"Probably between 30 and 40 percent of breast cancer is attributable to obeactive options are also discussed, such as a plan for surveillance—perhaps adding an MRI to the annual mammogram—or taking a chemoprevention medication to decrease the risk of developing breast cancer in the future. Women with the *BRCA* mutation receive information about preventative surgery—removal of the breasts, ovaries, or both.

Another focus of the high-risk clinic is to help people understand how best to use the newer technologies available in genetic testing for breast and ovarian cancers. In the past, there was only one source for genetic testing and only one genetic test for *BRCA1* and *BRCA2*.



Exercising regularly is one of the best things you can do to help keep breast cancer at bay.

sity and lack of physical exercise," Rager says, noting that the evidence keeps mounting as to the value of exercise in lowering the risk of developing breast cancer or decreasing the possibility of recurrence.

"It also seems to be the 'magic bullet' for all the quality-of-life symptoms related to breast-cancer treatment," Rager adds. Aerobic or cardiovascular exercise can help relieve symptoms such as difficulty sleeping, hot flashes, mood disturbances, weight gain, and sexual side effects.

If a woman's genetics are putting her at a high risk, a counselor can discuss the appropriateness of genetic testing. ProBut last year, the U.S. Supreme Court ruled that no one had the right to patent genes, dramatically changing the testing landscape. Today, patients have options for where to get genetic testing. Labs are using different techniques and offering testing for more genes.

"It's incredibly complicated," Rager says. "A year ago, I was perfectly comfortable ordering genetic testing myself, but now with the panels of genes and the different labs and laboratory techniques, I think you do your patients a disservice if they don't get genetic counseling. Helping patients understand the results also takes an incredible amount of expertise."

### Determining tissue viability during reconstructive surgery

In the past, physicians typically removed the nipple and the surrounding tissue during a mastectomy. The reasoning: It would reduce a woman's chances of having a recurrence of breast cancer. But studies have found no evidence to support this. In the last few years, the focus has shifted to preserving the skin and nipple (skin-sparing and nipple-sparing mastectomy), as long as the cancer isn't located close to the nipple and is contained in one area.

"Not everyone is an eligible candidate for this surgery, but for women who are, it's a great advantage for them to be able to save their nipple in terms of the appearance of their breast and how they feel about themselves," says Michael Stalnecker, M.D., a plastic surgeon with Community Physician Network, part of Community Health Network.

The difficulty lies in determining whether the skin or nipple tissue has ample blood supply to enable its survival. And that's critical, especially when the mastectomy is immediately followed by reconstruction. If there's not enough blood supply, infection, loss of the implant, and other complications can result.

To make the determination, physicians might pinch or apply pressure to the tissue until it turns pale and then examine it to see how quickly the pink color returns (capillary refilling). Now the Spy Elite System, a new technology, provides physicians with real-time information as to the sufficiency of blood flow in tissues. Indocyanine green dye, which fluoresces with infrared light, is injected into a vein, and it's shown on an LED screen. The dye washes out quickly, so the system can be used multiple times during a surgery.

"Not only does it give you a visual picture—you can see the blood flowing into the tissue in real time—it also quantitates it by giving you a number of how much of that dye, and therefore how much blood flow, is in that tissue," Stalnecker says.

It's used in both DIEP flap reconstruction, which utilizes tissue harvested from the patient's abdomen, and implant-type reconstruction. In implant recon-

struction, if the Spy system indicates blood supply is poor, some of the saline solution can be removed, reducing tension on the skin and improving blood supply. For DIEP flap reconstructions, the Spy system can be used to examine the tissue before the blood vessels are disconnected and before they're reconnected, so areas that don't show a good blood supply can be removed during surgery.

Though a huge advancement, it's not perfect. A reading of "10" might correctly indicate a good blood supply in one patient but fall short for others.

"For instance, if a patient scored a '10,' but we know that patient was a smoker, she may actually need a little higher score to be considered good," Stalnecker says. That also holds true for patients who have undergone prior radiation.

"There are still some qualitative judgments that have to be made, but instead of just going on our best guess and hoping for the best, we now feel more confident that we can make adjustments during surgery so the patient can keep her nipple," Stalnecker says.

The results have been impressive.

"We now have many fewer patients who have to go back to the operating room to remove skin that didn't have a good blood supply," Stalnecker says. The Spy system decreases the chance of complications, and that means less expense, less exposure to risk, and less downtime for patients.



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