Lymphoedema Framework

National NLFI IRELAND

Position Statement on patient lymphoedema risk reduction

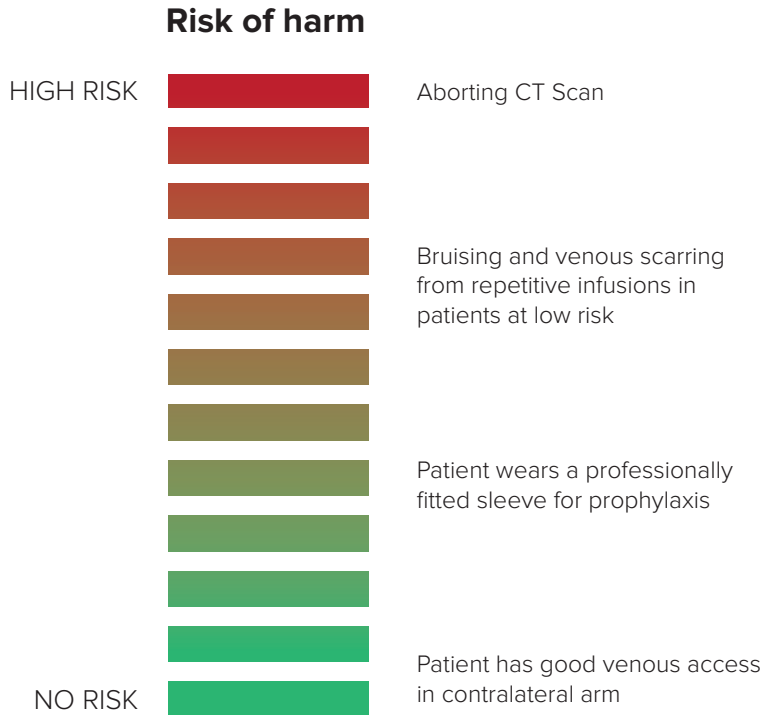
Advice for those at risk

January 2021

Highlighting the more common researched risks for lymphoedema & associated NLFI position statement on same.

“PRIMA NON NUOCERE” - Hippocrates

(First Do No Harm)



It is the view of the NLFI that when considering risk reduction advice for those with or at risk of lymphoedema that guidelines need to be absolutely clear, while educating the patient to the researched risks, affording them self-responsibility in making decisions regarding their well-being.

While it has been scientifically acknowledged that some of the advice given to those at risk of lymphoedema over the years , are essentially factoids (information that is reported and repeated so often that it becomes accepted as fact) we feel it is important that clinical common sense prevails when changing the guidelines .

In order to arrive at our position statement we have reviewed the research presented by the HSE and the NCCP and then included a review of the research and position statements presented by the NCCN, National Lymphoedema Network (NLN), ILF (International Lymphoedema Framework), International Society Lymphology (ISL), National Cancer Institute (NCI), & the most recent international multi -disciplinary expert panel of American Society Breast Surgeons (ASBrS).

We concur with the consensus of the ASBrS who state

“the current lack of patient educational standards as well as patient and clinician low awareness of risks and risk reduction advice makes lymphedema a critical concern for patients and patient advocates. personalized risk-reduction strategies are more appropriate than blanket application of behaviours. Focus of patient advice needs to be risk stratified as the risk differs significantly where a patient underwent ANC versus SLNB”.

We would like to acknowledge the contribution and sharing of data received from Dr Alphonse Taghian, MD, PhD, FASTRO, Massachusetts General Hospital and Ms Cheryl Brunelle, PT, MS, CCS, CLT , Massachusetts General Hospital.

We would like to sincerely thank Prof. Christine Moffatt, CBE FRCN PhD MA RGN DN . Chair and Director of the International Lymphoedema Framework (ILF) and Dr Melanie Thomas MBE DProf FCSP, National Clinical Lead / Associate Director for Lymphoedema in Wales, Board of Directors ILF for their expert contribution and support.

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1. Venepuncture /NeedleStick injury
2. Injections & Infusions

Guideline: Use of the ipsi-lateral arm for any of the above is not contraindicated , however the patient should inform the phlebotomist of the lymphedema risk and use the contralateral arm if possible.*

Physiological Basis: Puncturing the skin and veins is thought to increase the risk of infection and inflammation in the arm, which could incite or worsen existing lymphedema in at-risk arm.

Potential Harm to Patient: Repetitive infusions in the contralateral arm can lead to difficulty in obtaining venous access, bruising, vein sclerosis, and ultimately patient and provider distress.

*We found the guided wording from MGH to be commendable in its clarity and recommend use of similar.

MGH Guidelines for venipuncture and IV insertion are as follows:
(a). Patients who have been treated for breast cancer with lumpectomies or simple mastectomies with, or without, sentinel lymph node biopsy (i.e., no axillary lymph node dissection {ALND} or regional lymph node radiation {RLNR} to the supraclavicular or axillary lymph nodes) are eligible for piv insertion, midline or PICC placement, or blood draw.

(b). The unaffected arm should be considered for use first, as patient condition warrants.

(c). A collaborative care team discussion should occur regarding venipuncture needs for patients having undergone ALND or RLNR to the axillary and supraclavicular lymph nodes (e.g. secondary to breast cancer or upper body melanoma treatment). A patient's body mass index (BMI) equal to, or greater than 30, increases risk of lymphedema and should be considered.

(d). Current lymphedema, or a history of lymphedema, are contraindications to venipuncture of affected extremity."

NB: Absolute consensus and guidelines need to be agreed on the approach for those at risk following bilateral ALND

3. Blood Pressure Reading

Guideline: The patient should, unless its avoidable be empowered to ask for the contralateral arm to be used, while avoiding excessive or prolonged constriction of the at-risk body part, such as for Holter monitoring or continuous monitoring as in theatre or ICU.

Physiological Basis: Blood pressure cuffs used improperly or with extreme pressure may excessively constrict tissues, potentially damaging lymphatic vessels, contributing to increased lymph production and swelling of the affected arm.

Potential Harm to Patient:
- Greater degree of error when taking BP reading from leg/thigh.
- Introduces need for calculation and potential error because of the effects of position and gravity.

4. Sauna / Hot tubs Use / Extremes of temperatures

Guideline: The little research available supports the theory that sauna use increases the risk of BCRL and advocates for advising patients against the use of same. However there is no evidence to support same in relation to hot tubs or steam rooms , so guidance should be based on a common sense approach and avoid excessive exposure.

Physiological Basis: Excessive heat increases vasodilation thus increasing filtration and subsequently lymphatic load.

Potential Harm to Patient: Overload of the superficial lymphatic system resulting in triggering an acute, transient or actual lymphoedema.

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5. Air Travel

Guideline: Clear lines between what is risk reduction for those at risk of lymphoedema and advice for those with lymphoedema should be balanced.

For those with confirmed lymphoedema, it is advisable to wear your professionally measured compression garment before, during and after your flight until the tissues normalise.

For those without lymphoedema it is unlikely that wearing a compression garment during flights is advantageous, in fact

"The uncertain merits of conventional risk-reduction behaviors, including the use of a prophylactic compression sleeve, should be explained to the patient so that she can make informed, personalized decisions as to whether she should incorporate these strategies into her plans for aftercare."

– Rockson, 2018, New England Journal of Medicine

Risk reduction education for those with lymphoedema and for those at risk of lymphoedema, should be centred around movement of
the limbs, breathwork, self-massage of the affected limb, avoidance of alcohol during the flight, avoidance of excessive lifting, pulling or dragging of baggage and taking time to rest/acclimatize before commencing holiday pursuits eg sight seeing, demanding activities.

Physiological Basis: Low cabin pressure may cause the limb to swell because of decreased lymphatic circulation which may cause fluid to pool in the extracellular space.
Prolonged sedentary position and immobility results in decreased muscle activity, reducing the pump action which promotes fluid return.

Potential Harm to Patient: Improperly fitting sleeves may exacerbate or indeed trigger lymphoedema.

6. Skincare & Infection prevention

Guideline: Significant research confirms skin & nail infection confers a risk for lymphoedema.

Given the evidence, at risk patients should be educated to practice good skin care reflecting seasonal changes and personal , work or home environment;

1. Keep skin clean with daily cleansing, avoiding harsh soaps as they alter the natural pH of the skin and remove the protective sebum layer.

2. Moisturise skin at night to replace lost sebum and encourage moisture retention. It is more hygienic to use a pump action or squeeze top moisturizer dispenser, avoiding the use of tubs.

3. Treat scratches and abrasions with an antiseptic until healed.

4. Regular checking of the skin and nails for breaks or signs of infection is recommended. Visiting a chiropodist / podiatrist should be encouraged when nail self-care is problematic.

Ongoing, daily skin care that includes inspecting the skin and nails for breaks and signs of infection, and performing meticulous hygiene is a well-recognised strategy to preventing infection

Physiological Basis: Meticulous nail and skincare is essential for all those at risk of lymphoedema. Skin flora (microbiota) are mostly found in the superficial layers of the skin and have many benefits as the body's first form of defense. The skin is naturally acidic (pH 4-5.5) enhancing the secretion of anti microbial substances. In alkaline conditions bacteria cease to be attached to the skin and are more readily shed

Potential Harm to Patient:
Poor skin care can result in dry, cracked skin, which can be easily injured, greatly reducing its barrier function.

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5. Exercise / Vigorous Exercise

Guideline: A strong recommendation is to avoid inactivity. "Physical Activity" is the broader term used in medical literature to describe any and all forms of movement that is the opposite to inactivity.

Common trends in evidence recommend a slow, progressive approach to increase repetitions and weight (or other forms of resistance), regular exercise sessions performed 2-3 times per week, and monitoring of increase in symptoms that might indicate the onset or increase in lymphoedema.

Movements which are known to complement the lymph system are walking, (nordic walking in particular), Swimming and all aqua exercise (which benefits from the principles of viscosity/ buoyancy/ hydrostatic pressure), cycling, dancing, yoga/ pilates/ Tai Chi.

(Guidelines for those at risk of lymphoedema should avoid blanket statements thus facilitating a personalised risk reduction strategy depending on the previous experience of exercise and personal fitness.)

The American College Sports Medicine (ACSM) following the path of the PAL study with further research changed the discussion dynamics on exercise with its recommendation " to begin with a supervised resistance/weightlifting program and progress slowly at low resistance." The main message being that exercise is not only safe but essential.

Physiological Basis: Controlled personalized exercise has been shown to improve lymphatic propulsion, clearance, and venous drainage from the limbs. Studies have shown that various exercise regimes can have a positive impact on limb size, limb strength and endurance, subjective limb symptoms and quality of life.

With no intrinsic pump , the lymphatic system needs us to move for it to move and remains the most effective extrinsic stimulus for lymphangiomotoricity.

American Society of Breast Surgeons (2017):
"The Panel agrees that clinicians should encourage at-risk and affected lymphedema patients to exercise. Gradual resistance and aerobic exercise is safe. Patients with BCRL should work with a trained lymphedema professional to learn to exercise safely".

Potential Harm to Patient: A personalised supervised slowly progressing with resistance programme poses no harm to the patient. The approach to vigorous exercise can only be the responsibility of the patient to understand their limits in their choice of exercise and cannot come under the remit of general risk reduction advice for patients.

6. Body Weight

Guideline: All healthcare professionals advising those at risk of lymphoedema, should recommend that they maintain a healthy body weight. Where necessary encourage the patient to liaise with a dietician.

Physiological Basis: Research has shown that obesity can increase the risk of secondary lymphoedema following damage to the lymphatic vasculature. Increased BMI leads to increased cutaneous blood flow increasing pressure on the superficial lymphatics to remove this extra filtrate. Higher BMI also leads to less mobility and in turn reduced lymphangiomotoricity.

Potential Harm to Patient: Raised BMI / reduced mobility / reduced capacity to self care (ie reach toes to attend to skincare/ apply compression) all contribute to raising the risk of lymphoedema .

7. Sunburn

Guideline: Avoidance of sunburn is essential as it can increase the risk of lymphoedema and possible infection Use of sun protection factor (SPF) 50 should be encouraged.

Physiological Basis: The effects of sunburn causes inflammation , swelling, dryness and possible blistering of the superficial layers of the skin, potentially damaging the lymphatic vessels and skin integrity.

Potential Harm to Patient: Intense, repeated UV light exposure that results in sunburn increases the risk of other skin damage, such as dark spots, rough spots, and dry or wrinkled skin. It also raises the risk of skin cancers such as melanoma.

Note: These are not patient guidelines but a response by the NLFI to an invitation by the HSE / NCCP to contribute our shared clinical expertise and academic opinion based on the research provided and independently sourced.