OVERVIEW

The Compression Bandaging - Multilayer (Maintenance) Policy was developed to provide appropriate processes and standardize treatment for venous leg ulcers and other issues at sites in Rural SHR. Proper application and maintenance of multilayer compression bandaging is necessary to ensure safety of clients and safe nursing practice.

DEFINITIONS

Compression Bandaging - Multilayer - Compression bandaging consisting of several layers of different materials to obtain the pressure as ordered. Multilayer compression bandaging is generally short term and a transition to hosiery or a compression garment is the expected outcome.

Compression Therapy - Wraps, pumps or garments that can range in strength from 15-20 mmHg to 50-60 mmHg and may be used to promote healing of venous leg ulcers, promote wound healing, reduce edema, improve perfusion, alleviate pain, and prevent venous thromboembolism (VTE) including deep vein thrombosis (DVT) and pulmonary emboli (PE). Compression therapy is best practice for the treatment of venous leg ulcers and is also indicated for lymphedema, poorly controlled congestive heart failure with skin blistering, post deep venous thrombosis, cellulitis which is being treated with appropriate antibiotic therapy, and mixed venous disease.

Alternative Method of Compression - A compression garment or other product as prescribed by vascular specialist/most responsible physician (MRP)/designate/RN [NP] that is to be used per manufacturer’s recommendations when multilayer compression bandages are not available or no trained staff is available to apply multilayer compression bandages.

Client - will be used when referring to residents, patients and clients.

Trained Staff - Must be licensed health care professionals (RN [NPs], RNs, RPNs, LPNs, GNs, OTs, PTs) who have attended an education session approved by the Department of Rural Nursing Practice and Education and demonstrated competency in multilayer compression bandaging. Trained staff
will initially receive ‘just in time’ education and recertification will be provided annually or as requested.

- It must be noted that Trained Staff as defined in this policy will NOT be trained to do the initial application of the multilayer compression bandages.

Untrained Staff - Any staff member who is untrained in the application of multilayer compression bandages, but will be providing direct care to the client with multilayer compression bandages.

1. PURPOSE

1.1 To standardize treatment of various conditions that multilayer compression bandages are indicated for at sites in Rural SHR.

1.2 To allow clients in Rural SHR to receive treatment that is in keeping with best practice guidelines for venous leg ulcers and other conditions for which multilayer compression bandaging are also indicated.

1.3 To ensure that trained staff will be able to maintain a previously initiated multilayer compression bandage system, thus allowing clients to receive treatment that was previously unavailable to them.

2. POLICY

2.1 Prior to initiation of therapy, the following is required to be done by the prescriber or his/her designate:

2.1.1 Holistic client assessment to manage or eliminate correctable systemic factors (i.e. hyperglycemia, anemia, malnutrition, obesity).

2.1.2 Bilateral lower limb assessment to determine the presence and extent of arterial disease.

2.2 A prescriber’s order is required specifying the degree (mmHg) of compression to be applied.

2.3 The prescriber shall also prescribe an alternative method of compression to be used in the event that multilayer compression bandages or trained staff are unavailable.

2.4 Multilayer compression bandages shall only be initiated by health care professionals trained to initiate treatment (i.e. vascular specialists, RN [NPs], trained home care nurses).

2.5 Trained staff, as defined by this policy, will not be trained to initiate this therapy or complete ankle brachial pressure index (ABPI) assessments to determine appropriateness of compression therapy; they will only be trained to maintain a multilayer compression bandage system that is already in place.

2.6 The application of multilayer compression bandaging is a specialized nursing procedure requiring annual education and demonstration of competency.

2.7 Multilayer compression bandaging will only be applied by trained staff and applied according to manufacturer’s recommendations.

2.8 Consistent and regular application of multilayer compression bandages is strongly recommended to maintain staff competence and confidence; therefore it is advised that only 2-4 staff members be trained at any site requiring it. If a trained staff member does not
feel confident in his/her ability, it is recommended that he/she request a review of education and application.

2.9 Untrained staff will receive information regarding the care and management of multilayer compression bandages. Refer to Appendix B.

2.10 Every 8 hours for 24 hours following initiation of multilayer compression bandages, an assessment must be performed and documented by a licensed health care professional. See 3.1 below.

2.11 After the initial 24-hour period, multilayer compression bandages must be assessed by a licensed health care professional every shift and any concerns documented and managed in an appropriate and timely manner. See 3.8 below.

3. PROCEDURE

3.1 Every 8 hours for the first 24 hours following the initial application of the multilayer compression bandages, the client's lower limb(s) must be reassessed for pain (location, intensity, onset, quality), circulation (skin temperature, blanching, capillary refill, color, sensation), swelling and movement of lower limbs and toes. Compare to other limb if applicable. This assessment should be done by a licensed health professional (preferably someone who is trained in initial application or maintenance/reapplication of multilayer compression bandages). If there are any concerns, the prescriber or person who initiated the therapy shall be consulted immediately. Should no consult be available (i.e. concerns arise on night shift following initiation of therapy), the bandages shall be removed and the client will be reassessed by the prescriber or MRP/designate as soon as reasonably possible. The findings from these assessments shall be documented in the Nurses' Notes even if there are no concerns.

3.2 Equipment:

- Bandage scissors to remove previous multilayer compression bandages
- Personal care supplies required to wash and moisturize area to be compressed
- Wound care supplies as required
- Multilayer compression bandages that correspond to the degree of mmHg as ordered by prescriber.

3.3 Prior to application of multilayer compression bandaging:

3.3.1 Verify prescriber's order to confirm level of compression and frequency of change
3.3.2 Assess and manage pain as required
3.3.3 Remove present multilayer compression bandages using bandage scissors cutting from the toes up OR unwrapping the bandages
3.3.4 Assess skin condition
3.3.5 Cleanse and moisturize the limb and periwound skin
3.3.6 Obtain and document limb measurement (narrowest at ankle and widest at calf) prior to initial application and weekly thereafter to determine when edema reduction is achieved
3.3.7 Provide local wound care (if applicable) referring to Saskatchewan Skin and Wound Care Guidelines. Multilayer compression bandages are not designed as wound dressings.

3.4 Apply multilayer compression bandage system as per manufacturer's recommendations (Appendix A).
3.5 Refer client to appropriate disciplines to maximize and individualize the treatment plan to address issues that may have an impact on healing (i.e. physical therapy for mobility/gait assessment, dietician for nutrition to optimize wound healing). Attempt to control, minimize or eliminate underlying issues such as diabetes, hypertension, etc.

3.6 Ensure that untrained staff, the client and their family are aware of the care and management of the multilayer compression bandages (see Appendix B).

3.7 Complete appropriate documentation.

3.8 Assess client’s lower limb(s) every shift for pain (location, intensity, onset, quality), circulation (skin temperature, blanching, capillary refill, color, sensation), swelling of toes and movement. Compare to other limb if applicable. Document and manage any abnormalities, consulting with prescriber/MRP if appropriate.

4. REFERENCES

3M Canada. (2012). For a life in motion - conformable compression that works application and removal techniques. [Brochure]. Skin and Wound Care Division 3M Canada.


Heartland Health Region. (2012). Ankle Brachial Pressure Index (ABPI) – Doppler Assessment of the Lower Limb Circulation and Lower Limb Compression Bandaging Learning Package.


Regina Qu’Appelle Health Region. (2013). Long Term Care Lower Limb Compression Therapy Systems - Learning Package.


Woo K, Cowie B. Understanding compression for venous leg ulcers, Nursing 43(1); 66-68, January 2013


Appendix A

**How to Apply/Remove**

Apply this layer with the foam side against the skin, using just enough tension to conform to the shape of the leg with **minimal overlap**. With the foot in a dorsiflexed position, start the application with a circular winding at the base of the toes, beginning at the fifth metatarsal head.

The second circular winding should come across the top of the foot so that the middle of the bandage width approximately covers the articulating aspect or the ankle joint.

The next winding runs over the back of the heel. The Posterior plantar surface of the foot is not completely covered.

Please note that there may be a small fold of comfort layer material in the Achilles area. Guide this fold off the Achilles and lay it into the adjacent convex area. This fold will lay down smoothly without causing pain or discomfort when covered by the compression layer.

Proceed up the leg, to just below the fibular head, or the back of the knee with **minimal overlap**, using just enough tension to conform to the shape of the leg.

Cut off excess material.

Light pressure applied at the end of the bandage ensures that it stays in place during the application of the compression layer.
For patients with very thin legs that have vulnerable bony prominences such as the tibial crest or the top of the foot, you can provide additional comfort and protection by cutting a piece of the comfort material and placing it over the top of the foot, running it up the leg to protect the tibial crest. At the articulating area, make a slit on each side of the strip to conform at the ankle. Gently press into place.

Apply this layer at full stretch throughout its application. Hold the roll close to the foot and limb throughout the application for controlled, even compression. With the foot in a dorsiflexed position, start the application with a circular winding at the base of the toes, beginning at the fifth metatarsal head.

The second circular winding should come across the top of the foot and around the back of the heel.

Using the “figure of eight” technique, bring the roll back over the top of the foot, across the bottom of the foot and back up to come around the back of the heel. Complete two or three figures of eight around the ankle, ensuring that the entire heel is covered.

Proceed up the leg with 50% overlap to cover the entire inner comfort layer. Maintain consistent stretch throughout the process.

End the wrap at the fibular head, or just below the back of the knee and even with the top edge of the comfort layer. Cut off any excess material. **Note:** If you detect any gaps in the compression layer, you may apply additional compression layer material at full stretch.

Gently press and conform the entire surface of the application. This will ensure that the two layers will bond firmly together, which helps reduce slippage.

3M™ Coban™ 2 Layer Compression Therapy products may be removed with bandage scissors or by unwrapping.

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[www.3m.ca/coban2layer](http://www.3m.ca/coban2layer)
Appendix B

Multilayer Compression Bandages - Guidelines for Staff

1) If staff is not trained to apply multilayer compression bandages, he/she should NOT APPLY MULTILAYER COMPRESSION BANDAGES. If the multilayer compression bandages are not properly applied, they can do more harm to the client than if they are not applied at all.

2) Properly applied compression is better than no compression.

3) In the event that no one trained to apply multilayer compression bandages is working on a day that they are to be changed, or if the multilayer compression bandages get wet/fall off/needs to be taken off/etc., the multilayer compression bandages will remain off and the alternate form of compression will be used (as per the prescriber's order).

4) Ensure that circulation to toes is adequate. Compare with the other limb (if applicable). Assess color, sensation and movement. If there is any question re: adequate circulation, remove the multilayer compression bandages and apply the alternate method of compression (as per the prescriber’s order) if the client is able to tolerate it. Notify prescriber.

5) Keep the multilayer compression bandages dry. If they get wet, the skin beneath is at risk for damage, so remove the bandages and use the alternate form of compression (as per the prescriber’s order) until such time that multilayer compression bandages can be properly reapplied.

6) If the client has pain in the limb from the multilayer compression bandages, remove the multilayer compression bandages and apply the alternate method of compression (as per the prescriber’s order) if the client is able to tolerate it. Notify prescriber.

7) When you remove multilayer compression bandages, remove them completely. Do not make slits or cut them part way off.

8) If the multilayer compression bandages become loose or no longer conform to the shape of the leg, remove the bandages.

9) If multilayer compression bandages are removed and there are no contraindications for reapplication (i.e. pain, poor circulation, client unable to tolerate, no trained staff available), they should be reapplied by trained staff or alternative method of compression (as per the prescriber’s order) should be used. If contraindicated for a reason other than untrained staff, client should be re-evaluated by prescriber.

10) Ensure proper monitoring and documentation of ANY method of compression used – multilayer compression bandages or the alternative method that is prescribed.

11) Remove multilayer compression bandages with bandage scissors from the toes up OR by unwrapping. Bandages should not be reused.

12) Multilayer compression bandages may be removed one hour prior to reapplication to allow for personal hygiene.

13) It is recommended that the client elevate legs whenever possible.

14) Encourage the client to walk as much as possible.

15) Encourage and assist with good skin care to lower limbs.

16) If the client finds that the multilayer compression bandages stick to the sheets while in bed, a lightweight stocking may be worn over them to alleviate this.