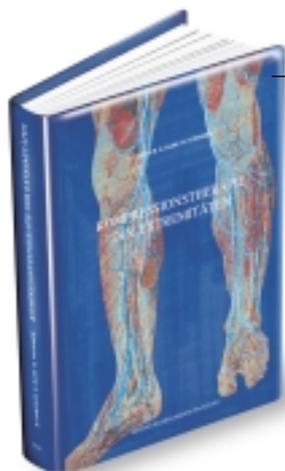


## Robert Stemmer Library on Compression Therapy



### 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](http://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)

#### Table of contents:

- |                             |   |
|-----------------------------|---|
| 1) Introduction             | 7) Compression using mechanical devices   |
| 2) Historical overview      | 8) Bandages                               |
| 3) Anatomy                  | 9) Compression stockings                  |
| 4) Venous return            | 10) Compression & mobilization strategies |
| 5) The basis of compression |   |
| 6) Mobilization             |   |

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

#### Partsch H. (Editor)

### Evidence based compression therapy

VASA 2003; Suppl. 63

This consensus document is the result of an international expert meeting organized by the International Union of Phlebology (IUP) at the occasion of its American Chapter Meeting in San Diego, California, August 2003.

All randomised controlled trials (RCT's) and systematic reviews on compression therapy using bandages and stockings were collected and reviewed. Large RCT's and metaanalyses with homogenous results were assigned to a recommendation level A, smaller or single RCT's to a level B and observational studies or the opinion of the

experts were taken as level C. Based on these data proposals for future trials were made.

The following table summarizes the clinical indications and the levels of recommendation (A,B,C) for bandages and stockings (compression class A, I, II, III according to the European CEN regulation). Chronic venous disorders are differentiated following the CEAP classification: C0 no visible varices, C1 teleangiectasias, C2 large varicose veins, C3 oedema, C4 skin changes, C5 ulcer scar, C6 venous ulcer.

#### Editors

Prof. H. Partsch, Wien  
Prof. E. Rabe, Bonn

#### Co-Editors

Dr. Pannier-Fischer, Bonn  
Dr. B. Partsch, Wien

#### International Advisory Board

Asia – S. Hoshino  
Australia – G. M. Malouf  
Europe – F. Vin  
North America – L. Villavicencio  
South America – E. Brizzio

GANZONI & CIE AG  
Gröblistrasse 8  
CH-9014 St.Gallen  
Tel. +41 (0)71 279 33 66  
Fax +41 (0)71 274 29 75

GANZONI FRANCE SA  
F-68308 St.Louis  
Tel. +33 (0)3 89 70 2400  
F-42176 StJust-St-Rambert  
Tel. +33 (0)4 77 36 08 90

GANZONI  
Improving quality of life  
SIGVARIS  
[www.sigvaris.com](http://www.sigvaris.com)

Indication	Bandage	CCI A	CCI I	CCI II	CCI III
C0, C1, symptomatic		B	B		
C1 after sclerotherapy					B
C2 asymptomatic				C	
C2 symptomatic					C
C2 pregnancy			B	B	
C2 after surgery	C		C	C	C
C2 after sclerotherapy	C		C		B-C
C3				B	
C4				B	
C5			B	B	B
C6	A			B	
DVT prevention		A-B	A-B		
DVT therapy	B			B	B
PTS prevention					A
Lymphoedema	B			C	C

DVT = deep vein thrombosis, PTS = postthrombotic syndrome

The table reflects the fact that at present compression therapy is endorsed by evidence based medicine data only for the indications venous ulcer, prevention of thrombosis after surgery and prevention of postthrombotic syndrome after acute deep vein thrombosis. In the next few years new and adequately designed studies will hopefully replace the recommendation levels B and C in the table above and fill the empty fields by an A.

Consensus document  
Chapter 8, 9  
Lang.: Eng.  
Lit. 55  
Sum. Eng.

**Kolbach DN, Sandbrink MWC, Hamulyak K, Neumann HAM, Prins MH**

## **Non-pharmaceutical measures for prevention of post-thrombotic syndrome (Cochrane Review)**

The Cochrane Library, Issue 1, 2004, Chichester, UK: John Wiley & Sons, Ltd.

### **Background:**

One in every three patients with deep vein thrombosis (DVT) will develop post-thrombotic syndrome (PTS) within five years. PTS is characterized by chronic pain, swelling and skin changes in the affected limb.

### **Methods:**

Literature search of randomised controlled trials (RCT's) of non-pharmaceutical interventions such as bandaging and compression stockings in patients with confirmed DVT.

**Results:**

Three RCT's that evaluated compression stockings after proximal DVT were identified. Two studies compared compression stockings (30-40 mmHg at the ankle) with no stockings. The third small study compared compression stockings (20-30 mmHg) with stockings that were one to two sizes too large (see Compression Bulletin 02). In all three studies stockings were started 7-10 days after the acute phase of DVT. At two years the use of compression stockings achieved a statistically significant reduction in the incidence of PTS (OR 0,31, 95 %CI 0,2-0,48). In addition the occurrence of severe PTS was also significantly reduced (OR 0,39, 95% CI 0,2-0,78) Another RCT focussing on the first 9 days after DVT showed a significant reduction of pain and swelling in favour of compression and walking (see Compression Bulletin 01). No serious side effects were observed in the studies.

**Conclusion:**

Elastic compression stockings should be added to the treatment of DVT to prevent the development of post-thrombotic syndrome.

**Comment:**

Based on this systematic review it is unethical to withhold compression stockings to a patient after DVT. Unpublished late results from the study quoted above (Compression Bulletin 01) suggest that immediate compression and walking in the acute stage of DVT may further reduce the rate of PTS.

Systematic review  
ENG  
Chapter 9  
Lit.:27/4

**Kolbach DN, Sandbrink MWC, Neumann HAM, Prins MH**

## **Compression therapy for treating stage I and II (Widmer) post-thrombotic syndrome (Cochrane Review)**

The Cochrane Library, Issue 1, 2004, Chichester, UK: John Wiley & Sons, Ltd.

**Background:**

Only few evidence based medicine data are available that focus on the management of postthrombotic syndrome (PTS)

**Methods:**

Literature search of randomised controlled trials (RCT's) of compression therapy in patients with established PTS.

**Results:**

Only two trials, both coming from the same group, could be identified. One cross-over study compared low (15 mmHg) and high pressure (50 mmHg) with intermittent pneumatic compression applied twice daily for 20 minutes in patients with severe PTS. After two months a beneficial effect of the higher pressure could be demonstrated. The other study in patients with mild or moderate PTS compared compression stockings to "placebo" stockings that were one to two sizes too large (see CBO2). No superior effect could be found in the treatment group.

**Conclusion:**

Intermittent pneumatic compression has a beneficial effect in patients suffering from PTS. However, based on currently available data, the same has not been proven for compression stockings.

**Comment:**

This systematic review nicely shows the discrepancy between every day experience and evidence based medicine. At the present time convincing evidence favouring the use of compression stockings exists only for the prevention but not for the management of PTS. More trials addressing the use of compression stockings in patients with swollen and painful legs due to PTS are needed!

Systematic review  
ENG  
Chapter 9  
Lit.:14/0

Vin F.

## Conférence Internationale de Consensus sur la Compression (International Consensus Conference on Compression)

Phlébologie 2003 ;56 :315-67

This report contains the summary of a consensus conference on compression therapy, which was held in January and in May 2002 in Paris under the patronage of the French Society of Phlebology and the International Union of Phlebology.

A literature search was performed and from 4250 references, 312 articles were retained for further analysis. References were mainly supplied by the Ganzoni company based on the book "Compression therapy of the extremities".

21 international and 12 French experts met in several working groups, in which the following problems were discussed. The grades of recommendation were A) for established scientific evidence, B) for scientifically endorsed assumptions and C) for a weak level of scientific proof.

1. **Physiological effects of compression.** This chapter gives an overview on different effects of compression therapy described in the literature.
2. **Characteristics of elastic and non-elastic compression.** Concerning ulcer healing a grade A recommendation can be given only for strong short stretch or multi-layer bandages.
3. **Compression and non veno-lymphatic disorders.** Only relatively few references with a grade B could be identified.
4. **Compression and preventive treatment of deep venous thrombosis.** A recommendation A) was given for the use of prophylactic graduated compression stockings in surgical patients with low risk. Calf stockings exerting a pressure of 15-20 mmHg are able to reduce the frequency of travel thrombosis after long haul flights (grade B).
5. **Compression and treatment of superficial or deep venous thrombosis.** The jury recommended the use of compression in patients with acute superficial phlebitis (grade B). Few references show advantages of compression and walking in the acute stage of deep vein thrombosis (grade B).
6. **Quality of life and symptomatology.** Compression stockings (15-20 mmHg) are able to improve the comfort during special activities, like profession, sport or during long travelling (grade B).

7. **Clinical effects of elastic compression.** In this chapter an attempt is made to correlate the compression classes of stockings, which differ among several countries, with the clinical indications. 10-15 mmHg stockings may reduce the subjective symptoms of heaviness (grade B). Superposition of two stockings lead to a doubling of the pressure.
8. **Compression after sclerotherapy.** Following Fegan's technique compression for one week could be sufficient (grade B). Better results and less complications are achieved with stockings that resemble short stretch bandages (grade B).
9. **Compression before and after venous surgery.** Several studies favouring compression after varicose vein surgery could be identified, all of them corresponding to a level B.
10. **Venous ulcers and compression.** Compression therapy can be recommended as the basic therapy in venous leg ulcers (grade A). High pressure bandages may lead to ulcer healing (grade B). In order to prevent recurrence compression is recommended (grade B).
11. **Lymphoedema and compression.** No references allowing a grade A or grade B recommendation could be identified.

### Conclusion (J.-P. Benigni) :

Numerous randomised controlled trials should be performed, especially concerning the management of deep vein thrombosis, after venous surgery or also after endovenous procedures, in patients with different clinical forms of superficial chronic venous insufficiency, in non vascular patients (rheumatology, neurology, trauma patients) but also in sportsmen to ameliorate their performance.

Konsensusdokument

Kapitel 8,9

Lang: Fr

Lit. 195

Sum Fr

## Fax registration „COMPRESSION Bulletin“

Please send me your COMPRESSION Bulletin regularly, free of charge

Name: \_\_\_\_\_

First name: \_\_\_\_\_

Speciality: \_\_\_\_\_

Institution: \_\_\_\_\_

Street: \_\_\_\_\_

Town/zip: \_\_\_\_\_

Country: \_\_\_\_\_

Fax N°: \_\_\_\_\_

e-mail address: \_\_\_\_\_

## Fax +41 (0)71 274 29 27

### Editors

Prof. H. Partsch, Wien  
Prof. E. Rabe, Bonn

### Co-Editors

Dr. Pannier-Fischer, Bonn  
Dr. B. Partsch, Wien

### International Advisory Board

Asia – S. Hoshino  
Australia – G. M. Malouf  
Europe – F. Vin  
North America – L. Villavicencio  
South America – E. Brizzio

GANZONI & CIE AG  
Gröblistrasse 8  
CH-9014 St.Gallen  
Tel. +41 (0)71 279 33 66  
Fax +41 (0)71 274 29 75

GANZONI FRANCE SA  
F-68308 St.Louis  
Tel. +33 (0)3 89 70 2400  
F-42176 StJust-St-Rambert  
Tel. +33 (0)4 77 36 08 90

  
Improving quality of life  
**SIGVARIS**  
www.sigvaris.com