

Instruction sheet for patients after breast cancer surgery and sentinel lymph node dissection (SLND) – before and after hospital discharge

(Version B 2021)

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Dear Patient,

A consensus exists between members of the professional staff that, following breast cancer surgery, instructions need to be provided for the immediate and later recuperation periods. We have written these detailed instructions for you. They are based on research we performed over two years (2018-2019) which enabled us to develop instructions to help prevent or reduce the risk for side effects from breast cancer surgery. We hope these instructions will help you during your recuperation period and wish you a speedy recovery.

During your recent surgery one or more sentinel lymph nodes were removed. The surgery and treatments which will follow contribute substantially to your recovery from breast cancer. However, some women develop immediate or later side effects from the surgery such as pain, shoulder movement restriction and swelling.

It is important to adopt certain behaviors to help your recovery process and to reduce your risk for side effects in the future.

These instructions contain recommendations for the immediate period after your surgery (until the surgical wound heals) and for the time following.

The instructions are divided into three sections:

- Section 1: instructions for the recovery period after surgery
- Section 2: instructions for risk reduction for arm lymphedema and other side effects
- Section 3: recommendations for exercises for the recovery period

All information contained in these guidelines are our recommendation only and your treatment program should be chosen in consultation with your medical practitioner or physical therapist.

Section 1: Guidelines for the recovery period after surgery

Exercise instructions:

In most hospitals physical therapists provide post-surgical instructions as well as instructions for home exercise.

Early mobility to improve lung ventilation and general mobility

Make sure you sit up and walk around often and avoid lying down for long periods of time. While walking you should relax the affected shoulder and arm and allow them to move freely.

Exercises

- Mobility exercise is recommended for trunk, chest, shoulder and arm movement.
- Shoulder movement should be started gradually on the first or second day after surgery according to instruction received from the hospital physical therapist.
- Shoulder movement should be gradually increased until the full range can be performed.
- The hospital physical therapist will instruct you in additional exercise after the surgery. Different exercises are recommended during progressive stages of recovery.
- Progress from one stage to the next should be gradual regarding increasing range of the movement and muscular demand.
- Avoid doing strenuous exercise with the arm on the side of the surgery for three weeks after the surgery (lifting heavy weights, sudden and painful movements).
- Perform the exercises slowly **up to the point of pain only**, 5-10 repetitions for each exercise. The exercises should be performed 1-3 times each day.

General instructions

- After the surgical wound is healed, pliability of the scar can be improved by gentle massage over the entire area of surgery with emphasis on the scar. During showering/bathing is a good time.
- Should any sign of inflammation appear, such as redness, swelling, discharge from the surgical wound, temperature higher than 38° or pain increase which does not improve with regular treatment, you should consult with your doctor or be seen in a hospital emergency room.
- If after three weeks from the surgery you still have limited shoulder movement, ask your doctor to refer you for more physical therapy through the physical therapy clinic in your health maintenance organization (HMO).

Section 2 - recommendations to reduce the risk of later side effects

A small number of women may develop side effects at any time after the surgery. These side effects may be localized to the region of the surgery (trunk, shoulder, breast or arm) or they may be more generalized. Examples of local side effects are arm lymphedema (swelling), shoulder movement limitation accompanied by arm and shoulder pain. Examples of general side effects are fatigue, sleep and mood disorders. The following recommendations help to reduce the risk of developing all side effects. For example, the recommendation to exercise reduces risk for arm lymphedema as well as for fatigue, mood and sleep disorders.

General recommendations for risk reduction for arm lymphedema and other side effects.

- Maintain arm hygiene and prevent infections. Any small injury to the skin of your affected arm should be immediately cleaned with an antiseptic.
- Maintain full shoulder and trunk range of movement.
- Return as soon as possible to routine daily activity including using your arm.
- Take part in physical exercise.
- Maintain your normal BMI (correct body weight for your height).
- Be alert to possible early symptoms such as hand or arm swelling heaviness prickling, early signs of infection (skin heat, irritation or redness, pain, a flu-like feeling, temperature or chills) or new pain and movement limitation of the shoulder. Early signs of infection need to be seen immediately by a doctor (treating doctor or emergency room). For the other signs and symptoms, you should request a referral to a physical therapist certified in lymphedema treatment.






Recommendations for physical exercise and return to normal routine






- When the surgical wound has healed you should start an exercise routine. If you were doing exercise before the surgery, you can return to the same exercise and even increase the intensity while following certain guidelines and recommendations.
- We recommend including aerobic exercise and resisted arm exercise. Examples of aerobic exercise are walking for fitness, running, swimming and dancing. Choose an activity suitable for you and do it at least three times or more a week for a total of at least 150 minutes.
- Arm muscle strengthening – we recommend consulting with a physical therapist certified in lymphedema treatment and the working under guidance of a certified gym coach. They will help you build a gradually increasing exercise program customized to your needs and ability.
- If hand or arm swelling appears during exercise you will need to exercise with a compression sleeve. Similarly, if breast swelling appears, you may need to exercise with a compression bra. A suitable compressing garment can be ordered by a physiotherapist certified in lymphedema treatment.

Section 3 – Recommended exercises for each stage of recovery



In this section you will find examples of exercises for the different stages of recovery. You and your treating physical therapist may prefer to choose different exercises.

Stage A – Exercises starting the day after the surgery.


	Starting position	Goal	Exercise performance	Exercise illustration
1	Lie on your back with your knees bent and feet slightly apart on the mat. Rest your head on a small pillow. Your hands will be on the base of your chest or on the mat as in the picture.	Improved lung ventilation through deep breathing	Take a deep breath in (through your nose), expand the base of your chest, breath out through your mouth.	
2	Some of the exercises may be done while sitting on a chair with a back support.	Trunk mobilization	Roll one knee to the side then slightly lift the opposite hip. This helps lower the other knee closer to the mat. Lower your hip and bring your knee back to the starting position. Repeat the exercise to the opposite side.	
3		Neck mobilization.	Slowly turn your head from side to side (perform the exercise with your eyes open then closed).	
4		Scapular (shoulder blade) mobilization	Lift your shoulders towards your head and return to starting position. Bring both shoulders forward and return them to the starting position.	
5		Neck mobilization.	Slowly turn your head from side to side (perform the exercise with your eyes open then closed).	

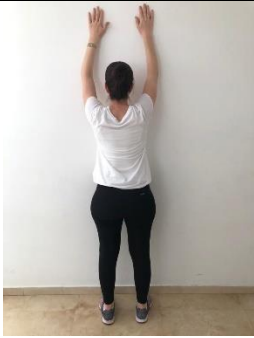
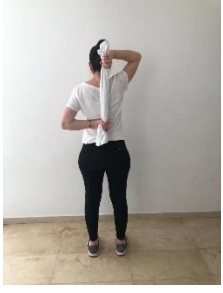
6		Neck mobilization.	Slowly turn your head from side to side (perform the exercise with your eyes open then closed).	
7		Scapular (shoulder blade) mobilization	Lift your shoulders towards your head and return to starting position. Bring both shoulders forward and return them to the starting position.	
8	Sit upright on a chair, with your hands resting on your thighs.	Shoulder girdle mobilization.	Pull your shoulders back without lifting your shoulders closer to your ears. Keep your elbows slightly bent and your back straight. Hold this position for a few seconds before releasing.	
9	Sit upright on a chair. Place your hands on the opposite shoulder.	Trunk and neck mobilization combined with shoulder movement	Turn your head and arms to one side, then to the opposite side. The movement should be performed in the pain free range only.	
10			Bent your neck and trunk to one side, hold them there for a few seconds and return them to the starting position before repeating to the other side.	

Stage B – Exercises for the second to the sixth day after surgery

	Starting position	Goal	Exercise performance	Exercise illustration
	Continue doing all the exercises for stage A			
11	Lie on your back as for stage A exercises.	Improve shoulder range of movement	Join your hands in front of you and lift them in the direction of the ceiling. Up to day 7 limit the movement to shoulder level.	
12	Sit on a chair with your feet on the floor, your back supported and your arms resting next to your sides.	Self-assisted elbow and shoulder movement	Join your hands and lift your arms with elbows straight. Lift up to shoulder level only.	

Stage C – Exercises for the seventh day after surgery and after (when the surgical wound has healed)

	Starting position	Goal	Exercise performance	Exercise illustration
	Continue doing all the exercises from Stages A and B			
13	Lie on your back with your knees bent and feet slightly apart on the mat. Rest your head on a small pillow.	Improve shoulder mobility	Clasp your hands together. Lift your arms up and place your hands behind your head. Open your elbows out to the sides. Note the distance your elbows are from the mat. Bring your elbows forward to meet in front of your face and then open them out to the sides. Repeat this movement a few times. Rest your arms on your abdomen then at the sides of your body on the mat.	

14	Stand with your feet slightly apart facing the wall.	Improve shoulder mobility	Using your fingers “climb” up the wall until your elbows are straight. Keep looking at your hands. Bring your feet closer to the wall and try to lift your hands higher on the wall. Remain for a few seconds at the point where you feel the stretch. Then move slowly backwards and let your arm slide slowly down the wall. Repeat this movement but make sure to work in a pain free range.	
15	Stand with your feet slightly apart, facing the wall	Improve shoulder mobility	Holding a small rolled up towel. Lift your affected arm above your head. The other arm behind your back grasps the lower end of the towel. Pull the towel down and up. Change hands after a few repetitions.	

When you have regained full and pain free movement, you can gradually reduce the exercise to twice a day, then once a day, then to twice a week. At this stage we recommend joining a beginner's exercise class such as Feldenkrais, Vini yoga, Pilates or Body Mindfulness exercises. In addition, we recommend doing gentle aerobic exercise such as walking outdoors or on a treadmill. At a later stage, after consulting a physical therapist certified in lymphedema treatment, you should return to your regular fitness activities.

We wish you a speedy recovery and good health

References:

Jacob T, Bracha J, Peleg R, Epstein A, Yosha I. Risk reduction recommendations for upper quadrant side effects after breast cancer surgery and treatments: A Delphi survey to evaluate consensus among expert physical therapists and alignment with current evidence. *Rehabilitation Oncology*. 2021;39 (4):E106–E118.

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