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# **Breast Cancer**

**Types of Breast Cancer**

Breast cancer is the most common form of cancer in Canadian women; 1 in 9 Canadian women will be diagnosed with breast cancer in their lifetime. The two most common forms of breast cancer are ductal carcinoma and lobular carcinoma. Men can also get breast cancer, however this is more rare.  
   
Since the 1980’s survival rates for women with breast cancer have been steadily improving as the current five-year survival rate has gone up to 87%. Although the rates of survivors is increasing, they are living with treatment-related side effects for years after their cancer treatments have ended.

### **What Risk Factors cause this Cancer?**

Many risk factors for breast cancer have been identified including:

* Advanced age
* Family History - Of ovarian cancer < 50 yrs (One first-degree, or 2 or > relatives with breast cancer)
* Personal history (prior history of breast cancer)
* Genetic mutations (e.g. BRCA 1/BRCA 2)
* Dense breast tissue
* Reproductive history (e.g. early menarche, late menopause, no or late pregnancy)
* Radiation exposure (i.e. to chest wall area)
* Hormone replacement therapy
* Oral contraceptive use
* Alcohol consumption
* Obesity
* Physical inactivity/sedentary lifestyle

### **What are the Clinical Manifestations?**

Breast cancer often does not cause any signs or symptoms in the early stages; they begin to appear as the tumor grows. Some of these initial signs or symptoms include:

* A firm or hard lump in the breast
* A lump in the armpit
* Changes in the shape or size of the breast
* Changes in the nipple, such as a nipple that suddenly starts to point inward
* Discharge from the nipple

Later signs and symptoms include:

* Bone pain
* Weight loss
* Nausea
* Loss of appetite
* Jaundice
* Shortness of breath
* Cough
* Headache
* Double vision
* Muscle weakness

### **What are the Treatment Options?**

Each case is unique and requires a personalized medical treatment plan. Some of the treatment options may include:

* ***Surgery***:removal of the abnormal cancerous tissue and surrounding lymph nodes through surgery.
* ***Chemotherapy***: systemic treatment to kill cancer cells and prevent them from dividing.
* ***Radiation therapy***: doses of radiation used to oblate cancer cells. This may be done in combination with chemotherapy treatment.
* ***Hormonal therapy***: changing of hormonal levels in the body to destroy cancer cells or slow their growth.

**What are the Possible Side Effects of Treatment?**

**1) Surgery:**

* Shoulder pain
* Shoulder movement restriction
* Upper extremity weakness
* Upper extremity lymphedema
* Neurological dysfunction
* Muscle instability and weakness
* Dehiscence, lymphocele, hematoma

**2) Radiation Therapy:**

* Fatigue
* Skin irritation
* Pain in the chest wall, axilla and surrounding tissues
* Reduced shoulder range of motion
* Radiation fibrosis

**3) Chemotherapy:**

* Fatigue
* Nausea/vomiting
* Neuropathy
* Menstrual changes
* Arthralgia
* Alopecia
* Mucous membranes irritation (e.g  vulvar/vaginal tissues, vocal cords)

**4) Hormonal Therapy:**

* Menopausal-like symptoms (e.g. hot flashes, mood swings)
* Bone density loss (increased risk of osteopenia/osteoporosis)
* Weight gain
* Bowl irregularity
* Nausea
* Arthralgia
* Fatigue

### **What is the Role of Physiotherapy and Rehab?**

The goals of rehabilitation depend on the extent of the disease and the treatment that a patient has received. Physiotherapy can help manage the side effects of treatment, maintain overall functioning, and improve quality of life. This can be done using a variety of treatment approaches. These include:  
   
**Physical Activity/Exercise**

* Physical activity and exercise have been shown to be safe and effective in managing many breast cancer treatment side effects. This includes improvements in fatigue levels, pain, upper extremity range of motion and strength, cardiovascular health, quality of life, and psychosocial outcomes.
* Beneficial effects have been found both during and after treatment.
* Recommendations for both aerobic and strength training are the same as those for healthy Canadians. This includes **150 minutes of moderate intensity aerobic exercise per week**and **twice weekly strengthening exercises for all the major muscle groups of the body**.
* It is best if survivor’s start with a supervised program with symptoms monitored during and after their exercise routine.
* Research has also shown promising result in the use of exercise to prevent recurrence and decrease mortality rates.

Goals setting and action planning should accompany any new exercise program. This has been shown to lead to better adherence to new exercise programs in individuals with chronic conditions.

**Lymphedema Management**

* A chronic and currently incurable condition requires very specific management. Combined manual approaches are used to achieve and maintain substantial volume reduction for patients. Recent research has shown promising results in the use of manual physical therapy techniques and manual lymphatic drainage in managing common side effects of breast cancer treatment. This includes improvements in range of motion restrictions due to tissue tightness and cording, lymphedema, and upper extremity range of motion.
* Continuing education to become a certified manual lymphedema therapist is available through provincial lymphedema associations, continuing education courses through schools of certification (e.g. Casley Smith, Vodder).
* Education to help individuals establish healthy lifestyle habits for life-long wellness
* Support for return to activities of daily living, return to work and recreational activities.
* Functional Surveillance
* It has been suggested that physiotherapists monitor survivors of breast cancer at regular intervals throughout the course of their cancer treatment and into survivorship in order to prevent common functional limitations that occur secondary to treatment.

The rationale for this model of care, commonly referred to as the prospective surveillance model, is in its potential to reduce the incidence and severity of the broad range of physical and functional impairments experienced by breast cancer survivors.

### **References & Resources**

* Campbell, K., Pusic, A., Zucker, D., McNeely, ML., Binkley, JM., Cheville AL. & Harwood KJ. (2012). A prospective model of care for breast cancer rehabilitation: Function. Cancer,188(S8), 2300-2311.
* Canadian Cancer Society. (2017). Side Effects of Chemotherapy. Retrieved from: [http://www.cancer.ca/en/cancer-information/diagnosis-and-treatment/chemotherapy-and-other-drug-therapies/chemotherapy/side-effects-of-chemotherapy/?region=on.](http://www.cancer.ca/en/cancer-information/diagnosis-and-treatment/chemotherapy-and-other-drug-therapies/chemotherapy/side-effects-of-chemotherapy/?region=on)
* Canadian Cancer Society. (2017). Side Effects of Radiation Therapy. Retrieved from: [http://www.cancer.ca/en/cancer-information/diagnosis-and-treatment/radiation-therapy/side-effects-of-radiation-therapy/?region=on.](http://www.cancer.ca/en/cancer-information/diagnosis-and-treatment/radiation-therapy/side-effects-of-radiation-therapy/?region=on)
* Canadian Cancer Society. (2017). Hormonal Therapy for Breast Cancer. Retrieved from: [http://www.cancer.ca/en/cancer-information/cancer-type/breast/treatment/hormonal-therapy/?region=on.](http://www.cancer.ca/en/cancer-information/cancer-type/breast/treatment/?region=on)
* Canadian Cancer Society. Risk factors for breast cancer. Available at: <http://www.cancer.ca/en/cancer-information/cancer-type/breast/risks/?region=on#socioeconomic_status.>
* Canadian Cancer Society. Symptoms of breast cancer. Available at: [http://www.cancer.ca/en/cancer-information/cancer-type/breast/signs-and-symptoms/?region=on.](http://www.cancer.ca/en/cancer-information/cancer-type/breast/signs-and-symptoms/?region=on)
* Canadian Cancer Society’s Advisory Committee on Cancer Statistics. (2016). Canadian Cancer Statistics 2016. Toronto, ON: Canadian Cancer Society.
* Canadian Society of Exercise Physiologists. Canadian Physical Activity Guidelines. Available at: <http://www.csep.ca/CMFiles/Guidelines/CSEP_PAGuidelines_adults_en.pdf>
* Cella, D. & Fallowfield, LJ. (2008). Recognition and management of treatment-related side effects for breast cancer patients receiving adjuvant endocrine therapy. Breast Cancer Research and Treatment, 107, 167–180.
* Cho, K., Do, J., Jung, D., Kwon, O., Jeon, J. Effects of a physical therapy program combined with manual lymphatic drainage on shoulder function, quality of life, lymphedema incidence, and pain in breast cancer patients with axillary web syndrome following axillary dissection. Support Care Cancer. 2016;24:2047-2057.
* Cormie, P., Zopf, E., Zhang, X. & Schmitz, K. (2017). The Impact of Exercise on Cancer Mortality, Recurrence, and Treatment-Related Adverse Effects. Epidemiologic Reviews,  39(1),doi:10.1093/epirev/mxx007
* Edwards, BK., Brown, ML., Wingo, PA., Howe, HL., Ward, E., Ries, LA. Schrag, D., Jamison, PM., Jemal, A., Wu, XC., Friedman, C., Harlan, L., Warren, J., Anderson, RN., Pickle, LW. (2005).  
  Annual report to the nation on the status of cancer, 1975–2002, featuring population-based trends in cancer treatment. Journal of the National Cancer Institute, 97(19),1407–27.
* Ewertz, M. & Jensen, AB. (2011). Late effects of breast cancer treatments and potentials for rehabilitation. Acta Oncologica, 50, 187-193.
* Schmitz, KH, et al. American College of Sports Medicine Roundtable on Exercise Guidelines for Cancer Survivors. Medicine & Science in Sports & Exercise. 2010;doi:10.1249/MSS.0b013e3181e0c112.
* Schmitz, KH., Ahmed, RL., Troxel, AB., Cheville, A., Lewis-Grant, L., Smith, R., Bryan, CJ., Williams-Smith, CT., Chittams, J. (2010). Weight lifting for women at risk for breast cancer-related lymphedema: A randomized trial. Journal of the American Medical Association, 304(24),2699-2705.
* Stout, N., Binkley, J., Schmitz, K., Andrews, K., Hayes, SC., Campbell, KL., McNeely, ML., Soballe, PW., Berger, AM., Cheville, AL., Fabian, C., Gerber, LH., Harris, SR., Johansson, K., Pusic, AL., Prosnitz, RG., Smith, RA. (2012). A prospective surveillance model for rehabilitation for women with breast cancer. Cancer, 188(S8), 2191-2200.

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