

## Guidelines on putting on and taking off a compression stocking



Compression stockings are used to treat and prevent a variety of conditions, including varicose veins, lymphoedema and deep vein thrombosis (DVT) (myDr 2018).

Compression stockings work by squeezing the veins and muscles in the leg. The compression is firmest at the ankles and gradually reduces higher up the leg. This helps to improve blood circulation in the legs and reduce swelling by preventing fluid from accumulating in the ankles (myDr 2018).

When not properly applied and cared for, compression stockings may cause complications such as impaired skin integrity and pressure injuries in vulnerable clients.

However, with appropriate care and monitoring, these complications are preventable.

This article is intended for all healthcare staff who are required to apply, remove and care for clients requiring the use of compression stockings.

### **Before Applying Compression Stockings:**

Assess the area where the stocking will be applied. **Do not** apply the stocking if:

- The client's leg is red, painful, swollen or hot
- There is a visible wound, rash, blister, ulcer or skin tear
- The client's leg is itchy.

## How to Apply Compression Stockings

Stockings should generally be applied first thing in the morning, as this is typically the time of day when the legs are the least swollen (Calvary Community Care 2017).

*Note: Rings, jewellery or other sharp objects must **not** be worn when applying compression stockings. Fingernails should be short (NHS 2018).*

To apply the stocking:

1. Explain the procedure to the client.
2. Ensure that the client's leg is dry. There should be no oil, lotion or dampness.
3. Face the heel of the stocking towards you. Put your hand inside the stocking with your palm facing up and your thumb tucked in.
4. Grip onto the heel and tuck it into your palm. You should be holding the heel as if you are making the mouth of a hand puppet.
5. With your other hand, hold the top of the stocking.
6. Pull the stocking down and off your arm to turn it inside out. Your firsthand should still be gripping the heel. This motion should have created a 'toe cave' with the heel at the base.
7. Feed the client's foot into the stocking up to their heel. The heel of the stocking should match the client's own heel, and the stocking should be tight and free of wrinkles.
8. Stretch out the top of the stocking and feed it back over the client's foot, to their ankle.
9. The client's foot should now be covered with a single layer of the stocking. Check for any wrinkles and smooth them out.
10. At this stage, consider donning textured rubber gloves (such as clean dishwashing gloves) to pull the stocking up. The gloves can assist with gripping the stocking and reduce the chance of tearing the material.
11. Pull the stocking up the client's leg in stages. Smooth any wrinkles after each stage.
12. The top of the stocking should sit **two fingers in width** under the bottom of the kneecap to prevent the client's circulation from being cut off.
13. Follow manual handling principles when applying the stocking to prevent injuring yourself (see '*Manual Handling Considerations*' below).

(Calvary Community Care 2017; King Edward Memorial Hospital 2018)

## Compression Stocking Applicators

**Compression stocking applicators** are plastic structures that are used to assist with fitting pressure stockings (Able Medilink 2021).

**How to use a stocking applicator:**

1. Seat the client.
2. Put the applicator on an appropriate surface for preparation. The elongated hole should be facing you.
3. Put the stocking inside of the 'U' shape. The heel of the stocking should be facing the elongated hole.

4. Pull the top of the stocking over the applicator and slide it down the sides.
5. Stop pulling once the heel is slightly over the top and in the middle of the 'U' shape.
6. Place the applicator over the client's toes and hold the heel pocket as their toes enter the stocking.
7. When the heel pocket is in line with the client's heel, release the heel pocket of the stocking.
8. Keep moving the applicator over the client's foot. Their heel should slide into the elongated hole as the applicator changes direction around their ankle.
9. Pull the applicator towards the client's knee.
10. Once free of the stocking, remove the applicator. If a full leg stocking is required, remove the applicator at the base of the client's knee and use your hands to pull the upper portion into place.
11. Ensure the heel of the stocking is properly positioned.
12. Smooth out any wrinkles.

(Able Medilink 2021)

Note: Applicators come in different sizes. Ensure the right size is available to fit over the client's calf. If the applicator is the wrong size, don't use it and notify clinical staff to provide the right one for the next visit.

### How to Remove Compression Stockings

Compression stockings should generally be removed before bed (Calvary Community Care 2017). However, ensure that you confirm this with your clinical staff as different clients have different care needs.

To remove the stocking:

1. Pull the stocking down to the client's ankle, turning it inside out.
2. Gently pull the toe portion off the foot.

### Maintaining Skin Integrity

Compression stockings place pressure on the limbs and pressure points, and have the potential to cause skin breakdowns or contribute to the development of **pressure injuries** (Rathore, Ahmad & Khan 2017).

Despite this, with appropriate care and monitoring, these complications are preventable.

According to the National Institute for Health and Care Excellence (NICE) recommendations, compression stockings should be removed to check for skin damage **three times per day** in high-risk clients, and at least once per day for all other clients (Nursing Times 2015). The client's ankles, heels and toes should be assessed. The heels and bony prominences are especially susceptible to damage (Canterbury District Health Board 2019).

When assessing the skin, check that the client's toes are warm, pink and dry from moisture (e.g. water, sweat), which indicates adequate circulation (Calvary Community Care 2017).

Compression therapy causes the skin to become dry. Skin integrity can be maintained by applying emollients to moisturise the skin once the stocking has been removed (avoid oil-based creams or products) (WA DoH 2018).

It is important to ensure that there are no wrinkles in the client's stockings, as this may increase pressure. Wrinkles can be smoothed with the palm of the hand (Calvary Community Care 2017; Canterbury District Health Board 2019).

### **When to Escalate Care**

The following abnormalities should be escalated to clinical staff:

- The client's leg is red, painful, swollen or hot
- There is a visible wound, rash, blister, ulcer or skin tear
- The client's leg is numb or tingling (pins and needles)
- The client's leg is more swollen than usual
- The client's toes are blue or purple
- The client's leg is swelling above or below the stocking
- The client is experiencing severe pain
- The top band of the stocking is cutting into the client's thigh or below their knee
- The stocking is slipping or falling down (too loose)
- The stocking is persistently creasing behind the knee, even after being smoothed.

### **Caring for Compression Stockings**

Stockings should be washed every three days or when soiled or smelly (WA DoH 2018). To wash a stocking:

1. Handwash the stocking using mild soap and low-temperature water
2. Rinse the stocking in clear, cold water
3. Roll the stocking in a clean, dry towel and squeeze to remove water.
4. Lay the stocking flat on a dry towel and leave it to air dry.

Note: The stocking should **not** be:

- Wrung out
- Twisted
- Hung from a clothesline
- Tumble dried
- Dried over a direct heat source
- Ironed.

### **Manual Handling Considerations**

The application of compression stockings requires significant exertion of pulling force, as well as static loading (being in the same position for four seconds or longer) (Wright & Campbell 2020). In order to prevent injury, you should:

- Instruct the client to sit with their hips flexed (e.g. on a firm bed or sofa), as this position is easiest for applying and removing stockings
- Adjust the bed/chair to an appropriate height
- Avoid bending over forwards for extended periods of time - stand upright and stretch your back regularly
- Consider using a compression stocking applicator.