
Evidence Summary: Lymphoedema: skin care

Author

Wound Healing and Management Node Group — E Haesler

CLINICAL QUESTION

What is the best available evidence on skin care in managing lymphoedema?

SUMMARY

Skin and tissue inflammation and infection are a common sequelae in individuals with lymphoedema. Ongoing, daily skin care that includes inspecting the skin for breaks and signs of infection, and performing hygiene is a well-recognised strategy to preventing infection. Skin care should be performed in conjunction with interventions that manage lymphoedema such as compression therapy, manual lymphatic drainage and

complete lymphoedema therapy (see Evidence Summaries listed below). Individuals with lymphoedema should also be encouraged to engage in preventive practices to avoid skin injury¹ (Level 1.b evidence) and ²⁻⁴ (Level 5.c evidence).

BACKGROUND

Lymphoedema is a form of chronic, progressive oedema in which there is significant, persistent swelling of a limb or other body region due to excess and abnormal accumulation of protein-rich fluid in body tissues. This fluid contains a range of inflammatory mediators and adipogenic factors⁵⁻⁹. The lymphatic system is unable to manage the volume of accumulated fluid⁸.

Lymphoedema occurs due to primary, secondary or mixed causes. Primary causes are described as congenital (e.g. an inherited disorder such as Milroy's disease), praecox (onset at puberty, e.g. Meige's disease) or tarda (sudden onset no apparent cause)¹⁰⁻¹². Secondary causes arise from direct damage or trauma to the lymphatic system such as injury, surgery involving removal of lymph nodes, radiotherapy (usually related to treatment of breast cancer) or parasitic invasion¹¹⁻¹³. Lymphatic filariasis (also called elephantitis) is a cause of secondary lymphoedema in endemic areas primarily in Africa and Asia. Mixed lymphoedema describes lymphoedema arising from decompensation or failure of the lymphatic system associated with other disease or conditions, including but not limited to obesity, immobility, venous disease or lipoedema^{11,12,14}.

Without management, lymphoedema may lead to:^{8,15}

- progressive swelling;
- superficial tissue changes — increasing adiposity and fibrosis;
- physical and functional limitations;
- increased risk of chronic infection;
- lymphorrhoea (leaking of lymph fluid);
- pain and discomfort; and
- reduced ability to undertake activities of daily living.

This evidence summary presents evidence related to skin care in lymphoedema.

CLINICAL BOTTOM LINE

Approximately one-third of individuals with lymphoedema experience cellulitis as a sequela⁷ (Level 5.c evidence) from infection and other factors. Caring for the skin by reducing oedema and preventing dryness and injury are important strategies to prevent inflammation and infection.

A systematic review of two studies reported that the effectiveness of routine skin care, although highly recommended for reducing infection, is yet to be established. The review reported symptomatic relief and slight limb volume reduction in individuals (n=38) with breast cancer-related lymphoedema who performed daily skin care in conjunction with manual lymphatic drainage compared with those who did not perform the intervention (n=37)¹ (Level 1.b evidence).

Regular skin hygiene has been shown to reduce episodic outbreaks of lymphoedema in individuals with lymphatic filariasis¹⁶ (Level 2.d evidence) and ¹⁷ (Level 4.c evidence).

Skin inspection

Compression garments should be removed daily to inspect the skin and attend to hygiene, and then replaced once care has been completed.

Skin inspection helps to identify potential problems quickly and implement treatment when required. Individuals with lymphoedema should be encouraged to:^{2,3,7} (Level 5.c evidence)

- Inspect the skin on a daily basis for redness, scratches, abrasions or cuts.

- Inspect skin folds for excoriation or fungal infection.
- Report signs of bacterial or fungal infection (including pain) to a clinician for early management.

Daily skin hygiene

Individuals with lymphoedema should be encouraged to:^{3,4,7} (Level 5.c evidence)

- Keep skin clean with daily cleansing.
- Use a mild soap-free cleanser.
- Avoid soaps because they alter the natural pH of the skin and remove the protective sebum layer.
- Dry skin using a gentle, patting motion.
- Moisturise skin at night with an emollient to replace lost sebum and encourage moisture retention.
- Treat scratches and abrasions with an antiseptic until healed³ (Level 5.c evidence).

Prevent skin injury

Individuals with lymphoedema should be encouraged to protect their skin and prevent injury that could provide a point of entry for infection. Individuals with lymphoedema should be encouraged to:²⁻⁴ (Level 5.c evidence)

- Apply sunscreen to avoid burning that may overwhelm the compromised lymphatic system.
- Use insect repellent to prevent bites and spread of mosquito-borne infection.
- Use electric razors in preference to blades.
- Wear gloves and skin protection when performing duties that commonly cause skin injury (e.g. gardening).
- Wear footwear.
- Avoid injections and blood samples at lymphoedema affected sites.

Barriers to caring for the skin

Some individuals with lymphoedema experience barriers to caring for their skin.

- A qualitative study (n=8) reported that physical limitations (e.g. musculoskeletal injuries) and difficulty accessing all areas of skin negatively influenced ability to perform skin hygiene and inspection, especially in those with lower limb lymphoedema¹⁸ (Level 3 evidence).
- The same study identified social isolation and poor self-esteem as negatively influencing the motivation of people with lymphoedema to participate in skin hygiene¹⁸ (Level 3 evidence).
- Financial costs of products (e.g. moisturiser and soap-free cleansers) may negatively impact the ability of people with lymphoedema to engage in skin hygiene on an ongoing, regular basis¹⁸.

CHARACTERISTICS OF THE EVIDENCE

This evidence summary is based on a structured literature and database search combining search terms that describe lymphoedema and skin care. The evidence in this summary comes from:

- Systematic reviews of studies of various design^{1,6} (Level 1.b evidence)
- A before-after trial¹⁶ (Level 2.d evidence)
- An observational study with no control group¹³ (Level 3.e evidence)
- A qualitative study¹⁸ (Level 3 evidence)
- Case series reports^{14,17} (Level 4.c evidence)
- Expert consensus^{9,11} (Level 5.b evidence)
- Expert opinion^{2-5,7,8,10,12,15} (Level 5.c evidence)

BEST PRACTICE RECOMMENDATIONS

- Daily skin inspection and skin hygiene can reduce episodes of infection in individuals with lymphoedema (Grade B).
- Assistance needs to be provided to individuals with lymphoedema who are experiencing problems (e.g. motivational, physical limitations, financial) carrying out the required care. (Grade B)
- Individuals with lymphoedema should receive education on preventing skin injury and caring for their skin (Grade B).

RELATED EVIDENCE SUMMARIES

JB1 11562, 11564, 11870, 11871 Lymphedema: methods of objective assessment

JB1 11560 Lymphedema: subjective assessment

JB1 12998 Managing lymphoedema: complex lymphedema therapy

JB1 12921 Single modality treatment of lymphedema: manual lymphatic drainage

JB1 12096 Single modality treatment of lymphedema: pneumatic compression therapy

JB1 13567 Prevention of filariasis

JB1 13568 Treatment of filariasis

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