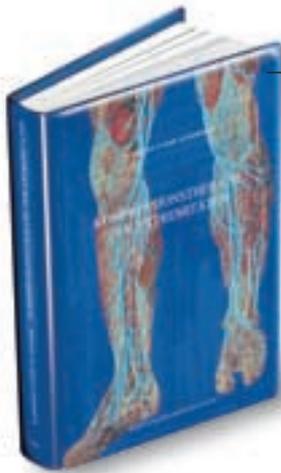


Robert Stemmer Library on Compression Therapy



Compression Therapy of the Extremities

This book, available in English, French and German, contains the most complete collection of compression references.

Continuous literature update

Scientific articles on compression therapy worldwide are collected and quoted on Internet www.sigvaris.com

Compression Bulletin

A selection of some interesting articles is extracted and discussed in the Compression Bulletin (available by fax or e-mail)

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Identical chapter-titles in the continuous literature update and in the Compression Bulletin

Prandoni P, Lensing AWA, Prins MH, Frulla M, Marchiori A, Bernardi E, Tormene D, Mosena L, Pagnan A, Girolami A.

Below-knee elastic compression stockings to prevent the postthrombotic syndrome

Ann Intern Med 2004;141:249-56

Background:

Only limited data show that medical compression stockings are able to prevent post-thrombotic syndrome (PTS) after acute symptomatic deep vein thrombosis (DVT). This is one of the reasons why such stockings are not widely used, at least in some parts of the world.

Material and methods:

180 consecutive patients with a first episode of symptomatic proximal DVT receiving conventional anticoagulant treatment were randomly assigned to wear or not to wear below-knee compression stockings for two years (30-40 mmHg at the ankle) before discharge from the hospital.

The patients were examined every 6 months for 3-5 years using a standardized score by investigators who were unaware of the treatment allocation. The score takes account of subjective symptoms and of objective signs.

Results:

44 from 90 patients in the control group but only 23 from 90 in the stocking group developed PTS. All but one event developed in the first two years. The hazard ratio for PTS in the stocking group compared with controls was 0,49 (CI 0,29-0,84, P= 0,0011). These findings suggest that 4,4 patients need to be treated with medical compression stockings to prevent one additional case of PTS.

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Conclusion:

Wearing of medical below-knee compression stockings for two years after proximal DVT is able to reduce the rate of PTS by 50%.

Comment:

The results of this study are in full agreement with the trial of Brandjes et al, Lancet 1997;349:759-62. Based on these randomised controlled trials prescription of medical compression stockings should not be withheld to patients after DVT. The authors recommend that stockings must be

applied quickly after the thrombotic episode since venous hypertension and valve damage occur soon. In fact compression was started only before discharge, in average one week after the acute event. It may be hypothesized that immediate compression and walking could even further improve the positive outcome.

Randomised controlled trial

ENG

Lit: 23/4

Chapter 10

Mc Neely ML, Magee DJ, Lees AW, Bagnall KM, Haykowsky M, Hanson J

The addition of manual lymph drainage to compression therapy for breast cancer related lymphedema: a randomized controlled trial

Breast Cancer Research & Treatment 2004; 86: 95-106

Background:

The purpose of this investigation was to compare the reduction in arm-lymphedema volume achieved from manual lymph drainage massage (MLD) in combination with multi-layered compression bandaging (CB) to that achieved by CB alone.

Methods:

50 women with lymphedema were randomly assigned to 4 weeks of combined MLD/CB or CB alone. The primary study endpoint was the reduction in arm-lymphedema volume, which was determined by water displacement volumetry and measurement of circumference. Independent assessors, blinded to subject treatment assignment, performed the outcome measurements.

Results:

Arm-lymphedema volume decreased significantly after 4 weeks irrespective of treatment assignment. Individuals with mild lymphedema receiving combined MLD/CB had a significantly larger percentage reduction in volume compared to individuals with mild lymphedema receiving CB alone and compared to individuals with moderate or severe lymphedema receiving either treatment.

Conclusion:

These findings indicate that CB, with or without MLD, is an effective intervention in reducing arm-lymphedema volume. The findings suggest that CB on its own should be considered as a primary treatment option in reducing arm-lymphedema volume. There may be an additional benefit from the application of MLD for women with mild lymphedema.

Comment:

This prospective randomised controlled study shows the significant impact of multi-layered CB on the edema reduction in arm-lymphedema patients after breast cancer. In this study the additional manual lymphatic drainage could prove a significant benefit on edema reduction only in a subgroup of patients. Nevertheless it has to be stated, that manual lymphatic drainage has also some influence on reduction on fibrosis and induration of the subcutaneous tissue in these patients.

Randomised controlled trial

Lang: English

Lit: 39/0

Chapter: 8

Rastel D, Perrin M, Guidicelli H

Compressive therapy after varicose vein surgery: results of a French national inquiry

Journal des Maladies Vasculaires 2004; 29: 27-34

Background:

A survey on postoperative compression after varicose vein surgery was undertaken in 2001 among surgeons of the French-speaking vascular Surgery Society as well as non-members with a heavy case load in varicose vein surgery. The aims of the study were to identify the various medical devices and protocols used postoperatively and to estimate the frequency and duration of use and to identify the surgeon's rationale for prescribing postoperative compression.

Methods:

A questionnaire with 11 items for postoperative treatments and a patient form was mailed to 675 surgeons.

Results:

The response rate was 41,5 % (280 surgeons). Compression was widely used (97,1 %). It was the only postoperative treatment for 25.2 % of the surgeons, was associated with anticoagulant treatment for 38.8 % or non-steroidal antiinflammatory drugs for 11.2 %. Compression therapy was mainly started postoperatively (93,2 %). Elastic bandages (long-stretch) were used by 87 %. Duration of bandage

therapy was variable (less than 8 days for 38.8 %, 8 – 15 days for 24.5 %). After bandage therapy, medical compression stockings (above knee 74.7%) or french class II (77.9 %) were used. Compression stockings were prescribed for 8 – 15 days or 15 – 30 days by 12.7 % and 84.6 % of the surgeons respectively. Prolonged postoperative treatment was not common (28 %) and was prescribed for patients with trophic changes.

Comment:

This questionnaire shows, that the majority of the french surgeons use compression therapy after varicose vein surgery. The majority starts with long-stretch compression bandages and continues with compression stockings above knee. Most of the patients are treated for 15-30 days postoperatively.

Questionnaire
Lang: French
Lit : 25/2
Chapter : 9

Wienert V, Waldermann F, Zabel M, Rabe E, Jünger M

Guideline of the German Society of Phlebology – Medical Compression Stockings

Phlebologie 2004; 33: 139 – 144

Background:

Medical compression stockings are a basic tool in therapy of venous and lymphatic diseases of the extremities. In this guideline the actual guidelines in therapy with medical compression stockings is documented.

Methods:

The guideline is based on a literature review of randomised controlled studies in compression therapy and on publications concerning the basic principles of the treatment.

Results:

The principles and standardization criteria for compression stockings in Germany are discussed. The main indications are varicose veins, thromboembolic diseases, chronic venous insufficiency and edema. Concerning the absolute contraindications severe arterial occlusive disease is the main point. Based on the literature the proven efficacy of compression stockings in the different indications is discussed. The highest grade of evidence exists for prophylax-

is of postthrombotic syndrome and for therapy of venous leg ulcers.

Conclusion:

Medical compression stockings belong to the basic treatment of venous and lymphatic diseases. In Germany the production process and the pressure in the different compression classes are strongly standardized.

Comment:

This guideline is the basis for therapy with medical compression stockings in Germany, based on the existing scientific literature.

Guideline
Language: German
Lit: 29
Chapter: 9

Herouy Y, Kahle B, Idzko M, Norgauer J, Rabe E, Bruckner-Tudermann L, Jünger M

Influence of compression therapy on the paracellular barrier

Phlebologie 2004; 33; 115-119

Background:

Tight junctions (TJs) provide a barrier function, inhibit solute and water flow through the paracellular space.

Methods:

Analysis of the expression pattern of the TJ-molecules occludin (OCLN), claudin-1, -3, and -5 on mRNA and protein level in patients with edema, venous leg ulcers and healthy controls. Biopsy specimen were taken in healthy individuals and in patients before and four weeks after compression therapy. The expression of mRNA was determined by densitometry after using reverse transcriptase and polymerase chain reaction, the expression of protein after western blot from tissue specimen was measured.

Results:

Quantification revealed a diminished expression for CLDN-1 and CLDN-5 in patients with chronic venous insufficiency in comparison with healthy controls on mRNA as well as protein level. No statistical differences were detected for OCLN and CLDN-3 between the edema group and healthy controls. There was a significantly elevated expression on mRNA and protein level between the leg ulcer group and healthy controls for OCLN and CLDN-3. Densitometric quantification revealed a more significantly elevated

expression for CLDN-1 and CLDN-5 on mRNA and protein level after four weeks of compression therapy in comparison with that prior to treatment for the group of edema as well as for the group suffering from leg ulcer.

Conclusion:

Compression therapy tightens the paracellular barrier via elevated expression of specific TJs. It prevents the progression of chronic venous insufficiency because its effect on permeability preventing the entrance of fluid into the perivascular tissue.

Comment:

These data show that specific TJ-molecules which play an important role in permeability of the vessel wall are diminished in the skin of CVI-patients. The antiedematous effect of compression stockings might be caused by a positive effect on the expression of these molecules and on the barrier function.

Clinical study
Language: German
Abstract: English
Lit: 19/3
Chapter: 9

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