3M™ Coban™ 2 Compression System

Maintain Mobility
While Reducing Oedema
Bandaging as Part of Intensive Therapy

- Compression is one of the most critical aspects of treatment for Lymphoedema
  - *Is most effective when inelastic materials are used.*
- Different mechanisms may explain the efficacy of compression therapy:
  - *reduction in capillary filtration,*
  - *shift of fluid into non-compressed parts of the body,*
  - *increase in lymphatic reabsorption and stimulation of lymphatic transport,*
  - *improvement in the venous pump in patients with veno-lymphatic dysfunction and breakdown of fibrosclerotic tissue.*
- The Coban 2 Compression Systems have been designed to create
  - *a comfortable inelastic sleeve,*
  - *have been proven to support the muscle functional dynamics that support normal venous and lymphatic return and reducing edema.*
- Results of a multi-centre, prospective, open label, randomized controlled study showed that Coban 2 Layer Compression System renewed twice weekly is effective to reduce lymphoedema.
“In obstructive lymphedema, lymphatic wall muscular fibers become damaged and the spontaneous contractility becomes ineffective in lymph transport because of low generated pressures and lymphatic valve insufficiency.”

“The lymph propelling task is taken over by leg muscle contractions.”

The Ideal Compression system….

“Is an inelastic, conformable, low profile sleeve with an anatomical fit around a subject’s leg that allows functional activities, that does not slip, which provides in rest a safe and tolerated pressure but generates effective working pressures, is easy to reproduce and apply by clinicians.”

JAN SCHUREN - Inventor
How Coban 2 Compression System provides short stretch benefits

- The Coban 2 Compression System has been designed with materials that work together to create a comfortable inelastic sleeve and have been proven to support the muscle functional dynamics that support normal venous and lymphatic return and reducing edema.

- Results of a multi-centre, prospective, open label, randomized controlled study showed that Coban 2 Layer Compression System renewed twice weekly is effective to reduce lymphedema.
Traditional Bandaging Materials

Short stretch, inelastic bandages with a variety of padding materials to normalize the limb shape believed to provide a pressure gradient according to Laplace’s Law.

Rigid sleeve that supports intermittent peak pressures of muscle activity to achieve the massaging effect that stimulates lymph.

Thick, stiff and bulky so that wearing normal clothing and footwear is difficult.

Restrict mobility, reduce flexibility & limit function for activities of daily living.
3M Breakthrough in Materials

Coban™ 2 Layer Compression Systems provide ideal properties

- Enable innovative application methods to provide comfortable, sustained compression
- Create an inelastic sleeve with ideal stiffness to support all the muscular movements of the patient within the bandage.

Layer 1, the Comfort Foam Layer, a laminate of medical grade polyurethane foam with cohesive, non-woven backing

- applied with the foam side towards the skin
- provides comfortable cushion, protection and mechanical grip to reduce slippage during wear.

Layer 2, the Compression Layer, a cohesive bandage with spandex filaments modified to be short stretch, with specific numbers and denier to provide optimal stiffness

- short stretch properties ---designed to be applied at full stretch to eliminate\ the guesswork

Two layers cohere creating a comfortable inelastic sleeve that conforms to the anatomy and grips the skin to reduce potential for uncomfortable slipping and bunching.

The thin profile allows use of more normal footwear so the patient can remain as active as possible.

Maintaining function & activity will promote reduction of oedema and lymphatic return.
Summary of Clinical Evidence

3M has recently completed studies in partnership with leading clinicians

- Randomized control trial on 82 patients with arm and leg lymphoedema from which application frequency, clinical outcomes and cost of total treatment were captured
- Observational case series on use of the new materials on 24 patients, and report of clinician and patient experiences
- Proof of concept study of effective volume reduction over 24 hours on 30 leg lymphoedema patients

Six manuscripts are currently being prepared for publication in peer-reviewed journals
“The cumulative results from these research studies support that ‘Coban 2 Compression System’ is clinically effective and is set to fundamentally change the field of Lymphoedema.”

Christine Moffatt CBE PhD
Lead Researcher, Derby Hospitals
Honorary Professor in Nursing & Health Care Glasgow University
Reduces oedema effectively!

We are confident to recommend 2 x / week applications of Coban 2 Compression systems during intensive therapy.
Conformability without additional padding

• Coban 2 Layer Compression System materials were designed to provide the required “stiffness” with two, thin layers that conform directly to the patients limb contours.

• Clinical effectiveness has been proven as seen by volume and skin fibrosis reduction.
Mobility and Function

- The thin, low profile of the Coban 2 Layer Compression System materials has been proven to improve patients Health Related Quality of Life Physical Symptoms and Daily Living Scores.

- Patients with lymphoedema also reported an extremely positive experience wearing Coban 2 layer compression systems with the key advantages of lightness, neatness and flexibility enabling mobility and improving quality of life.
Lightness & Comfort

- Traditional bandages are heavy and bulky and interfere with the patients function, flexibility and mobility.
- In new research awaiting publication patients reported an extremely positive experience wearing Coban 2 layer compression systems.
- Key advantages of lightness, neatness and flexibility enabling mobility and improving quality of life.

Ms G, breast cancer survivor shows the flexibility and lightness.
Proven Safe for Skin

- Maintenance of skin integrity with careful management of skin problems is important to minimize the risk of infection.
- 3M Coban 2 comfort foam layer is a laminate of medical grade foam with a latex-free cohesive backing. The hypoallergenic foam side is applied to the skin and has been proven to be safe, non irritating, non sensitizing and can be left in place up to 7 days when clinically appropriate.
- Clinical experience using Coban 2 Compression system for patients with lymphoedema has demonstrated effective compression for up to 4 days with high skin tolerance.
  - During this same study, a wide array of skin products were used in conjunction with the Coban 2 bandage and were found to be well tolerated and did not promote bandage slippage.
References

1. Mei R. Fu, PhD, RN, ACNS-BC, Sheila H. Ridner, PhD, RN, ACNP, Jane Armer, PhD, RN, FAAN. American Journal of Nursing July 2009; 109(7): 48–54