

Reducing the Risk of Breast Cancer-Related Lymphoedema: What does the latest evidence say?

Breast cancer-related lymphoedema (BCRL) is a distressing and potentially life-long complication faced by individuals who undergo breast cancer treatment. It is caused by damage to or removal of lymph nodes, which may result in swelling of the arm, breast, or trunk on the side of cancer treatment. When left unmanaged, BCRL can lead to pain, infection, and impaired quality of life.

As research has progressed and our understanding of BCRL has improved, so have the guidelines and recommendations for those at risk of or with BCRL. This blog explores these recommendations and highlights practical strategies for patients and clinicians, based on a recently released article in the journal of Medical Oncology Brunelle, Jackson et al. (<https://lymphoedemaeducation.com.au/wp-content/uploads/2024/11/s12032-024-02510-6-1.pdf>)

1. Prospective Surveillance: Early Detection is Key

One of the strongest recommendations for BCRL risk reduction is **prospective surveillance**, which emphasizes early identification and intervention. According to the consensus:

- Individuals at risk should have **baseline measurements** (e.g., arm volume, bioimpedance spectroscopy) taken before breast cancer surgery.
- Regular follow-ups, ideally continuing for five years post-surgery, help detect early signs of swelling or other symptoms.
- Patients should be educated on **self-monitoring**, as early-stage or subclinical lymphoedema is more treatable than advanced cases.

Early intervention through prospective surveillance has been shown to significantly reduce the risk of late-stage BCRL. The gold standard is to have a preoperative arm volume scan taken using the SOZO technology by Impedimed (<https://www.impedimed.com/>). This allows the clinician to monitor and track people at risk for changes in the arm volume that may indicate the onset of lymphoedema before we can see or feel swelling. This early

identification allows for early intervention to prevent lymphoedema becoming a chronic ongoing issue.

2. Patient Education: Empowering Individuals: Be Aware not Alarmed

Education is a cornerstone of BCRL risk reduction. Tailored pre- and post-operative education can empower patients by providing them with the knowledge to manage their condition effectively. Key topics include:

- **Individual risk factors** (e.g., type of surgery, body mass index, and treatment specifics).
- **Signs and symptoms** of BCRL, such as localized swelling, heaviness, or discomfort.
- **Actions to take** if symptoms arise, including seeking medical advice or consulting with a therapist. To find a therapist near you, take a look at The Australasian Lymphology Association to find certified practitioner in your area.
<https://www.lymphoedema.org.au/accreditation-nlpr/find-a-practitioner/>

3. Understanding Risk Factors

Certain factors increase an individual's likelihood of developing BCRL, including:

- **Surgical risk:** Axillary lymph node dissection (ALND) poses the highest risk, with sentinel lymph node biopsy (SLNB) presenting a lower but still significant risk.
- **Patient-related factors:** Obesity (BMI ≥ 25), Black race, and Hispanic ethnicity are associated with higher BCRL risk.
- **Treatment-related risks:** Radiation therapy to regional lymph nodes, certain chemotherapy regimens, and complications like seromas or cording (axillary web syndrome).
- **Infections:** Skin infections, particularly cellulitis, significantly increase the risk of developing or worsening lymphoedema.

Awareness of these risk factors enables personalised prevention and care strategies. If you are having treatment for breast cancer, knowing your risk of lymphoedema can help you prevent it. The higher number of nodes removed may increase the risk, as well as any

radiation to the armpit and collar bone region. Education and understanding are key to empowering people at risk to make informed choices.

4. Exercise: Safe and Beneficial

Contrary to outdated myths, supervised exercise is both safe and beneficial for individuals at risk of or with BCRL. Progressive resistance and aerobic exercise programs are recommended to improve strength, cardiovascular health, and lymphatic function. Current exercise guidelines for breast cancer survivors emphasise:

- Gradual progression in intensity to avoid strain.
- Supervised sessions with trained professionals to ensure safety.

Exercise is an important strategy to prevent and manage lymphoedema. When the muscle pumps, it pumps against the lymphatic vessel helping to improve lymphatic flow. Along with slow deep abdominal breathing to encourage general lymphatic flow of the whole body. Therefore, a targeted exercise program is one of the parts of a prevention and treatment strategy for at risk people, in addition to helping to reduce weight, another risk factor for BCRL.

5. Skin Care and Hygiene: Preventing Infection

Skin infections like cellulitis are a leading cause of BCRL onset or progression. Protecting the skin and maintaining hygiene are vital to reducing infection risk. Recommendations include:

- **Daily skin care:** Washing, moisturizing, applying sunscreen and insect repellent.
- **Wound care:** Promptly clean and dress cuts, scratches, or insect bites to prevent infection.
- **Monitoring for infection:** Seek immediate medical attention if signs of cellulitis occur, such as redness, swelling, fever, flu-like symptoms, or a rash that starts to spread. If you experience any of these symptoms, please see your GP as soon as possible as you may need to be prescribed antibiotics.

Good skin hygiene practices create a barrier against potential triggers for BCRL.

6. Blood Pressure and Skin Punctures: Addressing Common Concerns

Traditional advice cautioned against blood pressure measurements, injections, or blood draws in the at-risk arm. However, recent evidence challenges some of these precautionary practices:

- **Blood pressure measurements:** Isolated blood pressure readings in the at-risk arm do not increase arm volume, but repetitive or prolonged measurements (e.g., in surgery) should be avoided when possible.
- **Blood draws and injections:** No conclusive evidence links single blood draws or injections to BCRL onset in at-risk individuals. Nevertheless, avoidance in the affected arm remains best practice for those with established BCRL.

Patients and clinicians should weigh practicality and risk when considering these procedures.

7. Surgical Procedures: Proceed with Caution

Elective surgeries involving the at-risk limb have not been definitively linked to BCRL onset or exacerbation. However, temporary limb swelling may occur. Patients should:

- Discuss risks and benefits with their surgical team.
- Request pre- and post-operative lymphoedema assessments to monitor for changes.
- Discuss with your lymphoedema therapist strategies to help prevent lymphoedema during a surgical procedure such as what exercises you can and can't do, whether wearing compression garment may help. There are many tools in the toolbox for preventing and managing lymphoedema and your therapist will be able to assist with what will be most beneficial under these circumstances.

8. Prophylactic Compression: Preventive Strategies

Prophylactic use of compression garments may benefit high-risk individuals, such as those undergoing ALND. A well-fitted compression sleeve can:

- Reduce and delay the onset of BCRL.
- Provide support during air travel or physical activity.

However, poorly fitted garments may exacerbate swelling, so proper sizing and fitting by a certified lymphoedema therapist are essential. There is a large variety of compression garments available, and your therapist will work with you to find the most appropriate one and level of compression required. It may be that adding a sleeve for just a few hours per day can help prevent lymphoedema in at risk people.

9. Hot Climates and Saunas: Monitoring Temperature Effects

Exposure to high temperatures, such as in hot climates or saunas, can cause transient swelling in individuals with BCRL. While hot climates do not appear to increase BCRL risk, sauna use is discouraged. Patients are advised to:

- Self-monitor for triggers that exacerbate swelling.
- Avoid activities that cause discomfort or persistent swelling.

Whilst hot weather may not increase risk, heat generally can cause an increase in swelling. Again, it is important to understand this so as to self-monitor and manage. One great thing that can help in hot weather is swimming. The water acts like compression whilst exercising at the same time and keeping cool - a 3-way win! Other things to consider are spraying your garment with water to keep cool. Maybe try a night garment instead. These are a couple of options and tips that you and your therapist may discuss in helping you manage/prevent lymphoedema in the warmer months.

10. Air Travel: Compression for Maintenance

Air travel has not been shown to increase the risk of BCRL onset, but individuals with existing BCRL are encouraged to wear well-fitted compression garments during flights.

This practice can help prevent fluid accumulation due to cabin pressure changes. Other tips are to keep hydrated, keep moving (remember that muscle pump), slow deep abdominal breathing (also great for calming any flight nerves!!). So, to clarify, flying does not cause lymphoedema. If you have lymphoedema or are high risk, remember to chat to your therapist for strategies to help during and after the flight.

Conclusion: Aligning Practice with Evidence

Advice around what is safe to do for people with or at risk of BCRL has changed a lot over the last few years based on updated research and evidence. If you or a loved one are navigating BCRL, consult with a certified lymphoedema therapist for personalised care. Prevention and early intervention remain the most effective strategies for managing this condition.

A therapist can help you to assess your risk and give you the tools you need to minimise and manage your risk. Prevention is always the very best option; however, it is not always possible. Speak to a certified lymphoedema specialist for the best recipe for you!

At Restore Oncology Care and Lymphoedema Clinic, we are using the SOZO technology to prevent lymphoedema. If you are worried about your risk, please reach out and come in for a free SOZO baseline reading and one of certified therapists will provide you with a personalized recipe on how to prevent lymphoedema.

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