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Cancer Committee Chair
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Cancer Liaison
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Audrey Baker, CTR, Cancer Registry/Cancer Conference
Rebecca Murphy, NP, Palliative Care
Cindy Carter, PA-C, CBPN-IC, Breast Care Specialist
Brenda Greenfield, RN, Radiation Oncology Nurse
Spencer Green, MS, MBA(HA), Cancer Program Administrator
Quality Improvement
Wendy Gwinner, MSW, Oncology Social Worker
Community Outreach
Rebecca Kane, NP, Medical Oncology Nurse Practitioner
Polly Knuchel, RN, BSN, OCN, Medical Oncology Supervisor
Liz Lewis, Chief Operating Officer/Senior Administration
Jo May, RT (R)(T), Radiation Oncology Supervisor
Kenneth Mottram, D.Min. BCC, Spiritual Care Representative
Elena Robison, RT (R)(T), Clinical Research Coordinator
Radiation Therapist
Nancy Kinzler, PharmD
April Brager, PharmD, Medical Oncology Pharmacist
Cheri Wells, SLP, Speech Language Pathologist
Welcome from Cancer Center Manager

BY: SPENCER GREEN, MBA

Our 2012 report features a special focus on breast cancer with both scientific, medical and community information coupled with the perspective of our breast cancer navigator. Oncologists, surgeons, providers, and community cancer specialists have contributed to this year’s report to provide a comprehensive look at the specific challenges, research, treatments, as well as information and services surrounding breast cancer.

Bozeman Deaconess Cancer Center offers comprehensive cancer care in a peaceful, healing environment that houses state-of-the-art treatment systems. It is accredited by the American College of Surgeons (ACOS), and has received commendation in 7 of 8 possible categories. The multidisciplinary team includes medical oncology/hematology and radiation oncology physicians, nurse practitioners, physician assistants, oncology certified nurses, radiation therapists, physicists, pharmacists, clinical laboratory technicians, a clinical research coordinator, oncology social worker, breast care coordinator, radiology care coordinator, STAR certified oncology rehab team, palliative care team, genetic counselor, financial case manager and tumor registrar.

Physicians hold weekly tumor board conferences, collaborating with surgeons, radiologists and pathologists to plan and coordinate patient care. In 2012, the cancer program at Bozeman Deaconess had over 23,000 patient treatment visits servicing approximately 2000 unique patients.

The Cancer Center is a member of the Seattle Cancer Care Alliance (SCCA) network, which allows for greater access to oncology specialty treatment and clinical research trials. Additionally, we partner with the Cancer Support Community-MT and American Cancer Society to provide support services for cancer patients.

Currently, we are finishing up the addition of a new vault and linear accelerator for radiation oncology, and will be starting a large expansion of our Medical Oncology and Infusion Centers, in the first quarter of 2014.

Navigating Breast Cancer: The journey starts here

BY: Cindy Carter, PA-C, CBPN-IC

Most people think that navigation starts when a patient is diagnosed with breast cancer. In reality, it starts the minute the patient notices a change in their breast, a provider detects an abnormality on a clinical exam or imaging identifies an abnormality on a screening mammogram. This is when patients enter the world of breast evaluation. It can be an extremely terrifying experience for a patient because they are being evaluated to determine if they have cancer. Once the patient enters into this diagnostic breast evaluation, my navigation services can be accessed.

While this report is to give scientific data and health information regarding breast cancer, it is also meant to serve as a reminder that breast cancer targets women of all demographics and affects so much more than just their physical health. At Bozeman Deaconess Cancer Center, in partnership with Advanced Medical Imaging and other community organizations, we hope to treat all aspects of the disease, from social, emotional and spiritual to the physical aspects during and after treatment.

My hope is that after reading this report you have a better understanding of the journey that each of our patients travel. We have tried to highlight advancements in every aspect of breast cancer treatment as well as important resources. Our dedicated physicians and staff are committed to caring for patients diagnosed with this disease. We honor those who courageously fight the battle of breast cancer and we join them in pursuing a health-filled future, free of this disease.

My motto is that we treat patients not just cancer; it’s my privilege to partner with them on their breast cancer journey.
REGISTRY DATA

Age Group of Breast Cancer Diagnosed in 2010

Stage of Breast Cancer Diagnosed in 2010
REGISTRY DATA (cont.)

5-Year Survival by Stage

Breast Cancer Cases Diagnosed and/or Treated at Bozeman Deaconess
Five years ago, Advanced Medical Imaging made an important technological leap from film-based mammography to full-field digital mammography. Digital mammography utilizes computer technology to acquire, display and archive images of the breast. Significant improvement in cancer detection in younger women, premenopausal women, and all women with heterogeneously dense breast tissue when compared to film-screen mammography has resulted. Digital mammography is now considered the “gold standard” in breast screening. The addition of digital computers to mammography made possible another revolutionary leap in technology to that of 3-D mammography, or tomosynthesis. AMI acquired 3-D mammography in August 2012.

Tomosynthesis requires the backbone of computerized digital imaging to create a stack of images that can be reconstructed into a 3-dimensional mammography image, or viewed individually, layer by layer through the breast to eliminate viewing overlapping breast tissue. The superimposition of breast tissue above or below an area of interest has long been a major challenge of mammography. This superimposition can hide a possible cancer and tomosynthesis, or 3-D mammography minimizes that problem.

National and international studies are showing significant improvements with 3-D mammography in overall cancer detection, elimination of unnecessary call-backs, and further improvements in image quality for the higher-risk population of women with dense breast tissue.

Our results, since the addition of 3-D mammography, are already demonstrating a statistically significant decrease in our call-back rates with an increase in cancer detection rate, as well.

The 3-D platform allows for further imaging enhancements in the coming years. Synthesized 2-D images from the 3-D dataset may allow for fewer images per patient and reduced overall radiation exposure. Additionally, using high-speed computers to analyze the data from each patient provides opportunities to objectively measure breast parenchymal tissue density, a factor that has been subjectively reported to date, based on observation of fibrous tissue in the breast. Emerging technologies such as contrast-enhanced spectral mammography shows promise in assessing the extent of breast cancer approaching the sensitivity of Breast MRI.

Advanced Medical Imaging, the first mammography center in the state to acquire 3-D mammography, continues to explore and invest in the latest advancements in breast imaging.
American Cancer Society’s Guidelines for Early Detection

The goal of screening exams for early breast cancer detection is to find cancers before they start to cause symptoms. Screening refers to tests and exams used to find a disease, such as cancer, in people who do not have any symptoms. Early detection means using an approach that lets breast cancer get diagnosed earlier than otherwise might have occurred.

Breast cancers that are found because they are causing symptoms tend to be larger and are more likely to have already spread beyond the breast. In contrast, breast cancers found during screening exams are more likely to be smaller and still confined to the breast. The size of a breast cancer and how far it has spread are some of the most important factors in predicting the prognosis of a woman with this disease.

Most doctors feel that early detection tests for breast cancer save thousands of lives each year, and that many more lives could be saved if even more women and their health care providers took advantage of these tests. Following the American Cancer Society’s guidelines for the early detection of breast cancer improves the chances that breast cancer can be diagnosed at an early stage and treated successfully.

- Yearly mammograms are recommended starting at age 40 and continuing for as long as a woman is in good health
- Clinical breast exam about every 3 years for women in their 20s and 30s and every year for women 40 and over
- Women should know how their breasts normally look and feel and report any breast change promptly to their health care provider. Breast self-exam is an option for women starting in their 20s.

Some women—because of their family history, a genetic tendency, or certain other factors—should be screened with MRI in addition to mammograms. (The number of women who fall into this category is small: less than 2% of all the women in the US.) Talk with your doctor about your history and whether you should have additional tests at an earlier age.

*Source: American Cancer Society

Montana Cancer Screening Program

The Cancer Screening Program supports comprehensive cancer control in Montana by providing ongoing quality screening services to Montana men and women and education in a manner that is appropriate, accessible, cost-effective and sensitive to the client’s needs. Screening services include mammograms, clinical breast exams, Pap tests and pelvic exams for the early detection of breast and cervical cancers and colonoscopies and FOBT tests for the early detection of colorectal cancer. Diagnostic testing is also provided for the follow-up of abnormal screening tests. For information about low cost screenings for eligible clients call: Toll Free 1-888-803-9343.

Mammogram Project

The Mammogram Project is a collaborative effort and commitment to provide women of the Gallatin Valley with options to receive, what we believe is, essential medical screening for breast cancer, regardless of their income or health insurance status. For more information and to see if you qualify, please call Bozeman Deaconess Health Information Center at 406-522-1644.
More than 230,000 new cases of breast cancer will be diagnosed in the United States in 2013. Nearly 40,000 women will die of the disease. Screening mammograms allow for early detection, but the imaging does not prevent development of the disease. Options are available for the reduction of breast cancer risk in women who are at high risk for development of this cancer. Therefore, it is important to identify those women at high risk. Risk factors are as follows:

• Genetic (family history especially in 1st degree relatives and onset before age 50, genetic mutations)
• Demographics (age, race/ethnicity)
• Reproductive history (age at menarche, first live childbirth, parity, age at menopause)
• Environment (estrogen and progestin use, tobacco and alcohol use, physical activity and diet)
• Other (breast density, personal history of breast biopsy, atypical hyperplasia or other nonmalignant high risk breast lesions, body mass index, prior thoracic radiation)

Risk assessment tools such as the Gail Model are available to assess a woman’s risk of developing invasive breast cancer. These models use a combination of risk factors above to calculate that risk. These tools are only applicable to asymptomatic women greater than or equal to 35 years old, who do not have a previous history of invasive breast cancer, ductal carcinoma in situ (DCIS), lobular carcinoma in situ (LCIS), or previous thoracic radiation (those who have received radiation for previous cancer such as lymphoma, Hodgkin lymphoma or lung cancer). The models are not appropriate for those who have the diseases noted above and also those with identified genetic mutations as they are already at higher risk than the general population.

If a woman is identified to be at high risk, desires risk reduction, and has a life expectancy of greater than 10 years, the National Comprehensive Cancer Network (NCCN) and American Society of Clinical Oncology (ASCO) recommend the following as options for risk reduction:

• Bilateral mastectomy with or without reconstruction
• Bilateral salpingo-oophorectomy (limited to BRCA 1/2 mutation carriers)
• Use of a risk reducing agent
• Tamoxifen (35 years and older)
• Raloxifene (postmenopausal women)

From the Patient Navigator:

If a patient is recommended for a biopsy, my goal is to coordinate the biopsy as soon as possible and then have the pathology results to the patient within 72 hours. If pathology results come back and additional treatment is needed, I talk with the patient, make sure they understand the recommendations, and then coordinate the appropriate follow up. For example, if the pathology results show a “high risk lesion” such as atypical hyperplasia, I coordinate a referral to a surgeon for excision of the biopsy site. If the surgical biopsy is negative for cancer, the patient is offered a risk reduction consultation with our oncologist. This consult evaluates the patients future risk for developing breast cancer, how often they should have a breast exam, what kind of breast imaging is recommended and how often, lifestyle changes they can implement and what medications are available to them to decrease their risk for developing breast cancer. The oncologist will also determine if the patient meets the criteria for genetic counseling and testing.
• Exemestane (postmenopausal women; not yet FDA approved for this indication)

In addition to the above options, healthy lifestyle modifications should be encouraged such as diet, body weight, exercise, and alcohol consumption to help decrease risk of development of breast cancer.

Bilateral total mastectomy can decrease the risk of invasive breast cancer by up to 90% in those women identified at high risk and in known BRCA1/2 mutation carriers. This intervention can also be used in women with other mutations associated with increased breast cancer risk such as TP53 and PTEN mutations. Bilateral salpingo-oophorectomy (BSO) can decrease the risk of breast cancer in BRCA1/2 carriers by 50%. In addition, these patients are at risk of developing ovarian cancer and the BSO can decrease the risk of developing ovarian and fallopian tube cancers by 80%. This procedure appears to have greatest benefit to decrease breast cancer risk when performed at less than 50 years of age. The NCCN panel recommends limiting this procedure to women with BRCA1/2 mutations.

For those women who prefer a non-surgical risk reducing strategy, risk reduction agents are recommended for women at high risk who are 35 or older. The Breast Cancer Prevention Trial (pre and postmenopausal women) showed that treatment with tamoxifen reduced the risk for invasive breast cancer by approximately 43% after 7 years of follow up. In the Study of Tamoxifen and Raloxifene (STAR) Trial (postmenopausal women only), two selective estrogen receptor modulators, tamoxifen reduced breast cancer risk more than raloxifene, after 8 years of followup. However, there has not been convincing evidence that the reduction in breast cancer incidence has lead to a corresponding reduction in mortality. Data from the MAP.3 trial showed that exemestane, an aromatase inhibitor, reduced the relative incidence of invasive breast cancer by 65% in postmenopausal women at increased risk. However, median follow-up was only 3 years. There are ongoing studies looking at other aromatase inhibitors in this setting.

There are other benefits of these drugs, but also side effects of each treatment. Both tamoxifen (in postmenopausal women) and raloxifene can improve bone density, but there is an increase in the risk of thromboembolic disease more so with tamoxifen than raloxifene. Tamoxifen can increase the risk of endometrial cancer. Exemestane was not shown to increase the incidence of cardiovascular events or other types of cancer, but can lead to musculoskeletal symptoms such as myalgias and arthralgias. In studies where aromatase inhibitors were used for treatment of invasive breast cancer, the drugs was associated with a reduction in bone density, however, this was not reported in the MAP.3 trial thus far. All may cause vasomotor symptoms, which may not be considered a serious side effect, but may affect a woman’s quality of life and may lead to noncompliance of use of the medication. Women who are placed on a risk reducing agent should be closely monitored to help manage these potential side effects.

The overall findings in these studies show that the drugs may decrease the risk of developing invasive breast cancer by roughly 40–50%, but have not yet been shown to improve overall survival. These medications can be offered to women considered at high risk for development of breast cancer, but one must consider other comorbid conditions such as presence of underlying cardiovascular disease, previous thromboembolic events or presence of osteoporosis or osteopenia when making treatment recommendations. It is not recommended to offer these treatments to those with low or normal risk of developing breast cancer.

For those women who are identified at high risk, but do not desire risk reduction therapies, then the guidelines for breast cancer screening should be advised.
Inherited Predisposition for Breast and Ovarian Cancer

BY: KATHERINE BERRY, MS

Patients who are predisposed to breast and ovarian cancer have been notable in the news lately, first with Angelina Jolie’s revelation of gene status and risk reducing surgery, and more recently with the Supreme Court ruling that human DNA sequences cannot be patented. This news coverage raises questions for many of us: Who needs gene testing? What is the process? What strategies reduce cancer risk? Does the Court decision make gene testing more available?

Most cancers arise with age and are not caused by a mutation running in the family. However, some kinds of cancers and some patterns of cancers may signal an inherited predisposition. These include:

- Breast cancer diagnosed at younger than 50 years
- “Triple negative” breast cancer markers
- Two primary breast cancers in an individual
- Breast and ovarian cancer in an individual
- Ovarian cancer
- Two or more relatives with breast or ovarian cancer
- A family member with a known BRCA1 or BRCA2 mutation
- Ashkenazi Jewish ancestry
- Male breast cancer
- Family members with any combination of breast/ovarian/fallopian tube/peritoneal/pancreatic/prostate cancer/melanoma

These factors increase the chance of a BRCA1 or 2 mutation. These two genes are tumor suppressor genes that can cause cancer if they are changed. They account for the majority of familial breast and ovarian cancers. Mutations may be passed through either the maternal or paternal side of the family.

The first step in considering gene testing is to meet with a genetic counselor. Referrals may be made through a primary provider, an oncologist, or other parties, including self-referral. Genetic counselors hold regular clinics at Bozeman Deaconess Hospital and other locations throughout Montana. Discussions about the family history, the testing strategy in a particular family, and options with various possible results are part of the counseling process. Topics such as established safeguards against genetic discrimination and medical management options to reduce risk in the event of a positive result are integral to the counseling process.

Results usually provide information on whether an individual has an increased risk or a less significant risk for cancers. For those at increased risk, the options of intensified surveillance through mammogram and MRI, medications, and surgeries to remove breast and/or ovarian tissues are available. Those who receive a normal result may wish to discuss special considerations and recommendations.

The cost of testing these two genes, once a total of about $3,000, is dropping since the Supreme Court ruling. Since these DNA sequences cannot be patented, other labs besides the original may now offer the testing at competitive prices, even close to half the previous price. In addition, testing for rarer breast cancer-causing genes may now be combined with the BRCA1 and 2 testing for a quick and more comprehensive approach. Insurance may cover the cost of testing, and predeterminations are possible to determine how much of the cost is covered. Medicaid and Medicare may cover testing. In addition, other funds are available for strong candidates for testing who lack coverage.

Heightened cancer awareness may benefit all individuals, with or without a possible inherited risk. Careful surveillance, regular screening, and healthy lifestyles are powerful approaches in managing cancer risk. Women and men with possibly inherited risk factors as listed above may contact Montana’s Medical Genetics Program at 1-800-447-6614 for further information on genetic counseling and testing.

Katherine Berry, MS, is a Board Certified genetic counselor with 25 years of experience and a special interest in inherited cancer predisposition. She works for Montana’s Medical Genetics Program, funded in part by DPHHS, at Shodair Hospital.

From the Patient Navigator:

Genetic testing for breast cancer has become a hot topic in the news lately. Patients who come to the imaging center for a screening mammogram or diagnostic evaluation are evaluated to determine if they meet the criteria for genetic testing. If they are a candidate, we notify them and coordinate with their provider for a referral to a genetic counselor and/or testing. If patients test positive for a genetic mutation, then I can coordinate appointments with specialists who can help guide them. Patients who are diagnosed with breast cancer are also evaluated for genetic testing. Their results may affect the type of surgical treatment they choose, so this testing is usually done very soon after their diagnosis.
The Role of Pathology in Breast Cancer

BY: BENJAMIN BLEND, MD

The breast consists of a series of tubes, called ducts, beginning at the nipple and ending in blind sacs. A small terminal duct branches into a group of sacs called a lobule. Under the influence of prolactin, a pituitary hormone, the lobular sacs produce milk. Cells lining the ducts are of two types, epithelial cells and myoepithelial cells. The latter contain muscle fibers which contract and help propel the milk through the ducts to the nipple. The epithelial cells of the ducts adhere tightly to one another. They do not produce milk but form a boundary between the duct contents and the surrounding tissue. If a duct leaks, the contents cause an inflammatory reaction in the surrounding tissue which includes fibrous tissue, adipose tissue, blood vessels, lymphatic channels, ligaments and nerves. The breast ducts and lobules proliferate under the influence of estrogen and progesterone hormones. Receptors for these hormones reside in the nucleus of the cells.

The epithelium of the breast ducts and lobules can proliferate in a spectrum of changes from benign to malignant. The benign proliferations are called hyperplasias. These can become atypical and share mutations with cancer. If atypical hyperplasia has all the features of cancer but is still confined within the ducts or lobules, it is called carcinoma-in-situ. At this point it does not have the ability to metastasize (spread to lymph nodes or distant organs). Once the abnormal cells break through the ducts or lobules and invade the surrounding tissues, they have access to blood vessels and lymphatic channels and can travel to lymph nodes and other organs such as lung and liver. There are many types of breast cancer, some common and others rare. The most common type is invasive ductal carcinoma. Other varieties are more or less aggressive. Metaplastic carcinoma is highly aggressive and can form bone, cartilage and other tissues not native to the breast. Tumors can also form from myoepithelial cells and non-epithelial tissue. A very common tumor forms from epithelium and fibrous tissue and is called a fibroadenoma, the most common benign breast tumor. A potentially malignant tumor resembling fibroadenoma is called phyllodes tumor. Carcinomas are graded depending on the size and atypicality of the nucleus, the formation of gland tubules and number of mitoses (dividing cells). Lower grade tumors tend to be less likely to metastasize, though there is not a perfect correlation.

The basic function of the pathologist is the diagnosis of breast cancer. This is accomplished by the surgeon, radiologist or other physician selecting an abnormal region of the breast to biopsy. The abnormality can be spotted on a mammogram or other radiology techniques or by feeling a lump. Once the biopsy is taken, it is processed in a histology laboratory where the tissue piece is in fused with alcohols, xylene and paraffin wax. The specimen is then cut into thin sections and stained with various dyes to highlight different aspects of the tissue. The pathologist then examines the slides under a microscope to identify any abnormalities. The results of the biopsy are then reported to the ordering physician, who can then make a decision about further treatment.
Surgical Treatment of Breast Cancer

BY: KENDALL CHILD, FNP

Surgery is considered the primary treatment for breast cancer. The goal of surgical intervention is complete resection of the primary tumor with negative margins so as to reduce the risk of local recurrence. Additionally, tissue attained during tumor and axillary node resection provides information necessary for pathologic staging of the tumor, which is critically important in determining the treatment plan as well as provision of prognostic information.

There are two options for breast surgery:

- Breast Conserving Surgery (BCS)
  - Oncoplastic surgery
- Mastectomy

Breast conserving surgery involves removal of the cancerous breast tissue as well as a small amount of neighboring normal tissue. In an effort to maintain the cosmetic integrity of the breast, oncoplastic techniques can be employed. With these techniques, the breast is reshaped to prevent contour deformities that may develop in the future, particularly following radiation. The type of oncoplastic technique employed is dependent on the location of the cancer in the breast. Oncoplastic surgery is gaining recognition as a surgical option because it not only removes the tumor, but can also prevent undue scarring and tissue destruction, thereby maintaining the aesthetic character of the breast.

A mastectomy may be medically indicated, depending on results of your diagnostic imaging, the location of your tumor, size/shape of your breast, and/or if radiation will be used. There are several types of mastectomies:

- Simple or total mastectomy involves removal of the entire breast affected with cancer. In addition, a sentinel lymph node biopsy is performed to determine if the cancer has spread to the lymph nodes.
- Skin-sparing mastectomy involves removing the nipple and areola of the affected breast while leaving the skin covering the breast. This is typically done in concert with immediate breast reconstruction.
- For some patients, it may be safe to preserve the nipple and/or areola. As with the skin-sparing mastectomy, nipple and/or areola-sparing mastectomy is done in conjunction with immediate breast reconstruction.
- Modified radical mastectomy involves removal of the affected breast tissue. If the cancer has spread to the lymph nodes, axillary lymph nodes are also removed.
- Though not a type of mastectomy, breast reconstruction can be done either immediately following a mastectomy or at a later date.

Bozeman Deaconess Hospital currently has three medical practices offering surgical intervention for the treatment of breast cancer:

- **Surgical Associates**
  - Breast Conserving Surgery & Mastectomy, 587-0704
- **Montana Vein & Surgical Clinic**
  - Performing Breast Conserving Surgery & Mastectomy, 585-5037
- **Bozeman Deaconess Women’s Specialists**
  - Performing Breast Conserving Surgery, Oncoplastic Breast Surgery, Mastectomy, 414-5150

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From the Patient Navigator:

After a diagnosis of cancer, patients first consult with a surgeon who is accomplished in breast cancer surgery. We have several in Bozeman and most patients are able to consult with one of them within a couple of days. This is where the cancer work-up begins for patients. There tends to be a lot of anxiety during this time because we have a snapshot of what is happening in the breast but we don’t know the whole story. It can feel like a flurry of tests, scans and consults and then anxiously waiting for the results and the next step. Patients will typically need to have blood work and more imaging, such as a breast MRI or maybe simply a chest x-ray. As the navigator, I will set these appointments up and confirm that they are done. If additional biopsies are needed, I work as quickly as possible to schedule them. Once the surgical planning is complete, and the surgeon and patient have decided on a plan, the surgery is scheduled. This usually can be accomplished within a week or two after their diagnosis. I always explain to patients that breast cancer surgery is not an emergency, but to them it feels like it is and so we work as quickly as we can. Patients are reassured that there is plenty of time to do the work-up and get second opinions if they so choose. I believe patients should be very comfortable with their decision and the specialists who are treating them. If at any point, the patient prefers to go elsewhere or consult with another physician, I am happy to assist them.
Breast Cancer Reconstruction

BY: WILLIAM R. MEALER, MD

The current trend in the US is for women to have more breast cancer diagnostic tests earlier in life and to choose to have bilateral mastectomies which nearly eliminates the risk of a second breast cancer developing later. As mentioned in the genetics article, above, this was brought to the public’s attention when Angelia Jolie chose to have bilateral mastectomies with immediate breast reconstruction instead of radiation therapy. Indeed, breast cancer restoration surgery has had some exciting changes in the last ten years. Fewer women are electing to have the large, complex microsurgical free flap reconstruction surgery, instead choosing to have implant or autogenous fat restoration of their breast deformity. Nevertheless, there are limitations with each type of breast reconstruction method. This article will attempt to define the various types with their pros and cons. It is important to recall that the use of radiation therapy for breast cancer treatment greatly increases the risks, complexity, repair duration and complications of all the types of breast reconstruction.

Post mastectomy disfigurements can be reconstructed with fat grafts, saline implants, silicone gel implants, tissue expanders followed by saline or silicone gel implant insertion, or by inserting large new tissues from other body areas, which are known as flap reconstruction, for breast deformity. Flap reconstruction moves local tissues into the breast deformity as it keeps the local blood circulation intact. Another type of flap reconstruction is called free flap surgery. It uses tissues from a distant body area where the natural circulation is detached. The detached flap is then inserted into the breast deformity as the circulation is reattached together using a microscope on the tiny blood vessels. This complex free flap surgery requires special training, long surgery times, and a long stay in a major hospital. These difficult operations are known as a free flap transfer surgeries. Free flap surgery may require eight to twelve hours in the operating room followed by at least a week in the hospital. Free flap surgery is very expensive, often costing $60,000 or more.

Implant reconstruction is much less expensive than flap reconstruction if only one or two surgeries are needed to restore the mastectomy breast. Two implant procedures cost about $24,000. However, occasionally more implant modification or exchange surgeries may be needed with a resultant increase in cost to the patient or their insurance. Most implant-based surgery requires only outpatient surgery or a short hospital stay.

Saline implants tend to remain softer than silicone implants but have more problems with ripple formation and a less defined shape in post-mastectomy patients. These rippling problems require fat grafting. There can be problems with saline fluid leakage or deflation which requires another surgery to exchange out the broken Implant for a new one. Saline implants allow better mammograms than silicone gel implants. Another issue for some patients is that saline implants feel colder and “water-like.” Both saline and silicone gel implants are

From the Patient Navigator:

For patients who will need or desire breast reconstruction, a consultation is set up with a plastic surgeon either before or after surgery. Sometimes patients are able to have immediate reconstruction after mastectomy and other times the reconstruction is delayed until after treatment is completed. Patients who decide against reconstruction are referred to our certified prosthetic specialist who will fit them for a breast prosthesis. Breast prosthetics and post-mastectomy camisoles are provided by the Care Boutique located next to the Cancer Center. We can bill insurances for this apparel.
associated with pocket revision surgery as the implant may fall to the side or downward as a heavy solid mass. These complications require an outpatient surgery to fix this problem with associated extra costs. A major advantage of either of these implant reconstructions is that the mastectomy breast can be made quite large if there is enough loose skin. This can be an important advantage if a patient has adequate skin after a nipple sparing mastectomy.

In 2012, the Sientra Corporation received FDA approval for its cohesive silicone gel implants and put them on sale on the American reconstructive surgery market. Sientra’s breast implant products have a long history of excellent results in Europe and South America. The cohesive gel implants provide a better shaped form for difficult post-mastectomy patients than do saline implants. Cohesive gel or “Gumby Bear” breast implants do not leak silicone gel like earlier types of silicone gel implants, which should reduce complications for these patients. Silicone gel implants have a higher rate of uncomfortable, firm capsule formation than do saline implants although this complication seems to be less with the cohesive gel implants. This capsule problem requires another operation to release the tight capsule tissue.

Historically, both types of reconstructive implants were unable to fix all types of mastectomy deformities, as some partial mastectomy and lumpectomy patients had smaller but unpleasant deformities. These patients present with a decrease in breast volume in only one quadrant of the breast. These deformities cannot be repaired with the presently available commercial breast implants. This type of reconstruction requires a partial and focused enlargement of the breast using either a free flap surgery or the newer technique of transplanting that person’s fat to the breast deformity area. This recently refined surgery is known as Autogenous Fat transfer (AFT) and is done on an outpatient basis with a very short recovery time, as there are no incisions to heal. Autogenous Fat Transfer (AFT) for breast reconstruction is the newest technique and is moving into worldwide acceptance for breast reconstruction. AFT is not as expensive as the other techniques because it can be done in a simple operating room, in a doctor’s office or an ambulatory surgery center. The recovery period for AFT is also shorter.

In this technique, the patient selects an area where they want to decrease their excess fat, such as the saddle bag or love handle area. Then, the surgeon removes, or harvests, the unwanted fat in a very precise and careful method. The harvested fat is next transferred into the mastectomy deformity. This technique works much better if the patient uses the Brava® pre-expansion process which was invented by Dr. Roger Khouri of Miami, Florida. The Brava® increases the blood flow in the mastectomy breast as it expands the area where fat grafts may be inserted without unwanted pressure or undesirable crowding of the transplanted fat grafts. The best way to understand this permanent fat transfer breast augmentation is to read Dr. Roger Khouri’s book, Your Natural Breast. This book fully explains AFT with actual patient case reports and many patients before and after photographs. Your Natural Breast explains how the desired AFT restored breast is not a single, large, solid mass but many diffuse tiny bits of the patient’s own fat placed within their mastectomy scar area. Another helpful activity is to connect to www.FatGraftPatients.com which was developed by one of Dr. Khouri’s patients.

Patients should know that if they use the Brava® system, better and faster results will be obtained with their AFT procedure. There will be fewer surgical operations which translate into less expense, less time off from work, and shorter recovery. It is worth pointing out that using Brava® correctly can be a challenge. Patients must keep in mind the benefits Brava® creates for your successful reconstruction. However, if a patient already has breast implants or tissue expanders in their body, they will not be able to use the Brava® system. The Brava® device generates unwanted fluid or seroma around the implants instead of expanding your breast tissues for fat transfer insertion.

In June 2013, Dr. Mealer traveled to the Miami Breast Reconstruction

From the Patient Navigator:

When a patient undergoes breast surgery, I encourage them to visit Bozeman Deaconess Care Boutique—a retail store offering products for cancer patients, cancer survivors and their families. It is located near the Cancer Center. In addition to a full array of breast prosthesis, bras and swimwear, manager Vickie Welton-Bailey, says the Care Boutique also carries skincare products, head coverings, T-shirts, comfort clothing and personal hygiene products. The Care Boutique hours are 10:00 am–3:00 pm, Monday–Friday. Volunteers staff the shop and work closely with the Bozeman Deaconess Cancer Center to accommodate patient and caregiver needs.
Center's operating rooms to study with Dr. Roger Khouri. Previously, Dr. Mealer had attended multiple lectures by Dr. Khouri’s in New York and New Orleans and felt that he had to go into Dr. Khouri’s operating room to fully learn this complex AFT process by the master himself. Dr. Khouri invented the Lipografter device to use with the Brava. Both devices are used all over the world. Currently, Dr. Mealer is the only plastic surgeon in Montana who has been trained personally by Dr. Khouri in AFT and Brava use for these complex breast cancer reconstructive patients.

AFT or fat grafted breasts have a more natural feel, motion or wiggle as well as more touch sensation than does either silicone or saline implant reconstructed breasts. Since the inserted fat of AFT regenerates and grows, the loss of sensation from the mastectomy will improve much more than with implant or flap breast reconstruction. This is likely due to the fact that regenerating nerves can grow thru the many thousands of tiny fat cells in the AFT treated mastectomy site but not thru a thick flap or breast implant. Similar to silicone gel implants, AFT restored breasts do not feel as cold as saline implants. This is expected.

Another benefit is that AFT improves and contours other body areas that have excess fat such as the saddlebags and the lower abdominal wall bulge at the same time AFT is restoring the breast. This is a two for one surgical benefit. AFT can be placed in localized or small areas which cannot be improved effectively with any implant or free flap. AFT does not have rippling or fold deformities or capsule hardening problems as occur from breast implants. Breast asymmetry problems are easily corrected by liposuction removal of excess fat in one area of the reconstructed breasts whereas implant surgery correction requires major surgery with pocket revision or implant exchange.

AFT reconstructed breast have better mammography as fat is very translucent to x-ray beams unlike breast implants. AFT procedures have no major incisions as there are no major incisions. No incisions mean less post-operative discomfort and more rapid return to usual activities or work. AFT has advantages over saline and silicone gel implant reconstruction in restoring difficult cases with failed flaps or radiation therapy deformity.

If a patient does not like the coldness or ripples or shape of her implant reconstructed breasts, she removes the implants and does AFT at a later date. Many patients think of AFT as an equivalent to organic foods. AFT breast augmentations do not have the problems with capsule formation as there is no foreign substance inserted into the mastectomy breast. Deflation, capsule formation and implant malposition may develop many years after her an implant reconstruction but not so with AFT reconstruction.

On the negative side, AFT restorations are associated with small cyst changes in the mammogram which might require an ultrasound study. A well trained radiologist can determine if there is anything to suggest a breast tumor. None of these reconstructive procedures produce changes which lead to breast cancer formation. In fact, there are large studies which have shown the cancer rate to be lower in AFT treated women than patients treated by other means of breast reconstruction.

Pathology

is then cut into slices thinner than the diameter of a red blood cell, affixed to a glass slide and stained with red and blue dyes to make the cells visible. It is the job of the pathologist to view these slides under the microscope and decide whether the tissue patterns and cellular changes indicate cancer. Once the biopsy has been interpreted as malignant, more tissue is excised to be sure the tumor is completely removed in a lumpectomy specimen. The pathologist carefully examines the remaining tumor and the edges (margins) of the specimen to make sure that the tumor does not extend to the boundaries and thus require more excision or possibly a mastectomy. The pathologist also examines mastectomy specimens, determines if cancer has spread to lymph nodes, the grade (linked to aggressiveness of the tumor), if the tumor invades lymphatic channels and blood vessels and tumor size. The pathologists also evaluates the tumors for estrogen and progesterone receptor and Her2/neu with special studies, which determine sensitivity of the tumor to chemotherapy regimens.
Over 40 years ago, it was established that lumpectomy plus radiotherapy offered equivalent survival chances when compared to mastectomy for women with newly diagnosed breast cancer. Since that time, the use of radiation therapy in breast cancer continues to be refined.

The standard use of radiation therapy in breast cancer is to use it on the whole breast following a lumpectomy. In properly selected patients, this results in very low recurrence rates. But, standard radiation therapy is inconvenient, requiring daily treatments for up to 6.5 weeks.

Recent developments in radiation for breast cancer have centered on treating smaller volumes (partial breast radiation), quicker radiation schedules (hypofractionated radiation) and omitting radiation altogether. However, when there is an established treatment that is proven, great care must be taken to ensure that the patient’s well-being is not compromised by choosing a treatment that, while more convenient, may not be as effective or safe.

Partial breast radiation can be accomplished by one of several methods—external beam, interstitial implant or balloon brachytherapy. The potential advantages are faster overall treatment times (ten treatments in five days) and a smaller volume of tissue irradiated, which may result in better cosmesis. The primary disadvantage is that if the cancer is outside the radiation volume, local recurrence risk will be higher. There is substantial data to support the use of partial breast radiation in appropriately selected patients, but the results of a large, multi-institutional, randomized study are not yet available.

A newer concept in partial breast radiation is intra-operative radiation therapy. This involves a single dose of radiation therapy that is given at the time of the lumpectomy. The primary study for this type of radiation was performed in Europe and is now available in a few centers across the United States. This type of treatment requires a separate radiation machine that can be transported into the operating theatre.

Hyperfractionated radiation therapy for breast cancer utilizes traditional whole breast radiation fields, but larger radiation doses per day. This allows the treatment to be accomplished in 3 to 4 weeks, rather than 5.5 to 6.5 weeks. The science behind this approach comes from Canada, where access to radiation machines is limited and patients often need to travel long distances, similar to Montana. This study showed that the local control rates were equally effective with either the longer or shorter radiation regimens and that the side effects of the radiation were not unacceptable with the larger daily dose of radiation.

Another study from Canada looked at omitting radiation therapy entirely in older women with breast cancer. In this study women over the age of 70 with small, hormone-responsive breast tumors who underwent lumpectomy and had clear surgical margins were randomized to either receive or not receive whole breast radiotherapy. The long term results showed that women who did not receive radiation therapy seemed to do reasonably well. This study provides rationale for not subjecting all older women (>70, “short life-span”) to radiation therapy after lumpectomy. This is a similar dilemma we have in older men who have a diagnosis of “low-risk” prostate cancer—do we need to offer them aggressive treatment or can we merely keep a close eye on the situation?

From the Patient Navigator:

Approximately two weeks after surgery a patient will have their initial consultation with medical and or radiation oncology at the Cancer Center. However, there are times when these specialists are requested to consult with the patient before surgery or the patient requests to consult with them sooner rather than later. I set up these appointments for the patient. The medical and radiation oncologists consult with the patient and their family to determine the most appropriate adjuvant therapy. If the treatment is before surgery, then it is called neoadjuvant therapy.

Patients who are recommended for radiation usually have daily treatments. Radiation may be recommended for approximately four weeks after surgery—or after chemotherapy. This can be difficult for patients who do not live in the Bozeman area and it can be a barrier to care. In this instance, we may be able to arrange accommodations for patients, if needed. Patients who live in the Bozeman area, typically will be able to carry on with their daily life during radiation treatment. Treatments are quick and done at the same time every day.
New Developments in Breast Cancer Treatment

BY: KEN MAY, MD

Despite significant improvements in screening technologies, risk reduction strategies, genetic profiling, and adjuvant treatments (including radiation therapy, chemotherapy, biologic therapy, and endocrine therapy), some patients will ultimately present with or develop recurrent advanced/metastatic breast cancer. There is urgent need to develop new therapies to improve the care of these patients. The past two years have heralded the development of several novel treatments for metastatic breast cancer that provide hope for improved health of our patients.

Two new biologic therapies have been approved by the Food and Drug Administration for patients with advanced Her2-positive breast cancer. Biologic therapies build on natural weapons called antibodies, used by our immune systems to protect us from bacteria, viruses, and other pathogens. By engineering antibodies to target the Her2 protein on breast cancer cells, scientists have developed a whole new category of weapons in the fight against breast cancer. The first example of this type of treatment in breast cancer was trastuzumab (Herceptin), which was a major step forward for patients in the mid-2000s. This medication works by “flagging” the breast cancer cell to target the immune system to kill it, and also by causing cancer cells to self-destruct.

Now researchers have built on the success of trastuzumab by finding a way to link a tiny molecule of a very powerful chemotherapy emtansine to the trastuzumab antibody. This chemotherapy is too toxic to administer by itself, but attached to trastuzumab, it can be directed only to the breast cancer cells, like a smart bomb that releases its payload only at the precise location of its target. Thus a highly toxic chemotherapy is turned into a very potent treatment with very few side effects, because the chemotherapy only enters the breast cancer cells and does not cause collateral damage to normal tissues. This new trastuzumab-emtansine combination, or drug-antibody conjugate in scientific terms, is called T-DM1 or Kadcyla.

A second biologic therapy for advanced Her2-positive breast cancer is called pertuzumab (Perjeta), and is a cousin to trastuzumab. It binds to a different part of the Her2 protein than trastuzumab, providing a secondary “red flag” on the breast cancer cell. When used in combination, trastuzumab and pertuzumab act like a right jab and a left uppercut, making it hard for breast cancer to fend off the double attack. Pertuzumab, like trastuzumab, also has very mild side effects and is not typically associated with the cumulative effects of chemotherapy. Currently pertuzumab and trastuzumab are combined with chemotherapy such as paclitaxel (Taxol) or docetaxel (Taxotere) to improve their effect even more.

For patients with advanced hormone receptor (estrogen receptor and progesterone receptor) positive breast cancer, endocrine therapies that lower estrogen levels and “starve” breast cancer cells are the mainstay of initial treatment. However, some hormone receptor-positive breast cancer will become resistant

From the Patient Navigator:
The medical oncologist will oversee the patient’s care from here and into survivorship. The oncologist will determine the most appropriate systemic therapy to treat the cancer and prevent it from coming back. During the active phase of systemic therapy, patients will be seen quite often at the Cancer Center. Treatment is individualized, based on a variety of factors. So, one patient’s cancer treatment may be very different than another’s.
What are “STAR” services? The STAR (Survivorship Training and Rehabilitation) Program is a nationally recognized cancer survivorship program focused on improving the lives of survivors who suffer from the side-effects caused by treatments, thus helping survivors to heal physically and emotionally as well as possible. Dr. Julie Silver, a Physiatrist and Assistant Professor at Harvard Medical School, award winning innovator and leading expert in rehabilitation medicine, and cancer survivor co-founded the STAR Program Certification at the end of her acute treatment. After rehabilitating herself, she recognized there was a gap in her care and that was rehab. STAR was founded to help develop and deliver superior reimbursable, rehabilitation services to cancer survivors using evidence-based medicine as the cornerstone of optimal care.

The STAR Program is quickly becoming the gold standard for cancer rehabilitation and is endorsed and used by the nation’s leading cancer centers, including Johns Hopkins. As part of the STAR Program, patients receive a fully individualized cancer rehabilitation treatment plan that includes conventional evidence-based medical protocols, focusing on improving their quality of life and helping them function better every day. An outstanding component of the individualized rehabilitation treatment plan is the STAR Program Survivor Guidebook. This guidebook is used in conjunction with rehabilitation clinical services and provides survivors with the ability to track their goals while also giving them additional information on healing and optimal function following acute cancer treatment.

The benefits of STAR Program Certification include: advancement of survivorship care, dedicated clinicians become oncology rehab experts, consistency in implementation of evidence-based therapy protocols, improved outcomes, promotion of clinical research, as well as facilitating meeting the accreditation standards set by the American College of Surgeons’ Commission on Cancer (CoC). The STAR Program addresses four out of six of the core services that the CoC requires for accreditation:

1. Cancer rehabilitation
2. Support (e.g., counseling, pastoral care)
3. Prevention and early detection
4. Other clinical (e.g., clinical research, patient guidelines)

The STAR Program helps institutions to:

- Implement a highly trained, multidisciplinary oncology rehabilitation team that uses evidence-based oncology medicine and provides reimbursable cancer rehab across the care continuum.
- Develop a multidisciplinary survivorship team that is able to easily and effectively implement national recommendations and mandates including the:
  * Institute of Medicine’s (IOM) report “From Cancer Patient to Cancer Survivor: Lost in Transition” that recommends creating survivorship as a distinct phase of cancer care and ensuring that every survivor has a care plan.
  * Institute of Medicine’s report “Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs” that recommends that

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Enhancing Survivorship Through STAR Services

BY: CHERI WELLS, M.S. CCC-SLP

From the Patient Navigator:
Bozeman Deaconess Hospital and Cancer Center is STAR certified in oncology rehabilitation. This means that caregivers and providers who treat cancer patients work together with each patient on a personalized rehabilitation plan to increase strength and energy, alleviate pain, and improve daily function and quality of life. Cancer treatment can cause debilitating side effects and we are committed to caring for patients even after their treatment has finished. As the navigator, I am able to refer and connect patients with any of these services at anytime.
Survivorship

BY: REBECCA KANE, AOCNP

The word “survivorship” has more than one definition and holds a lot of emotion for the person living in the phase of survivorship. When a person is diagnosed with cancer, it often leads to a change in priorities in one’s life. These priorities often involve relationships, career, or lifestyle, and survivors often develop a greater appreciation of self. Sometimes, though, the survivor becomes anxious about their health and uncertain how to cope with life after treatment for cancer. Survivorship can be a different experience for each person. Survivorship can be defined as:

- Having no disease after treatment is completed.
- Living with, through, and beyond cancer. In this definition, survivorship begins at diagnosis and includes people who continue to have treatment to either reduce risk of recurrence or to manage chronic disease.

The number of people with a history of cancer has increased dramatically in the United States, from 3 million in 1971 to about 13.7 million today. Approximately 68% of today’s cancer survivors were diagnosed with cancer five or more years ago. The increase in survival can be attributed to:

- Improved screening
- Improvements in treatment
- More effective management of side effects
- Development of targeted therapies, which are more specific and often less toxic than standard chemotherapy

One of the roles of the cancer care team is to assist patients in the steps of survivorship. This involves:

- A written record of treatment
- Managing the potential for more than 40 common side effects and determining how the health care team can treat them.
- Suggesting ways for the survivor to learn how to adjust to various life changes following cancer treatment, exploring patient advocates in the community, donating time as a volunteer to a cancer organization or cancer center, setting realistic goals when making lifestyle changes such as better nutrition and physical activity, learning different ways to mark milestones in cancer treatment plan and survivorship.
- Outlining and making referrals to rehabilitation services. Cancer rehabilitation helps a person with cancer obtain the best physical, social, psychological and work-related functioning during and after treatment.

The goal of a survivorship plan is to help a person regain control over many aspects of their life and remain as healthy, independent, and productive as possible.

From the Patient Navigator:

Once the active phase of treatment is complete, the patient enters into the survivorship phase of treatment. Survivorship really begins at the time the patient is diagnosed with cancer but survivorship counseling is not implemented until active treatment is complete. Patients may continue on hormonal chemotherapy for five years and continue with routine visits to the medical oncologist. In general, all breast cancer patients are followed by the medical oncologist for at least five years. After that, the patient can continue to follow up with the oncologist yearly or they can be referred back to their primary care provider.

There are many highly trained individuals at the cancer treatment center to help patients. Most patients will be referred to the social worker at some point from diagnosis and into survivorship. The social worker helps determine if psychosocial support is needed, if patients would benefit from a support group, or if assistance is needed for any barriers to care. There is also a financial specialist to help patients with the cost of treatment.

Our goal is always to provide patients with the best care possible regardless of the ability to pay. The financial specialist at the Cancer Center can assist patients in finding help for treatment costs at any point. There are also highly trained oncology certified nurses that monitor patients if they are undergoing chemotherapy. These nurses will report the patient’s status back to the oncologist.
Lymphedema: What it is and how to treat it

BY: CARYL PERDAEMS, OTR, CLT-LANA, CWS

Pronounced “limf-a-deema” this condition affects up to 40% of people who have had surgery, radiation, or chemotherapy during cancer treatment. It is a cause for fear, anger, and often, hopelessness. It can be seen as a constant reminder of a patient’s fight against cancer. But, like the butterfly, it can also be a symbol of that patient’s courage and hope. Even though lymphedema is not curable, it is treatable. To do so, we must understand what it is.

Lymphedema is a protein-rich accumulation of fluid in the area of the body that has been treated for cancer. Lymphedema does not just affect cancer patients; it affects anyone who has had an “assault” to their lymph system. The body is a complex network of lymph vessels. These vessels are responsible to cells, fats, proteins and water that has been used by the body. This fluid is brought through a series of pathways called collectors to the lymph nodes, where it is broken down. Eventually, 15% of it is removed from the body, and the other 85% is returned to the venous system, where it is pumped back through the heart and returned throughout the body.

During treatment for different types of cancer, essential lymph collectors and lymph nodes can be removed. This lessens the body’s transport capacity to remove this fluid. Try to imagine getting one of your children to pick up after another. Do you ever get resistance? The lymph system is the same way. It only wants to remove so much fluid over a period of time.

Complete Decongestive Therapy is the “gold star” for treating lymphedema. It has four essential parts: manual lymph drainage (MLD), compression therapy, exercise, and education in skin care. These techniques, individualized for each patient, have the most success reducing the symptoms of lymphedema. Individualizing treatment to address each patient’s lifestyle is also important in developing a plan of care. The stage of lymphedema is determined at the time of evaluation. A plan is then developed; caregivers can be a vital indicator of the patient’s response to treatment.

MLD is a gentle massage performed in a specific pattern, depending on what is affected by lymphedema. This massage helps the lymph system increase the rate at which the lymph system is pumping. This specialized massage works by “stretching” the lymph collectors, encouraging them to contract, and pump the fluid in the right direction. It is also a way to soften hardened fluid (fibrosis). This is vital. If your “drains” are “clogged”, you must release the collection of fluid in order keep the fluid flowing in the right direction.

Compression can be in the form of multilayer wrap, a compression sleeve or compression hose. Compression garments are not fitted until providers are sure the patient has had maximal reduction of the fluid accumulation. Sleeves are issued for prevention of swelling during high risk activities that could onset an episode of swelling. It is still the standard to wear compression during air travel for people who are at risk for swelling. Education about lymphedema prevention is a way to prevent symptoms and know the risk factors.

Good muscle tone and exercise helps move lymph fluid. The right exercises with compression can actually improve the return of lymph fluid. Wearing compression while exercising will reduce the potential for swelling, especially if patients have had lymph node dissections and/or biopsies combined with radiation.

Attentive skin care will help keep skin pliable and supple. Avoiding skin products that have perfumes that could cause an allergic reaction is also important. Attending to and preventing cuts or abrasions are also a way to prevent infections. The lymph system in the affected area does not respond to inflammation or infection as an unaffected persons would. Scar tissue can also increase the risk of swelling.

Being at risk for lymphedema is not a reason to stop being active. If patients know the risks and how to control them, activity is encouraged. When symptoms are first noticed, treatment should be sought. Do not wait until it becomes unmanageable. Lymphedema is treatable. Patients can live with and prevent lymphedema.
Treating Side Effects of Chemotherapy

BY: ANNA KALKWARF, DPT

Treatment of breast cancer often involves chemotherapy, radiation and/or surgery. These treatments often have side effects such as pain, weakness, decreased range of motion and fatigue. This can result in difficulty completing normal daily activities including work duties, maintaining one’s home, performing prior social roles and leisure activities. Physical and occupational therapists can address these issues and improve a patient’s quality of life.

Therapists do a thorough assessment to evaluate a patient’s current functional difficulties. Therapists are also able to recognize impairments that could lead to functional issues in the future. Education is a large part of treatment. Patients are instructed regarding their current impairments along with prevention strategies. Patients are often fearful of movement and need to be reassured as to what type of activity is appropriate. Education regarding posture and body mechanics is incorporated with treatment and movement prescription.

Pain and/or dysfunction throughout the body may be treated with therapeutic exercise, activity modification, manual techniques (massage, joint and scar mobilization), electrical stimulation (reduces pain signals in the body), ultrasound (deep heat or tissue repair), taping techniques, and neuroplasticity techniques (scent, sound and relaxation).

Exercises often start with gentle stretching and progress into appropriate, graded strengthening exercises. Studies have shown that exercise can help combat side effects of treatment including fatigue, nausea and other medical complications. If a patient is receiving radiation, it is even more important they stretch due to a possible side effect of radiation, fibrosis (tissues become hard and painful). Exercise combats weight gain, which is a risk factor for reoccurrence of cancer and development of secondary cancers. Exercise improves mood and self-image as well.

Chemotherapy treatments can lead to peripheral neuropathy (nerve damage) of the hands and/or feet which can affect fine motor function, walking and balance. Occupational therapists address fine motor function and symptoms involving the hand. They also conduct driving assessments to determine safety, and may include training or modifications to the vehicle. This is important when patients have impaired sensation in their feet due to neuropathy and may have difficulty operating foot pedals. Physical therapists address balance with exercise, fall prevention education and information regarding foot health. Some patients experience “chemo brain,” which is a chemotherapy-related cognitive impairment. This is usually referred to speech therapy for treatment.

Life may not return to exactly how it was prior to a cancer diagnosis but therapists help patients reach their highest possible functioning status. This may involve adaptations and coping skills. Modifications can be made to home and work environments to meet individual needs. Therapists are able to perform home safety evaluations to recommend appropriate modifications. Adaptive equipment may be utilized for self-care, work duties and general mobility (walking and using arms and legs). Functional capacity evaluations can be completed to determine the intensity of work a patient is able to tolerate.

Rehabilitation is always a team approach. Throughout treatment, referrals may be made to physicians, other medical professionals and resources in the community, depending on each patient’s needs. When rehabilitation is complete, the patient will have all the tools required to continue their survivorship plan. This plan may be an independent program or may utilize resources such as specialized trainers at local gyms or the Cancer Support Community.

From the Patient Navigator:

Patients who have their lymph nodes evaluated or removed during surgery, or who are having radiation treatment will be referred to a lymphedema specialist. The specialist will educate the patient about lymphedema—what it is, how to identify it, and how to prevent it from happening. If lymphedema develops, which may occur at anytime even years after treatment, the lymphedema specialist will evaluate and treat the patient.

If a patient is having a mastectomy, they will be set up to consult with a physical therapist before and after surgery. The physical therapist will document their baseline range of motion before surgery. After surgery and when cleared for therapy, the physical therapist will assess any limitations and work with patients to regain their full range of motion. The goal is to return patients to their pre-surgery state or even better.
BY: JUSTIN SHORT, MSW, MPH

A diagnosis of cancer is often accompanied by a sense of isolation, both physical and emotional. Women and men who are going through cancer treatment may feel fatigue and have a reduced immune system, thus resulting in a tendency to stay away from friends and family that provide support during difficult times. Further contributing to the feeling of isolation is the awkwardness many friends and family experience as they often don’t know what to say. So, many say nothing at all, thereby unintentionally creating distance from the cancer survivor.

In this day and age, there is no reason to be alone, feel isolated, or ashamed of a cancer diagnosis. In Bozeman, we have Cancer Support Community (CSC)—a non-profit organization that provides opportunities for survivors, caregivers and family members to gain support, education and hope. On a weekly basis, CSC provides a variety of free programs that complement traditional medical care for cancer. These include support groups, nutrition education, exercise opportunities, workshops, youth & family programs and special retreats. CSC works closely with the Bozeman Deaconess Cancer Center, constantly evaluating the most effective, appropriate, evidence-informed psychosocial programs our survivors and caregivers want and need.

The mission of Cancer Support Community is “To ensure that all people impacted by cancer are empowered by knowledge, strengthened by action and sustained by community.”

One of our flagship support groups is called Bosom Buddies and is open to men and women diagnosed with breast cancer. Bosom Buddies is facilitated by a professional mental health practitioner and meets twice each month at CSC, giving survivors a chance to talk, cry, and even laugh at the tumultuous journey a cancer diagnosis often brings.

Bosom Buddies not only provides a place for sharing one’s emotional impact from cancer, it is a wonderful resource for sharing information on cancer treatment side effects. Many of our participants discuss their experiences with a variety of issues including: neuropathy, lymphedema, sleep issues, chemotherapy-induced menopause, body image, weight gain and changes in their relationships with their partners or caregivers.

Through participation in Bosom Buddies, many of our participants have found hope and promise in the future through their shared experiences while building a community of supporters and friends that may endure for years to come. A sense of isolation during cancer is not necessary, as support is available and services are offered free of charge.

Simply put, if you are someone who is affected by cancer and wish to meet others who understand what you and your family are going through, join us at Cancer Support Community. We are for the whole family…the whole time! For more information, call (406) 582-1600 or visit our website at www.cancersupportmontana.org.

From the Patient Navigator:

My job as the navigator is to connect patients to the many sources of support services available in our community, if they so choose. In Bozeman, we are lucky to have the Cancer Support Community. They are an organization that provides support and services that can help patients during any point in their journey, from diagnosis to survivorship. I introduce this program to patients after their diagnosis and encourage them to contact the facilitators of the CSC when they are ready.

As the navigator I think of myself as the patients’ advocate. At any point during treatment or years later, patients can contact me and I will help them to the best of my ability. My goal is that they have the best care available. The patient is always my number one priority. I consider it an honor to be able to help patients and their families through this difficult time even if it may be for a very short period. My door is always open.
Naturopathic Approach to Breast Cancer

BY: NOELLE BUTLER, ND

Naturopathic medicine can be greatly utilized with prevention, treatment, and post-care of breast cancer. In terms of prevention, there are many effective strategies that can help reduce risk. Of course, lifestyle and diet are among the biggest factors that determine risk of breast cancer. Among the factors that have been linked to breast cancer in varying degrees are exposure to xenoestrogens (synthetic compounds that mimic estrogen), secondhand smoke, pesticides, herbicides, power lines, electric blankets, radiation, and lack of exposure to sunlight. Taking into account other established risk factors for breast cancer, women who regularly exercise have up to 60 percent reduction in the risk of breast cancer compared with women who drink one alcoholic beverage a day have a 10 percent greater risk; those who drink two have a 20 percent increased risk, and so on. As with most other cancers, cigarette smoking increases the risk of developing breast cancer. Important dietary factors include body weight (the more over-weight, the greater the risk); increased intake of saturated fat; and decreased intakes of antioxidants, dietary fiber, omega-3 fatty acids, and dietary phytoestrogens (estrogen-like compounds found in foods such as legumes, nuts, and seeds). Naturopaths tend to stress the importance of avoiding meats grilled or broiled at high temperatures; enjoying fish, flaxseed (ground or oil), cabbage family vegetables (cabbage, broccoli, cauliflower, and kale) in cooked or crushed form; and probiotics.

In terms of treatment, naturopathic medicine can reduce inflammation after radiation with oral vitamin A/beta carotene and topical 100 percent aloe vera gel. Vitamin C and E appears helpful during radiation therapy to prevent fibrosis. Curcumin can protect healthy cells against the harmful effects of radiation without reducing its effectiveness. Many natural products offer benefit in supporting the chemotherapy patient. A basic recommendation might include fish oil supplements, maitake MD-fraction and PSK/PSP (immune enhancers from mushrooms), curcumin, melatonin, L-glutamine and probiotics. L-glutamine is used often to combat cachexia, raise white blood cell counts, and fight infection. Side-effects of chemotherapy, such as nausea and vomiting, can be treated with ginger, essential oils, and hydration.

Post-cancer naturopathic treatment addresses the needs of both the mind and body to prevent recurrence of breast cancer. New hormonal levels are often addressed with lifestyle and dietary recommendations per the individual. Healing from reconstructive surgery can be greatly assisted with supplements such as vitamin C and bromelain. Education is critical to lifestyle and dietary changes that are made to prevent recurrence. Many patients are encouraged to eat a whole foods, plant-based diet. Exercise is emphasized as a means of reducing lymphedema and increasing energy and mood post-treatment for breast cancer. Stress reduction is a vital factor for breast cancer patients, as research shows how devastating it can be to immune function. Often, the role of naturopathic medicine is to compliment allopathic medicine and allow the patient an opportunity to learn from the journey of breast cancer from prevention to survival.
Spirituality in Cancer Care

BY: KENNETH P. MOTTRAM, D.MIN., BCC

There are many spiritualities that we discover from interactions with others or perhaps through our reading, but have you thought enough about the subject to realize that each patient has a personal spirituality? We all have one. And research has shown that a patient’s spirituality can be a significant contributor to health-related quality of life, especially when it comes to cancer treatment and survivorship.

A definition of spirituality that is universal to human experience is “the innate human capacity for faith, hope, meaning, and purpose in life.” By this definition, each person has a spirituality because each person has the innate capacity to seek the meaning of “why” a cancer diagnosis, for instance, happened to them, and to walk courageously into their future with hope and faith. For someone questioning the “faith” aspect of this definition, faith can be seen generically as a stance toward the universe as harmful or benign. Persons cannot see into the future, but we can take the steps that seem good to us in order to bring about a positive outcome. All persons have the capacity to imagine their future and to take steps in “faith” to make that future come about. When we ask meaning and purpose questions, such as Why me? How will this affect my life? What are my priorities now? What happens if I die? What is the purpose of my life? we are treading on spirituality ground. Wholistic health includes mind, body, and spirit as components of one’s overall care; we dare not forget the spirit.

William Breitbart, MD, Chief of Psychiatry Services, Memorial Sloan-Kettering Cancer Center, New York, is an advocate of “meaning-centered” spirituality and a proponent of meaning-centered group work as a method of enhancing spiritual well-being in cancer patients. Patients gather for eight sessions to participate in experientially driven discussion exercises as they explore the meaning and purpose of their lives pre- and post-cancer diagnosis. The positive results of his practice can be found in Psycho-Oncology 19:21-28 (2010).

Most patients experience despair when confronted with the prospect of facing a life-threatening illness. Despair can include what is often called “demoralization syndrome” which includes aspects of hopelessness, depression, anxiety, panic, spiritual distress, suicidal ideation, and desire for hastened death. Breitbart sees undiagnosed clinical depression as a predictor of demoralization syndrome in 47% of patient cases. Hopelessness and lack of meaning on a patient’s part accounts for another 50%. (Breitbart, Mayo Clinic lecture, November 5, 2010). In another study a sample of 248 cancer patients were asked “What do you really need now that you have cancer?” Answers included: overcoming fear (51%), finding hope (42%), finding meaning in life (40%), finding peace of mind (43%), and finding spiritual resources (39%). A higher rate of spiritual/existential needs were found in ethnic minorities, unmarried patients, and patients with more recent diagnosis (Moadel, A. et. al. Psycho-Oncology, 1999, 8: 378-385).

Not only is meaning-centered spirituality a need in the cancer patient population, research has also found spirituality/religion to be a coping resource highly utilized by a large percentage of persons. In some areas of the United States, 9 out of 10 patients say they use religion to cope with illness, and over 40% say that it is the most important factor that keeps them going (Handbook of Religion and Health, 2001; Oxford Univ. Press). Gallop polls have consistently shown that over 90% of Americans believe in God.

In addition, Harold Koenig, MD, Professor of Psychiatry and Behavioral Sciences, Duke University Medical Center, reports significant patient gains in health-related quality of life through spirituality/religious coping. “Religious involvement is associated with less cardiovascular disease, improved outcomes following cardiac surgery, lower rates of stroke, less cardiovascular reactivity and lower blood pressure, better immune/endocrine functioning, improved outcome for patients with HIV/AIDS, lower risk of developing better outcomes from cancer, and less susceptibility to infection.” (Koenig, Religion, Spirituality and Public Health: Research, Applications, and Recommendations. Testimony to U.S. House of Representatives on September 18, 2008)

At Bozeman Deaconess Cancer Center we desire to enhance a patient’s spirituality as a resource for health-related quality of life. Through the STAR program cancer patients may obtain group or individual consultations from our clinically trained Spiritual Care staff. Patient’s personal spiritual/religious beliefs are respected and encouraged to deepen in order to provide strength for the journey that is cancer. Patients that have not considered themselves spiritual and are uncertain about their spirituality will be encouraged form their experiential history to discover their own personal spirituality and other resources to enhance spiritual coping resources. The goal is always to provide quality collaborative evidence-based supportive care.
to these therapies, such as anastrazole (Arimidex), letrozole (Femara), and exemestane (Aromasin). For post-menopausal women, a new kid on the block is the oral therapy everolimus (Affinitor). This pill blocks one of the pathways that breast cancer cells use to become resistant to endocrine therapies. When used in combination with an endocrine treatment, everolimus can keep the breast cancer cells “sensitive.”

All three of these new therapies (T-DM1, pertuzumab, everolimus) are currently being tested in patients with earlier stage localized breast cancer, to determine if they will be effective in preventing breast cancer recurrence after surgery. Patients and cancer care providers eagerly await the results of these clinical trials that might allow expanded access of these exciting new treatments to more patients.

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every provider should meet the standard of screening for all cancer survivors for psychosocial needs, linking them to services, coordinating and monitoring care, and following up.

- Prevent new primary cancers, recurrence of original cancers and other co-morbidities through education and promoting physical activity and healthy lifestyle choices.
- Use patient guidelines and care protocols that will assist with collecting data which can be used to track outcomes and promote clinical research.

In May of 2013, Bozeman Deaconess Health Services’ enhanced our strong commitment to our patients by teaming up with Oncology Rehab Partners to bring the STAR Program® to our community. This addition to our cancer care continuum commitment provides the best possible care for survivors and people undergoing cancer treatments. This new program for cancer survivors focuses on excellence in survivorship services through helping individuals to heal faster and better. We have formed a multidisciplinary team, comprised of the clinical staff in the departments of oncology and rehabilitation, palliative care, spiritual care, patient navigators and representatives from the cancer support community. These clinicians and providers of survivorship care are now working together to help cancer survivors heal and get back to the quality of life they enjoyed prior to their diagnosis. Our team has completed intensive, evidence based training that has provided us with the tools needed to understand and recognize the needs and impairments faced by cancer survivors. Under our care, they will receive rehabilitation medicine therapies that are designed to help alleviate pain, build strength and increase energy, as well as improve daily function and well-being, with the majority of these services being covered by health insurance.

So “Who should be participating in rehab?” The answer is that most cancer survivors would benefit from evidence-based multidisciplinary cancer rehabilitation care. Probably the easiest way to think about who should participate in rehab is to consider a survivor’s pre-morbid status. While he or she may not be able to return to the pre-cancer level of function, it’s critical not to expect or accept a new normal before they’ve been offered the opportunity to heal as well as possible. This includes people who are living with cancer as well as those whose cancer is cured or in remission. According to the research, the majority of cancer survivors have physical problems due to the various treatments they undergo, and should be referred, but most aren’t. Cheville AL, et al. concluded that more than 90% of patients needed cancer rehab but fewer than 30% received this care. For example, fatigue is usually caused by many factors, like poor sleep, pain, anxiety or a side-effect of cancer treatments. Research also shows that exercise improves fatigue in cancer survivors. However, many patients are not ready for an exercise class and first need to see a physical therapist for an appropriate exercise prescription that includes therapeutic exercise. Working with physical therapists trained in cancer rehabilitation can lessen anxiety and musculoskeletal pain, as well. The unmet needs are overwhelming and placing a heavy burden on the patients, families and healthcare systems. In fact, studies show that the typical referral rate is around 5%. Our goal is to bridge this gap.

Accepting and learning to live with symptoms like fatigue, difficulty with memory or concentration, muscle pain, limb swelling, weakness, balance problems, swallowing or speech issues does not have to be the new normal. Through the STAR Program®, our goal is to minimize these effects and to encourage survivors to have the best quality of life possible whether they are cured, in remission or living with cancer as a chronic condition.