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The Management of Secondary Lymphoedema in General Practice

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The management of Secondary Lymphoedema

- Part 1: Introduction and Definition of Lymphoedema
- Part 2: Case 1 – Jenny with breast cancer related lymphoedema
- Part 3: Case 2 – Alan
Lymphoedema and Cellulitis
- Part 4: Summary and Resources



Acknowledgment to Country

We are committed to supporting reconciliation between Indigenous and non-Indigenous Australian people. In keeping with the spirit of Reconciliation, we acknowledge the Aboriginal and Torres Strait Islander Peoples as the Traditional Owners of the lands. We wish to pay respect to their Elders – past, present and emerging – and acknowledge the important role Aboriginal and Torres Strait Islander people continue to play within our community.



Part 1: Introduction & Definition of Lymphoedema



Key messages

- Early diagnosis improves outcomes
- Education to support self-management is vital
- Self-management can reduce symptom severity and improve quality of life
- Lymphoedema causes changes in the skin. Good skin care is essential.
- Skin infections require urgent treatment
- Presenting symptoms may be vague



Red Flags

- At the onset lymphoedema, or when there is an unexpected increase in swelling consider:
 - 🚩 Cellulitis
 - 🚩 Thrombosis
 - 🚩 Cancer - onset/recurrence

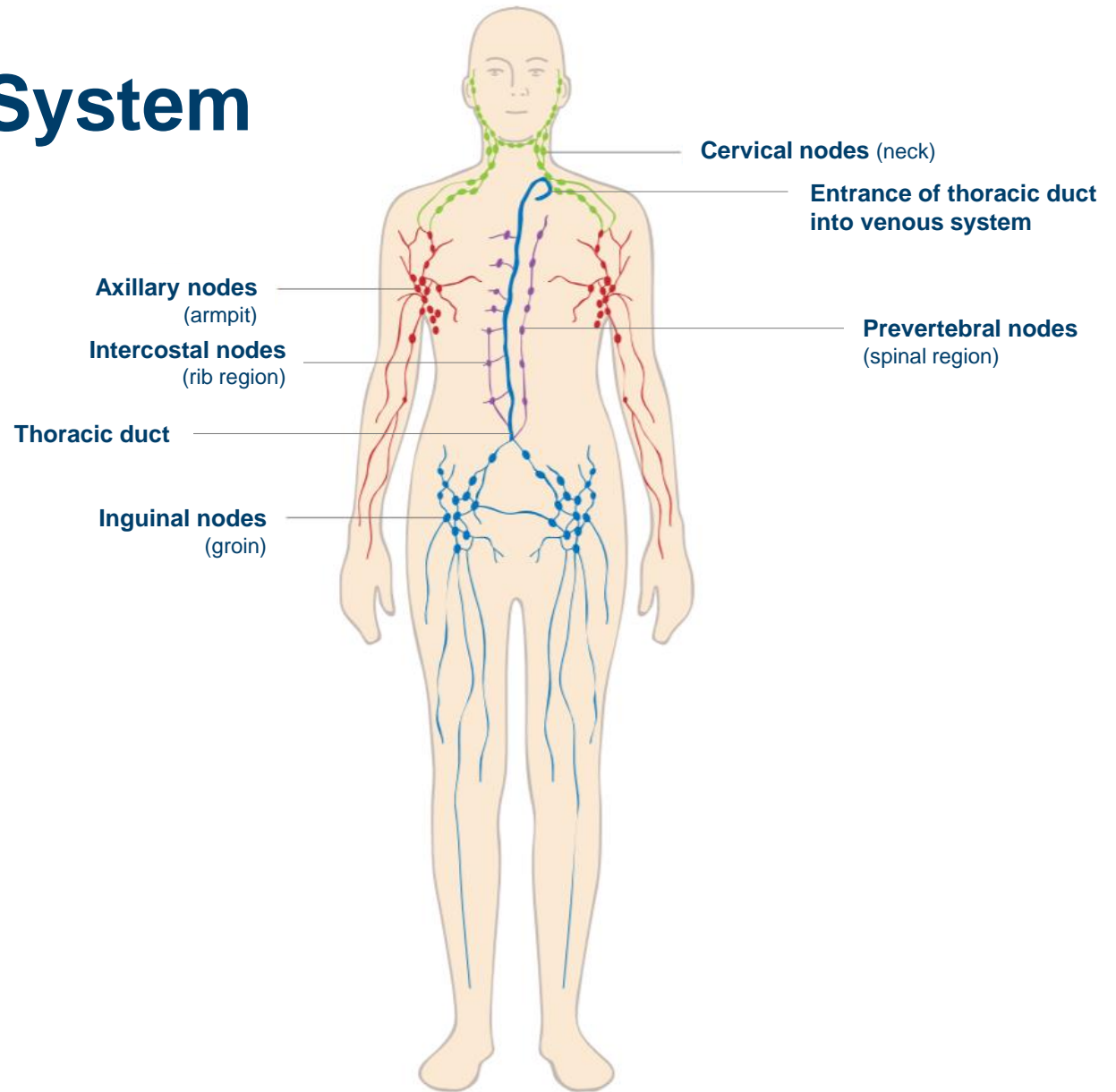


Definition

- Lymphoedema: the regional accumulation of excessive amounts of protein-rich fluid in the body tissue causing swelling
- Secondary lymphoedema may occur following treatment for cancer, including surgery or radiotherapy if the lymphatic system is damaged

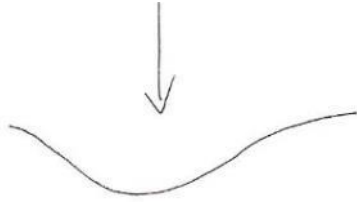


Lymphatic System



'PITTING' – 30 sec firm pressure

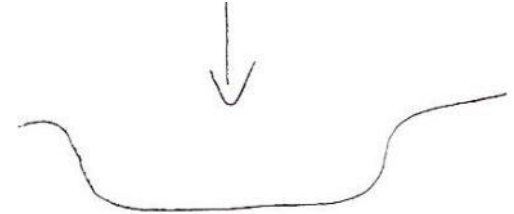
EARLY PITTING



More 'wet', pits at low pressure/sloped sides/rapid refill



LATE PITTING



More fibrotic, slower to pit, vertical sides, slow refill



PITTING indicates excess fluid



Early stage:

- Soft pitting
- Resolves quickly
- Not specific for lymphoedema

Late stage:

- 'Pitting less than expected'
- Dint persists
- Yellow base (fatty)



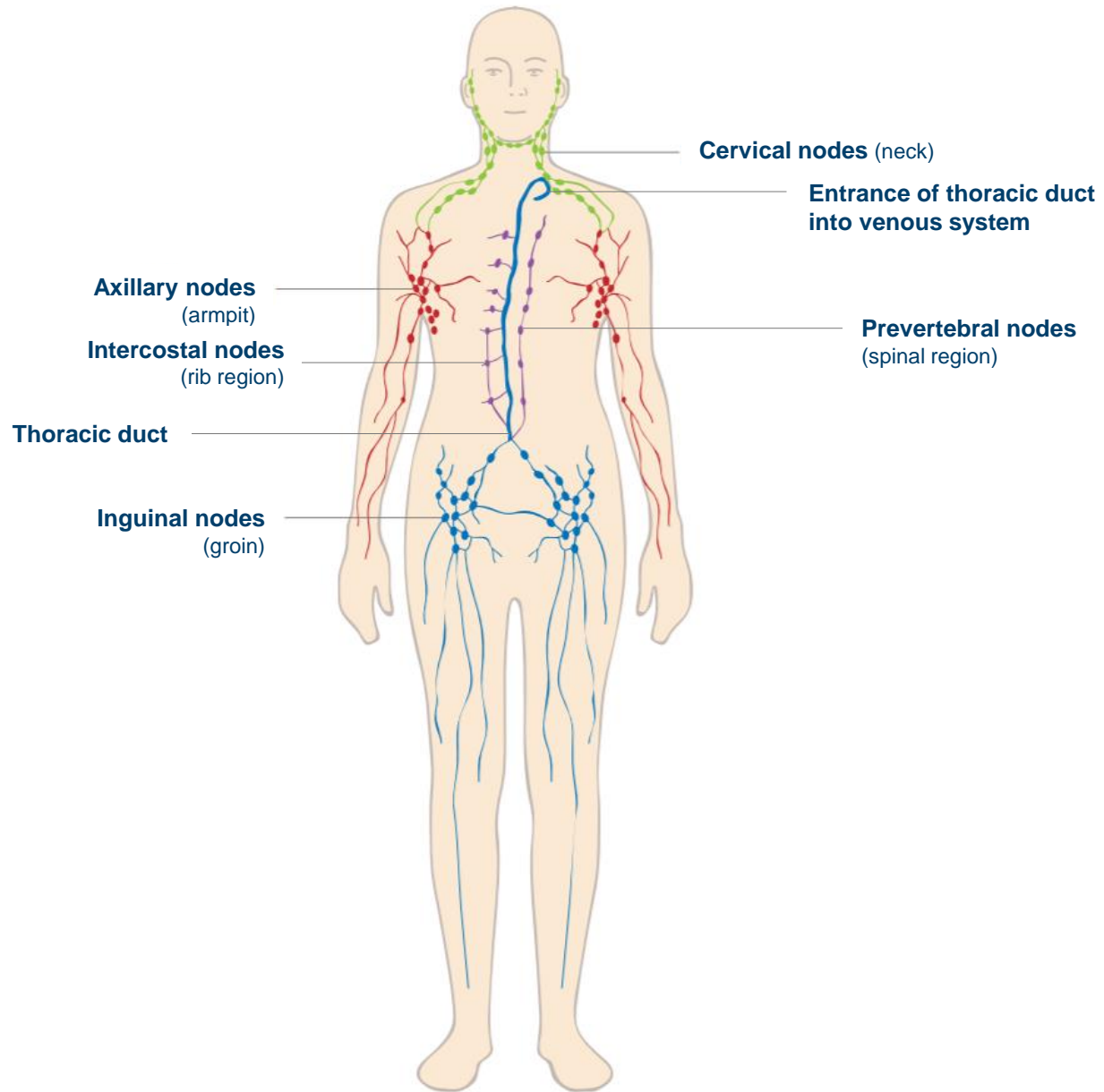




Photo 1: Arm lymphoedema



Photo 2: Leg lymphoedema



Incidence

Approximately 20% of survivors treated for:

- Breast
- Gynaecological
- Genito-urinary cancers or
- Melanoma

will experience secondary lymphoedema.



Delayed Onset of Swelling

- Onset of Secondary lymphoedema may be delayed for months, even years, after cancer treatment
- 70-80% of breast cancer patients present within the first 12 months



Key risk factors

- Type of cancer
- Extent of surgery
- Whether lymph node dissection is performed
- Radiation therapy
- Infection
- High body mass index
- Immobility
- Comorbidities



Early warning signs

May be vague and intermittent and include:

- Feelings of heaviness
- Aching, pain or tension
- Tightness or fullness
- Clothing, shoes or jewellery feeling tighter
- Transient swelling



Part 2: Case 1 – Jenny with breast cancer related lymphoedema



Case 1: Jenny

- 52 year old bank clerk
- Recently diagnosed with breast cancer
- Attends her breast surgeon to discuss treatment options
- Co-worker has lymphoedema



Breast cancer treatment options and reducing risk

- Sentinel lymph node biopsy versus axillary node clearance reduces incidence to <5%
- Resuming normal activity after surgery
- Avoid treatment of axilla with both surgery and radiotherapy whenever possible



Sentinel node biopsy

Breast Lymph Nodes

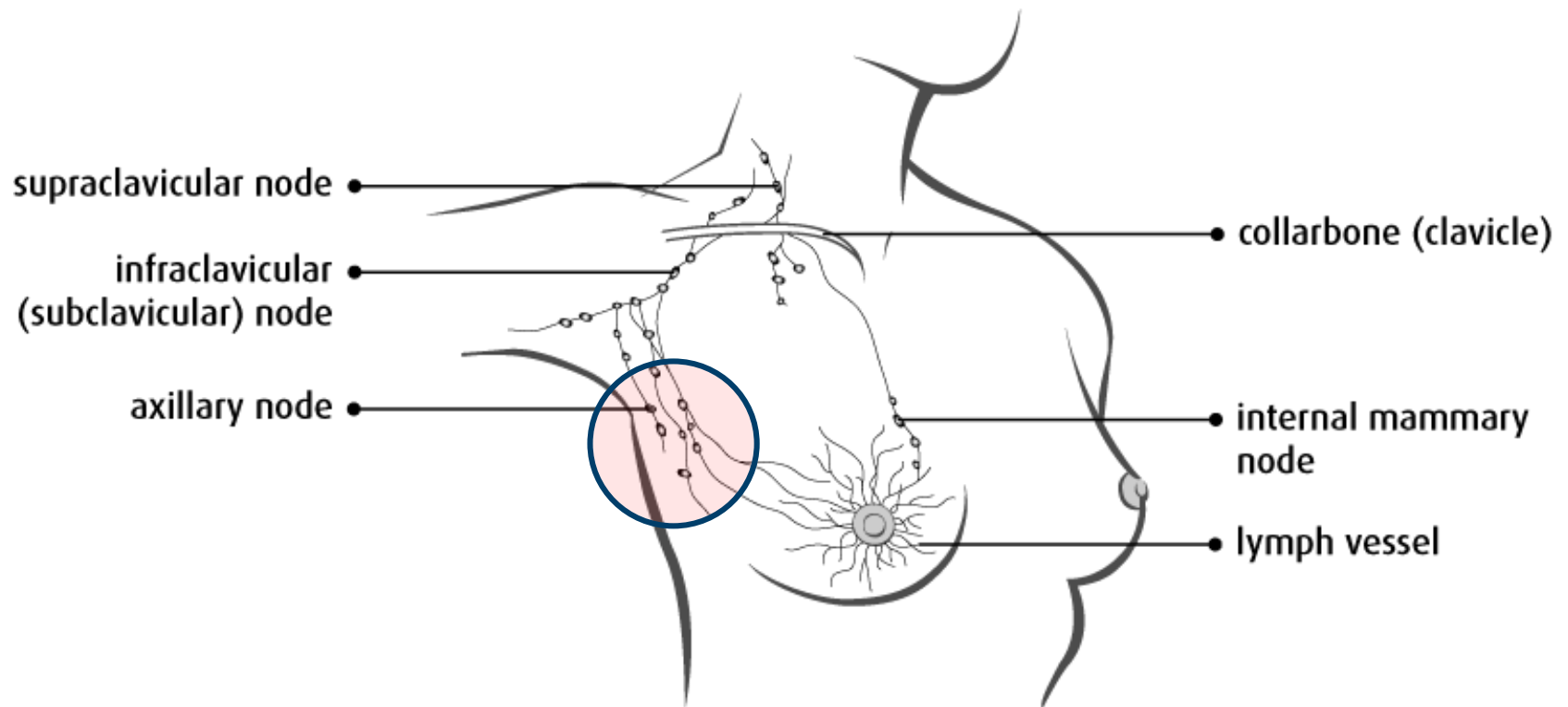


Image courtesy of Canadian Cancer Society. Taken from the “Stages of breast cancer” web page <http://www.cancer.ca/en/cancer-information/cancer-type/breast/staging/?region=on> on 8 October 2018.





Photo courtesy of Dragons Abreast Australia



Jenny

- At surgery:
 - sentinel node positive
 - axillary clearance performed
 - undergoes mastectomy
- Discharged with axillary drain in situ
- Breast care nurse meeting prior to discharge



Photos of cording



Management advice

- Risk factors:
 - Trauma (bites, sunburn, gardening)
 - Infection
 - Weight management
 - Immobility
- Early warning signs of lymphoedema
- Skin care including nails



Risk reducing strategies



Jenny

- Over the next 2 years Jenny remains well
- Only regular medication is daily Arimidex
- Presents complaining of a tight feeling in her affected non-dominant arm



Jenny

- Weight gain 7 kg over past 2 years
- No recent trauma/infection/air travel
- Onset of symptoms gradual over 3-4 months
- Her skin is dry and scaly
- Limb circumference difference of 2.5cm between the forearms



Principles of management

- Consider red flags
 - Cellulitis, thrombosis, cancer – onset/recurrence
- Make a referral to a lymphoedema practitioner
- Review her recent oncology report and consider further medical imaging
- While waiting for referral:
 - Skin care
 - Elevate the limb at risk
 - Gentle slow exercise with a squeeze ball can reduce the swelling
- Arrange to review Jenny in one month



Assessment Tools in Lymphoedema

- Tape measure
- Perometer
- BioImpedance



Indications for referral for specialist lymphoedema treatment

- Visible swelling and/or clinical pitting
- Obvious discrepancy in limb sizes
- Patient experiences functional, joint or mobility problems
- Symptoms unresponsive to initial management



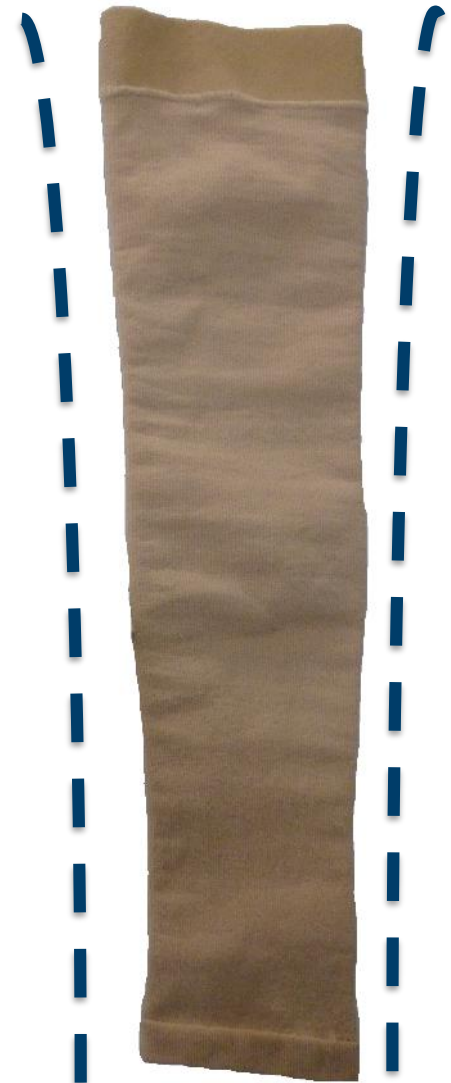
Specialist Lymphoedema Treatment Options

- Manual Lymphatic Draining (MLD) also known as “lymphatic massage”
- Compression Garments
- Bandaging



Graduated Compression

reduced
compression



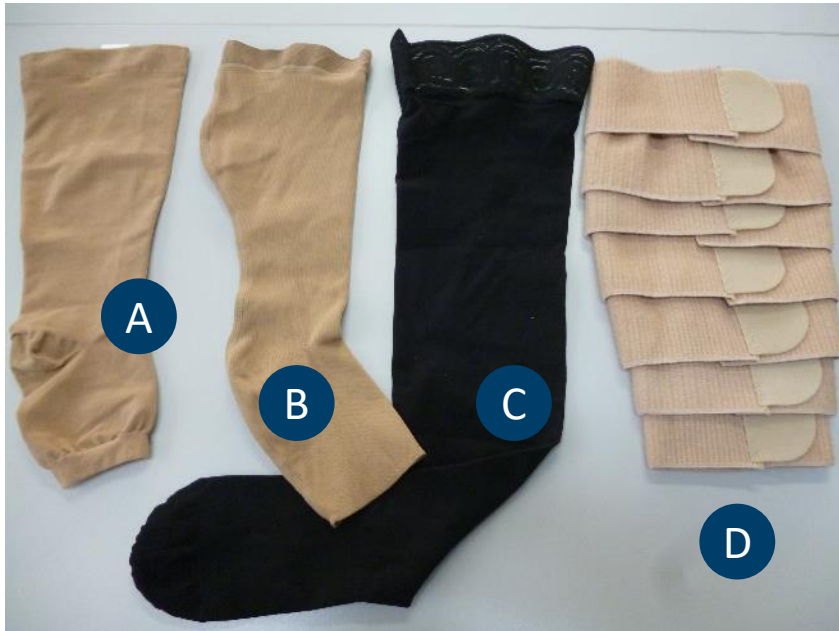
maximum
compression



Bandaging



Compression Garments



- A. Knee-high, open toe, compression stocking
- B. Knee-high, open toe, compression stocking
- C. Black thigh-high, closed toe compression stocking
- D. Compression wrap, alternative to stocking

- E. Gauntlet
- F. Arm sleeve – flat knit
- G. Compression glove
- H. Arm sleeve



Improve lymphatic flow

- Special exercises
- General strength and fitness exercises



ASSESSMENT

PATIENT HISTORY

- cancer treatment
 - surgery
 - lymph node removal
 - radiotherapy
 - complications (e.g. post-operative infection, DVT)
- trauma to limb
- cellulitis, infection, ulcers
- travel history

PHYSICAL EXAMINATION OF

1. Affected limb/body part to assess
 - subcutaneous tissue (pitting/non-pitting oedema)
 - presence and severity of swelling (measurement of limb circumference)
 - condition of skin
 2. Original site of cancer treatment, including recent medical imaging
- presence of Stemmer's sign
 - weight and height (e.g. BMI)
 - cardiac and respiratory parameters
 - joint mobility
 - axillary cording

If abnormality investigate and refer

EARLY INTERVENTION

If NO swelling detected, initiate 'at risk' education and/or review patient education about:

- early warning signs that may appear months or years before onset of swelling:
 - transient swelling
 - feelings of heaviness, aching, pain or tension, tightness and
 - fullness in limb/body part
 - jewellery, clothing or shoes feeling tighter
 - impaired movement or loss of function
- skin care
- travel
- injuries and risk of infection
- exercise/weight issues
- psychological support
- optimising limb function

Precautionary measures

Clinical procedures - as a precaution use the untreated limb for injections, IV cannulations, blood pressure monitoring and excising skin lesions. It is currently unknown whether these procedures increase the risk of lymphoedema.

Patient actions that can be suggested to minimise risk:

- combinations of flexibility, resistance and aerobic exercise may be beneficial
- avoid hot baths, spas and saunas
- if planning air, long-haul road or train trip (e.g. longer than 4 hours) discuss additional preventive measures such as:
 - application of compression garment if patient has a history of lymphoedema or if they regularly wear a garment
 - elevation of affected limb
 - frequent exercise or movement

TREATMENT AND MANAGEMENT

If SWELLING IS DETECTED initiate the following management:

- skin care
- infection control → **Cellulitis***
- physical exercise
- weight management
- psychosocial support
- co-morbidities
- monitor and review medications/garments
- promote self management

Promote team management approach for regular review of patient

Urgent antibiotic treatment is essential

REFERRAL

Initiate referral to appropriately trained lymphoedema practitioner or clinic if:

- symptoms unresponsive to management
- there is visible swelling/clinical pitting
- obvious discrepancy in limb sizes
- there are functional, joint or mobility problems

If symptoms are severe, early referral without a period of monitoring is appropriate.

SPECIALISED LYMPHOEDEMA TREATMENT

- Complex Lymphoedema Therapy (CLT)
- Special exercises
 - Manual Lymphatic Drainage (MLD)
 - Compression Therapy – garment/bandaging

ACUTE ONSET / EXACERBATION

If NEW ONSET or exacerbation of lymphoedema detected on physical examination consider:

- Tumour recurrence → **Investigate appropriately and refer**
- DVT → **Investigate appropriately and refer**
- Cellulitis

*Urgent antibiotic treatment for cellulitis

Antibiotic choice depends on whether there is a wound/bite, allergies and dose varies with weight. When cellulitis occurs with lymphoedema the course of antibiotics may need to be longer (10-21 days). Refer to Therapeutic Guidelines Antibiotics.

- dicloxacillin/flucloxacillin 500mg orally q6h for 7-10 days or
- clindamycin 450 mg orally q8h for patients allergic to penicillin

Advise patients to:

- rest in bed and elevate the affected limb
- continue use of compression garment if tolerable
- cease lymphatic drainage until cellulitis resolved

If frequent recurrence consider continuous prophylaxis

- phenoxymethylpenicillin 250 mg orally bid for 6 months initially

This information is adapted with permission from Cancer Australia.

We would like to acknowledge the support of Dr Yvonne Zwar and Dr Susan Hodson for their assistance with this document.

Part 3: Case 2 – Alan

Lymphoedema and Cellulitis



Case 2: Alan

59 year old school bus driver

- Melanoma surgery including left inguinal node clearance 12 months ago
- Current medications:
 - Felodipine (Plendil ER)
 - Atorvastatin (Lipitor)

Presents with left lower limb cellulitis and associated leg swelling



Red flags

- 🚩 Cellulitis
- 🚩 Thrombosis
- 🚩 Cancer – onset/recurrence



Alan

BMI 35 (102 kg, 170 cm height)

- Modify antibiotic dose because weight > 100 kg
- Test for diabetes
- Check peripheral pulses. If pedal pulses not readily palpable arrange an ABI
- Check for neuropathy (risk factors – possible diabetes, excess alcohol, B12 deficiency)
- Medication Review
- Bus driver – at risk of low activity. Encourage seated exercises while working, and walking after work.



Alan



Initial management

1. Cellulitis

- Antibiotics, bed rest
- Look for tinea, evidence of undiagnosed lymphoedema

2. Recent onset swelling

- Exclude DVT & tumour recurrence



Medications which may exacerbate peripheral oedema

- Calcium channel blockers
- Non-steroidal anti-inflammatory agents
- Hormone replacement therapy
- Corticosteroids
- Oral hypoglycaemic agents (glitazones)



Alan

Review appointment
2 weeks later:

- Cellulitis resolved
- Discrepancy of 5cm at the mid-calf
- Positive Stemmer's sign on left
- Ingrown toenails
- Mild tinea



Stemmer's sign positive on Left



Lymphoedema management after cellulitis

1. Lymphoedema management

- Education & support
- Advice re skin care & protection
- Compression garment
- Life-style advice re activity, exercise & weight
- Medication review

2. Cellulitis risk reduction education

- Skin, nail & foot care
- Daily moisturiser
- Need to wear compression garment to reduce swelling
- Need to present early if cellulitis returns



Alan

Alan presents 3 months later with cellulitis and exacerbation of his lymphoedema.

What further management can you offer Alan?



Ongoing management

- Review lymphoedema plan & skin care
- Prophylactic antibiotic therapy
 - Phenoxymethylpenicillin 1gm daily or 500mg BD for 6 months initially
- Refer podiatry under chronic disease management plan

*See Australasian Lymphology Association – Consensus Guideline:
Management of Cellulitis in Lymphoedema*



Standard Management Therapies

- Skin care
- Self massage
- Lymphoedema specific exercises
- General exercises
- Daily use of compression garments
- Weight management



Other therapies

- Laser therapy
- Pneumatic pumps
- Surgery:
 - liposuction
 - lymphatic reconstruction
- Pharmacological therapy
- Alternative therapies



**The most effective components
of lymphoedema management are
daily garment wear
and weight management.**



Key messages

- Early diagnosis improves outcomes
- Education to support self-management is vital
- Self-management can reduce symptom severity and improve quality of life
- Lymphoedema causes changes in the skin. Good skin care is essential.
- Skin infections require urgent treatment
- Presenting symptoms may be vague



Part 4: Summary & Resources



Web-based resources

- HealthPathways
- Cancer Australia
<https://canceraustralia.gov.au/>
- Australasian Lymphology Association
<https://www.lymphoedema.org.au/>
 - National Lymphoedema Practitioners Register
<http://www.lymphoedema.org.au/the-register-updated/find-an-ala-accredited-practitioner/>



Web-based resources:

Local clinical and referral pathways

PHN pathways provide access to [evidence-based information](#) regarding conditions and symptoms, and [localised service and referral information](#) to support patient flow.

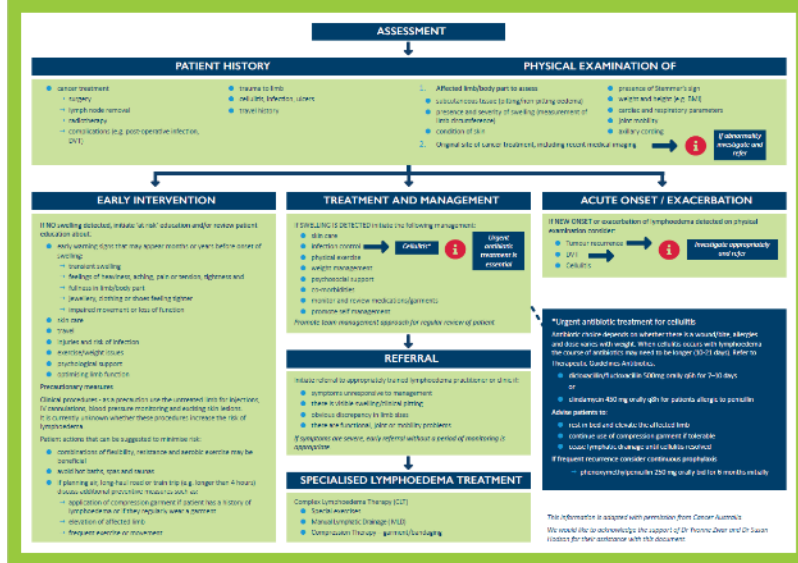
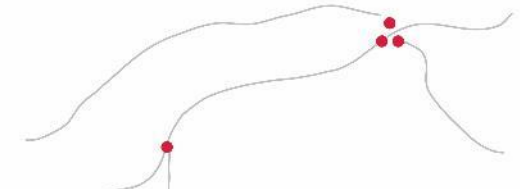
PHN	Care Pathways Online Resource
Eastern Melbourne	HealthPathways Melbourne melbourne.healthpathways.org.au
Gippsland	HealthPathways Gippsland gippsland.healthpathways.org.au
Murray	Murray HealthPathways murray.healthpathways.org.au
North Western Melbourne	HealthPathways Melbourne melbourne.healthpathways.org.au
South Eastern Melbourne	Online Clinical Pathways semphn.org.au/resources/pathways.html
Western Victoria	HealthPathways Western Victoria westvic.healthpathways.org.au



HealthPathways Lymphoedema GP Toolkit

- A. Clinical Resources
- B. Patient Resources
- C. Education

SECONDARY LYMPHOEDEMA Patient Resource



OCTOBER 2018

LYMPHOEDEMA

Guide for diagnosis and management in general practice

WHAT IS LYMPHOEDEMA?
Chronic swelling of a body part (usually limbs) caused by the accumulation of fluid and protein in the tissue spaces arising from congenital malformation of the lymphatic system, or damage to lymphatic vessels and/or lymph nodes¹.

RISK FACTORS FOR DEVELOPING LYMPHOEDEMA^{2,3,4}

- any surgery (not just cancer surgery) where there is damage to the lymphatic system
- radiotherapy to the lymphatic system
- history of infection in the affected limb/body part
- injury or trauma to the lymphatic system
- immobility
- obesity
- flariliasis
- genetic predisposition

TYPES OF LYMPHOEDEMA

Primary

- caused by abnormal development of the lymphatic system
- swelling may be present from birth ('congenital'), or develop in adolescence ('lymphoedema praecox') or middle age ('lymphoedema tarda')

Secondary

- acquired following surgery, radiotherapy, trauma or other damage to the lymphatic system
- Secondary lymphoedema can develop many months or even years after surgery or radiotherapy

Mixed

Mixed lymphoedema describes lymphatic decompensation or failure associated with:

- venous disease
- lipoedema
- obesity
- immobility
- chronic neurological disorders
- skin grafting
- vein stripping or harvesting
- arthroscopy

LIPOEDEMA

- lipoedema, which is caused by abnormal deposition of subcutaneous adipose tissue, can be misdiagnosed as lymphoedema
- with lipoedema:
 - swelling is bilateral and generally does not involve the feet which distinguishes it from lymphoedema
 - there is pain on indent pressure and a tendency to bruise
 - it is almost exclusively restricted to women
 - patients can have mixed lipoedema/lymphoedema - oedema develops due to overloading of the functional capacity of the normal lymphatic system

EARLY WARNING SIGNS OF LYMPHOEDEMA¹

- transient swelling following exercise or physical activity
- feelings of heaviness in the affected limb or body part
- pain or tension in the affected limb or body part
- tightness and fullness (a 'bursting' feeling) in the limb or body part
- clothing or jewellery becoming tighter

Early warning signs can be present for three years or more prior to the development of swelling

Intervention at this stage can have a significant impact on reducing the risk of developing lymphoedema and the severity of lymphoedema if it does develop

WHAT IS LYMPHOEDEMA?

Consider primary lymphoedema as a differential diagnosis in patients with unexplained symptoms of limb swelling/morbidity especially if unilateral

In primary lymphoedema, often no triggering factor can be identified

Secondary lymphoedema can develop many months or even years after surgery or radiotherapy

Early warning signs can be present for three years or more prior to the development of swelling

Intervention at this stage can have a significant impact on reducing the risk of developing lymphoedema and the severity of lymphoedema if it does develop

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Thank you for watching and listening

Feedback or further support regarding this webinar should be directed to your local PHN.





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