

Healthcare Provider Summary

Dear Healthcare Professional

Your patient created a survivorship care plan using the OncoLife™ Survivorship Care Plan at www.OncoLife.org. This report is a summary of the long-term side effects the survivor may be at risk for and recommendations for their follow-up care. The report is generated from the treatment information entered by the patient or their healthcare provider. The summary provided is supported by cancer survivorship literature and expert opinion, but should not replace communication with the patient's oncology team. Suggested management and follow-up points are broken down according to the toxicity-causing treatment (i.e. medical therapy, surgery or radiation).

Keep in mind that survivors should continue to have screening for other cancers per the American Cancer Society guidelines and routine health maintenance as recommended by the USPTF.

You received the following treatments for Breast Cancer

- Lumpectomy
- Sentinel Node Biopsy
- Cyclophosphamide (Cytoxan®, Neosar®)
- Doxorubicin (Adriamycin®, Rubex®)
- Tamoxifen (Nolvadex®)
- Radiation treatment for breast cancer after lumpectomy
- X-ray based radiation- IMRT

Information from your oncology office

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Follow Up Care For Breast Cancer

General recommendations for follow-up care after breast cancer treatment include:

- History and physical exam 1-4 times per year as clinically indicated for 5 years; then annually.
- Mammogram annually for those who have had a single mastectomy (the first mammogram should be 6-12 months after therapy for survivors who underwent lumpectomy and radiation therapy).
- Women with an intact uterus on tamoxifen should see a gynecology provider annually and notify their provider of any vaginal bleeding.
- Those taking aromatase inhibitors and those whose menstrual cycles have stopped should have a DEXA scan as a baseline, then periodically.
- Patients being treated with bisphosphonates or denosumab should have a dental exam and education about preventive dental care. Consider supplemental calcium and vitamin D.
- Consider referral to genetic counseling if family or personal history includes early age at diagnosis of breast cancer (<50), triple-negative disease, multiple primary cancers, or a family history of breast or ovarian cancer.
- Educate on a healthy lifestyle. Evidence has shown that leading an active lifestyle and maintaining a healthy weight (body mass index of 20-25), may lead to improved breast cancer outcomes.

Surgery Side Effects

Sentinel Node Biopsy

- Perform thorough assessment of area at risk for lymphedema, which may include limbs, genitals and abdomen.
- Concerning signs/symptoms of lymphedema may include: full or heavy feeling, skin changes (reddened, warm, cool, dry, hard, stiff), aching/discomfort, tightness, or less movement/flexibility in nearby joints.
- Encourage preventive measures, self-assessment of changes to limbs and prompt reporting of any sign of infection.
- Referral to a Certified Lymphedema Therapist at the first sign of swelling results in the best outcomes.

Lumpectomy

- Risks of surgery include nerve damage and scarring which can lead to decreased range of motion, pain, difficulty with motor skills and sensation on the affected side.
- Consider referral to physical therapy for a decreased range of motion in the shoulder.

- Consider physical or occupational therapy for difficulty with motor skills, temperature sensation or balance.
- Treat neuropathic pain with tricyclic antidepressants, carbamazepine, gabapentin or pregabalin.
- Refer to a pain specialist if pain does not improve.

Risks Related to Medications

Risk of Developing Cataracts

- Increased risk for cataracts due to certain chemotherapy agents. Assess for symptoms at annual physical exam.
- Survivors should have eye exam by an ophthalmologist every few years.

Risk of Bladder or Urinary Tract Toxicities

- Risks include hemorrhagic cystitis and decreased bladder capacity. Evaluate for concerning urinary symptoms and provide appropriate follow-up with urinalysis, ultrasound and urology consult.
- Encourage alcohol abstinence and smoking cessation.

Risk of Developing Bladder Cancer

- Assess for urinary symptoms.
- Patients who also received radiation to abdomen at increased risk.
- Encourage alcohol abstinence and smoking cessation.

Risk for Cardiac (Heart) Problems Related to Anthracycline Chemotherapies

- Annual physical exam that includes a complete cardiac exam.
 - Echocardiogram within one year of treatment and then at discretion of care team.
 - New or worsening symptoms should prompt further investigation with cardiac biomarkers and echocardiogram. Consider cardio oncology referral for any abnormalities.
 - Monitor and manage co-morbidities.
- Encourage a heart healthy lifestyle- smoking cessation, proper diet and regular exercise, etc.

Risk of Developing Osteoporosis

- Long term use of corticosteroids, receiving chemotherapy medications, radiation to weight bearing bones, hormone therapy, gastrectomy and orchiectomy all increase the risk of developing osteoporosis.
- Calcium intake of 1000-1200mg per day plus Vitamin D 800iu to 1000iu per day (ideally from food sources, and supplements when diet is not sufficient).
- Encourage smoking cessation and minimal or no caffeine or alcohol intake.
- Promote healthy lifestyle with good diet and weight bearing and strength training exercise 2-3 times per week.
- Consider screening with DEXA scan.

Skin Changes

- Encourage good hygiene and skin care.
- Evaluate for any signs of infection or non-healing skin wounds.

Understanding Chemo-Brain

- "Chemo-brain" can include difficulty with short term memory, multi-tasking, new learning, reading comprehension, working with numbers and difficulty concentrating.
- Evaluate for cognitive changes and confirm that any cognitive changes are not due to a treatable cause such as hypothyroidism, depression, or anxiety.

Fertility Concerns for Female Survivors

- Due to cancer treatments, survivors may have fertility issues after treatment.
- If a survivor wishes to get pregnant, refer to reproductive specialist experienced in working with cancer survivors for evaluation.
- Consider a high-risk obstetrician for survivors, particularly after abdominal radiation, surgery involving female reproductive organs, or if they received anthracycline chemotherapy or herceptin.
- Survivors should be aware of the possibility of getting pregnant even after menstruation has stopped (due to treatments). All patients who were actively menstruating before beginning cancer treatment should use birth control during cancer treatment and for months afterwards, even if periods have stopped.

Side Effects While Taking Tamoxifen

- Adjunct tamoxifen therapy can last for 5 or more years after primary therapy.
- These may cause hot flashes and other symptoms of menopause.
- There is an increased risk of endometrial cancer and blood clots while taking this medication.
- Encourage a discussion with the oncology team to manage any symptoms that may lead the survivor to discontinue the medication.

Sexuality Concerns for Female Survivors

- Chemotherapy agents are associated with vaginal dryness, painful intercourse, reduced sexual desire, and the ability to achieve orgasm. Many of these issues are caused by the sudden onset of menopause, as a result of cancer therapy.
- OncoLink's article on Vaginal Dryness and Painful Intercourse provides product suggestions and tips.
- Encourage open communication with the patient to help them address any sexuality issues. May also consider referring to a therapist experienced in working with cancer survivors.

Risk of Developing a Secondary Cancer

- Certain chemotherapy agents or radiation can lead to the development of leukemia, MDS, or lymphoma. This typically occurs 4-10 years after therapy, but could occur as soon as 1-3 years after therapy (early onset is most common with etoposide or teniposide).
- Annual complete blood count with differential. Evaluate for concerning sign/symptoms.

What We Do Not Know

- Many cancer treatments today have not been available long enough to determine what effects they may cause in years after treatment.
- Evaluate for any new or worsening symptoms that may be unexplained by other factors.

Side Effects of Radiation

Long term effects of radiation therapy vary greatly depending on the areas included in the field of radiation and the radiation techniques that were used, as these continue to develop and improve. One issue that is

consistent across all tissues is the possibility of developing a second cancer in or near the radiation field. Secondary cancers develop as a result of the exposure of healthy tissue to radiation. Newer radiation techniques are designed to limit this exposure, but it is not always possible to prevent all exposure and still achieve the desired outcomes.

Radiation for Breast Cancer (After Lumpectomy)

- Survivors of breast cancers, particularly left-sided breast cancers, may be at increased risk of cardiac complications. Please see the description of heart/ cardiovascular late effects for more information.
- Yearly mammograms.
- Caution when surgery is considered after radiation to the breast.
- Consideration of physical/ occupational therapy for arm pain, weakness, or swelling.
- Rapid evaluation for new arm swelling, redness, or pain, especially with fever.

Heart / Cardiovascular

- Survivors are at risk for early CAD, hypertension, valve abnormalities, fibrosis of cardiac tissue, heart failure and MI. The risk varies greatly depending on dose, number of fractions, shielding and combination with chemotherapy.
- Annual H&P, including blood pressure, cholesterol levels and blood sugar.
- Counseling on healthy lifestyle including exercise, tobacco cessation and healthy diet.
- High-risk survivors may benefit from an annual EKG and screening echocardiogram.

Lung

- The Children's Oncology Group recommends childhood cancer survivors should not scuba dive without medical clearance by a diving medicine specialist.
- Annual influenza vaccine and pneumococcal vaccine every 5 years.
- Counseling for tobacco cessation.
- Chest X-ray for new cough or shortness of breath.
- Immediate evaluation of hemoptysis.

Bone

- Radiation can increase the risk of bone fractures. Joints in the treatment field can develop permanent stiffness, pain and arthritis.
- Rapid evaluation for fracture after trauma.
- Physical or occupational therapy and NSAIDs for arthritis.

Skin

- Skin is more sun sensitive after radiation. Counsel to use sunscreen diligently.
- Evaluation by a wound care specialist for any non-healing ulcers.
- Skin can develop chronic swelling, wounds, changes in texture and color.

Lymph Nodes

- Radiation increases the risk of lymphedema over surgery alone. A Certified Lymphedema Therapist should be consulted at the first sign of swelling for best outcomes.
- Survivors should be educated about self care and to notify the healthcare team with any signs of infection.
- Radiation and/or surgery can damage nerves, which can be further aggravated by scar formation and result in neuropathic pain. Survivors with this pain may benefit from seeing a pain specialist.

Healthy Living After Cancer

Survivors often wonder what steps they can take to live healthier after cancer. There is no supplement or specific food you can eat to assure good health, but there are things you can do to live healthier, prevent other diseases, and detect any subsequent cancers early.

In addition to medical problems and screening, cancer survivors also sometimes have issues with insurance, employment, relationships, sexual functioning, fertility, and emotional issues because of their treatment and we will discuss those in this care plan.

No matter what, it is important to have a plan for who will provide your cancer-focused follow up care (an oncologist, survivorship doctor or primary care doctor). You have taken the first step by developing a survivorship plan of care. If you would like to find a survivorship doctor to review your care plan you can contact cancer centers in your area to see if they have a survivor's clinic or search for a clinic on OncoLink's [survivorship clinic list](#).

Fatigue

Fatigue is the most common side effect of cancer treatment. What many people do not know is that this feeling of overwhelming physical, mental and emotional exhaustion can last for months to years after therapy ends. However, it is important to remember that fatigue can be caused by many things and, particularly if fatigue is worsening or new, other treatable causes should be ruled out.



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