The purpose of this booklet is to provide women who have been treated for breast cancer, an educational resource with the basic information needed to have a successful post-surgical healing experience, physically and emotionally. This booklet discusses additional information on benefits of exercise following surgery. The content in this booklet is meant to be a compliment to the content in your “Breast Surgery, A Guide for Patients and Families” educational booklet.

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Exercise and breast cancer

Exercise is beneficial in improving overall health and quality of life when undergoing treatment for breast cancer. Exercise has been shown to reduce nausea, pain and stress, and maintain a good weight. There are many ways to incorporate exercise into your routine, from walking, yoga, swimming, stretching, strengthening, and balance exercises.

Before beginning an exercise routine, you should check with your doctor and a physical and/or occupational therapist regarding what is best for you.

Physical and occupational therapists can help you design an exercise program that is suitable and safe for you after your surgery.

Specific shoulder range of motion exercises as well as stretching and strengthening exercises have been shown to improve shoulder motion, function and quality of life. Exercise can also decrease pain, improve immune function and improve carbohydrate, fat and protein metabolism. Exercise can also help to decrease depression, stress, and anxiety and improve body image and confidence.

In recent studies, swelling of the arm and lymphedema has not increased when women have performed exercises of their arm soon after surgery (although radiation and surgery combined may increase the risk). Resistance training has been found to be safe after surgery once the lifting restriction established by the doctor has been lifted. It is recommended that aerobic exercise is done at a moderate intensity, 3-5x/week for at least 30 minutes, and weight bearing exercises are incorporated to help counteract bone loss related to chemotherapy.
Deep breathing exercises
After surgery your body may feel fatigued and stressed. Practice the following deep breathing exercises to relax and help relieve some of this tension:

- Sit upright in a comfortable chair with good posture or lie down on a bed. Dim the lights and let your mind travel to a place where you feel at peace and in harmony.
- Stay as relaxed as possible and close your eyes.
- Pay attention to the way you are breathing by placing a hand on your belly.
  - Deeply inhale and exhale so that you feel your belly rise and fall. (If you only feel your chest rising and falling, your breathing is too shallow. Try to breath deeper and feel your stomach rise and fall).
- Now breathe in through your nose and hold for a count of two to five (you can modify the amount of time you hold your breath for what you are able to tolerate).
- Slowly exhale through your mouth.
- Try this five to six times a day.

Relaxation techniques
Relaxation techniques can help you cope with stress and promote long-term health by slowing down the body and quieting the mind. While not all stress can be removed from our lives there are methods to help relieve stress that anyone can use. Some of the most basic relaxation techniques are as follows:

- Take time every day to sit quietly in a darkened, quiet room with your eyes closed to focus on a relaxation exercise.
- Listen to music that calms your body.
- Keep a card in your wallet or purse with a phrase written on it that reminds you to relax or take a deep breath.
- Take several slow deep breathes several times daily, especially in situations that may cause you stress. This is good for traffic jams, while on hold during a telephone call……..
- Learn to say no, when asked to do something you either don't want to do or don't have time to do.
- Take time to sit outside in your garden, read a book with your child or grandchild, or listen to music you enjoy.
- Don't fill up your calendar completely; leave some time for just doing nothing.
- Exercise regularly, take a walk, ride a bike, go to a yoga class, or join a gym.
- Limit caffeine, alcohol, and sugar in your diet.
- Do those activities that in the past have helped you to relax.

Another technique that can be used is Progressive Muscle Relaxation, which involves tensing and releasing the muscles, one body part at a time, to bring about a feeling of physical relaxation.
Begin by tensing and relaxing the toes of one foot.
Inhale as you briefly tense your muscles and exhale when releasing the tension.
Gradually, work your way up into the muscles of one leg, tensing and relaxing.
Repeat on the other leg.
Continue up your body, tensing and relaxing each muscle group: your abdomen, torso, chest, fingertips, arms, shoulders, neck, and face.
As you purposely release tension in each area, you may experience a feeling of relief.

Studies have shown that relaxation and meditation can significantly reduce stress and anxiety, as well as many of the side effects of cancer illness and treatment, such as pain, nausea and vomiting, insomnia, and fatigue.

By incorporating relaxation techniques into your daily life, you can access your peaceful, calm center in the midst of stressful circumstances. Unlike other complementary therapies, which require a practitioner, such as acupuncture or massage, relaxation techniques can be learned and then practiced independently on a regular basis to foster a calm emotional and mental state. This is the definition of Mind/Body Medicine: the mind and body are connected, and by fostering a calm mind, one can reduce physical stress on the body.

Nutrition and breast cancer

When incorporating exercise into a daily routine, it is important for appropriate nutrition to be maintained. We recommend you consult a nutritionist for specific advice about nutrition during breast cancer treatment and after completion of your treatment. But here are some general recommendations:

Nutrition recommendations for patients with cancer are different because they are designed to help build up your strength and help you withstand the effects of your cancer and its treatment. When you are healthy, eating enough food to get the nutrients you need is usually not a problem. During cancer treatment, however, this can become a challenge, especially if you have side effects or simply don't feel well.
Weight control

Some recommendations to help you maintain a healthy weight and feel better are:

(Remember to check with your doctor for any food or diet restrictions first!)

- Try to eat a variety of nutritious foods from all of the food groups.
- It is important to include plenty of fruits and vegetables, as well as proteins, each day.
- Include whole grain breads and cereals for a good source of complex carbohydrates.
- Lessen the amount of fat, salt, sugar, and alcohol in your diet.
- Broiling, steaming, and poaching are great ways to decrease the amount of fat in your diet when cooking.
- If you have specific questions regarding what foods are best for your particular body, consult a Nutritionist.

To schedule a nutrition appointment at Dana Farber please call 617-582-8329 or 617-632-2077.
Post-Operative Precautions:
Short Term- until the drain is removed.
- No heavy lifting greater than 5 lbs.
- No upper extremity range of motion greater than 90 degrees (level of shoulders) on affected side until the drain is removed.
- Normal activities of daily living are OK (bathing, dressing, cooking, etc.) as long as you do not raise your arm above shoulder height.
- No driving until cleared by your physician.

Lymphedema Precautions:
- Blood draws, vaccinations, and intravenous lines should be avoided on the affected side.
- Avoid tight fitting clothing on affected arm.
- Do not take blood pressure in the affected arm.
- Do not carry heavy items with the affected arm.
- Meticulous skin hygiene and nail care should be maintained to prevent any infection or skin irritation.
  - Do not cut cuticles
  - Avoid sunburn and insect bites. Use sunscreen and bug repellent sprays.
- Use electric razor to shave underarms to prevent any skin breaks/irritation.
- No smoking and avoid second-hand smoke.

Preventing Frozen Shoulder:
- Perform exercises twice daily within precautions (no lifting arm over shoulder, no lifting greater than 5 lbs)
- After your drain comes out, notify your doctor if you have:
  - Tightness and pain in your shoulder joint that is unrelated to activity
  - Decreased range of motion in your shoulder that is unrelated to pulling or pain at surgical site
- Although you are at higher risk for developing shoulder stiffness on your surgical side, these precautions apply to both shoulders.
**Therapeutic Exercises:**

**Shoulder Shrug:**
- Raise shoulders upward toward ears and hold for 3-5 seconds
- Return to start position. Focus on relaxing shoulders downward at rest.
- Inhale as you bring your shoulders up and exhale as you relax your shoulders down
Perform 1 set of 10 repetitions twice daily

**Shoulder Rolls:**
- Raise shoulders up toward ears and roll shoulders backwards
Perform 1 set of 10 repetitions twice daily

**Arm Saw:**
- Bend elbow to 90 degrees
- Move arm back bending elbow more
- Move arm forward, straightening elbow
- The motion resembles a sawing movement
Perform 1 set of 10 repetitions twice daily
Scapular Retraction:
-Sit or stand as upright as possible
-Squeeze both shoulder blades together, sticking out chest at the same time
Perform 1 set of 10 repetitions twice daily

Butterfly Exercise:
- Stand with hands against side of head with elbows touching in front
- Palms should be turned inward
- Move elbows out to side until even with the shoulders
- Do not allow elbows to go higher than shoulders
- Return to start position and repeat.
Perform 1 set of 10 repetitions twice daily
**Back Scratch:**
- Reach behind back and hold hands together
- Gently slide hands up back and slowly return to start position
Perform 1 set of 10 repetitions twice daily

**Arm Raises:**
- Begin with arms at side, elbow straight, and palm forward
- Slowly raise arm upward out to the side.
- Stop at shoulder height (90 degrees).
- Slowly return to side
Perform 1 set of 10 repetitions twice daily

**Shoulder External Rotation:**
- Arm at side, elbow bent (on or off a table)
- Rotate arm outward as shown.
- Return to starting position.
Keep upper arm at side.
Perform 1 sets of 10 Repetitions, twice a day.
References

http://www.cancer.org/docroot/MBC/content/MBC_6_2X_Benefits_of_nutrition_during_treatment.asp?sitearea=MBC.


