

## PICO 1

## Review information

## Authors

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Citation example: S. Standard. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

## Characteristics of studies

## Characteristics of included studies

## Comer 2013

<b>Methods</b>	<b>Study design:</b> Randomized controlled trial <b>Study grouping:</b> Parallel group
<b>Participants</b>	<p><b>Baseline Characteristics</b></p> <p>Intervention Control mean difference between groups Overall</p> <p><b>Included criteria:</b> Age 50 years or over Bilateral neurogenic claudication symptoms (ie exercise induced leg pain on walking, relieved in sitting or flexion) Patient-reported limitation in walking tolerance due to NC symptoms</p> <p><b>Excluded criteria:</b> Cognitive impairment or other medical conditions preventing understanding or participation in the study Clearly defined radicular symptoms (ie single nerve root symptoms) Signs or symptoms of acute cauda equina syndrome or severe or worsening neurological status requiring medical or surgical assessment. (This includes significant or worsening nerve root or cauda equina function, significant or sinister weight loss, pyrexia, unremitting pain, significant inflammatory joint disease)</p> <p><b>Pretreatment:</b> Group differences at baseline: * Mean age 4.5 years younger in control group (70.3 yrs) compared to active group (75.3 yrs) * Smaller proportion of women in control group (47.4%) compared to active group (57.9%) * Median duration (time since onset of back/leg pain) longer in control group (10.0 years) compared to active group (3.5 years) * Median number of shuttles completed greater in the control group (21.0) compared to the active group (15.0) * Mean Back pain VAS higher in the control group (63.2) compared to the active group (55.2) * Median number of physio sessions lower in control group (1) compared to active group (3)</p>
<b>Interventions</b>	<p><b>Intervention Characteristics</b></p> <p>Intervention</p> <ul style="list-style-type: none"> <li>● <i>exercise description:</i> Advice and education provided in both verbal and written format + condition-specific home exercise programme focusing on 1) flattening of lumbar lordosis, 2) lumbar flexion, 3) abdominal muscle activation, 4) trunk muscle strengthening, 5) aerobic fitness</li> <li>● <i>Exercise dose (frequency, duration):</i> 2 x daily for 6 weeks</li> <li>● <i>supervised sessions:</i> Training at home. First physiotherapy appointment, subsequent physiotherapy appointment.</li> </ul> <p>Control</p> <ul style="list-style-type: none"> <li>● <i>exercise description:</i> Advice and education provided in both verbal and written format</li> <li>● <i>Exercise dose (frequency, duration):</i> 1 initial physiotherapy appointment at which advice and education was given</li> <li>● <i>supervised sessions:</i> no supervision</li> </ul> <p>mean difference between groups</p> <ul style="list-style-type: none"> <li>● <i>exercise description:</i> .</li> <li>● <i>Exercise dose (frequency, duration):</i> .</li> <li>● <i>supervised sessions:</i> .</li> </ul>
<b>Outcomes</b>	<p><i>SSS physical function (ZCQ)</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> Continuous Outcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Scale:</b> SSS</li> <li>● <b>Range:</b> 0-100%</li> <li>● <b>Direction:</b> Lower is better</li> <li>● <b>Data value:</b> Change from baseline</li> </ul> <p><i>ODI</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> Continuous Outcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Scale:</b> ODI</li> <li>● <b>Range:</b> 0-100</li> <li>● <b>Direction:</b> Higher is better</li> <li>● <b>Data value:</b> Change from baseline</li> </ul> <p><i>Back Pain VAS</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> Continuous Outcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Scale:</b> VAS</li> <li>● <b>Range:</b> 0-100</li> <li>● <b>Direction:</b> Higher is better</li> </ul>

	<ul style="list-style-type: none"> <li>● <b>Data value:</b> Change from baseline</li> </ul> <p><i>Leg Pain VAS</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> ContinuousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Scale:</b> VAS</li> <li>● <b>Range:</b> 0-100</li> <li>● <b>Direction:</b> Higher is better</li> </ul> <p><i>SSS severity (ZCQ)</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> ContinuousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Scale:</b> SSS</li> <li>● <b>Range:</b> 0-100</li> <li>● <b>Direction:</b> Higher is better</li> <li>● <b>Data value:</b> Change from baseline</li> </ul> <p><i>N shuttles completed (excluding 2 outliers)</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> ContinuousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Range:</b> 0-?</li> <li>● <b>Unit of measure:</b> number</li> <li>● <b>Direction:</b> Higher is better</li> <li>● <b>Data value:</b> Change from baseline</li> </ul> <p><i>Gangdistance</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> ContinuousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Range:</b> 0.?</li> <li>● <b>Unit of measure:</b> m</li> <li>● <b>Direction:</b> Higher is better</li> <li>● <b>Data value:</b> Endpoint</li> </ul> <p><i>Behov for smertestillende medicin</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> DichotomousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Range:</b> ja-nej</li> <li>● <b>Direction:</b> Lower is better</li> <li>● <b>Data value:</b> Endpoint</li> </ul> <p><i>Livskvalitet</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> ContinuousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Scale:</b> EQ5D</li> <li>● <b>Range:</b> 0-1</li> <li>● <b>Direction:</b> Higher is better</li> <li>● <b>Data value:</b> Endpoint</li> </ul> <p><i>Antal fald</i></p> <ul style="list-style-type: none"> <li>● <b>Outcome type:</b> DichotomousOutcome</li> <li>● <b>Reporting:</b> Fully reported</li> <li>● <b>Range:</b> 0-?</li> <li>● <b>Unit of measure:</b> antal</li> <li>● <b>Direction:</b> Lower is better</li> <li>● <b>Data value:</b> Endpoint</li> </ul>
<b>Identification</b>	<p><b>Sponsorship source:</b> Arthritis Research UK  <b>Country:</b> United Kingdom  <b>Setting:</b> Leeds Musculoskeletal and Rehabilitation Service (a primary care-based musculoskeletal service)  <b>Comments:</b> .  <b>Authors name:</b> Christine Comer  <b>Institution:</b> 1) Leeds Musculoskeletal and Rehabilitation Service, Leeds Community Health Care, Leeds, United Kingdom;  2) Leeds Institute of Rheumatic and Musculoskeletal Disease, Faculty of Health, University of Leeds, Leeds, United Kingdom  <b>Email:</b> p.conaghan@leeds.ac.uk (corresponding author). No email reported for lead author.  <b>Address:</b> Not available</p>
<b>Notes</b>	<p><i>NKR 51 Stenose</i> on 06/01/2017 21:09  <b>Outcomes</b>  Der er målt en forskel fra baseline og der er indtastet en forskel mellem de to grupper. Jo flere N i antal shuttles, jo bedre (der står ikke beskrevet hvor lang en shuttle er) Der er kun CI for forskelle mellem de to behandlinger</p> <p><i>Helle Algren Brogger</i> on 30/01/2017 23:11  <b>Outcomes</b>  According to figure 1, page 4, n=38 in each group at baseline, but at week 8, n=35 (intervention) and n=36 (control), and at week 12 n=29 (intervention) and n=32 (control). Nonetheless, according to table 4, n=38 in both groups at all points of measurement. It is assumed that n=38 in both groups at all points of measurement is based on multiple imputation (Quote page 5: "Multiple imputation allowed all 38 patients in each group to be included in the analysis). However, it is not specified in table 4, whether mean change in control and active group is data in- or exclusive multiple imputation.</p>

## 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)	High risk	
Blinding of participants and personnel (performance bias)	High risk	
Blinding of outcome assessment (detection bias)	Low risk	
Incomplete outcome data (attrition bias)	Low risk	
Selective reporting (reporting bias)	Low risk	
Other bias	Low risk	

## Footnotes

## References to studies

## Included studies

**Comer 2013**

Comer, C.; Redmond, A. C.; Bird, H. A.; Hensor, E. M. A.; Conaghan, P. G.. A home exercise programme is no more beneficial than advice and education for people with neurogenic claudication: results from a randomised controlled trial. PLoS ONE 2013;8(9):e72878. [DOI: ]

## Excluded studies

**Akuthota 2012**

Akuthota V.; Hammeric A.S.; Mintken P.E.; Cleland J.A.; Whitman J.M.; Singh J.R.; Knight E.; Santo, K. J.. Effectiveness of physical therapy as an adjunct to epidural steroid injections in the treatment of lumbar spinal stenosis: A pilot randomized controlled trial.. Spine Journal.Conference: 27th Annual Meeting of the North American Spine Society, NASS 2012.Dallas, TX United States.Conference Start: 20121024.Conference End: 20121027.Conference Publication: (var.pagings) 2012;12(9 SUPPL. 1):146S. [DOI: <http://dx.doi.org/10.1016/j.spinee.2012.08.379>]

**Goren 2010**

Goren, A.; Yildiz, N.; Topuz, O.; Findikoglu, G.; Ardic, F.. Efficacy of exercise and ultrasound in patients with lumbar spinal stenosis: a prospective randomized controlled trial [with consumer summary]. Clinical rehabilitation 2010;24(7):623-631. [DOI: ]

**Haig 2012**

Haig A.J.; Goodnight S.M.; Sandella D.; Tomkins C.; Yamakawa, K. S.. Exploration of the walking participation-to-capacity ratio in persons with neurogenic claudication, back pain, or asymptomatic volunteers.. PM and R.Conference: 2012 American Academy of Physical Medicine and Rehabilitation, AAPM&R Annual Assembly.Atlanta, GA United States.Conference Start: 20121115.Conference End: 20121118.Conference Publication: (var.pagings) 2012;4(10 SUPPL. 1):S243. [DOI: ]

**Homayouni 2015**

Homayouni, K.; Naseri, M.; Zaravar, F.; Zaravar, L.; Karimian, H.. Comparison of the effect of aquatic physical therapy and conventional physical therapy in patients with lumbar spinal stenosis (a randomized controlled trial). Journal of Musculoskeletal Research 2015;18(1):1550002. [DOI: ]

**Kiralp 2009**

Kiralp M.Z.; Cakar E.; Dincer U.; Durmus, O.. Effectiveness of the physical therapy agents on lumbar spondylosis treatment.. Arthritis and Rheumatism 2009;60(Journal Article):1185. [DOI: <http://dx.doi.org/10.1002/art.26259>]

**Koc 2009**

Koc, Zarife; Ozcakir, Suheda; Sivrioglu, Koncuy; Gurbet, Alp; Kucukoglu, Selcuk. Effectiveness of physical therapy and epidural steroid injections in lumbar spinal stenosis.. Spine 2009;34(10):985-989. [DOI: <http://dx.doi.org/10.1097/BRS.0b013e31819c0a6b>]

**Lindback 2016**

Lindback, Yvonne; Tropp, Hans; Enthoven, Paul; Abbott, Allan; Oberg, Birgitta. PREPARE: Pre-surgery physiotherapy for patients with degenerative lumbar spine disorder: a randomized controlled trial protocol.. BMC Musculoskeletal Disorders 2016;17(Journal Article):270. [DOI: <http://dx.doi.org/10.1186/s12891-016-1126-4>]

**Maher 2007**

Maher, Christopher G.. Re: Whitman JM, Flynn TW, Childs JD, et al. A comparison between two physical therapy treatment programs for patients with lumbar spinal stenosis: a randomized clinical trial. Spine 2006;31:2541-9.. Spine 2007;32(7):833-4. [DOI: ]

**Sahin 2009**

Sahin, Fusun; Yilmaz, Figen; Kotevogl, Nurdan; Kuran, Banu. The efficacy of physical therapy and physical therapy plus calcitonin in the treatment of lumbar spinal stenosis.. Yonsei medical journal 2009;50(5):683-688. [DOI: <http://dx.doi.org/10.3349/ymj.2009.50.5.683>]

**Schneider 2014**

Schneider, Michael; Ammendolia, Carlo; Murphy, Donald; Glick, Ronald; Piva, Sara; Hile, Elizabeth; Tudorascu, Dana; Morton, Sally C.. Comparison of non-surgical treatment methods for patients with lumbar spinal stenosis: protocol for a randomized controlled trial.. Chiropractic & manual therapies 2014;22(Journal Article):19. [DOI: <http://dx.doi.org/10.1186/2045-709X-22-19>]

Urper 2011

Urper S.; Gunaydin R.; Karatepe A.G.; Kaya, T.. Effects of physical therapy and exercise program on clinical findings, functional status and disability in patients with lumbar spinal stenosis, Lomber spinal stenozlu olgularda fizik tedavi ve egzersiz programinin klinik bulgular, fonksiyonel durum ve ozurluluk üzerine etkisi.. *Turkiye Fiziksel Tip ve Rehabilitasyon Dergisi* 2011;57(Journal Article):248. [DOI: ]

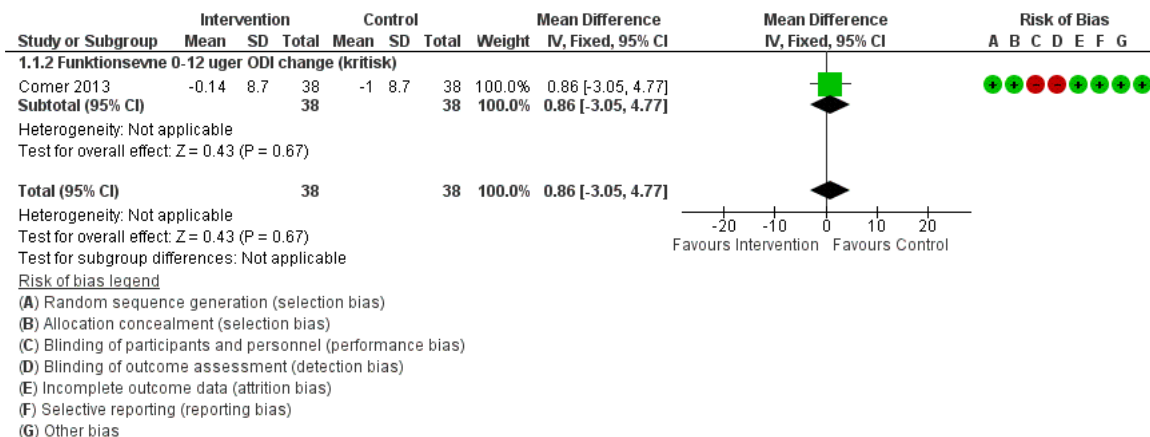
Data and analyses

1 Superviseret træning vs vanlig behandling

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.3 Gangdistance 0-12 uger (kritisk)	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable
1.3.1 Gangdistance 0-12 uger (kritisk)	0	0	Mean Difference (IV, Fixed, 95% CI)	Not estimable

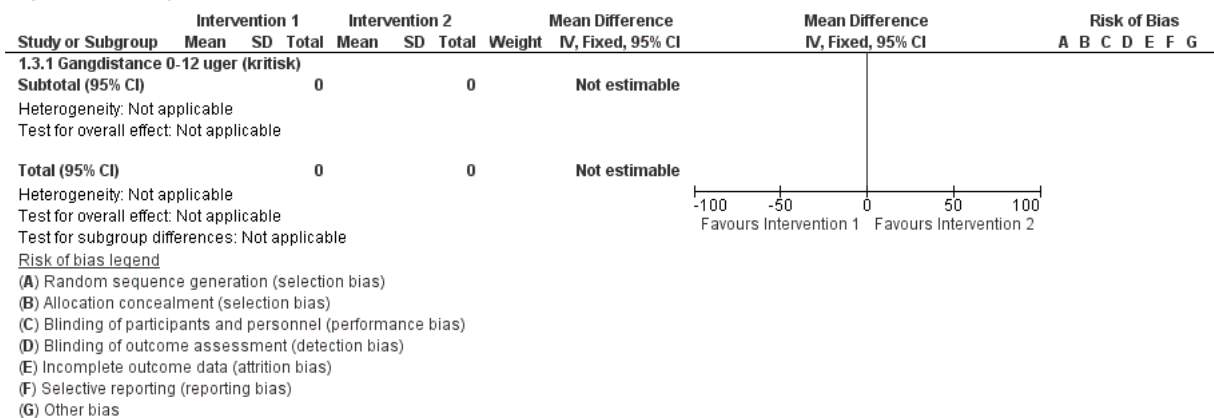
Figures

Figure 1 (Analysis 1.1)



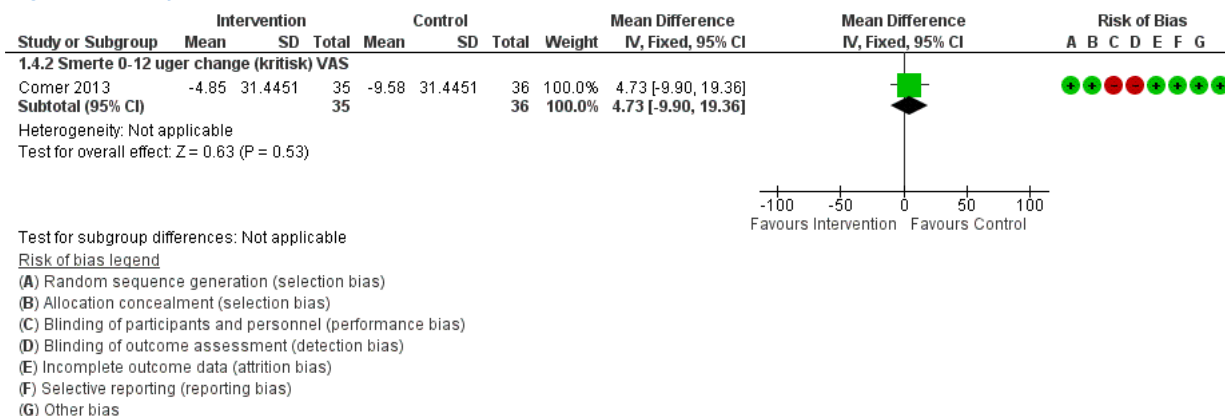
Forest plot of comparison: 1 Intervention vs Control, outcome: 1.1 Funktionsevne 0-12 uger (kritisk).

Figure 2 (Analysis 1.3)



Forest plot of comparison: 1 Intervention vs Control, outcome: 1.3 Gangdistance 0-12 uger (kritisk).

Figure 3 (Analysis 1.4)



Forest plot of comparison: 1 Intervention vs Control, outcome: 1.4 Smerte 0-12 uger (kritisk) NRSC.