

Head and Neck lymphoedema

An overview of our service

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Lymphoedema therapist (Foeldi)

HNL

- Head and neck lymphoedema is the accumulation of lymph fluid in the tissues of the face neck or oral cavity due to lymphatic system dysfunction
- External lymphoedema – affects the visible areas
- Internal lymphoedema – affects the mucosal surfaces ...pharynx, larynx tongue...
- Researchers suggest a substantive prevalence (up to 90%) following treatment for HNC, with over half of these developing fibrosis

Refresher...Lymphatic system /flow

- Superficial group – drain the fluid from the superficial tissues- then drain to the deep group.. How they do this...
- Tissue spaces → lymphatic capillaries..
- Lymphatic capillaries → lymphatic vessels
- Vessels → lymph nodes
- Lymph nodes → larger lymphatic trunks
- Lymphatic trunks → lymphatic duct
- Ducts → venous system at the venous angle

Location of lymph nodes

- Superficial ring – named anatomically
- Occipital
- Post auricular (mastoid lymph nodes)
- Pre auricular
- Sub mandibular
- Sub mental

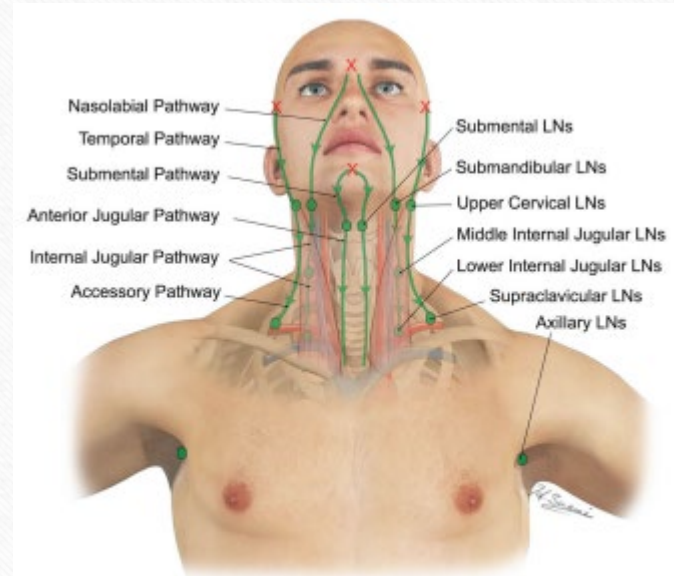
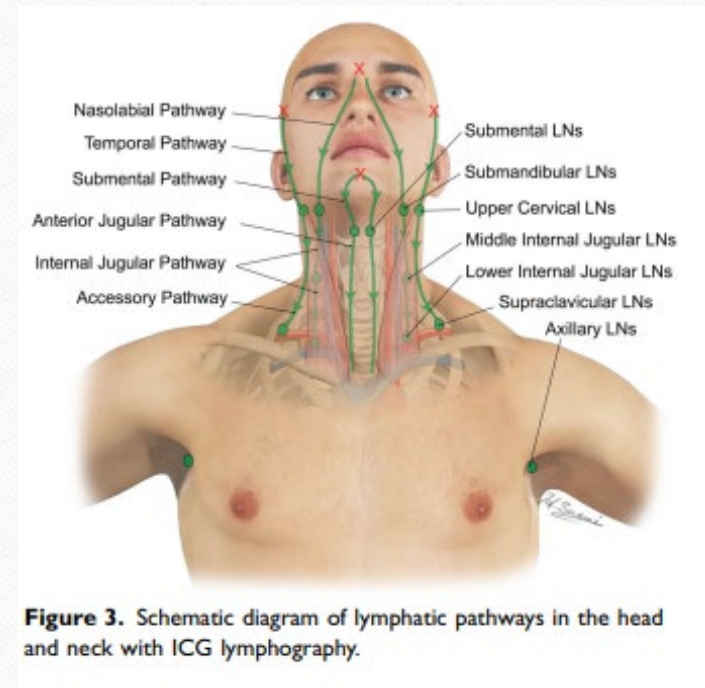


Figure 3. Schematic diagram of lymphatic pathways in the head and neck with ICG lymphography.

Ref; Suami et al, 2025

Near the Sternocleidomastoid ms

- lymph nodes running with the external jugular vein (posterior superficial cervical lymph nodes)
- Also with the anterior jugular vein – anterior superficial cervical lymph nodes



Deep cervical lymph nodes

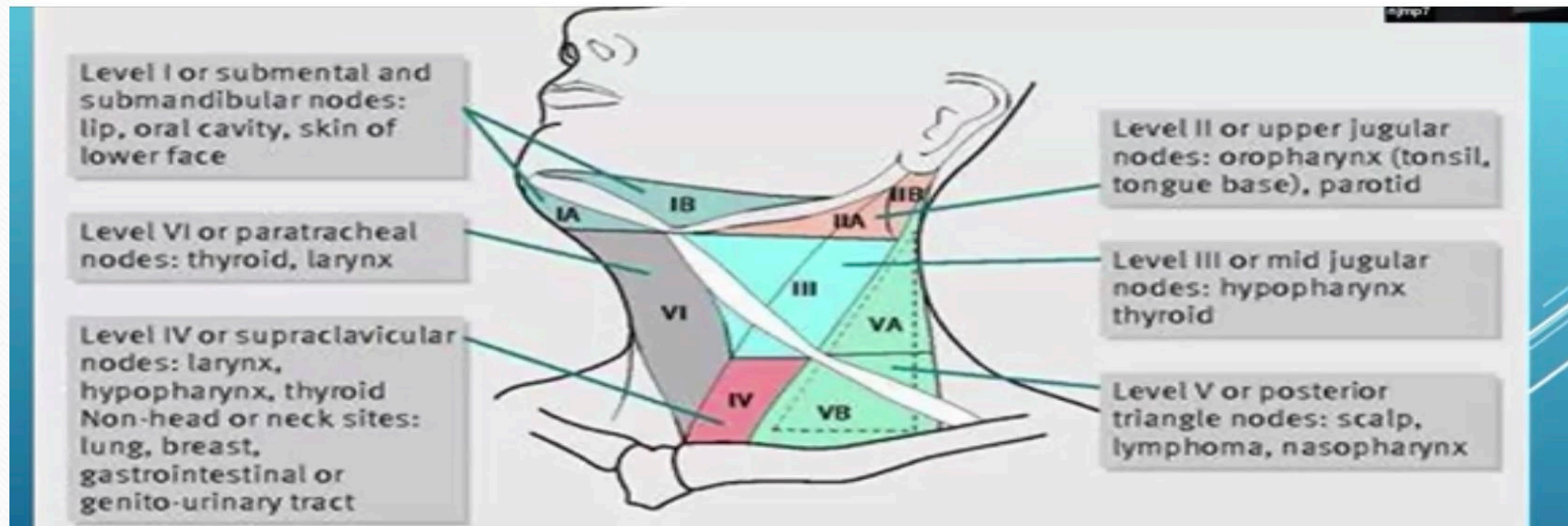
Larynx , pharynx, trachea, hyoid bone

- Infra hyoid lymph nodes..
- Pre tracheal nodes,
- paratracheal lymph nodes – up against the airways
- Retropharyngeal lymph nodes – near the pharynx
- Deep cervical lymph nodes – inside carotid sheath – running with internal carotid vein
- Deep at the angle of the mandible where the digastric muscle and internal jugular vein cross paths-superior deep cervical lymph nodes/ jugulogastric lymph nodes, draining from the oral cavity pharynx and tonsils
- Further down – inferior deep cervical lymph nodes drains the tongue. (Jugulomhyoid)

(Very good YouTube video by Sam Webster will show you all of these graphically)

Cervical lymph nodes

- Lymphatic system is a continuous system – pump –can get congested
- Understanding the anatomy and where the tumour and treatment area is.



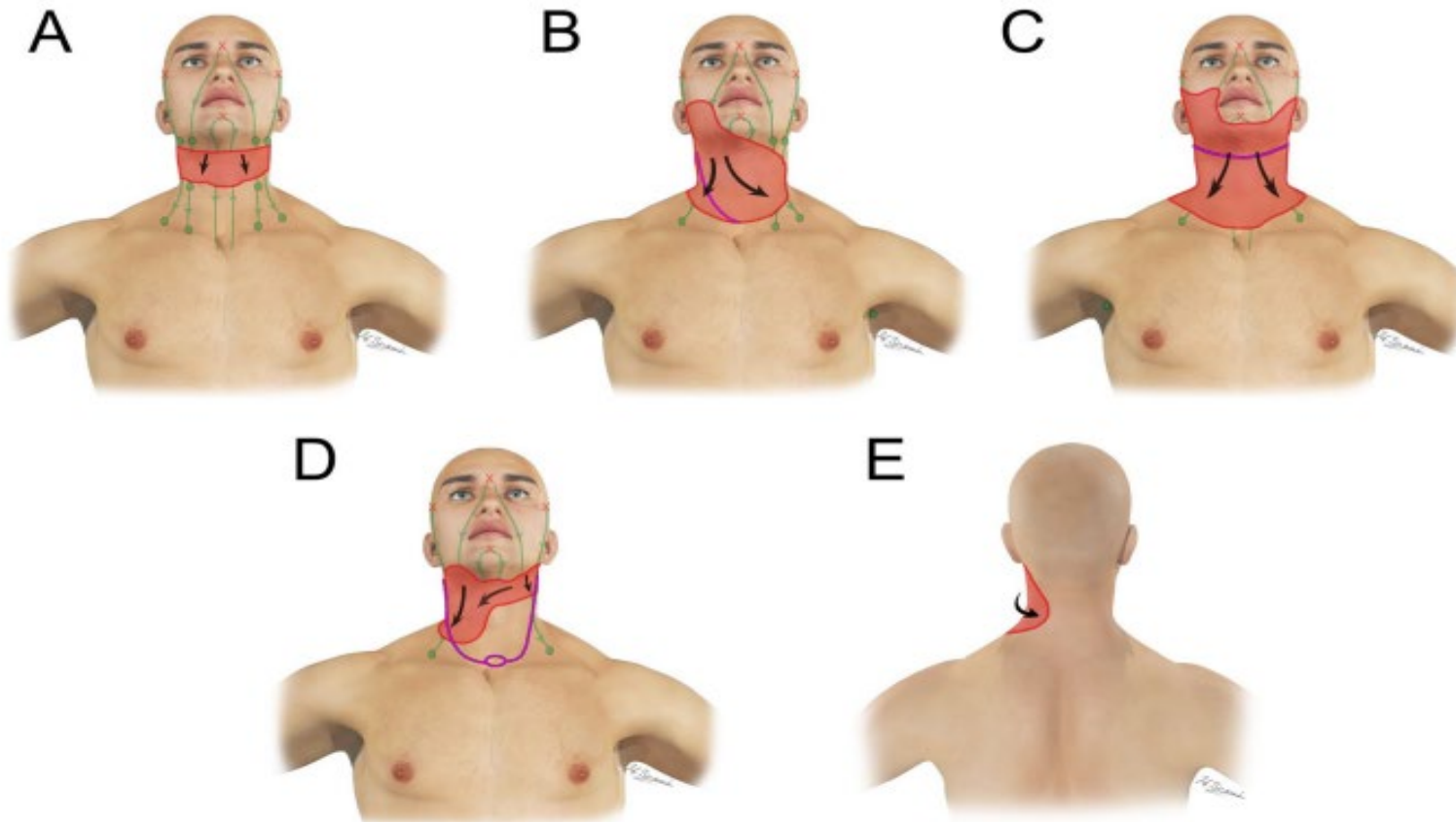


FIGURE 1 | Indocyanine green lymphography—lymphatic drainage patterns. **x**, Injection sites; **—>**, dermal backflow, direction of lymphatic movement; **●**, lymph node; **—>**, lymphatic drainage; **—**, scar; **-O-**, laryngectomy; **[red box]**, dermal backflow; Panel A, Group 2 primary tumor surgery without nodal surgery or radiotherapy alone; Panel B, Group 3 unilateral nodal surgery with radiotherapy; Panel C, Group 4 bilateral nodal surgery with radiotherapy; Panel D, Group 4 laryngectomy with bilateral nodal surgery; Panel E, Group 4 bilateral nodal surgery. [Color figure can be viewed at wileyonlinelibrary.com]

HNL Causes

- Primary – malformation – rare
- Secondary – eg.. HNC

Infection

Trauma or fibrosis of lymphatic pathways

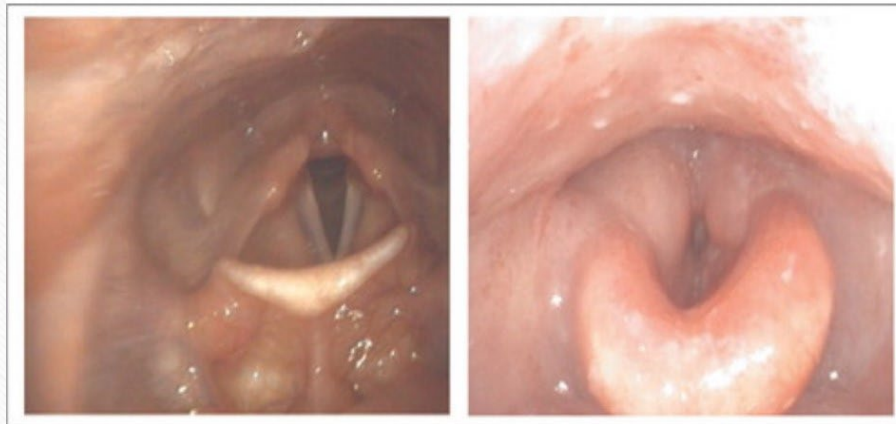
Changing face of HNL



What does it look like ?

What it looks like ..

- Internal lymphoedema...



Symptoms of HNL

- Variable pattern
- Tightness
- Neck asymmetry
- Swelling,
- Reduced range of motion,
- Firm hard skin
- Airway compromise and functional difficulties – like speech and swallowing

Impact of HNL

- Associated with symptom burden, functional deficits and decreased QOL
- Body image issues
- Lymphoedema severity
- Decreased cervical ROM
- ...decreased hearing, voice, swallowing nutritional related symptoms (weight loss)

Difference from the limbs

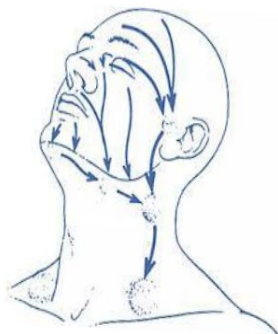
Head and neck	Limbs
Worse in morning	Worse in pm
Life threatening unclear functional impact	Functional deficits are not life threatening
Evaluation is non standardised	Evaluation standardised
Short term needed	Long term needed
Compression 3-4hrs	Compression 18hrs/day
MD less referrals	MD referrals
Fewer options for therapists to TX	CLT's and many options

When to treat...

- Following a thorough assessment
- Early ... education, exercise and scar massage
- When medical clearance has been established... Intervention plus HEP
- For comfort and increased ROM

Early intervention ..

- Meet the person prior to surgery & whilst an in-patient and explain that they are at risk of developing lymphoedema.
- Provide a HEP and encourage exercise++
- Scar management
- Await PET scan before full work up.
- Assurance that there are typical swelling patterns too



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Head and Neck LYMPHOEDEMA

What I need to know

What is lymphoedema?

It is common to experience swelling immediately after surgery due to natural healing patterns. Your body will adapt to this change; however if the lymphatic pathways have been damaged or removed and the subsequent swelling lasts longer than 3 months you may have a condition called Lymphoedema.

What are the symptoms of Lymphoedema?

- Swelling in any part of the head and neck that may feel hard to touch
- Sensation of fullness/ heaviness
- Tightness/ stretching of the skin
- Thickening and dryness of the skin

With head and neck Lymphoedema (HNL) some people experience Internal Lymphoedema e.g. inside your mouth, tongue, larynx, and throat causing swelling here also.

Can I prevent it from developing?

Lymphoedema is managed by

- Looking after your skin
- Avoiding extreme temperatures.
- Minimising the risks of getting an infection and timely treatment of suspected infection.
- Exercising regularly
- A low pressure massage on the affected area in a specific pattern taught to you by a certified lymphoedema therapist.

What can I do?

Good skin and mouth care

- Wash, dry and moisturise your skin daily with non-perfumed products.
- Use high factor sun screen especially in the summer.
- Avoid dry scalp by using appropriate shampoo. This helps prevent fungal or bacterial infections
- Wear a wide brimmed hat to protect yourself from the sun

- In the winter use a scarf to protect your neck, cheeks and chin. (Wash these items regularly to avoid infection from sweat build up)
- Pay special attention to your mouth hygiene.
- Use an electric shaver instead of a wet shave with a razor to avoid cuts.

Scar Management

Once the wound is healed a scar will form.

- Gently massage and moisturise your scar to reduce any feeling of tightness.
- Complete gentle range of movement exercises as directed. (exercises attached)

Exercise

Daily exercising is a very important way of mobilising your lymphatic system.

Start off aiming to walk for 10-15 minutes each day, slowly increase this to a 30 minute walk.

Do your range of motion exercises including diaphragmatic breathing every day.

Perform the exercises with caution during radiotherapy. Stop if you have problems with your skin, but recommence as soon as your skin has healed.

Good Posture

Sitting: Within your parameters of pain, avoid slouching when you are sitting down.

When reading (a phone or book) bring the text up towards eye level.

Standing: Ensure you stand tall. Relax your shoulders. Bring your shoulder blades together at your back.

Try correcting your posture while doing your diaphragmatic breathing exercises

Sleep

Try sleeping with two or more pillows to help drain fluid back towards the chest.

If you always sleep on a particular side you may find that that side swells more; try changing your position to avoid this.

Diet

Good nutrition and maintaining a healthy weight is important to reduce strain on your lymphatic system.

There is no special diet

Stay hydrated by drinking water

Limit caffeine and alcohol consumption

If you have any questions about nutrition speak to your dietitian.

When can I return to normal activities?

It may take 6 weeks or more for your scar to heal. You should be able to move your neck and shoulders quite comfortably at that stage. There are no set rules about when you should return to work, sports or hobbies. People react differently and heal differently; some with less energy than others. Remember to progress slowly and listen to your body.

Date: _____

Your Occupational therapist: _____

If you need more advice or information,
please telephone OT Dept 021-4926409, Bleep: 849



Instructions

- ✓ These exercises can be done in a seated or lying position
- X Do not work into sharp or severe pain.
- ✓ It is okay to feel a bit of a pull or a stretch.
- ✓ Only move as much as you can.
Don't force it.

**Hold each position for _____ seconds and
repeat _____ times.**

Please do these exercises:

- ☐ Every waking hour
- ☐ Every 2 to 3 hours
- ☐ _____ times per day.



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Head and Neck Lymphoedema exercises

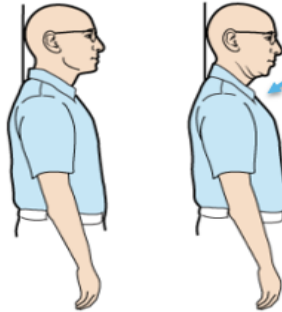
Occupational Therapy

Deep Breathing:

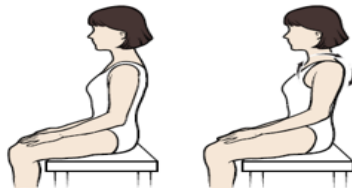
Take a breath in through your nose;
expand your tummy as you do so,
and then breathe out through your mouth



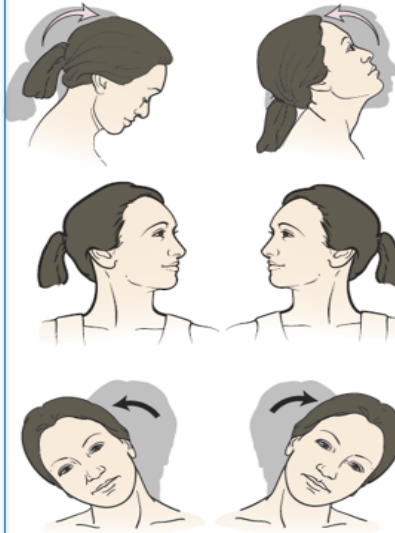
Chin tucks



Shoulder Rolls



Neck movements



Face exercises



Grimace/ Smile



Open mouth/blow out candles

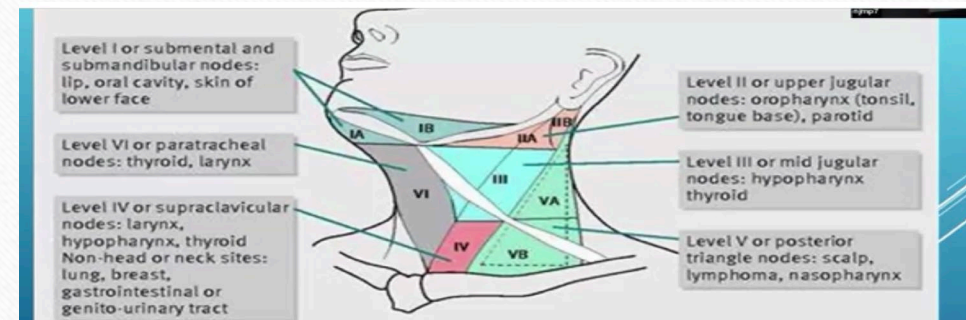


Move your lips side to side

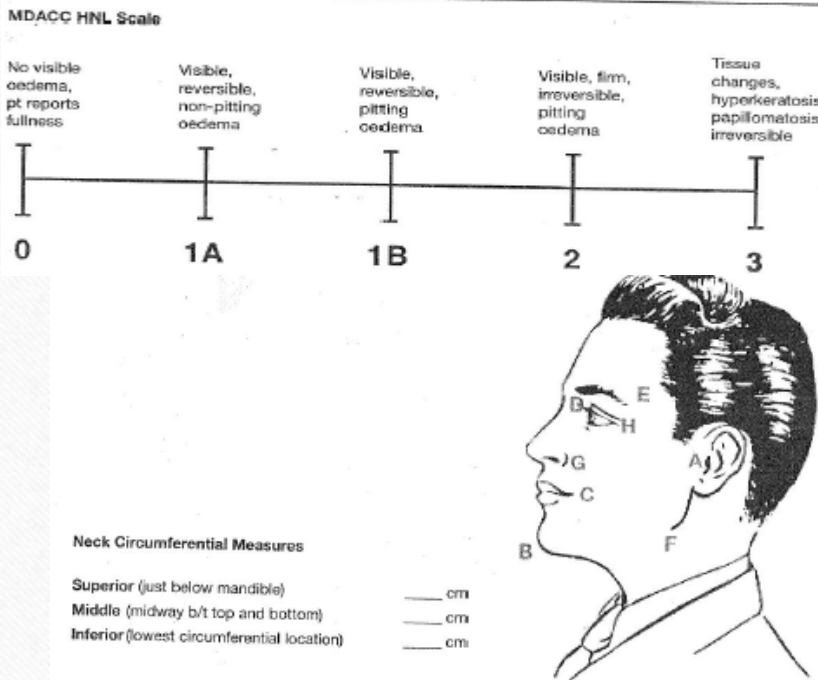
Assessment

- **MOPAT**
- Current and past **medical history**, including as much information about radiation field as known to the patient.
- Ensure no contraindications to treatment (Medical clearance if necessary)
- Oedema assessment, when was **onset**?
- **Pattern of swelling**
- **Appearance**
- **Touch**

Malignancy site	Drainage area
Oral cavity	Ia, Ib, IIa, IIb, III
Oropharynx	IIa, IIb, III, IV, V
Larynx/hypopharynx	IIa, IIb, III, IV, V, VI
Thyroid	IV,V,VI,VII



Assessment



- ROM of neck, shoulders, mouth, hands
- Functional impact – ROM, Swallow, voice, eating, drinking, sleeping, saliva production
- Screen their understanding of the condition
- Establish what matters to the patient – appearance, function
- Support systems in place
- Ref for assessment forms MDACC

Grading

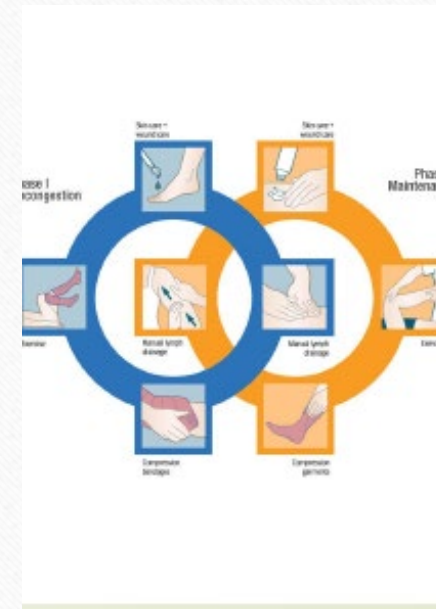
MD Anderson Cancer Center Head and Neck Lymphoedema rating scale

Stage	Exam findings
0	No swelling but a sense of heaviness in the neck
1a	Visible mild swelling without pitting; reversible
1b	Visible mild swelling with pitting; reversible
2	Firm pitting swelling, irreversible. No visible tissue change
3	Irreversible tissue changes with scarring and fibrosis

Gold standard treatment of HNL

Complete decongestive therapy; 4 cornerstones of care

- 1. Skin Care
- 2. Exercise
- 3. MLD
- 4. Compression



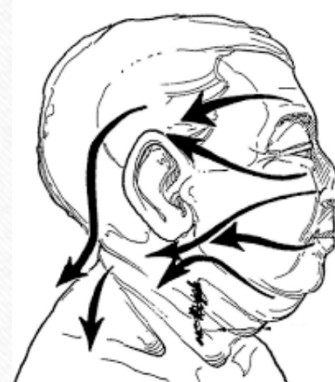
CDT



- Self care including skin care, oral care and wellbeing
- Exercise
- Introduce lymphatic drainage
- Demonstrate lymphatic drainage if appropriate at this stage
- Compression if necessary – especially when completing exercise
- Provide a HEP that needs to be completed daily

Manual lymphatic drainage

- Facilitates reabsorption of lymphatic fluid
- Assists in improved circulation of lymphatic fluid
- Very light touch massage that moves the skin
- Focused in the direction to facilitate drainage
- Slow massage to work with the normal rhythm of the circulatory system



Internal MLD

- Compression + Bolus driven therapy
- Effortful swallow focusing on pharyngeal clearance
- K-tape and effortful swallow
- Beaded collar
- Compression collars
- Holly Mc Millan- SLP, MD Anderson - laryngopharyngeal MLD
- Complications eg. Xerostomia ..
- Note - lubrication in mouth if doing MLD in mouth eg coconut oil
- Use of custom made compression devices and massage devices

Custom made Internal MLD device..

Holly Mc Millan, SLP, MD Anderson, Texas.

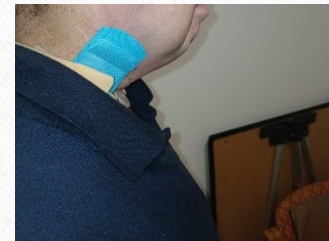
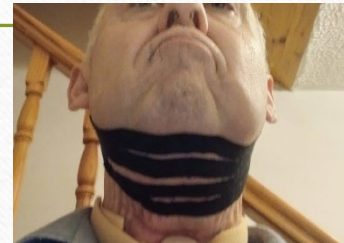
iMLD

Passive range of motion
iMLD
Compression



Other modalities

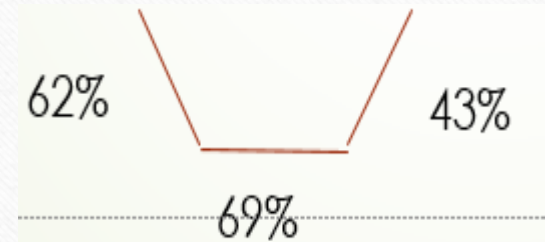
- Kinesotaping
- 6D tape
- Compression
- Vibration tools
- Rollers
- Myofascial release exercises
- Photobiomodulation (red light therapy)
- Tens



Case History

- 65 year old male painter
- PMHx of Prostate Ca
- Referred to Lymphoedema therapy 6 months post treatment for a Larynx SCC:
- Treatment Total Laryngectomy & thyroidectomy, neck dissection & PORT

Assessment



- Stage 2
- Fibrosis from L/O and RT
- No pain
- Sensation altered on RHS scalp and shoulder; LHS ear
- Eating and swallowing difficult, good saliva production, good diet.
- Has limited ROM in neck – feels very tight
- Moisture meter – norm 42% - LHS- 46%- 57% submental 69%; RHS 64%- 52%
- Laryngeal stoma , neck wound

Treatment

SLD

K Tape

Compression

6 D tape

Tuning fork vibration

Roller

In conjunction with Physiotherapist -
ultra sound

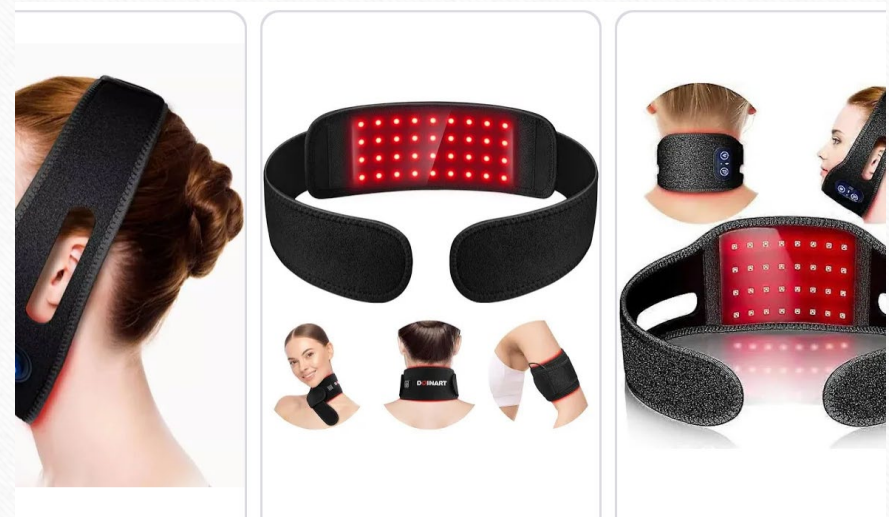
Stretching ...

Initial outcome.... changed every time ..

- When swelling and fibrosis reduced
– AROM increased significantly but pooling of mucous increased, skin breakdown... then swelled up again



Photobiomodulation



Case 2:

Left parotid SCC; 4 months post, PMHx of Breast Ca, SCC base of back; Saliva production reduced but improving. Feeling of pressure; anxiety. No issues with speech swallow or breathing. Felt tight at end range of movement but

WFN

1A on MDACC scale

Rx: SLD – customised due to Hx; lots of talking and listening – 2 treatment sessions

Conclusion

- Listening and finding out what matters ... cosmesis/ function..
- Using every tool in the toolkit... Education, CDT, taping, customised compression, vibration tools, rollers... SLT techniques, physio techniques... photobiomodulation
- Listening about a bad night, a traumatic social event, pain, appointments, how their appearance is affecting their ability to engage in social activities.
- Vocational rehabilitation

References

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- Liverpool HNC lymphoedema study day/ conference, 2024
- And many many more!

Thank you

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