

Multicomponent bandages versus normal bandages for chronic edema

Review information

Authors

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¹[Empty affiliation]

Citation example: S. Multicomponent bandages versus normal bandages for chronic edema. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Contact person

[Empty name]

Characteristics of studies

Characteristics of included studies

deAbreu 2015

Methods	Study design: Randomized controlled trial Study grouping: Parallel group
Participants	Baseline Characteristics Intervention <ul style="list-style-type: none"> ● Age mean (sd): 56.3(14.1) ● Number of females: 4 ● Number of males: 5 ● Mean weight: ● Mean BMI: 29.1(6) ● Main reason for Chronic oedema CVI: 6 ● Mobile/immobile: Control <ul style="list-style-type: none"> ● Age mean (sd): 56.6(18) ● Number of females: 3 ● Number of males: 6 ● Mean weight: ● Mean BMI: 24.4(4.5) ● Main reason for Chronic oedema CVI: 5 ● Mobile/immobile: Overall <ul style="list-style-type: none"> ● Age mean (sd): ● Number of females: 7 ● Number of males: 11 ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: 11 ● Mobile/immobile: Included criteria: walking patients, over 18 years old; with a medical diagnosis of Chronic Venous Insufficiency (CVI), not diabetic; presenting palpable dorsalis pedis and posterior tibial pulses, with an ankle-brachial index (ABI) of >0.9, a venous ulcer with a minimum size of 6.0 cm ² and a maximum of 9.0 cm ² . Excluded criteria: pregnant women; patients with signs of allergy, cyanosis, with venous ulcers which were infected and/or with necrotic tissue, and who discontinued use of the therapies Pretreatment:
Interventions	Intervention Characteristics Intervention <ul style="list-style-type: none"> ● Time interval: 13 weeks. Weekly changing ● Description of treatment: Unnaboot. The changing of the dressing and the evaluation of the wound were undertaken weekly in the outpatient center by the same trained researcher. Control <ul style="list-style-type: none"> ● Time interval: 13 weeks. Daily change ● Description of treatment: Bandage group (group A) removed the bandage at night and put it back on in the morning
Outcomes	<i>Sårheling (wound healing) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Higher is better ● Data value: Endpoint <i>Tryksår (pressure ulcer) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <i>Ødem (edema) End of treatment, max 6 mdr</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome

	<ul style="list-style-type: none"> ● Direction: Higher is better ● Data value: Endpoint <p><i>Drop out End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <p><i>Hudforandringer skin changes) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <p><i>Livskvalitet quality of life) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome <p><i>Roseninfektion (Cellulitis, erysipelas) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <p><i>Smerter (pain) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better ● Data value: Endpoint
Identification	<p>Sponsorship source: none reported</p> <p>Country: Brazil</p> <p>Setting: Hospital in Rio de Janeiro</p> <p>Comments:</p> <p>Authors name: Alcione Matos de Abreu</p> <p>Institution: Universidade Federal Fluminense</p> <p>Email: alci_abreu@yahoo.com.br</p> <p>Address: Rua Doutor Celestino 47, Centro, 24020-091 Niteroi, RJ, Brazil</p>
Notes	<p><i>NKR 49 Oedem on 18/01/2017 02:54</i></p> <p>Included</p> <p>Kirsten: Dublet</p> <p><i>Elisabeth Marie Ginnerup-Nielsen on 30/01/2017 19:07</i></p> <p>Outcomes</p> <p>Ved Ødem: Her er der tale om hvor mange der HAR Ødem ved endt behandling</p>

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The randomization was implemented by the Research Unit's statistician, using a table of random numbers, generated by the Biostat 5.0 software"
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: Concealment not reported
Blinding of participants and personnel (performance bias)	Unclear risk	Judgement Comment: Nothing described but as both patient get a bandage they probably do not know wich is the best
Blinding of outcome assessment (detection bias)	High risk	Judgement Comment: It was the same person changing the bandages and who did the evaluation/reporting
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: only one dropout - 10 percent
Selective reporting (reporting bias)	Low risk	Judgement Comment: all outcome seem reported
Other bias	Low risk	

Dolbog 2014

Methods	<p>Study design: Randomized controlled trial</p> <p>Study grouping: Parallel group</p>
Participants	<p>Baseline Characteristics</p> <p>Intervention</p> <ul style="list-style-type: none"> ● <i>Age mean (sd):</i> 65.19(10.87) ● <i>Number of females:</i> 20 ● <i>Number of males:</i> 10 ● <i>Mean weight:</i> 82.15(12.01) ● <i>Mean BMI:</i> ● <i>Main reason for chronic oedema:</i> ● <i>Mobile/immobile:</i> <p>Control</p> <ul style="list-style-type: none"> ● <i>Age mean (sd):</i> 64.01(10.11) ● <i>Number of females:</i> 20 ● <i>Number of males:</i> 10 ● <i>Mean weight:</i> 83.01(13.12) ● <i>Mean BMI:</i>

	<ul style="list-style-type: none"> ● <i>Main reason for chronic oedema:</i> ● <i>Mobile/immobile:</i> <p>Overall</p> <ul style="list-style-type: none"> ● <i>Age mean (sd):</i> ● <i>Number of females:</i> ● <i>Number of males:</i> ● <i>Mean weight:</i> ● <i>Mean BMI:</i> ● <i>Main reason for chronic oedema:</i> ● <i>Mobile/immobile:</i> <p>Included criteria: Patients with the venous leg ulcers were included in the study. Excluded criteria: The exclusion criteria were: (1) an ankle brachial pressure index (ABPI) lower than 1.0, (2) diabetes, (3) cancer, (4) peripheral nerve injury, (5) rheumatoid arthritis, (6) ventricular arrhythmia, (7) cardiac pacemaker, (8) ulcer surgery, (9) skin in-fecton, (10) pregnancy and (11) after steroid therapy, (12) bilateral ulcers. The (13) lymphedema, (14) pul-monary edema and (15) congestive heart failure, (16) chronic renal failure were exclusion criteria in our protocol too Pretreatment:</p>
Interventions	<p>Intervention Characteristics</p> <p>Intervention</p> <ul style="list-style-type: none"> ● <i>Time interval:</i> 2 Month ● <i>Description of treatment:</i> Patients from group E underwent the compression treatment by means of Unna's boot. After rinsing the wound with physiological sodium chloride solution, Unna's rigid paste bandage was tied around the limbs from below the toes up to the knee. This dressing was changed every 7 days. including micronized purified flavonoid fraction 450 mg diosmin, 50 mg hesperidin, 2 tablets of 500 mg (Daflon 500) once daily. <p>Control</p> <ul style="list-style-type: none"> ● <i>Time interval:</i> 2 Month ● <i>Description of treatment:</i> Patients in group D were treated with two layer short-stretch bandaging (Sigvaris, Gianzoni & Cie AG, Switzerland). The pressure values were also standardized in use of Kikuhime manometer (20–25 mmHg for superficial reflux and 25–30 mmHg for superficial with deep venous reflux). The bandages were worn day (10 –12 hours) and put off on night. including micronized purified flavonoid fraction 450 mg diosmin, 50 mg hesperidin, 2 tablets of 500 mg (Daflon 500) once daily.
Outcomes	<p><i>Sårheling (wound healing) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Higher is better <p><i>Tryksår (pressure ulcer) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <p><i>Ødem (oedema) End of treatment, max 6 mdr</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Drop out End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <p><i>Hudforandringer skin changes) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Livskvalitet quality of life) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome <p><i>Roseninfektion (Cellulitis, erysipelas) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Smertes (pain) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome
Identification	<p>Sponsorship source: Not reported</p> <p>Country: Polen</p> <p>Setting: Not reported</p> <p>Comments:</p> <p>Authors name: Pawel Dolibog</p> <p>Institution: Department of medical biophysics, Medical University of Silesia in Katowice, Polen</p> <p>Email: j.taradaj@awf.katowice.pl</p> <p>Address: Department of Physiotherapy Basics, Academy of Physical Education in Katowice, Mikolowska Street 72, buildingB 40-065, Poland.</p>
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Judgement Comment: Computer generated random numbers in sealed envelopes
Allocation concealment (selection bias)	Low risk	Judgement Comment: Sealed envelopes was used

Blinding of participants and personnel (performance bias)	Unclear risk	Judgement Comment: It is not possible to blind the two different compression bandages. But maybe not a problem
Blinding of outcome assessment (detection bias)	Unclear risk	Judgement Comment: It is not described.
Incomplete outcome data (attrition bias)	Low risk	
Selective reporting (reporting bias)	Low risk	
Other bias	Low risk	

Harrison 2011

Methods	<p>Study design: Randomized controlled trial</p> <p>Study grouping: Parallel group</p>
Participants	<p>Baseline Characteristics</p> <p>Intervention</p> <ul style="list-style-type: none"> ● Age mean (sd): 64.4(16.2)(23.8-93.0) ● Number of females: 111 ● Number of males: 98 ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: 97,1 % ● Mobile/immobile: 174(80.9) <p>Control</p> <ul style="list-style-type: none"> ● Age mean (sd): 64.4(16.2)(23.8-93.0) ● Number of females: 119 ● Number of males: 98 ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: 99,1 % ● Mobile/immobile: <p>Overall</p> <ul style="list-style-type: none"> ● Age mean (sd): (65) ● Number of females: 230 ● Number of males: 194 ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: 413 ● Mobile/immobile: n.s <p>Included criteria: dult (≥ 18 years), English-speaking or with access to translation, able to providewritten informed consent, clinical presentation ofvenous insufficiency with an ankle brachial pressureindex (ABPI)≥ 0.8, and a leg ulcer with minimum dura-tion of one week that measured at least 0.7 cm in anyone dimension. After conducting a small pilot study, theeligibility criterion was changed from having an ulcer ofat least 1 cm in any one dimension to 0.7 cm since itwas found that too many individuals were beingexcluded that would have normally been treated with comoression</p> <p>Excluded criteria: Exclusion criteria were: medication-con-trolled diabetes mellitus, failure to improve over a 3-month period with either bandaging system prior to the trial, previous enrollment in the trial, and cognitive impairment.</p> <p>Pretreatment: Allocation was similar for the 2 groups who recieved compression treatment with SSB or 4LB</p>
Interventions	<p>Intervention Characteristics</p> <p>Intervention</p> <ul style="list-style-type: none"> ● Time interval: Ulver healed or max 30 month ● Description of treatment: Cotton short-stretch bandages (SSB) Comprilan®(Beiersdorf-Jobst, Inc.) were applied using the modifiedPutter technique [55]. Varying widths of bandage, e.g., 8cm, 10 cm and 12 cm, were used according to the widthof the limb. A layer of orthopedic wool padding wasapplied beneath the bandage to distribute the compres-sion evenly. Bandages were changed when required, asdetermined by the attending nurse. Participants washedand reused the short stretch wherever possible. <p>Control</p> <ul style="list-style-type: none"> ● Time interval: Ulcer healed or max 30 month ● Description of treatment: The 4LB system (control arm) was originally developedin the UK (Charing Cross Hospital) [53]. The commer-cial product widely used in Canada is Profore®(Smith& Nephew Medical Ltd.). Precise components of the4LB depend on the ankle circumference [54]. Bandagescan remain in situ for up to one week (e.g. if minimalwound exudate) with bandages being changed whenrequired. Bandages were discarded after each use
Outcomes	<p><i>Sårheling (wound healing) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Tryksår (pressure ulcer) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Ødem (oedema) End of treatment, max 6 mdr</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Drop out End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Hudforandringer skin changes) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome

	<p><i>Livskvalitet quality of life) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome ● Reporting: Fully reported ● Scale: FS12 scala ● Direction: Higher is better ● Notes: Physical component <p><i>Roseninfektion (Cellulitis, erysipelas) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Smerter (pain) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Higher is better <p><i>Tid til healing (time to heal) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome ● Reporting: Fully reported ● Unit of measure: Days <p><i>Livskvalitet quality of life/Mental compont) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome ● Scale: FS12 ● Direction: Higher is better
Identification	<p>Sponsorship source:</p> <p>Country: Canada</p> <p>Setting: Community wound care services(homecare or nurse clinic)</p> <p>Comments:</p> <p>Authors name: Margaret B Harrison</p> <p>Institution: School of Nursing, Queen's University, Kingston, Ontario, Canada</p> <p>Email: margaret.b.harrison@queensu.ca</p> <p>Address: School of Nursing, Queen's University, Kingston, Ontario, Canada</p>
Notes	<p><i>Wilja Dam</i> on 06/02/2017 00:49</p> <p>Outcomes</p> <p>Time to heal: Uklart i fig. 2 om alle deltagere er ophelet. Derfor spørgsmålstegn ved at kunne opgive en N værdi her. Time to heal: Studiet har opgivet median time to healing og ikke mean time</p>

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Judgement Comment: computer randomiseret Allocation was sealed in envelopes
Allocation concealment (selection bias)	Low risk	Judgement Comment: Allocation was sealed
Blinding of participants and personnel (performance bias)	Unclear risk	Judgement Comment: It is not possible to blind the 2 different bandages
Blinding of outcome assessment (detection bias)	Unclear risk	-
Incomplete outcome data (attrition bias)	Unclear risk	-
Selective reporting (reporting bias)	Low risk	
Other bias	Low risk	

Moffatt 2012

Methods	<p>Study design: Randomized controlled trial</p> <p>Study grouping: Parallel group</p>
Participants	<p>Baseline Characteristics</p> <p>Intervention</p> <ul style="list-style-type: none"> ● <i>Age mean (sd):</i> 57 ● <i>Number of females:</i> ● <i>Number of males:</i> ● <i>Mean weight:</i> ● <i>Mean BMI:</i> 39.35 ● <i>Main reason for Chronic oedema CVI:</i> ● <i>Mobile/immobile:</i> <p>Control</p> <ul style="list-style-type: none"> ● <i>Age mean (sd):</i> 48.5 ● <i>Number of females:</i> ● <i>Number of males:</i> ● <i>Mean weight:</i> ● <i>Mean BMI:</i> 39.13 ● <i>Main reason for Chronic oedema CVI:</i> ● <i>Mobile/immobile:</i> <p>Overall</p> <ul style="list-style-type: none"> ● <i>Age mean (sd):</i> ● <i>Number of females:</i>

	<ul style="list-style-type: none"> ● Number of males: ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: ● Mobile/immobile: <p>Included criteria: 18 years or older. Suffering from primary or secondary lymphoedema stage II or late stage II (ISL). Had completed cancer treatment at least 6 month prior to inclusion.</p> <p>Excluded criteria: Active cancer. Lymphoedema treatment prior to inclusion. Kidney, lever and heart failure. Arterial disease, paralysis, clinical infection or wound that has to be changed more than once a week. DVT within 3 month. Allergy towards the bandage</p> <p>Pretreatment:</p>
Interventions	<p>Intervention Characteristics</p> <p>Intervention</p> <ul style="list-style-type: none"> ● Time interval: 19 days ● Description of treatment: Bandaging with Coban 2, two times a week <p>Control</p> <ul style="list-style-type: none"> ● Time interval: 19 days ● Description of treatment: Bandaging with Short stretch bandages (SSB) changed daily
Outcomes	<p><i>Sårhelning (wound healing) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Tryksår (pressure ulcer) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Ødem (oedema) End of treatment, max 6 mdr</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome ● Reporting: Fully reported ● Unit of measure: Målt i milliliter ● Direction: Higher is better <p><i>Drop out End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Hudforandringer skin changes) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Livskvalitet quality of life) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome <p><i>Roseninfektion (Cellulitis, erysipelas) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <p><i>Smerter (pain) End of treatment, max 6 mdr.</i></p> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome
Identification	<p>Sponsorship source: Provided by 3M</p> <p>Country: UK and USA</p> <p>Setting: Specialist lymphoedema clinics</p> <p>Comments:</p> <p>Authors name: C.J Moffatt</p> <p>Institution: Royal Derby Hospital</p> <p>Email: peter.franks@cricp.org.uk</p> <p>Address: Royal Derby Hospital, lymphoedema service, Derby, UK</p>
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	
Allocation concealment (selection bias)	Low risk	
Blinding of participants and personnel (performance bias)	Unclear risk	Judgement Comment: Not possible between the 2 different bandages - but probably not a problem
Blinding of outcome assessment (detection bias)	Unclear risk	Judgement Comment: Not reported
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Exclusion and reasons were well reported
Selective reporting (reporting bias)	Low risk	
Other bias	Low risk	

Wong 2012

Methods	Study design: Randomized controlled trial Study grouping: Parallel group
Participants	Baseline Characteristics Intervention <ul style="list-style-type: none"> ● Age mean (sd): ● Number of females: ● Number of males: ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: 87 ● Mobile/immobile: Control <ul style="list-style-type: none"> ● Age mean (sd): ● Number of females: ● Number of males: ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: 95 ● Mobile/immobile: Overall <ul style="list-style-type: none"> ● Age mean (sd): 71.7(8.5) ● Number of females: ● Number of males: ● Mean weight: ● Mean BMI: ● Main reason for Chronic oedema CVI: ● Mobile/immobile: Included criteria: Patients age 55 or older with confirmed venous leg ulcer. No necrotic tissue in the wound. Was able to communicate in Cantonese. Excluded criteria: Wounds less than 5 cm ² or greater than 118 cm ² . Ulcer duration less than 4 weeks or longer than 1 year. Multiple ulcers. ABPI less than 0.8. Concurrent medication witch can affect ulcer healing. Pretreatment: 4LBSSB
Interventions	Intervention Characteristics Intervention <ul style="list-style-type: none"> ● Time interval: 24 weeks ● Description of treatment: Four layer bandage (Profore). Changing interval not reported. Control <ul style="list-style-type: none"> ● Time interval: 24 weeks ● Description of treatment: Short-stretch bandage. Changing interval not reported.
Outcomes	<i>Sårheling (wound healing) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <i>Tryksår (pressure ulcer) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <i>Ødem (edema) End of treatment, max 6 mdr</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <i>Drop out End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome ● Direction: Lower is better <i>Hudforandringer skin changes) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <i>Livskvalitet quality of life) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome ● Scale: Charing Cross vnous ulcer questionnaire ● Direction: Lower is better <i>Roseninfektion (Cellulitis, erysipelas) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: DichotomousOutcome <i>Smerter (pain) End of treatment, max 6 mdr.</i> <ul style="list-style-type: none"> ● Outcome type: ContinuousOutcome ● Scale: VAS Score ● Range: 0-10 ● Direction: Lower is better
Identification	Sponsorship source: Health, welfare and food bureau Hong Kong. Lohmann and Rauscher GmbH Germany Country: China Setting: Hong Kong sanatorium and Hospital Comments: Authors name: I.K.Y Wong Institution: Hong Kong sanatorium and Hospital, Hong Kong, China

	Email: anneke.e@tiscali.nl Address: School of nursing Hong Kong sanatorium and Hospital, Hong Kong, China
Notes	<i>NKR 49 Oedem</i> on 20/01/2017 23:49 Population Characteristic not reported for each group. It is not possible to ad characteristic for intervention group and control group. Nor is it possible between gender.

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	
Allocation concealment (selection bias)	Unclear risk	-
Blinding of participants and personnel (performance bias)	Unclear risk	not possible to blind but maybe not a problem
Blinding of outcome assessment (detection bias)	Unclear risk	-
Incomplete outcome data (attrition bias)	Low risk	
Selective reporting (reporting bias)	Low risk	
Other bias	High risk	Judgement Comment: En af forfatterne er ansat hos ved Lohman & Rauscher, firmaet som har leveret materialer til studiet

Footnotes

References to studies

Included studies

deAbreu 2015

Matos, de Abreu; Baptista de Oliveira, Beatriz, Guitton Renaud. A study of the Unna Boot compared with the elastic bandage in venous ulcers: a randomized clinical trial. *Revista Latino-Americana de Enfermagem (RLAE)* 2015;23(4):571-577. [DOI: [10.1590/0104-1169.0373.2590](https://doi.org/10.1590/0104-1169.0373.2590)]

de Abreu, Alcione Matos; de Oliveira, Beatriz Guitton Renaud Baptista. A study of the Unna Boot compared with the elastic bandage in venous ulcers: a randomized clinical trial.. *Revista latino-americana de enfermagem* 2015;23(4):571-577. [DOI: <http://dx.doi.org/10.1590/0104-1169.0373.2590>]

Dolibog 2014

Dolibog, Pawel; Franek, Andrzej; Taradaj, Jakub; Dolibog, Patrycja; Blaszcak, Edward; Polak, Anna; Brzezinska-Wcislo, Ligia; Hrycek, Antoni; Urbanek, Tomasz; Ziaja, Jacek; Kolanko, Magdalena. A comparative clinical study on five types of compression therapy in patients with venous leg ulcers.. *International Journal of Medical Sciences* 2014;11(1):34-43. [DOI: <http://dx.doi.org/10.7150/ijms.7548>]

Franek A.; Taradaj J.; Dolibog P.; Blaszcak E.; Polak A.; Brzezinska-Wcislo L.; Hrycek A.; Urbanek T.; Ziaja J.; Kolanko M.. A comparative clinical study on five types of compression therapy in patients with venous leg ulcers. *International Journal of Medical Sciences* 2014;11(1):34-43. [DOI:]

Harrison 2011

Harrison, Margaret B.; Vandenkerkhof, Elizabeth G.; Hopman, Wilma M.; Graham, Ian D.; Carley, Meg E.; Nelson, E. Andrea; Canadian Bandaging Trial Group. The Canadian Bandaging Trial: Evidence-informed leg ulcer care and the effectiveness of two compression technologies.. *BMC Nursing* 2011;10(Journal Article):20. [DOI: <http://dx.doi.org/10.1186/1472-6955-10-20>]

Moffatt 2012

Moffatt, C. J.; Franks, P. J.; Hardy, D.; Lewis, M.; Parker, V.; Feldman, J. L.. A preliminary randomized controlled study to determine the application frequency of a new lymphoedema bandaging system.. *British Journal of Dermatology* 2012;166(3):624-632. [DOI: <http://dx.doi.org/10.1111/j.1365-2133.2011.10731.x>]

Wong 2012

Wong I.K.Y.; Andriessen A.; Abel M.. Clinical and cost efficacy of venous leg ulcer patient treatment: Results of a randomized controlled trial comparing two compression bandaging systems and standard care without compression. *Phlebology* 2012;27(6):311. [DOI:]

Wong, I. K. Y.; Andriessen, A.; Charles, H. E.; Thompson, D.; Lee, D. T. F.; So, W. K. W.; Abel, M.. Randomized controlled trial comparing treatment outcome of two compression bandaging systems and standard care without compression in patients with venous leg ulcers.. *Journal of the European Academy of Dermatology & Venereology* 2012;26(1):102-110. [DOI: <http://dx.doi.org/10.1111/j.1468-3083.2011.04327.x>]

Excluded studies

Benbow 2014

Benbow, Maureen. Safety, tolerability and acceptability of KTwo. *Journal of wound care* 2014;23(4 Suppl):S4-19. [DOI:]

Betts 2007

Betts, J.. 4 layer bandages were better than 1 layer bandages, and pentoxifylline may be better than placebo for venous leg ulcers. *Evidence Based Nursing* 2007;10(3):87-87. [DOI:]

Brizzio 2006

Brizzio E.O.; Blattler W.; Rossi G.; Chirinos A.; Cantero I.; Idiazabal G.; Amsler F.. Healing venous ulcers with different modalities of leg compression. Unexpected findings of a pilot study. *Phlebologie* 2006;35(5):249-255. [DOI:]

Caprini 2015

Caprini, J. A.. Commentary on 'Adjustable Velcro Compression Devices are More Effective than Inelastic Bandages in Reducing Venous Edema in the Initial Treatment Phase: A Randomized Controlled Trial'. *European Journal of Vascular & Endovascular Surgery* 2015;50(3):375. [DOI: <http://dx.doi.org/10.1016/j.ejvs.2015.05.015>]

Damstra 2008

Damstra, Robert J.; Brouwer, Els R.; Partsch, Hugo. Controlled, comparative study of relation between volume changes and interface pressure under short-stretch bandages in leg lymphedema patients.. *Dermatologic Surgery* 2008;34(6):773-778. [DOI: <http://dx.doi.org/10.1111/j.1524-4725.2008.34145.x>]

Damstra 2013

Damstra, Robert J.; Partsch, Hugo. Prospective, randomized, controlled trial comparing the effectiveness of adjustable compression Velcro wraps versus inelastic multicomponent compression bandages in the initial treatment of leg lymphedema.. *Journal of Vascular Surgery* 2013;1(1):13-19. [DOI: <http://dx.doi.org/10.1016/j.jvsv.2012.05.001>]

Dolibog 2013

Dolibog, Pawel; Franek, Andrzej; Taradaj, Jakub; Polak, Anna; Dolibog, Patrycja; Blaszczyk, Edward; Wcislo, Ligia; Hrycek, Antoni; Urbanek, Tomasz; Ziaja, Jacek; Kolanko, Magdalena. A randomized, controlled clinical pilot study comparing three types of compression therapy to treat venous leg ulcers in patients with superficial and/or segmental deep venous reflux .. *Ostomy Wound Management* 2013;59(8):22-30. [DOI:]

Finlayson 2014

Finlayson, Kathleen J.; Courtney, Mary D.; Gibb, Michelle A.; O'Brien, Jane A.; Parker, Christina N.; Edwards, Helen E.. The effectiveness of a four-layer compression bandage system in comparison with Class 3 compression hosiery on healing and quality of life in patients with venous leg ulcers: a randomised controlled trial.. *International Wound Journal* 2014;11(1):21-27. [DOI: <http://dx.doi.org/10.1111/j.1742-481X.2012.01033.x>]

Fox 2016

Fox J.D.; Baquerizo-Nole K.L.; Freedman J.B.; Liu S.; Van, Driessche F.; Yim E.; Kirsner R.S.. Ankle range of motion, leg pain, and leg edema improvement in patients with venous leg ulcers. *JAMA Dermatology* 2016;152(4):472-474. [DOI:]

Franek 2013

Franek A.; Taradaj J.; Polak A.; Dolibog P.; Blaszczyk E.; Wcislo L.; Hrycek A.; Urbanek T.; Ziaja J.; Kolanko M.. A randomized, controlled clinical pilot study comparing three types of compression therapy to treat venous leg ulcers in patients with superficial and/or segmental deep venous reflux. *Ostomy Wound Management* 2013;59(8):22-30. [DOI:]

Franek 2014

Franek A.; Taradaj J.; Polak A.; Dolibog P.; Blaszczyk E.; Wcislo L.; Hrycek A.; Urbanek T.; Ziaja J.; Kolanko M.. Patients with superficial and/or segmental deep venous reflux: Randomized, controlled, clinical pilot study comparing three types of compression therapy for the treatment of venous leg ulcers. *Vasomed* 2014;26(1):43-46. [DOI:]

Gethin 2009

Gethin, G.. Review: compression was effective for healing venous ulcers, and multicomponent systems were better than single-component ones. *Evidence Based Nursing* 2009;12(4):116-116. [DOI: [10.1136/ebn.12.4.116](https://doi.org/10.1136/ebn.12.4.116)]

Guest 2013

Guest, J. F.; Charles, H.; Cutting, K. F.. Is it time to re-appraise the role of compression in non-healing venous leg ulcers?.. *Journal of wound care* 2013;22(9):453-460. [DOI:]

Guest 2015

Guest, J. F.; Gerrish, A.; Ayoub, N.; Vowden, K.; Vowden, P.. Clinical outcomes and cost-effectiveness of three alternative compression systems used in the management of venous leg ulcers. *Journal of wound care* 2015;24(7):300-310. [DOI: [10.12968/jowc.2015.24.7.300](https://doi.org/10.12968/jowc.2015.24.7.300)]

Harding 2016

Harding, Keith G.; Vanscheidt, Wolfgang; Partsch, Hugo; Caprini, Joseph A.; Comerota, Anthony J.. Adaptive compression therapy for venous leg ulcers: a clinically effective, patient-centred approach.. *International Wound Journal* 2016;13(3):317-325. [DOI: <http://dx.doi.org/10.1111/iwj.12292>]

Lamprou 2011

Lamprou, D-A A.; Damstra, Robert J.; Partsch, Hugo. Prospective, randomized, controlled trial comparing a new two-component compression system with inelastic multicomponent compression bandages in the treatment of leg lymphedema.. *Dermatologic Surgery* 2011;37(7):985-991. [DOI: <http://dx.doi.org/10.1111/j.1524-4725.2011.02002.x>]

Lazareth 2012

Lazareth, I.; Moffatt, C.; Dissemond, J.; Lesne Padieu, A. S.; Truchetet, F.; Beissert, S.; Wicks, G.; Tilbe, H.; Sauvadet, A.; Bohbot, S.; Meaume, S.. Efficacy of two compression systems in the management of VLUs: results of a European RCT.. *Journal of wound care* 2012;21(11):553-554. [DOI:]

Luz 2013

Luz, Bruna Suelen Raymundo; Araujo, Cristina Souza; Atzingen, Denia Amelia Novato Castelli Von; Mendonca, Adriana Rodrigues dos Anjos; Mesquita Filho, Marcos; Medeiros, Mauriceia Lins de. Evaluating the effectiveness of the customized Unna boot when treating patients with venous ulcers.. *Anais Brasileiros de Dermatologia* 2013;88(1):41-49. [DOI:]

Milic 2007

Milic, Dragan J.; Zivic, Sasa S.; Bogdanovic, Dragan C.; Perisic, Zoran D.; Milosevic, Zoran D.; Jankovic, Radmilo J.; Visnjic, Aleksandar M.; Jovanovic, Bojan M.. A randomized trial of the Tubulcus multilayer bandaging system in the treatment of extensive venous ulcers.. *Journal of Vascular Surgery* 2007;46(4):750-755. [DOI:]

Milic 2010

Milic, Dragan J.; Zivic, Sasa S.; Bogdanovic, Dragan C.; Jovanovic, Milan M.; Jankovic, Radmilo J.; Milosevic, Zoran D.; Stamenkovic, Dragan M.; Trenkic, Marija S.. The influence of different sub-bandage pressure values on venous leg ulcers healing when treated with compression therapy.. *Journal of Vascular Surgery* 2010;51(3):655-661. [DOI: <http://dx.doi.org/10.1016/j.jvs.2009.10.042>]

Milic 2015

Milic D.J.; Zivic S.; Peric D.; Petrovic J.; Bogdanovic D.. A randomized trial of elastic compression systems with high and very high sub-bandage pressure values in the prevention of recurrence of venous ulceration. *Journal of Vascular Surgery: Venous and Lymphatic Disorders* 2015;3(1):123. [DOI:]

Moffatt 2008

Moffatt, Christine J.; Edwards, Lynfa; Collier, Mark; Treadwell, Terry; Miller, Michael; Shafer, Laura; Sibbald, Gary; Brassard, Alain; McIntosh, Andrea; Reyzelman, Alex; Price, Patricia; Kraus, Stacia Merkel; Walters, Shelley-Ann; Harding, Keith. A randomised controlled 8-week crossover clinical evaluation of the 3M Coban 2 Layer Compression System versus Profore to evaluate the product performance in patients with venous leg ulcers.. *International Wound Journal* 2008;5(2):267-279. [DOI: <http://dx.doi.org/10.1111/j.1742-481X.2008.00487.x>]

Mosti 2011

Mosti, Giovanni; Crespi, Aldo; Mattaliano, Vincenzo. Comparison Between a New, Two-component Compression System With Zinc Paste Bandages for Leg Ulcer Healing: A Prospective, Multicenter, Randomized, Controlled Trial Monitoring Sub-bandage Pressures.. *Wounds-A Compendium of Clinical Research & Practice* 2011;23(5):126-134. [DOI:]

Mosti 2014

Mosti G.. Compression in leg ulcer treatment: inelastic compression. *Phlebology* 2014;29(Web Page):146-152. [DOI:]

Mosti 2015

Mosti, G.; Cavezzi, A.; Partsch, H.; Urso, S.; Campana, F.. Adjustable Velcro Compression Devices are More Effective than Inelastic Bandages in Reducing Venous Edema in the Initial Treatment Phase: A Randomized Controlled Trial.. *European Journal of Vascular & Endovascular Surgery* 2015;50(3):368-374. [DOI: <http://dx.doi.org/10.1016/j.ejvs.2015.05.014>]

Nelson 2007

Nelson, E. Andrea; Prescott, Robin J.; Harper, Douglas R.; Gibson, Barbara; Brown, Dorothy; Ruckley, C. Vaughan. A factorial, randomized trial of pentoxifylline or placebo, four-layer or single-layer compression, and knitted viscose or hydrocolloid dressings for venous ulcers.. *Journal of Vascular Surgery* 2007;45(1):134-141. [DOI:]

Puffett 2006

Puffett, Nick; Martin, Lisa; Chow, Meng Kiew. Cohesive short-stretch vs four-layer bandages for venous leg ulcers. *British journal of community nursing* 2006;11(6):S6-1. [DOI:]

Tiwari 2015

Tiwari K.K.; Shrestha K.G.; Sah B.; Reddy D.J.. Treatment of chronic venous ulcers using new four layers compressive bandage dressing. *Journal of the Nepal Medical Association* 2015;53(199):158-163. [DOI:]

Tucker 2008

Tucker, J. A.. A prospective, multi-site, randomized, cross-over, clinical trial of a two-layer and a four-layer compression bandage system in the treatment of venous leg ulcers..Scientific and clinical abstracts from the 40th Annual Wound, Ostomy and Continence Nurses Annual Conference. *Journal of Wound, Ostomy & Continence Nursing* 2008;35(Journal Article):S71-S71. [DOI:]

Vanscheidt 2009

Vanscheidt, Wolfgang; Ukat, Alexandra; Partsch, Hugo. Dose-response of compression therapy for chronic venous edema--higher pressures are associated with greater volume reduction: two randomized clinical studies.. *Journal of Vascular Surgery* 2009;49(2):395; Feb-402. [DOI: <http://dx.doi.org/10.1016/j.jvs.2008.08.070>]

Weller 2012

Weller C.D.; Evans S.M.; Staples M.; Aldons P.; McNeil J.J.. Healing venous leg ulcers with three layer tubular compression system: A randomized controlled trial. *Wound Repair and Regeneration* 2012;20(5):A68. [DOI:]

Weller 2012a

Weller, Carolina D.; Evans, Sue M.; Staples, Margaret P.; Aldons, Pat; McNeil, John J.. Randomized clinical trial of three-layer tubular bandaging system for venous leg ulcers.. *Wound Repair & Regeneration* 2012;20(6):822-829. [DOI: <http://dx.doi.org/10.1111/j.1524-475X.2012.00839.x>]

Wong 2012a

Wong, Irene K. Y.; Andriessen, Anneke; Lee, Diana T. F.; Thompson, David; Wong, Lau Yun; Chao, David V. K.; So, Winnie K. W.; Abel, M.. Randomized controlled trial comparing treatment outcome of two compression bandaging systems and standard care without compression in patients with venous leg ulcers. *Journal of Vascular Surgery* 2012;55(5):1376-1385. [DOI: <http://dx.doi.org/10.1016/j.jvs.2011.12.019>]

Wong 2012b

Wong, I. K. Y.; Man, M. B. L.; Chan, O. S. H.; Siu, F. C.; Abel, M.; Andriessen, A.. Comparison of the interface pressure and stiffness of four types of compression systems.. *Journal of wound care* 2012;21(4):161-7. [DOI:]

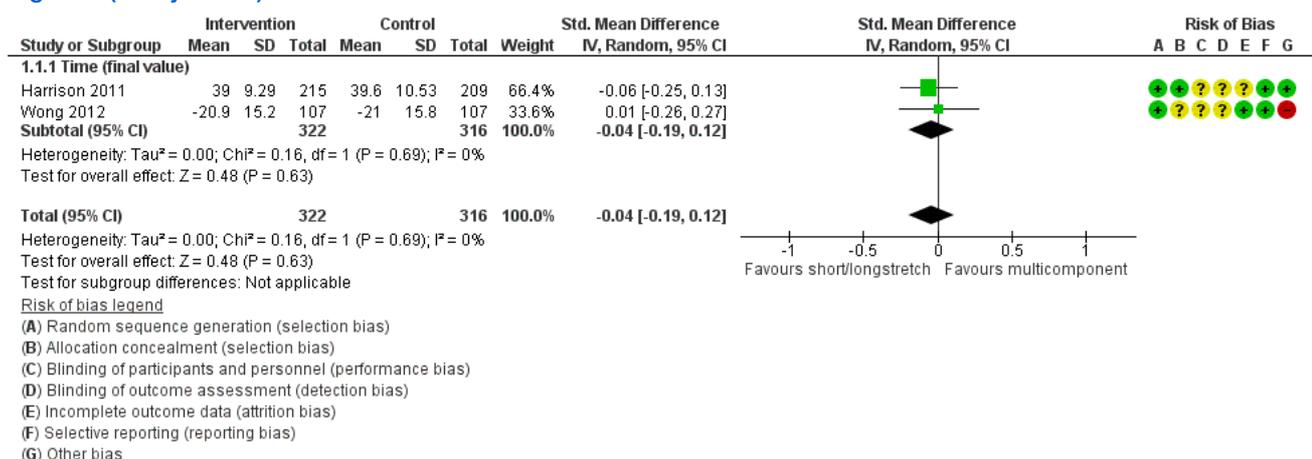
Data and analyses

1 Multikomponent vs kort/langstræksbandager

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 Livskvalitet (quality of life) physical component End of treatment, max 6 mdr.	2	638	Std. Mean Difference (IV, Random, 95% CI)	-0.04 [-0.19, 0.12]
1.1.1 Time (final value)	2	638	Std. Mean Difference (IV, Random, 95% CI)	-0.04 [-0.19, 0.12]
1.2 Livskvalitet (quality of life/Mental compont) End of treatment, max 6 mdr.	1	424	Mean Difference (IV, Fixed, 95% CI)	-0.70 [-2.73, 1.33]
1.3 Smerter (pain) End of treatment, max 6 mdr.	1	214	Mean Difference (IV, Fixed, 95% CI)	0.13 [-0.38, 0.64]
1.3.1 Time (final value)	1	214	Mean Difference (IV, Fixed, 95% CI)	0.13 [-0.38, 0.64]
1.5 Ødem (edema) End of treatment, max 6 mdr	1	17	Mean Difference (IV, Fixed, 95% CI)	-682.00 [-1539.50, 175.50]
1.5.1 Time (change value)	1	17	Mean Difference (IV, Fixed, 95% CI)	-682.00 [-1539.50, 175.50]
1.6 Sårheling (wound healing) End of treatment, max 6 mdr.	3	293	Risk Ratio (IV, Random, 95% CI)	0.94 [0.79, 1.12]
1.6.1 Time (final value)	3	293	Risk Ratio (IV, Random, 95% CI)	0.94 [0.79, 1.12]
1.7 Tryksår (pressure ulcer) End of treatment, max 6 mdr.	1	424	Risk Ratio (IV, Fixed, 95% CI)	1.12 [0.55, 2.30]
1.7.1 Time (final value)	1	424	Risk Ratio (IV, Fixed, 95% CI)	1.12 [0.55, 2.30]
1.8 Drop out End of treatment, max 6 mdr.	2	231	Risk Ratio (IV, Random, 95% CI)	1.60 [0.84, 3.05]
1.8.1 Time (final value)	2	231	Risk Ratio (IV, Random, 95% CI)	1.60 [0.84, 3.05]
1.9 Hudforandringer (skin changes) End of treatment, max 6 mdr.	1	424	Risk Ratio (IV, Fixed, 95% CI)	0.77 [0.48, 1.23]
1.9.1 Time (final value)	1	424	Risk Ratio (IV, Fixed, 95% CI)	0.77 [0.48, 1.23]
1.10 Roseninfektion (Cellulitis) End of treatment, max 6 mdr.	2	441	Risk Ratio (IV, Random, 95% CI)	0.80 [0.51, 1.26]
1.10.1 Time (final value)	2	441	Risk Ratio (IV, Random, 95% CI)	0.80 [0.51, 1.26]
1.11 Total reduktion af smerter (total reduction of pain) End of treatment, max 6 mdr.	1	424	Risk Ratio (IV, Fixed, 95% CI)	0.85 [0.61, 1.19]
1.11.1 Time (final value)	1	424	Risk Ratio (IV, Fixed, 95% CI)	0.85 [0.61, 1.19]

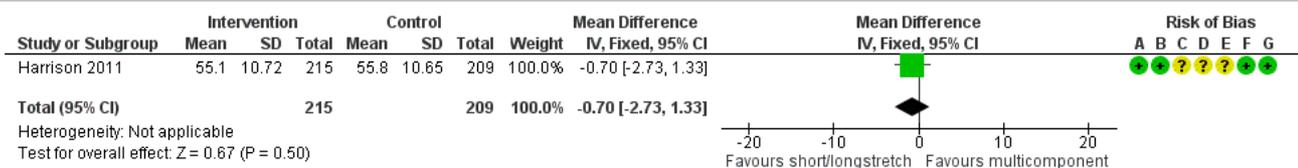
Figures

Figure 1 (Analysis 1.1)



Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.1 Livskvalitet (quality of life) physical component End of treatment, max 6 mdr..

Figure 2 (Analysis 1.2)

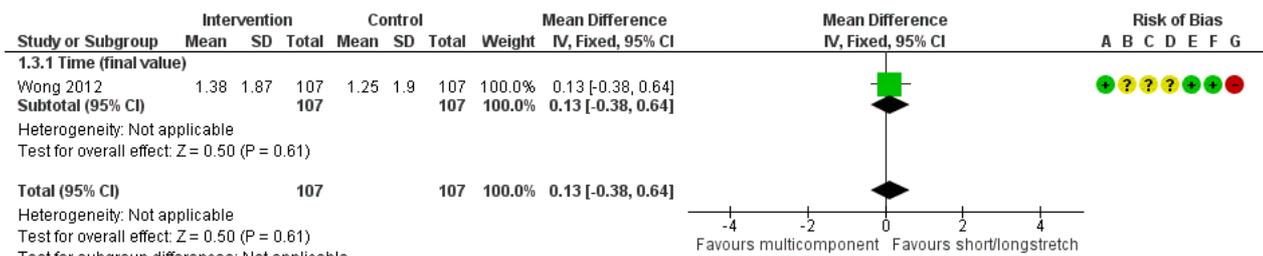


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.2 Livskvalitet (quality of life/Mental compont) End of treatment, max 6 mdr..

Figure 3 (Analysis 1.3)

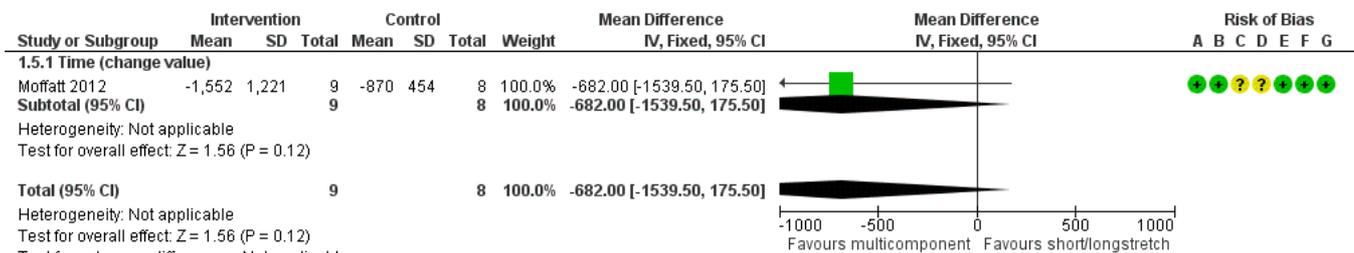


Risk of bias legend

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- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.3 Smerter (pain) End of treatment, max 6 mdr..

Figure 4 (Analysis 1.5)

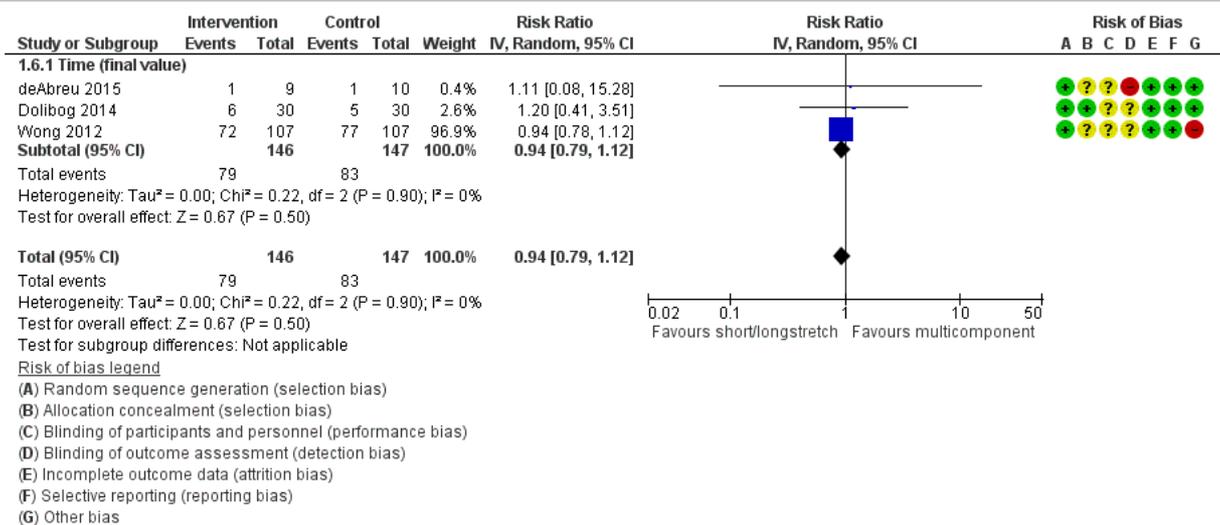


Risk of bias legend

- (A) Random sequence generation (selection bias)
- (B) Allocation concealment (selection bias)
- (C) Blinding of participants and personnel (performance bias)
- (D) Blinding of outcome assessment (detection bias)
- (E) Incomplete outcome data (attrition bias)
- (F) Selective reporting (reporting bias)
- (G) Other bias

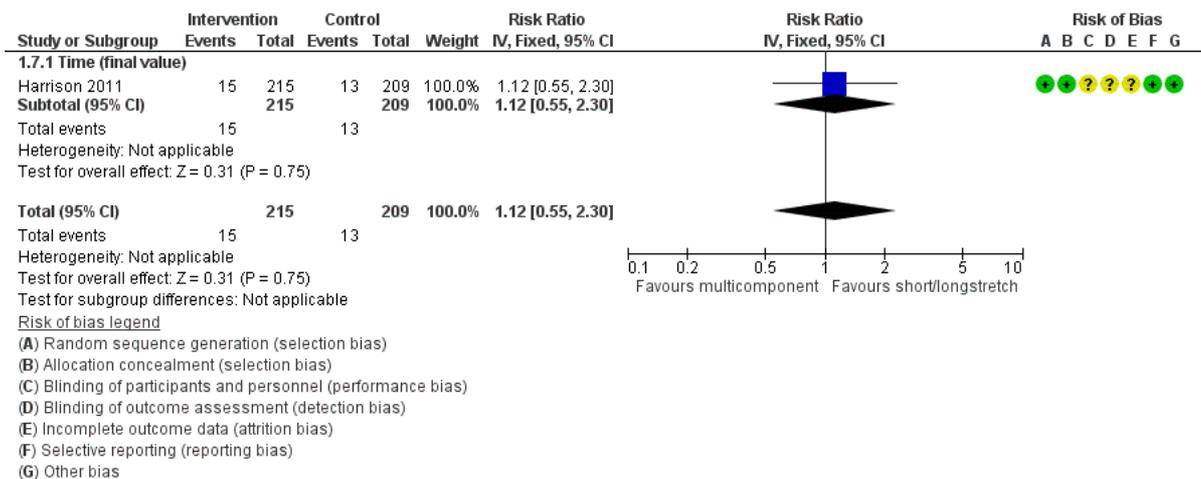
Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.5 Ødem (edema) End of treatment, max 6 mdr..

Figure 5 (Analysis 1.6)



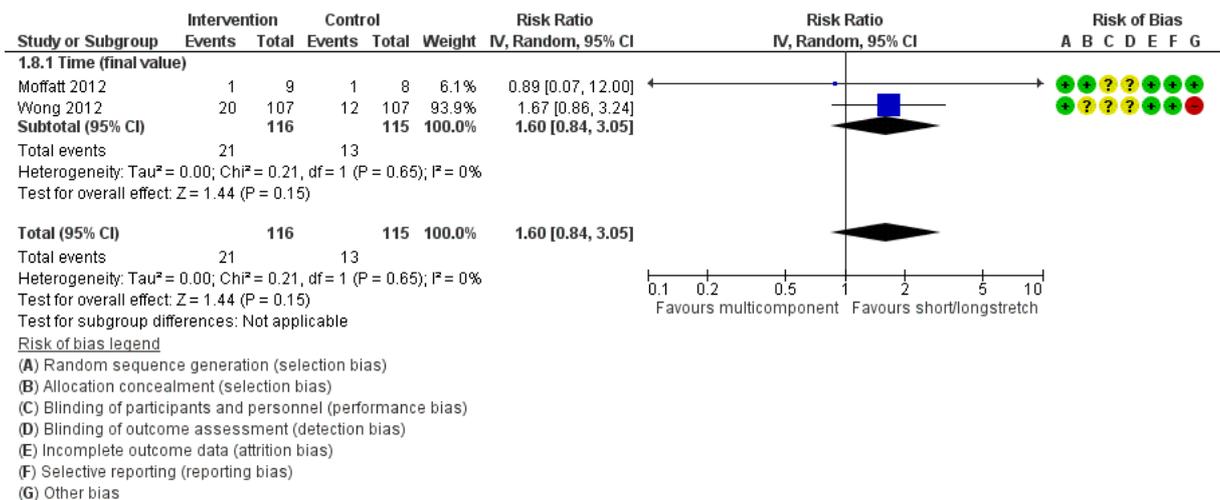
Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.6 Sårheling (wound healing) End of treatment, max 6 mdr..

Figure 6 (Analysis 1.7)



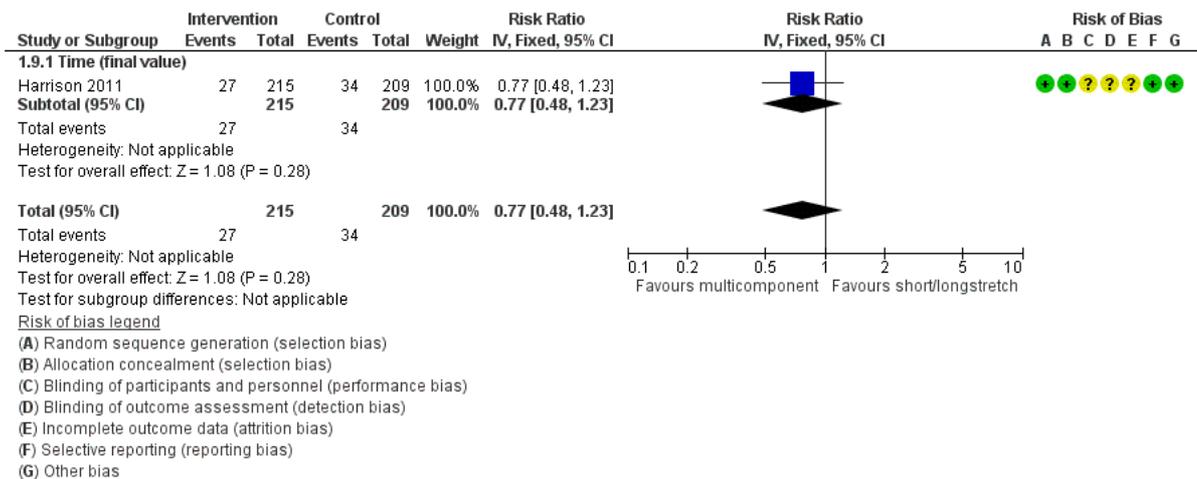
Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.7 Tryksår (pressure ulcer) End of treatment, max 6 mdr..

Figure 7 (Analysis 1.8)



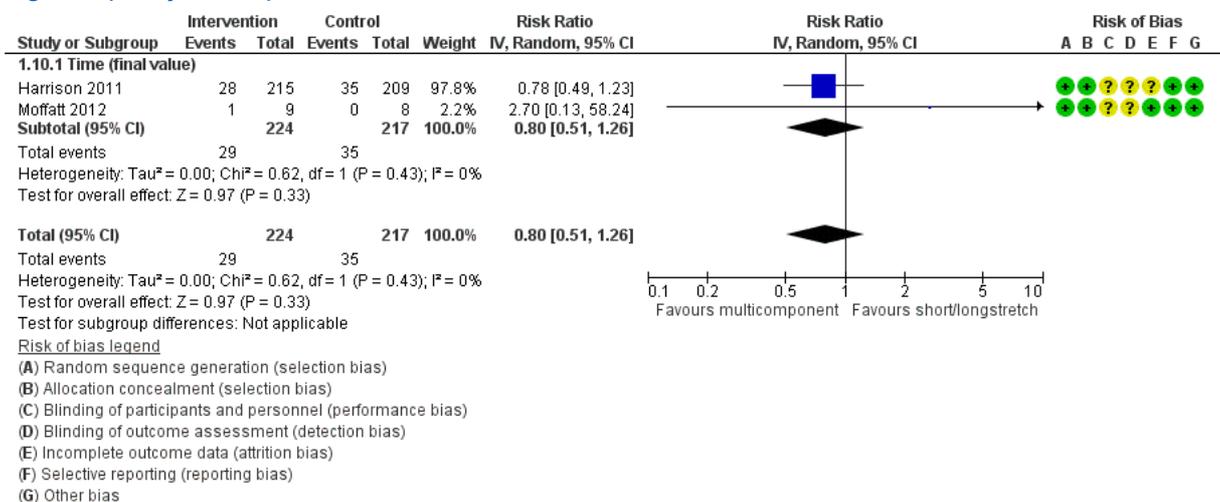
Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.8 Drop out End of treatment, max 6 mdr..

Figure 8 (Analysis 1.9)



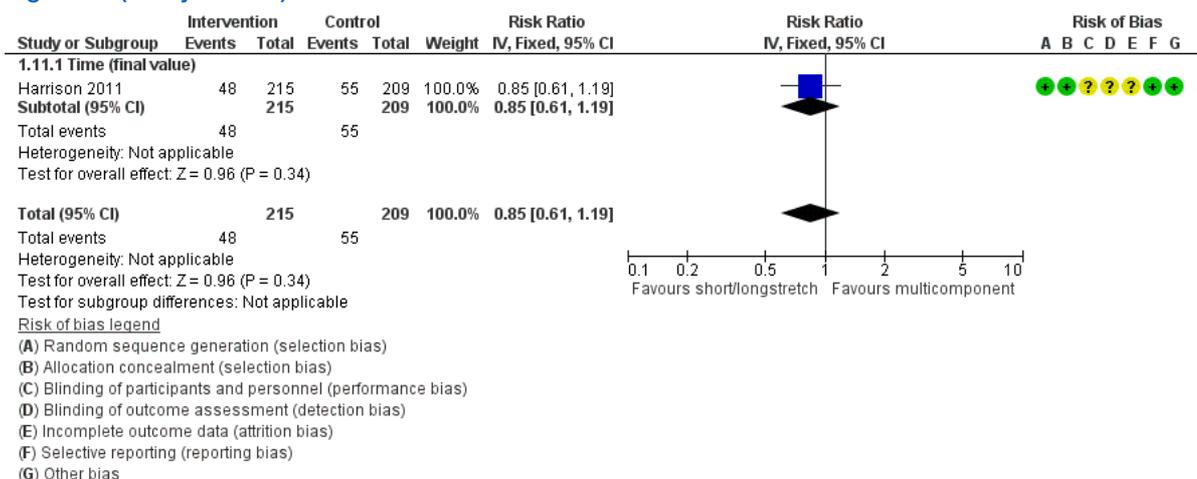
Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.9 Hudforandringer (skin changes) End of treatment, max 6 mdr..

Figure 9 (Analysis 1.10)



Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.10 Roseninfektion (Cellulitis) End of treatment, max 6 mdr..

Figure 10 (Analysis 1.11)



Forest plot of comparison: 1 Multikomponent vs kort/langstræksbandager, outcome: 1.11 Total reduktion af smerter (total reduction of pain) End of treatment, max 6 mdr..