

Appendix 2 Excluded studies and studies with high risk of bias

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Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

A2:4 Patientutbildning

Appendix 3 Excluded studies and studies with high risk of bias

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This list consists of articles not included in SBU's report. It has two parts:

Excluded studies

This part consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Studies with high risk of bias

This part consists of articles that were relevant in terms of abstract and full-text, but after quality assessment considered to be studies with high risk of bias.

Excluded studies

Reference	Main reason for exclusion
Hopman-Rock M, Westhoff MH. The effects of a health educational and exercise program for older adults with osteoarthritis for the hip or knee. <i>Journal of Rheumatology</i> 2000;27:1947-54.	Not relevant control group
Kroon FP, van dBLR, Buchbinder R, Osborne RH, Johnston RV, Pitt V. Self-management education programmes for osteoarthritis. <i>Cochrane Database of Systematic Reviews</i> 2014:CD008963.	Not relevant control group
Smith T, Davies L, McConnell L, Cross J, Hing C. Self-management programmes for people with osteoarthritis: a systematic review and meta-analysis (Provisional abstract). In: <i>Database of Abstracts of Reviews of Effects</i> ; 2013. p 165-175.	Not relevant control group
Yip Y, Sit JW, Wong DYS, Chong SYC, Chung L. A 1-year follow-up of an experimental study of a self-management arthritis programme with an added exercise component of clients with osteoarthritis of the knee. <i>Psychology, Health & Medicine</i> 2008;13:402-414.	Not relevant control group
Yip YB, Sit JW, Fung KK, Wong DY, Chong SY, Chung LH, et al. Effects of a self-management arthritis programme with an added exercise component for osteoarthritic knee: randomized controlled trial. <i>Journal of Advanced Nursing</i> 2007;59:20-8.	Not relevant control group

Studies with high risk of bias

Reference

Brand E, Nyl J, Henzman C, McGinnis M. Arthritis self-efficacy scale scores in knee osteoarthritis: a systematic review and meta-analysis comparing arthritis self-management education with or without exercise (Provisional abstract). *Journal of Orthopaedic and Sports Physical Therapy* 2013;895-910.

da Silva FS, de Melo FE, do Amaral MM, Caldas VV, Pinheiro IL, Abreu BJ, et al. Efficacy of simple integrated group rehabilitation program for patients with knee osteoarthritis: Single-blind randomized controlled trial. *Journal of Rehabilitation Research & Development* 2015;52:309-22.

Gay C, Chabaud A, Guilley E, Coudeyre E. Educating patients about the benefits of physical activity and exercise for their hip and knee osteoarthritis. Systematic literature review. *Ann Phys Rehabil Med* 2016;59:174-83.

McKnight PE, Kastle S, Going S, Villanueva I, Cornett M, Farr J, et al. A comparison of strength training, self-management, and the combination for early osteoarthritis of the knee. *Arthritis care & research* 2010;62:45-53.

Toomey E, Currie-Murphy L, Matthews J, Hurley DA. The effectiveness of physiotherapist-delivered group education and exercise interventions to promote self-management for people with osteoarthritis and chronic low back pain: a rapid review part I. *Man Ther* 2015;20:265-86.

Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

A3:0 Akupunktur i knä vid artros

Appendix 3 Excluded studies and studies with high risk of bias

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Studies with high risk of bias

This part consists of articles that were relevant in terms of abstract and full-text, but after quality assessment considered to be studies with high risk of bias.

Excluded studies

Reference	Main reason for exclusion
Ahsin S, Aslam M, Saleem S, Bhatti AM. Role of electroacupuncture in treatment of osteoarthritis knee: A single blind sham controlled study. Rawal Medical Journal 2010;35:41-44.	Duplicate
Ahsin S, Aslam M, Saleem S, Bhatti AM. Role of electroacupuncture in treatment of osteoarthritis knee: A single blind sham controlled study. Rawal Medical Journal 2010;35:41-44.	Unretrievable
Aval SB, Xueli Z. Effects of acupuncture on pain relief in patients with knee osteoarthritis. Avicenna Journal of Phytomedicine 2015;5:18.	Not a primary study
Baeumler PI, Fleckenstein J, Takayama S, Simang M, Seki T, Irnich D. Effects of acupuncture on sensory perception: A systematic review and meta-analysis. PLoS ONE 2014;9:e113731.	Not relevant outcome
Bao F, Wu Z. Observation on therapeutic effect of knee osteoarthritis treated by electroacupuncture. International journal of clinical acupuncture 2007;16:191-195.	Not in the specified languages
Brown C, Jones A. A response to O'Connell et al. letter "A failure of the review process? Comment on Ahsin et al. Clinical and endocrinological changes after electro-acupuncture treatment in patients with osteoarthritis of the knee. Pain 2009;147: 60-6". Pain 2010;149:161.	Not a primary study
Cao L, Zhang XL, Gao YS, Jiang Y. Needle acupuncture for osteoarthritis of the knee. A systematic review and updated meta-analysis. Saudi Medical Journal 2012;33:526-32.	Duplicate
Chen N, Wang J, Mucelli A, Zhang X, Wang C. Electro-Acupuncture is Beneficial for Knee Osteoarthritis: The Evidence from Meta-Analysis of Randomized Controlled Trials. American Journal of Chinese Medicine 2017;45:965-985.	Duplicate
Collins NJ, Bisset LM, Crossley KM, Vicenzino B. Efficacy of nonsurgical interventions for anterior knee pain: systematic review and meta-analysis of randomized trials. Sports Medicine 2012;42:31-49.	Not relevant population
Corbett MS, Rice SJC, Madurasinghe V, Slack R, Fayter DA, Harden M, et al. Acupuncture and other physical treatments for the relief of pain due to osteoarthritis of the knee: Network meta-analysis. Osteoarthritis and Cartilage 2013;21:1290-1298.	Duplicate
Cummings M. Six sessions of manual acupuncture do not seem to help when added to optimal exercise for knee osteoarthritis. Focus on Alternative and Complementary Therapies 2008;13:35-36.	Not a primary study
Foster NE. Is acupuncture plus standard care more effective than sham acupuncture plus standard care in patients with osteoarthritis of the knee? Commentary. Focus on Alternative and Complementary Therapies 2009;14:198-199.	Not a primary study

Hinman RS, McCrory P, Pirotta M, Relf I, Crossley KM, Reddy P, et al. Efficacy of acupuncture for chronic knee pain: protocol for a randomised controlled trial using a Zelen design. <i>BMC Complementary & Alternative Medicine</i> 2012;12:161.	Not relevant study design
Hinman RS, McCrory P, Pirotta M, Relf I, Forbes A, Crossley KM, et al. Acupuncture for chronic knee pain: a randomized clinical trial.[Summary for patients in JAMA. 2014 Oct 1;312(13):1365; PMID: 25268455]. <i>JAMA</i> 2014;312:1313-22.	Duplicate
Itoh K, Hirota S, Katsumi Y, Ochi H, Kitakoji H. Trigger point acupuncture for treatment of knee osteoarthritis - A preliminary RCT for a pragmatic trial. <i>Acupuncture in Medicine</i> 2008;26:17-26.	Not relevant intervention
Itoh K, Hirota S, Katsumi Y, Ochi H, Kitakoji H. Trigger point acupuncture for treatment of knee osteoarthritis--a preliminary RCT for a pragmatic trial. <i>Acupuncture in Medicine</i> 2008;26:17-26.	Duplicate
Jun JH, Choi TY, Appleyard I, Choi J, Robinson N, Kim JI, et al. Warm needle acupuncture for osteoarthritis: A systematic review protocol. <i>European Journal of Integrative Medicine</i> 2016;8:402-406.	Not relevant study design
Karner M, Brazkiewicz F, Remppis A, Fischer J, Gerlach O, Stremmel W, et al. Objectifying specific and nonspecific effects of acupuncture: a double-blinded randomised trial in osteoarthritis of the knee. <i>Evidence-Based Complementary & Alternative Medicine: eCAM</i> 2013;2013:427265.	Not relevant outcome
Kong J, Wang Z, Leiser J, Minicucci D, Edwards R, Kirsch I, et al. Enhancing treatment of osteoarthritis knee pain by boosting expectancy: A functional neuroimaging study. <i>NeuroImage Clinical</i> 2018;18:325-334.	Not relevant intervention
Lin X, Huang K, Zhu G, Huang Z, Qin A, Fan S. The Effects of Acupuncture on Chronic Knee Pain Due to Osteoarthritis: A Meta-Analysis. <i>Journal of Bone & Joint Surgery - American Volume</i> 2016;98:1578-85.	Duplicate
MacPherson H, Corbett M, Rice S, Madurasinghe V, Slack R, Sutton AJ, et al. Acupuncture and other physical treatments for the relief of chronic pain due to osteoarthritis of the knee: Network meta-analysis. <i>Journal of Alternative and Complementary Medicine</i> 2013;19:A2.	Duplicate
MacPherson H, Corbett M, Rice S, Madurasinghe V, Slack R, Sutton AJ, et al. Acupuncture and other physical treatments for the relief of chronic pain due to osteoarthritis of the knee: Network meta-analysis. <i>Journal of Alternative and Complementary Medicine</i> 2013;19:A2.	Not a primary study
Macpherson H, Vertosick EA, Foster NE, Lewith G, Linde K, Sherman KJ, et al. The persistence of the effects of acupuncture after a course of treatment: A meta-analysis of patients with chronic pain. <i>Pain</i> 2017;158:784-793.	Duplicate
Manheimer E, Cheng K, Linde K, Lao L, Yoo J, Wieland S, et al. Acupuncture for peripheral joint osteoarthritis. <i>Cochrane Database of Systematic Reviews</i> 2010:CD001977.	Duplicate

Manheimer E, Linde K, Lao L, Bouter LM, Berman BM. Meta-analysis: acupuncture for osteoarthritis of the knee. <i>Annals of Internal Medicine</i> 2007;146:868-77.	Duplicate
Manyanga T, Froese M, Zarychanski R, Abou-Setta A, Friesen C, Tennenhouse M, et al. Pain management with acupuncture in osteoarthritis: a systematic review and meta-analysis. <i>BMC Complementary & Alternative Medicine</i> 2014;14:312.	Duplicate
Min WK. A Comparative study of Warm needling and Acupuncture on Osteoarthritis of the Knee - a Randomized Controlled Trial. PHD dissertation, kyung hee university 2008.	Not a primary study
Mohammed TA. Acupuncture for pain management in evidence-based medicine. <i>Acta Dermato-Venereologica</i> 2017;97:1026.	Not a primary study
Nct. A Trial of Acupuncture for Knee Osteoarthritis With Differential Functional Status of Acupoints. https://clinicaltrials.gov/show/nct03008668 2017.	Other reason
Nct. Acupuncture Therapy for Knee Osteoarthritis. https://clinicaltrials.gov/show/nct03366363 2017.	Other reason
Nct. Acupuncture Treatment for Knee Osteoarthritis With Sensitive Acupoints and Tender Points. https://clinicaltrials.gov/show/nct03299439 2017.	Other reason
Nct. Chinese Herbal Fumigation With Acupuncture for the Knee Osteoarthritis. https://clinicaltrials.gov/show/nct03659370 2018.	Other reason
Nct. Different Kinds of Acupuncture Treatment for Knee Osteoarthritis. https://clinicaltrials.gov/show/nct03563690 2018.	Other reason
Nct. Effect of Cranial Stimulation and Acupuncture on Pain, Functional Capability and Cerebral Function in Osteoarthritis. https://clinicaltrials.gov/show/nct01747070 2012.	Other reason
Nct. Multi-center Clinical Research of Acupuncture Treatment of Knee Osteoarthritis. https://clinicaltrials.gov/show/nct02948218 2016.	Other reason
Nct. Sinew Acupuncture for Knee Osteoarthritis. https://clinicaltrials.gov/show/nct03099317 2017.	Other reason
O'Connell NE, Wand BM, Colquhoun D. A failure of the review process? Comment on Ahsin et al. Clinical and endocrinological changes after electro-acupuncture treatment in patients with osteoarthritis of the knee. <i>Pain</i> 2009;147:60-6. <i>Pain</i> 2010;149:160.	Not a primary study
Overman CL. The benefits of prompt pain management in inflammatory arthritis and osteoarthritis. A systematic literature review. <i>Annals of the Rheumatic Diseases</i> 2016;75:29.	Duplicate
Overman CL. The benefits of prompt pain management in inflammatory arthritis and osteoarthritis. A systematic literature review. <i>Annals of the Rheumatic Diseases</i> 2016;75:29.	Not a primary study
Phang JK, Kwan YH, Goh H, Tan VIC, Thumboo J, Ostbye T, et al.	Not relevant population
Pittler MH, Ernst E. Is acupuncture an effective treatment for knee	Not a primary study
Qi L, Tang Y, You Y, Qin F, Zhai L, Peng H, et al. Comparing the Effectiveness of Electroacupuncture with Different Grades of Knee Osteoarthritis: A Prospective Study. <i>Cellular Physiology & Biochemistry</i> 2016;39:2331-2340.	Not relevant population

Reinhold T, Witt CM, Jena S, Brinkhaus B, Willich SN. Quality of life and cost-effectiveness of acupuncture treatment in patients with osteoarthritis pain. <i>European Journal of Health Economics</i> 2008;9:209-19.	Not relevant outcome
Sherman KJ, Coeytaux RR. Acupuncture for the treatment of common pain conditions: Chronic back pain, osteoarthritis, and headache. <i>Journal of Clinical Outcomes Management</i> 2009;16:224-230.	Not relevant population
Shim JW, Jung JY, Kim SS. Effects of Electroacupuncture for Knee Osteoarthritis: A Systematic Review and Meta-Analysis. <i>Evidence-Based Complementary & Alternative Medicine: eCAM</i> 2016;2016:3485875.	Duplicate
Tegiacchi T. Interaction of energetic points, tendinomuscular meridian and 5 elements in the treatment of osteoarthritis of the knee in patients over 45 years old: a randomized controlled trial. <i>Jams Journal of Acupuncture & Meridian Studies</i> 2018;18:18.	Not relevant outcome
Trifunovic-König M, Klose P, Cramer H, Lauche R, Koch A, Dobos G, et al. Acupuncture for osteoarthritis of the knee: A systematic overview. <i>BMC Complementary and Alternative Medicine</i> 2017;17.	Not a primary study
Vas J, White A. Evidence from RCTs on optimal acupuncture treatment for knee osteoarthritis - An exploratory review. <i>Acupuncture in Medicine</i> 2007;25:29-35.	Not a primary study
White A, Foell J. Acupuncture is superior to sham for painful conditions. <i>Evidence-Based Medicine</i> 2013;18:e56.	Duplicate
White A, Foell J. Acupuncture is superior to sham for painful conditions. <i>Evidence-Based Medicine</i> 2013;18:e56.	Not a primary study
White A, Foster NE, Cummings M, Barlas P. Acupuncture treatment for chronic knee pain: a systematic review. <i>Rheumatology</i> 2007;46:384-90.	Other reason
White P, Bishop FL, Prescott P, Scott C, Little P, Lewith G. Practice, practitioner, or placebo? A multifactorial, mixed-methods randomized controlled trial of acupuncture. In: <i>Pain</i> ; 2012. p 455-62.	Not relevant outcome
Vickers A, Cronin A, Maschino A, Lewith G, MacPherson H, Victor N, et al. Acupuncture for chronic pain: An individual patient data meta-analysis of randomized trials. <i>BMC Complementary and Alternative Medicine</i> 2012;12.	Duplicate
Vickers AJ, Cronin AM, Maschino AC, Lewith G, MacPherson H, Foster NE, et al. Acupuncture for chronic pain: individual patient data meta-analysis. <i>Archives of Internal Medicine</i> 2012;172:1444-53.	Duplicate
Vickers AJ, Linde K. Acupuncture for chronic pain. <i>JAMA - Journal of the American Medical Association</i> 2014;311:955-956.	Not a primary study

Witt CM, Schutzler L, Ludtke R, Wegscheider K, Willich SN. Patient characteristics and variation in treatment outcomes: which patients benefit most from acupuncture for chronic pain? <i>Clinical Journal of Pain</i> 2011;27:550-5.	Not relevant outcome
Zhou K, Fan AY, Wang T. Acupuncture for Chronic Knee Pain: A Critical Appraisal of an Australian Randomized Controlled Trial. <i>Medical Acupuncture</i> 2016;28:40-45.	Not a primary study
Zhou SF, Xue CC. Acupuncture as an adjunct to exercise-based physiotherapy does not improve the pain of knee osteoarthritis. <i>Australian journal of acupuncture and chinese medicine</i> 2008;3:53-55.	Not a primary study

Studies with high risk of bias

Reference

Ahsin S, Saleem S, Bhatti AM, Iles RK, Aslam M. Clinical and endocrinological changes after electro-acupuncture treatment in patients with osteoarthritis of the knee. *Pain* 2009;147:60-6.

Cao L, Zhang X, Gao Y, Jiang Y. Needle acupuncture for osteoarthritis of the knee. A systematic review and updated meta-analysis (Provisional abstract). In: *Saudi Medical Journal*; 2012. p 526-532.

Chen N, Wang J, Mucelli A, Zhang X, Wang C. Electro-Acupuncture is Beneficial for Knee Osteoarthritis: The Evidence from Meta-Analysis of Randomized Controlled Trials. *Am J Chin Med* 2017;45:965-985.

Corbett M, Rice S, Madurasinghe V, Slack R, Fayter D, Harden M, et al. Acupuncture and other physical treatments for the relief of pain due to osteoarthritis of the knee: network meta-analysis (Provisional abstract). In: *Database of Abstracts of Reviews of Effects*; 2013. p 1290-1298.

Ernst E, Lee MS. Acupuncture for rheumatic conditions: An overview of systematic reviews. *Rheumatology* 2010;49:1957-1961.

Jubb RW, Tukmachi ES, Jones PW, Dempsey E, Waterhouse L, Brailsford S. A blinded randomised trial of acupuncture (manual and electroacupuncture) compared with a non-penetrating sham for the symptoms of osteoarthritis of the knee. *Acupuncture in Medicine* 2008;26:69-78.

Lin LL, Li YT, Tu JF, Yang JW, Sun N, Zhang S, et al. Effectiveness and feasibility of acupuncture for knee osteoarthritis: a pilot randomized controlled trial. *Clinical Rehabilitation* 2018;269215518790632.

Lin X, Huang K, Zhu G, Huang Z, Qin A, Fan S. The Effects of Acupuncture on Chronic Knee Pain Due to Osteoarthritis: A Meta-Analysis. *J Bone Joint Surg Am* 2016;98:1578-85.

Lu TW, Wei IP, Liu YH, Hsu WC, Wang TM, Chang CF, et al. Immediate effects of acupuncture on gait patterns in patients with knee osteoarthritis. *Chinese Medical Journal* 2010;123:165-72.

MacPherson H, Vertosick EA, Foster NE, Lewith G, Linde K, Sherman KJ, et al. The persistence of the effects of acupuncture after a course of treatment: a meta-analysis of patients with chronic pain. *Pain* 2017;158:784-793.

Manyanga T, Froese M, Zarychanski R, Abou-Setta A, Friesen C, Tennenhouse M, et al. Pain management with acupuncture in osteoarthritis: a systematic review and meta-analysis. *BMC Complement Altern Med* 2014;14:312.

Min MH, Choi YG, Kim YJ, Park HJ, Lee SH, Joo HN. The Effect of Sa-am acupuncture on Knee Osteoarthritis. *The Korean Journal of Meridian & Acupoint = Kyunglak Kyunghyul Hakhoe Chi* 2009;26:55-66.

Shengelia R, Parker SJ, Ballin M, George T, Reid MC. Complementary therapies for osteoarthritis: are they effective? *Pain Management Nursing* 2013;14:e274-e288.

Shim JW, Jung JY, Kim SS. Effects of Electroacupuncture for Knee Osteoarthritis: A Systematic Review and Meta-Analysis. *Evid Based Complement Alternat Med* 2016;2016:3485875.

Skelly AC, Chou R, Dettori JR, Turner JA, Friedly JL, Rundell SD, et al. Agency for Healthcare Research and Quality 2018:06.

Spaeth RB, Camhi S, Hashmi JA, Vangel M, Wasan AD, Edwards RR, et al. A longitudinal study of the reliability of acupuncture deqi sensations in knee osteoarthritis. *Evidence-Based Complementary & Alternative Medicine: eCAM* 2013;2013:204259.

Vickers AJ, Cronin AM, Maschino AC, Lewith G, MacPherson H, Foster NE, et al. Acupuncture for chronic pain: Individual patient data meta-analysis. *Archives of Internal Medicine* 2012;172:1444-1453.

Vickers AJ, Vertosick EA, Lewith G, MacPherson H, Foster NE, Sherman KJ, et al. Acupuncture for Chronic Pain: Update of an Individual Patient Data Meta-Analysis. *Journal of Pain* 2018;19:455-474.

Zhang Q, Yue J, Golianu B, Sun Z, Lu Y. Updated systematic review and meta-analysis of acupuncture for chronic knee pain. *Acupuncture in medicine : journal of the British Medical Acupuncture Society* 2017;35:392-403.

Zou K, Wong J, Abdullah N, Chen X, Smith T, Doherty M, et al. Examination of overall treatment effect and the proportion attributable to contextual effect in osteoarthritis: meta-analysis of randomised controlled trials. *Ann Rheum Dis* 2016;75:1964-1970.

Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

A3:3 Manuell terapi vid artros i knä eller höft

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Studies with high risk of bias

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Excluded studies

Reference	Main reason for exclusion
French HP, Brennan A, White B, Cusack T. Manual therapy for osteoarthritis of the hip or knee - a systematic review. <i>Man Ther</i> 2011;16:109-17.	Other reason
Xu Q, Chen B, Wang Y, Wang X, Han D, Ding D, et al. The Effectiveness of Manual Therapy for Relieving Pain, Stiffness, and Dysfunction in Knee Osteoarthritis: A Systematic Review and Meta-Analysis. <i>Pain Physician</i> 2017;20:229-243.	Not in the specified languages
Chapple C, Abbott J, Tumilty S. How does frequency of manual therapy influence outcome for people with knee osteoarthritis? A feasibility study. <i>Osteoarthritis and cartilage</i> . Conference: 2018 osteoarthritis research society international, OARSI world congress. United kingdom 2018;26:S339-s340.	Other reason

Studies with high risk of bias

Reference

Brantingham JW, Bonnefin D, Perle SM, Cassa TK, Globe G, Pribicevic M, et al. Manipulative therapy for lower extremity conditions: Update of a literature review. *Journal of Manipulative and Physiological Therapeutics* 2012;35:127-166.

Button K, Iqbal A, Letchford R, Deursen R. Clinical effectiveness of knee rehabilitation techniques and implications for a self-care treatment model (Structured abstract). *Physiotherapy* 2012;98:287-299.

Salamh P, Cook C, Reiman MP, Sheets C. Treatment effectiveness and fidelity of manual therapy to the knee: A systematic review and meta-analysis. *Musculoskeletal Care* 2017;15:238-248.

Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

A3:5 Ortos

Appendix 3 Excluded studies and studies with high risk of bias

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Studies with high risk of bias

This part consists of articles that were relevant in terms of abstract and full-text, but after quality assessment considered to be studies with high risk of bias.

Excluded studies

Reference	Main reason for exclusion
Added MAN, Added C, Kasawara KT, Rotta VP, de Freitas DG. Effects of a Knee Brace With a Patellar Hole Versus Without a Patellar Hole in Patients	Not relevant intervention
Agarwal S, Sharma A. A clinical trial comparing functional outcomes in medial compartment OA knee patients treated with a pneumatic	Not relevant study design
Arazpour M, Hutchins SW, Bani MA, Curran S, Aksenov A. The influence of a bespoke unloader knee brace on gait in medial compartment	Not relevant control group
Bhave A, Mont M, Chugthai M, Starr R. Clinical and gait outcomes of novel pneumatic knee brace with extension assist. <i>Osteoarthritis and Cartilage</i> 2017;25:S395-S396.	Not relevant study design
Brooks KS. Osteoarthritic Knee Braces on the Market: A Literature Review. <i>Journal of Prosthetics & Orthotics (JPO)</i> 2014;26:2-32.	Not relevant study design
Brumini Sr C, Natour J, Miura LY, Martinez A. Effectiveness of bracing in elderly with knee osteoarthritis: a randomized controlled trial. <i>Arthritis and</i>	Not relevant study design
Callaghan MJ, Parkes MJ, Felson DT. The Effect of Knee Braces on Quadriceps Strength and Inhibition in Subjects With Patellofemoral	Not relevant outcome
Callaghan MJ, Parkes MJ, Hutchinson CE, Gait AD, Forsythe LM, Marjanovic EJ, et al. A randomised trial of a brace for patellofemoral osteoarthritis targeting knee pain and bone marrow lesions. <i>Annals of the Rheumatic Diseases</i> 2015;74:1164-70.	Duplicate
Cherian JJ, Bhave A, Kapadia BH, Starr R, McElroy MJ, Mont MA. Strength and Functional Improvement Using Pneumatic Brace with Extension Assist for End-Stage Knee Osteoarthritis: A Prospective, Randomized trial. <i>Journal of Arthroplasty</i> 2015;30:747-53.	Duplicate
Chughtai M, Bhave A, Khan SZ, Khlopas A, Ali O, Harwin SF, et al. Clinical Outcomes of a Pneumatic Unloader Brace for Kellgren-Lawrence Grades 3 to 4 Osteoarthritis: A Minimum 1-Year Follow-Up Study. <i>The Journal of Knee Surgery</i> 2016;29:634-638.	Not relevant study design
Dammerer D, Fischer F, Mayr R, Giesinger J, El Attal R, Liebensteiner MC. Temporary postoperative treatment with compartment-unloading knee braces or wedge insoles does not improve clinical outcome after partial meniscectomy. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> 2018;22:22.	Not relevant population
Diaz A, Morisset C, Fournel I, Soilly AL, Bussiere C, Cherasse A, et al. Efficacy and safety of a distraction-rotation knee brace (ODRA) in medial knee osteoarthritis-a phase iii randomised controlled trial (ergonomie study). <i>Annals of the Rheumatic Diseases</i> 2018;77:79.	Not relevant study design
Doslikova K, Maganaris CN, Baltzopoulos V, Verschueren SM, Luyten FP, Callaghan M, et al. The influence of a patellofemoral knee brace on knee joint kinetics and kinematics in patients with knee osteoarthritis during stair negotiation. <i>Osteoarthritis and Cartilage</i> 2014;22:S89.	Not relevant control group
Duivenvoorden T, Van Raaij T, Horemans H, Brouwer R, Bos K, Bierma-Zeinstra S, et al. Do laterally wedged insoles and valgus knee braces really unload the medial compartment of the knee? Results of a RCT. <i>Osteoarthritis and Cartilage</i> 2014;22:S455-S456.	Not relevant study design

Duivenvoorden T, van Raaij TM, Horemans HL, Brouwer RW, Bos PK, Bierma-Zeinstra SM, et al. Do laterally wedged insoles or valgus braces unload the medial compartment of the knee in patients with osteoarthritis? <i>Clinical Orthopaedics & Related Research</i> 2015;473:265-	Not relevant outcome
Fernandes G. The Use of Orthoses in the Treatment of Medial Knee Osteoarthritis. <i>Podiatry Review</i> 2014;71:12-14.	Not relevant study design
Ghasemi MS, Dehghan N. The comparison of Neoprene palumbo and Genu direxa stable orthosis effects on pain and activity of daily living in patients with patellofemoral syndrome: a randomized blinded clinical trial. <i>Electronic Physician [Electronic Resource]</i> 2015;7:1325-9.	Not relevant population
Hart H, Crossley K, Ackland D, Cowan S, Collins N. Immediate and 4-week effects of an unloader brace on symptoms and function in ACL-reconstructed people with knee osteoarthritis. <i>Journal of Science and Medicine in Sport</i> 2014;18:e83.	Not relevant study design
Hart HF, Collins NJ, Ackland DC, Cowan SM, Crossley KM. Immediate effects of varus bracing on knee mechanics in people with predominant lateral knee osteoarthritis and valgus malalignment, 12 years after anterior cruciate ligament reconstruction. <i>Osteoarthritis and Cartilage</i> 2014;22:S34.	Not relevant control group
Hart HF, Collins NJ, Ackland DC, Cowan SM, Hunt MA, Crossley KM. Immediate Effects of a Brace on Gait Biomechanics for Predominant Lateral Knee Osteoarthritis and Valgus Malalignment After Anterior Cruciate Ligament Reconstruction. <i>American Journal of Sports Medicine</i>	Not relevant control group
Hart HF, Collins NJ, Ackland DC, Crossley KM. Immediate effects of a varus unloader brace on lateral knee osteoarthritis after anterior cruciate ligament reconstruction during stair ascent and stair descent. <i>Osteoarthritis and Cartilage</i> 2016;24:S95-S96.	Not relevant control group
Hart HF, Crossley KM, Ackland DC, Cowan SM, Collins NJ. Effects of an unloader knee brace on knee-related symptoms and function in people with post-traumatic knee osteoarthritis after anterior cruciate ligament reconstruction. <i>Knee</i> 2016;23:85-90.	Not relevant population
Hart HF, Crossley KM, Ackland DC, Cowan SM, Collins NJ. Immediate and 4-week effects of a brace on symptoms and function in people with knee osteoarthritis a-eti fter anterior cruciate ligament reconstruction: a pilot	Not relevant study design
Hart HF, Crossley KM, Collins NJ, Ackland DC. Bracing of the Reconstructed and Osteoarthritic Knee during High Dynamic Load Tasks. <i>Medicine & Science in Sports & Exercise</i> 2017;49:1086-1096.	Not relevant control group
Hjartarson HF, Toksvig-Larsen S. The clinical effect of unloader One® knee brace on patients with osteoarthritis of the knee. A randomized placebo controlled trial. <i>Osteoarthritis and Cartilage</i> 2017;25:S173.	Not relevant study design
Jones A, Brumini C, Natour J, Miura LY. Effectiveness of bracing in elderly with knee osteoarthritis: A randomized controlled trial. <i>Archives of Physical</i>	Not relevant study design
Kapadia BH, Cherian JJ, Starr R, Chughtai M, Mont MA, Harwin SF, et al. Gait Using Pneumatic Brace for End-Stage Knee Osteoarthritis. <i>The Journal of Knee Surgery</i> 2016;29:218-23.	Not relevant outcome

Ma JB, He Q. Is high tibial osteotomy superior to unloader brace treatment in patients with varus malaligned medial knee osteoarthritis? <i>Osteoarthritis & Cartilage</i> 2018;26:e1-e2.	Not relevant study design
Maleki M, Arazpour M, Ahmadi Bani M. Comparison of the efficacy of laterally wedged insoles and bespoke unloader knee orthoses in treating medial compartment knee osteoarthritis. <i>Osteoporosis International</i> 2018;29:S186.	Not relevant study design
Maleki M, Arazpour M, Joghtaei M, Hutchins SW, Aboutorabi A, Pouyan A. The effect of knee orthoses on gait parameters in medial knee compartment osteoarthritis: A literature review. <i>Prosthetics & Orthotics International</i> 2016;40:193-201.	Not relevant study design
Mauricio E, Sliepen M, Rosenbaum D. Acute effects of different orthotic interventions on knee loading parameters in knee osteoarthritis patients with varus malalignment. <i>Knee</i> 2018;25:825-833.	Not relevant control group
Moyer R, Birmingham T, Dombroski C, Walsh R, Giffin JR. Combined versus individual effects of a valgus knee brace and lateral wedge foot orthotic during stair use in patients with knee osteoarthritis. <i>Gait & Posture</i> 2017;54:160-166.	Not relevant control group
Moyer R, Birmingham T, Marriott K, Leitch K, Giffin J. Effects of combined custom valgus knee brace and custom lateral wedge foot orthotic use during stair ascent. <i>Osteoarthritis and Cartilage</i> 2014;22:S112.	Not relevant control group
N. Assessment of a Knee Brace in Patients With Osteoarthritis. https://clinicaltrials.gov/show/nct02706106 2015.	Not relevant study design
N. Bracing for Patellofemoral Osteoarthritis. https://clinicaltrials.gov/show/nct02984254 2016.	Not relevant study design
N. Bracing to Treat Knee Osteoarthritis in Elderly. https://clinicaltrials.gov/show/nct02443974 2015.	Not relevant study design
N. Effect of Bioskin Ten-7 vs. Standard Treatment on Patient Reported Outcomes and Cytokine. https://clinicaltrials.gov/show/nct02295020 2014.	Not relevant study design
N. Efficacy Study of an Unloading Brace for Knee Osteoarthritis. https://clinicaltrials.gov/show/nct02150057 2014.	Not relevant study design
N. Novel 3D Printed Knee Brace for Medial Knee Osteoarthritis. https://clinicaltrials.gov/show/nct02873403 2016.	Not relevant study design
N. Unloader One Study on Knee Osteoarthritis Hässleholm Sweden. https://clinicaltrials.gov/show/nct03454776 2018.	Not relevant study design
Ostrander R, Leddon C, Hackel J, O'Grady C, Roth C. The efficacy of unloader bracing in reducing the pain and symptoms of knee osteoarthritis. <i>Clinical Journal of Sport Medicine</i> 2014;24:169-170.	Not relevant study design
Ostrander RV, Leddon CE, Hackel JG, O'Grady CP, Roth CA. Efficacy of Unloader Bracing in Reducing Symptoms of Knee Osteoarthritis. <i>American Journal of Orthopedics (Chatham, Nj)</i> 2016;45:306-311.	Not relevant outcome
Petersen W, Ellermann A, Zantop T, Rembitzki IV, Semsch H, Liebau C, et al. Biomechanical effect of unloader braces for medial osteoarthritis of the knee: a systematic review (CRD 42015026136). <i>Archives of Orthopaedic & Trauma Surgery</i> 2016;136:649-56.	Not relevant outcome

Schmalz T, Drewitz H. The effect of orthoses on biomechanical gait parameters in medial knee compartment osteoarthritis: Comparison of ko and afo principles. <i>Gait and Posture</i> 2017;57:96.	Not relevant study design
Swaminathan V, Parkes MJ, Hodgson R, Callaghan MJ, Felson DT, O'Neill TW. Does patello-femoral brace therapy reduce synovitis assessed by	Not relevant study design
Thorning M, Thorlund JB, Roos EM, Wrigley TV, Hall M. Immediate effect of valgus bracing on knee joint moments in meniscectomized patients: An exploratory study. <i>Osteoarthritis and Cartilage</i> 2016;24:S99-S100.	Not relevant control group
Thoumie P, Avouac B, Marty M, Pallez A. Efficacy and safety of rebel reliever® brace in patients with knee osteoarthritis e a phase iii randomized controlled trial. <i>Osteoarthritis and Cartilage</i> 2017;25:S407.	Not relevant study design
Thoumie P, Marty M, Avouac B, Coudeyre E. Effectiveness of an unloading knee brace in the treatment of patients with knee osteoarthritis: A phase III randomized controlled trial. <i>Osteoporosis International</i> 2017;28:S398-	Not relevant study design
Wilson JJ, Husom E, McGuine TA, Hetzel S. The effect of a knee unloader brace for the treatment of knee osteoarthritis in patients receiving	Not relevant study design

Studies with high risk of bias

Reference

Hjartarson HF, Toksvig-Larsen S. The clinical effect of an unloader brace on patients with osteoarthritis of the knee, a randomized placebo controlled trial with one year follow up. *BMC Musculoskeletal Disorders* 2018;19:341.

Kolisek FR, Jaggard C, Khlopas A, Sultan AA, Sodhi N, Mont MA. A Comparative Effectiveness Study for Non-Operative Treatment Methods for Knee Osteoarthritis. *Surgical Technology International* 2018;32:325-330.

Mont MA, Cherian JJ, Bhave A, Starr R, Elmallah RK, Beaver WB, Jr., et al. Unloader Bracing for Knee Osteoarthritis: A Pilot Study of Gait and Function. *Surgical Technology International* 2015;27:287-93.

Niazi NS, Niazi SNK, Niazi KNK, Siddique M, Iqbal M. Comparison of the effectiveness of knee braces and lateral wedge insole in the management of medial compartment knee osteoarthritis. *Pakistan Journal of Medical and Health Sciences* 2014;8:37-40.

Petersen W, Ellermann A, Henning J, Nehrer S, Rembitzki IV, Fritz J, et al. Non-operative treatment of unicompartmental osteoarthritis of the knee: a prospective randomized trial with two different braces-ankle-foot orthosis versus knee unloader brace. *Archives of Orthopaedic & Trauma Surgery* 2018;25:25.

Swaminathan V, Parkes MJ, Callaghan MJ, O'Neill TW, Hodgson R, Gait AD, et al. With a biomechanical treatment in knee osteoarthritis, less knee pain did not correlate with synovitis reduction. *BMC Musculoskeletal Disorders* 2017;18:347.

Thoumie P, Marty M, Avouac B, Pallez A, Vaumousse A, Pipet LPT, et al. Effect of unloading brace treatment on pain and function in patients with symptomatic knee osteoarthritis: the ROTOR randomized clinical trial. *Scientific Reports* 2018;8:10519.

Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

A4 Artros i knä och höft (hälsoekonomi)

Appendix 3 Excluded studies and studies with high risk of bias

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Excluded health economic studies	page 2-5
Health economic studies with low quality or transferability	page 6

This list consists of articles not included in SBU's report. It has two parts:

Excluded health economic studies

This part consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Health economic studies with low quality or transferability

This part consists of articles that were relevant in terms of abstract and full-text, but after assessment were considered to have either too low methodological quality, too low transferability to a Swedish context, or both.

Excluded health economic studies

Reference	Main reason for exclusion
Arthroscopic debridement of the knee: an evidence update (Structured abstract). In: Health Technology Assessment Database. Health Quality Ontario; 2014.	Not relevant study design
Arthroscopic debridement of the knee: OHTAC recommendation (Structured abstract). In: Health Technology Assessment Database. Health Quality Ontario; 2014.	Not relevant study design
Bedair H, Cha T, Hansen V. Economic benefit to society at large of total knee arthroplasty in younger patients: a Markov analysis (Provisional abstract). Journal of Bone and Joint Surgery. American volume 2014;96:119-126.	Not relevant control group
Busch V. The young osteoarthritic hip: Clinical outcome of total hip arthroplasty and a cost-effectiveness analysis. Acta Orthop Suppl 2015;86:1-21.	Not relevant control group
Clarke A, Pulikottil-Jacob R, Grove A, Freeman K, Mistry H, Tsertsvadze A, et al. Total hip replacement and surface replacement for the treatment of pain and disability resulting from end-stage arthritis of the hip (review of technology appraisal guidance 2 and 44): systematic review and economic evaluation. Health Technol Assess 2015;19:1-668, vii-viii.	Not relevant control group
Clement ND, MacDonald D, Gaston P. Hip arthroscopy for femoroacetabular impingement: a health economic analysis. Hip Int 2014;24:457-64.	Not relevant control group
Coyle D, Coyle K, Vale L, Verteuil R, Imamura M, Glazener C, et al. Minimally invasive arthroplasty in the management of hip arthritic disease: systematic review and economic evaluation (Structured abstract). Health Technology Assessment Database 2008.	Not relevant control group
Culler SD, Jevsevar DS, Shea KG, McGuire KJ, Wright KK, Simon AW. The Incremental Hospital Cost and Length-of-Stay Associated With Treating Adverse Events Among Medicare Beneficiaries Undergoing THA During Fiscal Year 2013. J Arthroplasty 2016;31:42-8.	Not relevant control group
Dakin H, Gray A, Fitzpatrick R, Maclennan G, Murray D. Rationing of total knee replacement: a cost-effectiveness analysis on a large trial data set. BMJ Open 2012;2:e000332.	Not relevant control group

de Sa D, Horner NS, MacDonald A, Simunovic N, Slobogean G, Philippon MJ, et al. Evaluating healthcare resource utilization and outcomes for surgical hip dislocation and hip arthroscopy for femoroacetabular impingement. <i>Knee Surg Sports Traumatol Arthrosc</i> 2016;24:3943-3954.	Not relevant control group
Diaz-Ledezma C, Parvizi J. Surgical approaches for cam femoroacetabular impingement: the use of multicriteria decision analysis (Provisional abstract). <i>Clinical Orthopaedics and Related Research</i> 2013;471:2509-2516.	Not relevant control group
Ferket BS, Feldman Z, Zhou J, Oei EH, Bierma-Zeinstra SM, Mazumdar M. Impact of total knee replacement practice: cost effectiveness analysis of data from the Osteoarthritis Initiative. <i>Bmj</i> 2017;356:j1131.	Not relevant control group
Hamilton D, Clement N, Burnett R, Patton J, Moran M, Howie C, et al. Do modern total knee replacements offer better value for money? A health economic analysis (Structured abstract). <i>International Orthopaedics</i> 2013;37:2147-2152.	Not relevant control group
Higashi H, Barendregt JJ. Cost-effectiveness of total hip and knee replacements for the Australian population with osteoarthritis: discrete-event simulation model. <i>PLoS One</i> 2011;6:e25403.	Not relevant control group
Hutt JR, Craik J, Phadnis J, Cobb AG. Arthroscopy for mechanical symptoms in osteoarthritis: a cost-effective procedure. <i>Knee Surg Sports Traumatol Arthrosc</i> 2015;23:3545-9.	Not relevant study design
Jenkins PJ, Clement ND, Hamilton DF, Gaston P, Patton JT, Howie CR. Predicting the cost-effectiveness of total hip and knee replacement: a health economic analysis. <i>Bone Joint J</i> 2013;95:115-21.	Not relevant control group
Judge A, Cooper C, Williams S, Dreinhofer K, Dieppe P. Patient-reported outcomes one year after primary hip replacement in a European Collaborative Cohort. <i>Arthritis Care Res (Hoboken)</i> 2010;62:480-8.	Not relevant study design
Kamaruzaman H, Kinghorn P, Oppong R. Cost-effectiveness of surgical interventions for the management of osteoarthritis: a systematic review of the literature. <i>BMC Musculoskelet Disord</i> 2017;18:183.	Wrong publication type
Karuppiah SV, Banaszkiwicz PA, Ledingham WM. The mortality, morbidity and cost benefits of elective total knee arthroplasty in the nonagenarian population (Structured abstract). <i>International Orthopaedics</i> 2008;32:339-343.	Not relevant study design

Krummenauer F, Guenther KP, Kirschner S. Cost effectiveness of total knee arthroplasty from a health care providers' perspective before and after introduction of an interdisciplinary clinical pathway--is investment always improvement? BMC Health Serv Res 2011;11:338.	Not relevant control group
Kunkel ST, Sabatino MJ, Kang R, Jevsevar DS, Moschetti WE. The Cost-Effectiveness of Total Hip Arthroplasty in Patients 80 Years of Age and Older. J Arthroplasty 2017.	Not relevant control group
Lavernia CJ, Alcerro JC. Quality of life and cost-effectiveness 1 year after total hip arthroplasty. J Arthroplasty 2011;26:705-9.	Not relevant population
Losina E, Paltiel AD, Weinstein AM, Yelin E, Hunter DJ, Chen SP, et al. Lifetime medical costs of knee osteoarthritis management in the United States: impact of extending indications for total knee arthroplasty. Arthritis Care Res (Hoboken) 2015;67:203-15.	Not relevant study design
Losina E, Walensky RP, Kessler CL, Emrani PS, Reichmann WM, Wright EA, et al. Cost-effectiveness of total knee arthroplasty in the United States: patient risk and hospital volume. Arch Intern Med 2009;169:1113-21; discussion 1121-2.	Not relevant control group
Mistry H, Connock M, Pink J, Shyangdan D, Clar C, Royle P, et al. Autologous chondrocyte implantation in the knee: systematic review and economic evaluation. Health Technol Assess 2017;21:1-294.	Not relevant intervention
Molloy IB, Martin BI, Moschetti WE, Jevsevar DS. Effects of the Length of Stay on the Cost of Total Knee and Total Hip Arthroplasty from 2002 to 2013. J Bone Joint Surg Am 2017;99:402-407.	Not relevant study design
Mujica MR. Cost-effectiveness analysis of early versus late total hip replacement in Italy (Provisional abstract). In: Value in Health; 2013. p 267-279.	Not relevant control group
Mujica-Mota RE, Watson LK, Tarricone R, Jager M. Cost-effectiveness of timely versus delayed primary total hip replacement in Germany: A social health insurance perspective. Orthop Rev (Pavia) 2017;9:7161.	Not relevant control group
Murphy J, Pritchard MG, Cheng LY, Janarthanan R, Leal J. Cost-effectiveness of enhanced recovery in hip and knee replacement: a systematic review protocol. BMJ Open 2018;8:e019740.	Wrong publication type
Nielen JTH, Boonen A, Dagnelie PC, van den Bemt BJB, Emans PJ, Lafeber F, et al. Disease burden of knee osteoarthritis patients with a joint replacement compared to matched controls: a population-based analysis of a Dutch medical claims database. Osteoarthritis Cartilage 2018;26:202-210.	Not relevant study design

Ruiz JD, Koenig L, Dall T, Gallo P, Narzikul A, Parvizi J, et al. The direct and indirect costs to society of treatment for end-stage knee osteoarthritis (Provisional abstract). Journal of Bone and Joint Surgery 2013;95:1473-1480.	Not relevant control group
Schilling CG, Dowsey MM, Petrie DJ, Clarke PM, Choong PF. Predicting the Long-Term Gains in Health-Related Quality of Life After Total Knee Arthroplasty. J Arthroplasty 2017;32:395-401.e2.	Not relevant study design
Schrock JB, Kraeutler MJ, Houck DA, McQueen MB, McCarty EC. A Cost-Effectiveness Analysis of Surgical Treatment Modalities for Chondral Lesions of the Knee: Microfracture, Osteochondral Autograft Transplantation, and Autologous Chondrocyte Implantation. Orthop J Sports Med 2017;5:2325967117704634.	Not relevant intervention
Shearer DW, Kramer J, Bozic KJ, Feeley BT. Is hip arthroscopy cost-effective for femoroacetabular impingement? Clin Orthop Relat Res 2012;470:1079-89.	Not relevant control group
Sloan FA, Hanrahan BW. Cost offsets to medicare attributable to receipt of hip, knee, and shoulder arthroplasty. Arthritis Care Res (Hoboken) 2014;66:1203-12.	Not relevant control group
Tso P, Walker K, Mahomed N, Coyte P, Rampersaud Y. Comparison of lifetime incremental cost:utility ratios of surgery relative to failed medical management for the treatment of hip, knee and spine osteoarthritis modelled using 2-year postsurgical values (Provisional abstract). Canadian Journal of Surgery 2012;55:181-190.	Not relevant control group
Waimann CA, Fernandez-Mazarambroz RJ, Cantor SB, Lopez-Olivo MA, Zhang H, Landon GC, et al. Cost-effectiveness of total knee replacement: a prospective cohort study. Arthritis Care Res (Hoboken) 2014;66:592-9.	Not relevant control group

Health economic studies with low quality or transferability

Reference	Assessment
Dutka J, Dutka L, Janiszewski M, Hajduk G. Cost analysis and sociomedical aspects of the conservative and surgical treatment of hip osteoarthritis. <i>Ortop Traumatol Rehabil</i> 2008;10:537-46.	Low methodological quality Low transferability
Li CS, Bhandari M. Cost-effectiveness of unicompartmental knee arthroplasty, high tibial osteotomy, and KineSpring(R) Knee Implant System for unicompartmental osteoarthritis of the knee. <i>J Long Term Eff Med Implants</i> 2013;23:189-98.	Low methodological quality Low transferability
Mather RC, 3rd, Hug KT, Orlando LA, Watters TS, Koenig L, Nunley RM, et al. Economic evaluation of access to musculoskeletal care: the case of waiting for total knee arthroplasty. <i>BMC Musculoskelet Disord</i> 2014;15:22	Medium high methodological quality Low transferability
Mather RC, 3rd, Nho SJ, Federer A, Demiralp B, Nguyen J, Saavoss A, et al. Effects of Arthroscopy for Femoroacetabular Impingement Syndrome on Quality of Life and Economic Outcomes. <i>Am J Sports Med</i> 2018;46:1205-1213.	Low methodological quality Low transferability
Stan G, Orban H, Orban C. Cost Effectiveness Analysis of Knee Osteoarthritis Treatment. <i>Chirurgia (Bucur)</i> 2015;110:368-74.	Low methodological quality Low transferability
Doss A. Could a disruptive out patient healthcare delivery model reduce escalating in-hospital healthcare costs in knee osteoarthritis. <i>BMJ Innovations</i> 2016;2:65-69.	Low methodological quality Low transferability
Kim JM, Han JR, Shetty AA, Kim SJ, Choi NY, Park JS. Comparison between total knee arthroplasty and MCIC (autologous bone marrow mesenchymal-cell-induced-chondrogenesis) for the treatment of osteoarthritis of the knee. <i>Tissue Engineering and Regenerative Medicine</i> 2014;11:405-413.	Low methodological quality Low transferability

Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

A4:0 Artroskopisk kirurgi vid artros eller degenerativ meniskskada

Appendix 3 Excluded studies and studies with high risk of bias

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Studies with high risk of bias	page 3

This list consists of articles not included in SBU's report. It has two parts:

Excluded studies

This part consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Studies with high risk of bias

This part consists of articles that were relevant in terms of abstract and full-text, but after quality assessment considered to be studies with high risk of bias.

Excluded studies

Reference	Main reason for exclusion
Barlow T, Downham C, Griffin D. Arthroscopy in knee osteoarthritis: a systematic review of the literature. <i>Acta Orthop Belg</i> 2015;81:1-8.	Duplicate
Bollen SR. Is arthroscopy of the knee completely useless?: Meta-analysis - A reviewer's nightmare. <i>Bone and Joint Journal</i> 2015;97:1591-1592.	Not a systematic review
Chalmers PN, Vigneswaran H, Harris JD, Cole BJ. Activity-Related Outcomes of Articular Cartilage Surgery: A Systematic Review. <i>Cartilage</i> 2013;4:193-203.	Not relevant intervention
Gracitelli GC, Moraes VY, Franciozi CE, Luzo MV, Belloti JC. Surgical interventions (microfracture, drilling, mosaicplasty, and allograft	Not relevant intervention
Institute for Q, Efficiency in Health C. IQWiG Executive Summaries of Final Reports. Cologne, Germany, Institute for Quality and Efficiency in Health Care (IQWiG) Copyright (c) 2014 by the Institute for Quality and Efficiency	Duplicate
IqwiG. Arthroscopy of the knee joint for gonarthrosis (Structured abstract). <i>Health Technology Assessment Database</i> 2014.	Not in the specified languages
Järvinen TLN, Guyatt GH. Surgery: Falling out of love with knee arthroscopy. <i>Nature Reviews Rheumatology</i> 2017;13:515-516.	Not a systematic review
Khan M, Evaniew N, Bedi A, Ayeni OR, Bh, ari M. Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-	Duplicate
Lamplot JD, Brophy RH. The role for arthroscopic partial meniscectomy in knees with degenerative changes: a systematic review. <i>Bone Joint J</i> 2016;98:934-8.	Duplicate
Nelson AE, Allen KD, Golightly YM, Goode AP, Jordan JM. A systematic review of recommendations and guidelines for the management of osteoarthritis: The chronic osteoarthritis management initiative of the U.S. bone and joint initiative. <i>Semin Arthritis Rheum</i> 2014;43:701-12.	Not relevant intervention
Onyema C, Oragui E, White J, Khan WS. Evidence-based practice in arthroscopic knee surgery. <i>J Perioper Pract</i> 2011;21:128-34.	Not a systematic review
Reichenbach S, Rutjes AW, Nuesch E, Trelle S, Juni P. Joint lavage for osteoarthritis of the knee. <i>Cochrane Database Syst Rev</i> 2010:Cd007320.	Other reason
Siemieniuk RAC, Harris IA, Agoritsas T, Poolman RW, Brignardello-Petersen R, Van de Velde S, et al. Arthroscopic surgery for degenerative knee arthritis and meniscal tears: a clinical practice guideline. <i>Bmj</i> 2017;357:j1982.	Duplicate
Thorlund JB, Juhl CB, Roos EM, Lohm, er LS. Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and	Duplicate

Studies with high risk of bias

Reference

Arthroscopic debridement of the knee: an evidence update (Structured abstract). Health Technology Assessment Database 2014.

Arthroscopic debridement of the knee: OHTAC recommendation (Structured abstract). In: Health Technology Assessment Database. Health Quality Ontario; 2014.

Spahn G, Hofmann GO, Klinger HM. The effects of arthroscopic joint debridement in the knee osteoarthritis: results of a meta-analysis. *Knee Surg Sports Traumatol Arthrosc* 2013;21:1553-61.

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

A4:1 Artroskopisk kirurgi vid misstänkt degenerativt tillstånd

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Actrn. Full randomised controlled trial of Arthroscopic Surgery for Hip Impingement versus best coNventional Care. Http://www.who.int/trialsearch/trial2.aspx? Trialid=actrn12615001177549 2015.	Not relevant study design
Al Mana L, Coughlin RP, Desai V, Simunovic N, Duong A, Ayeni OR. The Hip Labrum Reconstruction: Indications and Outcomes-an Updated Systematic Review. Curr Rev Musculoskelet Med 2019.	Not relevant control group
Arakgi ME, Lowe D, Wong I. Evidence for hip arthroscopy: Review of the literature and grading of current indications. Clinical Journal of Sport Medicine 2018;28:e70.	Not relevant study design
Ayeni O, Adamich J, Farrokhyar F, Simunovic N, Crouch S, Philippon M, et al. Surgical management of labral tears during femoroacetabular impingement surgery: a systematic review (Provisional abstract). In: Knee	Not relevant intervention
Ayeni OR, Crouch S, Pindiprolu B, Bh, ari M. Surgical indications for treatment of femoroacetabular impingement with surgical hip dislocation: A systematic review. Clinical Journal of Sport Medicine 2012;22:298.	Not relevant study design
Ayeni OR, Wong I, Chien T, Musahl V, Kelly BT, Bh, et al. Surgical indications for arthroscopic management of femoroacetabular impingement. Arthroscopy 2012;28:1170-9.	Not relevant outcome
Ayeni OR. In Femoroacetabular Impingement Syndrome, Hip Arthroscopy Improved Hip-Related Quality of Life at 12 Months Compared with Conservative Care. Journal of Bone and Joint Surgery - American Volume 2019;101:371.	Not a primary study
Benthien JP, Schwaninger M, Behrens P. We do not have evidence based methods for the treatment of cartilage defects in the knee. Knee Surg Sports Traumatol Arthrosc 2011;19:543-52.	Not relevant control group
Bolia IK, Fagotti L, McNamara S, Dornan G, Briggs KK, Philippon MJ. A systematic review-meta-analysis of venous thromboembolic events following primary hip arthroscopy for FAI: clinical and epidemiologic considerations. Journal of Hip Preservation Surgery 2018;5:190-201.	Not a primary study
Botser IB, Smith TW, Jr., Nasser R, Domb BG. Open surgical dislocation versus arthroscopy for femoroacetabular impingement: a comparison of clinical outcomes. Arthroscopy 2011;27:270-8.	Not relevant control group
Boye GN, Murray K, Clohisy JC, Kim YJ. Feasibility of a Randomized Clinical Trial for Treatment of Femoroacetabular Impingement of the Hip. Orthopaedic Journal of Sports Medicine 2015;3:2325967115592844.	Not a primary study

Chahal J, Thiel GSV, Mather RC, Lee S, Salata MJ, Nho SJ. The Minimal Clinical Important Difference (MCID) And Patient Acceptable Symptomatic State (PASS) For The Modified Harris Hip Score And Hip Outcome Score Among Patients Undergoing Surgical Treatment For Femoroacetabular	Not a primary study
Clohisy JC, St John LC, Schutz AL. Surgical treatment of femoroacetabular impingement: a systematic review of the literature. Clin Orthop Relat Res 2010;468:555-64.	Not relevant control group
Collins J, Ward J, Youm T. Is prophylactic surgery for femoroacetabular impingement indicated? A systematic review (Provisional abstract). In: American Journal of Sports Medicine; 2014. p 3009-3015.	Not relevant intervention
Committee on E, Standards Arthroscopy Association of North A, Board of Directors of the Arthroscopy Association of North A. Suggested guidelines for the practice of arthroscopic surgery. Arthroscopy 2011;27:A30.	Not a systematic review
de Sa D, Horner NS, MacDonald A, Simunovic N, Slobogean G, Philippon MJ, et al. Evaluating healthcare resource utilization and outcomes for surgical hip dislocation and hip arthroscopy for femoroacetabular impingement. Knee Surg Sports Traumatol Arthrosc 2016;24:3943-3954.	Not relevant control group
de Sa D, Lian J, Sheean AJ, Inman K, Drain N, Ayeni O, et al. A Systematic Summary of Systematic Reviews on the Topic of Hip Arthroscopic Surgery. Orthop J Sports Med 2018;6:2325967118796222.	Not relevant control group
Dickenson E, Griffin D, Realpe A, Parsons N, Griffin J, Hutchinson C, et al. Hip arthroscopy compared to best conservative care for the treatment of femoroacetabular impingement syndrome: A randomised controlled trial	Not relevant study design
Erickson BJ, Cvetanovich GL, Frank RM, Bhatia S, Bush-Joseph CA, Nho SJ, et al. International trends in arthroscopic hip preservation surgery-are we treating the same patient? J Hip Preserv Surg 2015;2:28-41.	Not relevant intervention
Fairley J, Wang Y, Teichtahl AJ, Seneviwickrama M, Wluka AE, Brady SRE, et al. Management options for femoroacetabular impingement: a systematic review of symptom and structural outcomes. Osteoarthritis Cartilage 2016;24:1682-1696.	Not relevant control group
Forster-Horvath C, von Rotz N, Giordano BD, Domb BG. Acetabular Labral Debridement/Segmental Resection Versus Reconstruction in the Comprehensive Treatment of Symptomatic Femoroacetabular Impingement: A Systematic Review. Arthroscopy - Journal of Arthroscopic	Not relevant control group
Frank RM, Lee S, Bush-Joseph CA, Kelly BT, Salata MJ, Nho SJ. Improved outcomes after hip arthroscopic surgery in patients undergoing T-capsulotomy with complete repair versus partial repair for femoroacetabular impingement: a comparative matched-pair analysis.	Not relevant control group
Gillespie JA, Patil SR, Meek RD. Clinical outcome scores for arthroscopic femoral osteochondroplasty in femoroacetabular impingement: a	Not relevant control group
Goyal C, Shamshoon S, Memon M, Kay J, Simunovic N, Randelli F, et al. Health-Related Quality of Life After Hip Arthroscopy for Femoroacetabular Impingement: A Systematic Review and Meta-analysis. Sports Health 2019;11:1941738119838799.	Not relevant control group
Griffin D, Wall P, Realpe A, Adams A, Parsons N, Hobson R, et al. UK FASHIoN: feasibility study of a randomised controlled trial of arthroscopic surgery for hip impingement compared with best conservative care. Health Technology Assessment (Winchester, England) 2016;20:1-172.	Not a primary study

Griffin DR, Dickenson EJ, Wall PD, Donovan JL, Foster NE, Hutchinson CE, et al. Protocol for a multicentre, parallel-arm, 12-month, randomised, controlled trial of arthroscopic surgery versus conservative care for	Other reason
Griffin DR, Dickenson EJ, Wall PDH, Realpe A, Adams A, Parsons N, et al. The feasibility of conducting a randomised controlled trial comparing arthroscopic hip surgery to conservative care for patients with femoroacetabular impingement syndrome: the FASHIoN feasibility study. <i>Journal of Hip Preservation Surgery</i> 2016;3:304-311.	Not a primary study
Griffin DW, Kinnard MJ, Formby PM, McCabe MP, Anderson TD. Outcomes of Hip Arthroscopy in the Older Adult: A Systematic Review of the Literature. <i>Am J Sports Med</i> 2017;45:1928-1936.	Not relevant control group
Gupta VA, Palmer A, Rombach I, Dutton S, Cooper C, Barker K, et al. Methodological challenges and pragmatic design in randomised controlled trials comparing surgery and rehabilitation. <i>Trials</i> 2015;16.	Not relevant study design
Haldane CE, Ekhtiari S, de Sa D, Simunovic N, Safran M, Randelli F, et al. Venous Thromboembolism Events After Hip Arthroscopy: A Systematic Review. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> 2018;34:321-330.e1.	Not a primary study
Harris JD, Erickson BJ, Bush-Joseph CA, Nho SJ. Treatment of femoroacetabular impingement: a systematic review. <i>Curr Rev Musculoskelet Med</i> 2013;6:207-18.	Not relevant control group
Harris JD, McCormick FM, Abrams GD, Gupta AK, Ellis TJ, Bach BR, Jr., et al. Complications and reoperations during and after hip arthroscopy: a systematic review of 92 studies and more than 6,000 patients. <i>Arthroscopy</i> 2013;29:589-95.	Not relevant control group
Hayes, Inc. Arthroscopic hip surgery for femoroacetabular impingement (FAI) (Structured abstract). In: Health Technology Assessment Database. HAYES, Inc; 2010.	Other reason
Heaven S, de Sa D, Simunovic N, Williams DS, Naudie D, Ayeni OR. Hip arthroscopy in the setting of hip arthroplasty. <i>Knee Surg Sports Traumatol Arthrosc</i> 2016;24:287-94.	Not relevant control group
Horner NS, Ekhtiari S, Simunovic N, Safran MR, Philippon MJ, Ayeni OR. Hip Arthroscopy in Patients Age 40 or Older: A Systematic Review.	Not relevant control group
Kemp J, Collins N, Makdissi M, Schache A, MacHotka Z, Crossley K. Outcomes following hip arthroscopy: A systematic review of the literature. <i>Journal of Science and Medicine in Sport</i> 2011;14:e65.	Not relevant study design
Khan M, Habib A, de Sa D, Larson CM, Kelly BT, Bh, et al. Arthroscopy Up to Date: Hip Femoroacetabular Impingement. <i>Arthroscopy</i> 2016;32:177-89.	Not relevant control group
Kierkegaard S, Langeskov-Christensen M, Lund B, Mechlenburg I, Dalgas U, Casartelli NC. Time course of patient reported outcomes after hip arthroscopic surgery for femoroacetabular impingement-a systematic	Not relevant study design

Kierkegaard S, Langeskov-Christensen M, Lund B, Naal FD, Mechlenburg I, Dalgas U, et al. Pain, activities of daily living and sport function at different time points after hip arthroscopy in patients with	Not relevant control group
Kowalczuk M, Bh, ari M, Farrokhyar F, Wong I, Chahal M, et al. Complications following hip arthroscopy: a systematic review and meta-analysis. <i>Knee Surg Sports Traumatol Arthrosc</i> 2013;21:1669-75.	Not relevant control group
Larson CM, Stone RM. Current concepts and trends for operative treatment of FAI: hip arthroscopy. <i>Curr Rev Musculoskelet Med</i> 2013;6:242-9.	Not relevant outcome
Lei P, Conaway WK, Martin SD. Outcome of Surgical Treatment of Hip Femoroacetabular Impingement Patients with Radiographic Osteoarthritis: A Meta-analysis of Prospective Studies. <i>J Am Acad Orthop Surg</i> 2019;27:e70-e76.	Not relevant population
Litrenta J, Mu B, Ortiz-Declat V, Chen AW, Perets I, Domb BG. Should Acetabular Retroversion Be Treated Arthroscopically? A Systematic Review of Open Versus Arthroscopic Techniques. <i>Arthroscopy</i> 2018;34:953-966.	Not relevant control group
Longo UG, Franceschetti E, Maffulli N, Denaro V. Hip arthroscopy: state of the art. <i>Br Med Bull</i> 2010;96:131-57.	Not relevant control group
Lovett-Carter D, Jawanda, A. S., Hannigan, A. Meta-Analysis of the Surgical and Rehabilitative Outcomes of Hip Arthroscopy in Athletes With Femoroacetabular Impingement. <i>Clin J Sport Med</i> 2018.	Not relevant outcome
MacDonald AE, Bedi A, Horner NS, de Sa D, Simunovic N, Philippon MJ, et al. Indications and Outcomes for Microfracture as an Adjunct to Hip Arthroscopy for Treatment of Chondral Defects in Patients With Femoroacetabular Impingement: A Systematic Review. <i>Arthroscopy</i>	Not relevant intervention
MacFarlane R, Konan S, El-Huseinny M, Haddad F. A review of outcomes of the surgical management of femoroacetabular impingement (Provisional abstract). In: <i>Database of Abstracts of Reviews of Effects</i> ; 2014. p 331-338.	Not relevant control group
Malahias MA, Alexiades MM. The clinical outcome of chondrolabral-preserving arthroscopic acetabuloplasty for pincer- or mixed-type femoroacetabular impingement: A systematic review. <i>Musculoskelet Surg</i> 2019.	Not relevant control group
Mansell NS, Rhon DI, Marchant BG, Slevin JM, Meyer JL. Two-year outcomes after arthroscopic surgery compared to physical therapy for femoroacetabular impingement: A protocol for a randomized clinical trial.	Other reason
Marquez-Lara A, Mannava S, Howse EA, Stone AV, Stubbs AJ. Arthroscopic Management of Hip Chondral Defects: A Systematic Review of the Literature. <i>Arthroscopy</i> 2016;32:1435-43.	Not relevant control group

Matsuda D, Carlisle J, Arthurs S, Wierks C, Philippon M. Comparative systematic review of the open dislocation, mini-open, and arthroscopic surgeries for femoroacetabular impingement (Structured abstract). In: <i>Arthroscopy</i> ; 2011. p 252-269.	Not relevant control group
Minkara AA, Westermann RW, Rosneck J, Lynch TS. Systematic Review and Meta-analysis of Outcomes After Hip Arthroscopy in Femoroacetabular Impingement. <i>Am J Sports Med</i>	Not relevant control group
Minkara AA, Westermann RW, Rosneck J, Lynch TS. Systematic Review and Meta-analysis of Outcomes After Hip Arthroscopy in Femoroacetabular Impingement. <i>Am J Sports Med</i> 2019;47:488-500.	Not relevant control group
Murphy NJ, Eyles J, Bennell KL, Bohensky M, Burns A, Callaghan FM, et al. Protocol for a multi-centre randomised controlled trial comparing arthroscopic hip surgery to physiotherapy-led care for femoroacetabular impingement (FAI): the Australian FASHIoN trial. <i>BMC Musculoskeletal Disorders</i> 2017;18:406.	Other reason
Nct. Arthroscopic Surgical Procedures vs Sham Surgery for Patients With Femoroacetabular Impingement and/or Labral Tears. https://clinicaltrials.gov/show/nct02692807 2016.	Other reason
Nct. Trial for Femoroacetabular Impingement Treatment. https://clinicaltrials.gov/show/nct01893034 2013.	Not relevant study design
Nelson AE, Allen KD, Golightly YM, Goode AP, Jordan JM. A systematic review of recommendations and guidelines for the management of osteoarthritis: The chronic osteoarthritis management initiative of the	Not relevant outcome
Ng V, Arora N, Best T, Pan X, Ellis T. Efficacy of surgery for femoroacetabular impingement: a systematic review (Provisional abstract). In: <i>American Journal of Sports Medicine</i> ; 2010. p 2337-2345.	Not relevant control group
Nwachukwu BU, Rebolledo BJ, McCormick F, Rosas S, Harris JD, Kelly BT. Arthroscopic Versus Open Treatment of Femoroacetabular Impingement: A Systematic Review of Medium- to Long-Term Outcomes. <i>Am J Sports Med</i> 2016;44:1062-8.	Not relevant control group
Ortiz-Declet V, Mu B, Chen AW, Litrenta J, Perets I, Yuen LC, et al. Should the Capsule Be Repaired or Plicated After Hip Arthroscopy for Labral Tears Associated With Femoroacetabular Impingement or Instability? A Systematic Review. <i>Arthroscopy</i> 2018;34:303-318.	Not relevant control group
Palmer AJ, Ayyar-Gupta V, Dutton SJ, Rombach I, Cooper CD, Pollard TC, et al. Protocol for the Femoroacetabular Impingement Trial (FAIT): a multi-centre randomised controlled trial comparing surgical and non-surgical management of femoroacetabular impingement. <i>Bone & Joint Research</i> 2014;3:321-7.	Other reason
Palmer AJ, Thomas GE, Pollard TC, Rombach I, Taylor A, Arden N, et al. The feasibility of performing a randomised controlled trial for femoroacetabular impingement surgery. <i>Bone & Joint Research</i> 2013;2:33-40.	Not a primary study

Papalia R, Del Buono A, Franceschi F, Marinozzi A, Maffulli N, Denaro V. Femoroacetabular impingement syndrome management: Arthroscopy or open surgery? <i>International Orthopaedics</i> 2012;36:903-914.	Not relevant control group
Piuzzi NS, Slullitel PA, Bertona A, Onativia JI, Albergo I, Zanotti G, et al. Hip arthroscopy in osteoarthritis: a systematic review of the literature. <i>Hip Int</i> 2016;26:8-14.	Not relevant population
Realpe A, Wall P, Griffin D, Hobson R, Donovan J, Adams A. Involving patients in optimising RCT participant information sheets and exploring patient acceptability of clinical trials. <i>Trials</i> 2013;14:74DUMMY.	Not relevant study design
Reiman MP, Peters S, Sylvain J, Hagymasi S, Mather RC, Goode AP. Femoroacetabular impingement surgery allows 74% of athletes to return to the same competitive level of sports participation but their level of	Not relevant outcome
Richardson RS, Lothe K, Sturridge S. Is surgery effective in patients with femoroacetabular impingement syndrome? <i>BMJ (Online)</i> 2019;365.	Not a primary study
Riff AJ, Kunze KN, Movassaghi K, Hijji F, Beck EC, Harris JD, et al. Systematic Review of Hip Arthroscopy for Femoroacetabular Impingement: The Importance of Labral Repair and Capsular Closure. <i>Arthroscopy</i> 2019;35:646-656.e3.	Not relevant control group
Risberg MA, Ageberg E, Nilstad A, Lund B, Nordsletten L, Loken S, et al. Arthroscopic Surgical Procedures Versus Sham Surgery for Patients With Femoroacetabular Impingement and/or Labral Tears: Study Protocol for a Randomized Controlled Trial (HIPARTI) and a Prospective Cohort Study	Not relevant study design
Sampson JD, Safran MR. Biomechanical Implications of Corrective Surgery for FAI: An Evidence-based Review. <i>Sports Med Arthrosc Rev</i> 2015;23:169-73.	Not relevant outcome
Seijas R, Ares O, Sallent A, Cusco X, Alvarez-Diaz P, Tejedor R, et al. Hip arthroscopy complications regarding surgery and early postoperative care: retrospective study and review of literature. <i>Musculoskelet Surg</i> 2017;101:119-131.	Not a systematic review
Stevens MS, Legay DA, Glazebrook MA, Amirault D. The evidence for hip arthroscopy: grading the current indications. <i>Arthroscopy</i> 2010;26:1370-	Not relevant outcome
Tibor LM, Leunig M. Labral Resection or Preservation During FAI Treatment? A Systematic Review. <i>Hss j</i> 2012;8:225-9.	Not relevant control group

Wall PD, Brown JS, Parsons N, Buchbinder R, Costa ML, Griffin D. Surgery for treating hip impingement (femoroacetabular impingement). Cochrane Database of Systematic Reviews 2014:CD010796.

Duplicate

Weber AE, Harris JD, Nho SJ. Complications in Hip Arthroscopy: A Systematic Review and Strategies for Prevention. *Sports Med Arthrosc Rev* 2015;23:187-93.

Not relevant control group

Yeung M, Memon M, Simunovic N, Belzile E, Philippon MJ, Ayeni OR. Gross Instability After Hip Arthroscopy: An Analysis of Case Reports Evaluating Surgical and Patient Factors. *Arthroscopy* 2016;32:1196-1204.e1.

Not relevant control group

Zaltz I, Kelly BT, Larson CM, Leunig M, Bedi A. Surgical treatment of femoroacetabular impingement: what are the limits of hip arthroscopy? *Arthroscopy* 2014;30:99-110.

Not relevant control group

Zhang D, Chen L, Wang G. Hip arthroscopy versus open surgical dislocation for femoroacetabular impingement: A systematic review and meta-analysis. *Medicine (Baltimore)* 2016;95:e5122.

Not relevant control group

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

A4:2 Broskcellstransplantation vid artros i knä

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Andriolo L, Merli G, Filardo G, Marcacci M, Kon E. Failure of Autologous Chondrocyte Implantation. <i>Sports Med Arthrosc Rev</i> 2017;25:10-18.	Not relevant intervention
Autologous mesenchymal stem cells for treating knee osteoarthritis. <i>Manag Care</i> 2013;22:15-6.	Not relevant population
Bachmann G, Basad E, Lommel D, Steinmeyer J. MRI in the follow-up of matrix-supported autologous chondrocyte transplantation (MACI) and	Not relevant population
Basad E, Ishaque B, Bachmann G, Sturz H, Steinmeyer J. Matrix-induced autologous chondrocyte implantation versus microfracture in the treatment of cartilage defects of the knee: a 2-year randomised study.	Not relevant population
Besselink N, Van HR, Van DWJ, Wiegant K, Spruijt S, Custers R, et al. Axial alignment of the knee-important in cartilage repair? In: <i>Osteoarthritis and cartilage. Conference: 2017 osteoarthritis research society international, OARSI world congress. United states; 2017. p S244.</i>	Not relevant population
Bexkens R, Ogink PT, Doornberg JN, Kerkhoffs G, Eygendaal D, Oh LS, et al. Donor-site morbidity after osteochondral autologous transplantation for osteochondritis dissecans of the capitellum: a systematic review and meta-analysis. <i>Knee Surg Sports Traumatol Arthrosc</i> 2017;25:2237-2246.	Not relevant population
Brown WE, Potter HG, Marx RG, Wickiewicz TL, Warren RF. Magnetic resonance imaging appearance of cartilage repair in the knee. <i>Clin Orthop Relat Res</i> 2004:214-23.	Not relevant study design
Centeno C, Pitts J, Al-Sayegh H, Freeman M. Efficacy of autologous bone marrow concentrate for knee osteoarthritis with and without adipose graft. <i>Biomed Res Int</i> 2014;2014:370621.	Not relevant study design
Chalmers PN, Vigneswaran H, Harris JD, Cole BJ. Activity-Related Outcomes of Articular Cartilage Surgery: A Systematic Review. <i>Cartilage</i> ;4:193-203.	Not relevant population
Cole BJ, Farr J, Winalski CS, Hosea T, Richmond J, M, et al. Outcomes after a single-stage procedure for cell-based cartilage repair: a prospective clinical safety trial with 2-year follow-up. <i>Am J Sports Med</i> 2011;39:1170-9.	Not relevant population
Coleman SH, Malizia R, Macgillivray J, Warren RF. Treatment of isolated articular cartilage lesions of the medial femoral condyle. A clinical nad MR comparison of autologous chondrocyte implantation vs. microfracture. <i>Ortop Traumatol Rehabil</i> 2001;3:224-6.	Not relevant population
Crawford DC, DeBerardino TM, Williams RJ, 3rd. NeoCart, an autologous cartilage tissue implant, compared with microfracture for treatment of distal femoral cartilage lesions: an FDA phase-II prospective, randomized clinical trial after two years. <i>J Bone Joint Surg Am</i> 2012;94:979-89.	Not relevant population
de Windt TS, Vonk LA, Brittberg M, Saris DB. Treatment and Prevention of (Early) Osteoarthritis Using Articular Cartilage Repair-Fact or Fiction? A Systematic Review. <i>Cartilage</i> ;4:5s-12s.	Not relevant outcome

Fechner A, Meyer O, Godolias G. Matrix-linked autologous chondrocyte transplantation versus micro-fracturing as therapy for cartilage defects in the knee - results of the 3-year follow-up of 80 patients. In; 2007. p 199.	Not relevant population
Ferruzzi A, Buda R, Cavallo M, Timoncini A, Natali S, Giannini S. Cartilage repair procedures associated with high tibial osteotomy in varus knees: clinical results at 11 years' follow-up. <i>Knee</i> 2014;21:445-50.	Not relevant study design
Ferruzzi A, Buda R, Timoncini A, Giannini S. Autologous chondrocyte implantation and microfractures associated to high tibial osteotomy in the treatment of varus knee with severe osteoarthritis: a clinical study at 10-year follow-up. In; 2012. p S63-s64.	Not relevant study design
Fu FH, Zurakowski D, Browne JE, M, elbaum B, Erggelet C, et al. Autologous chondrocyte implantation versus debridement for treatment of full-thickness chondral defects of the knee: an observational cohort study with 3-year follow-up. <i>Am J Sports Med</i> 2005;33:1658-66.	Not relevant study design
Gudas R, Gudaite A, Mickevicius T, Masiulis N, Simonaityte R, Cekanauskas E, et al. Comparison of osteochondral autologous transplantation, microfracture, or debridement techniques in articular cartilage lesions associated with anterior cruciate ligament injury: a	Not relevant population
Gudas R, Gudaite A, Pocius A, Gudiene A, Cekanauskas E, Monastyreckiene E, et al. Ten-year follow-up of a prospective, randomized clinical study of mosaic osteochondral autologous transplantation versus microfracture for the treatment of osteochondral defects in the knee joint of athletes. <i>Am J Sports Med</i> 2012;40:2499-508.	Not relevant population
Gudas R, Stankevicius E, Monastyreckiene E, Pranys D, Kalesinskas RJ. Osteochondral autologous transplantation versus microfracture for the treatment of articular cartilage defects in the knee joint in athletes. <i>Knee Surg Sports Traumatol Arthrosc</i> 2006;14:834-42.	Not relevant population
Knutsen G, Drogset JO, Engebretsen L, Grontvedt T, Isaksen V, Ludvigsen TC, et al. A randomized trial comparing autologous chondrocyte implantation with microfracture. Findings at five years. <i>J Bone Joint Surg Am</i> 2007;89:2105-12.	Not relevant population
Knutsen G, Drogset JO, Engebretsen L, Grontvedt T, Ludvigsen TC, Loken S, et al. A Randomized Multicenter Trial Comparing Autologous Chondrocyte Implantation with Microfracture: Long-Term Follow-up at 14 to 15 Years. <i>J Bone Joint Surg Am</i> 2016;98:1332-9.	Not relevant population
Knutsen G, Engebretsen L, Ludvigsen TC, Drogset JO, Grontvedt T, Solheim E, et al. Autologous chondrocyte implantation compared with microfracture in the knee. A randomized trial. <i>J Bone Joint Surg Am</i> 2004;86:455-64.	Not relevant population
Kon E, Delcogliano M, Filardo G, Busacca M, Di Martino A, Marcacci M. Novel nano-composite multilayered biomaterial for osteochondral regeneration: a pilot clinical trial. <i>The American journal of sports medicine</i> 2011;39:1180-1190.	Not relevant study design

Kon E, Filardo G, Berruto M, Benazzo F, Zanon G, Della Villa S, et al. Articular cartilage treatment in high-level male soccer players: a prospective comparative study of arthroscopic second-generation autologous chondrocyte implantation versus microfracture. <i>Am J Sports Med</i> 2011;39:2549-57.	Not relevant study design
Kon E, Gobbi A, Filardo G, Delcogliano M, Zaffagnini S, Marcacci M. Arthroscopic second-generation autologous chondrocyte implantation compared with microfracture for chondral lesions of the knee: prospective nonrandomized study at 5 years. <i>Am J Sports Med</i> 2009;37:33-41.	Not relevant study design
Krych AJ, Harnly HW, Rodeo SA, Williams RJ, 3rd. Activity levels are higher after osteochondral autograft transfer mosaicplasty than after microfracture for articular cartilage defects of the knee: a retrospective comparative study. <i>J Bone Joint Surg Am</i> 2012;94:971-8.	Not relevant population
Lim HC, Bae JH, Song SH, Park YE, Kim SJ. Current treatments of isolated articular cartilage lesions of the knee achieve similar outcomes. <i>Clin Orthop Relat Res</i> 2012;470:2261-7.	Not relevant study design
Niemeyer P, Laute V, John T, Becher C, Diehl P, Kolombe T, et al. The Effect of Cell Dose on the Early Magnetic Resonance Morphological Outcomes of Autologous Cell Implantation for Articular Cartilage Defects in the Knee: A Randomized Clinical Trial. <i>Am J Sports Med</i> 2016;44:2005-14.	Not relevant population
Ossendorff R, Franke K, Erdle B, Uhl M, Sudkamp NP, Salzmann GM. Clinical and radiographical ten years long-term outcome of microfracture vs. autologous chondrocyte implantation: a matched-pair analysis. <i>Int Orthop</i> 2019;43:553-559.	Not relevant study design
Pareek A, Carey JL, Reardon PJ, Peterson L, Stuart MJ, Krych AJ. Long-Term Outcomes after Autologous Chondrocyte Implantation: A Systematic Review at Mean Follow-Up of 11.4 Years. <i>Cartilage</i> 2016;7:298-308.	Not relevant population
Petri M, Broese M, Simon A, Liodakis E, Ettinger M, Guenther D, et al. CaReS (MACT) versus microfracture in treating symptomatic patellofemoral cartilage defects: a retrospective matched-pair analysis. <i>J Orthop Sci</i> 2013;18:38-44.	Not relevant population
Saris D, Price A, Widuchowski W, B, -M, M, et al. Matrix-Applied Characterized Autologous Cultured Chondrocytes Versus Microfracture: Two-Year Follow-up of a Prospective Randomized Trial. <i>Am J Sports Med</i> 2014;42:1384-94.	Not relevant population
Saris DB, Vanlauwe J, Victor J, Almqvist KF, Verdonk R, Bellemans J, et al. Treatment of symptomatic cartilage defects of the knee: characterized chondrocyte implantation results in better clinical outcome at 36 months	Not relevant population
Saris DBF, Vanlauwe J, Victor J, Haspl M, Bohnsack M, Fortems Y, et al. Characterized chondrocyte implantation results in better structural repair when treating symptomatic cartilage defects of the knee in a randomized controlled trial versus microfracture. <i>American Journal of Sports Medicine</i>	Not relevant population

Ulstein S, Aroen A, Rotterud JH, Loken S, Engebretsen L, Heir S. Microfracture technique versus osteochondral autologous transplantation mosaicplasty in patients with articular chondral lesions of the knee: a prospective randomized trial with long-term follow-up. <i>Knee Surg Sports</i>	Not relevant population
Van Assche D, Staes F, Van Caspel D, Vanlauwe J, Bellemans J, Saris DB, et al. Autologous chondrocyte implantation versus microfracture for knee cartilage injury: a prospective randomized trial, with 2-year follow-up. <i>Knee Surg Sports Traumatol Arthrosc</i> 2010;18:486-95.	Not relevant population
Vangsness Jr CT, Farr J, Boyd J, Dellaero DT, Mills CR, LeRoux-Williams M. Adult human mesenchymal stem cells delivered via intra-articular injection to the knee following partial medial meniscectomy A Randomized, Double-Blind, Controlled Study. <i>Journal of Bone and Joint Surgery - Series A</i> 2014;96:90-98.	Not relevant population
Vanlauwe J, Saris DB, Victor J, Almqvist KF, Bellemans J, Luyten FP, et al. Five-year outcome of characterized chondrocyte implantation versus microfracture for symptomatic cartilage defects of the knee: early treatment matters. <i>The American journal of sports medicine</i>	Not relevant population
Welsch GH, Mamisch TC, Domayer SE, Dorotka R, Kutscha-Lissberg F, Marlovits S, et al. Cartilage T2 assessment at 3-T MR imaging: in vivo differentiation of normal hyaline cartilage from reparative tissue after two cartilage repair procedures--initial experience. <i>Radiology</i> 2008;247:154-61.	Not relevant population
Welsch GH, Trattnig S, Domayer S, Marlovits S, White LM, Mamisch TC. Multimodal approach in the use of clinical scoring, morphological MRI and biochemical T2-mapping and diffusion-weighted imaging in their ability to assess differences between cartilage repair tissue after microfracture therapy and matrix-associated autologous chondrocyte transplantation: a	Not relevant population
Villalobos E, Olivos A, Velasquillo C, Perez-Jimenez F, Martinez V, Ortega SC, et al. Matrix encapsulated autologous chondrocyte implantation versus microfracture at the knee: 5 years clinical and T2 mapping	Not relevant population
Višňa P, Paša L, Čížmář I, Hart R, Hoch J. Treatment of deep cartilage defects of the knee using autologous chondrograft transplantation and by abrasive techniques - A randomized controlled study. <i>Acta Chirurgica Belgica</i> 2004;104:709-714.	Not relevant population

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O1:0 FRAX vid misstanke om hög frakturnrisk

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Jiang X, Gruner M, Trémollières F, Pluskiewicz W, Sornay-Rendu E, Adamczyk P, et al. Diagnostic accuracy of FRAX in predicting the 10-year risk of osteoporotic fractures using the USA treatment thresholds: A systematic review and meta-analysis. <i>Bone</i> 2017;99:20-25.	Not relevant intervention
Kanis JA, Johansson H, Oden A, McCloskey EV. Guidance for the adjustment of FRAX according to the dose of glucocorticoids. <i>Osteoporosis International</i> 2011;22:809-816.	Not relevant outcome
Kanis JA, Johnell O, Oden A, Jonsson B, Dawson A, Dere W. Risk of hip fracture derived from relative risks: An analysis applied to the population of Sweden. <i>Osteoporosis International</i> 2000;11:120-127.	Not relevant outcome
Kanis JA, Johnell O, Oden A, Jonsson B, De Laet C, Dawson A. Prediction of fracture from low bone mineral density measurements overestimates risk. <i>Bone</i> 2000;26:387-391.	Not relevant outcome
Marques A, Ferreira RJO, Santos E, Loza E, Carmona L, Da Silva JAP. The accuracy of osteoporotic fracture risk prediction tools: A systematic review and meta-analysis. <i>Annals of the Rheumatic Diseases</i>	Not relevant intervention

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O1:1 Central DXA vid förhöjd frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Johnell O, Kanis JA, Oden A, Johansson H, De Laet C, Delmas P, et al. Predictive value of BMD for hip and other fractures. J Bone Miner Res 2005;20:1185-94.	Not relevant study design
Marshall D, Johnell O, Wedel H. Meta-analysis of how well measures of bone mineral density predict occurrence of osteoporotic fractures. British Medical Journal 1996;312:1254-1259.	Not relevant study design

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

O1:2 Central DXA inklusive VFA vid förhöjd
frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Black DM, Arden NK, Palermo L, Pearson J, Cummings SR. Prevalent vertebral deformities predict hip fractures and new vertebral deformities but not wrist fractures. <i>Journal of Bone and Mineral Research</i> 1999;14:821-828.	Not relevant outcome
Howat I, Carty D, Harrison J, Fraser M, McLellan AR. Vertebral fracture assessment in patients presenting with incident nonvertebral fractures. <i>Clinical Endocrinology</i> 2007;67:923-930.	Not relevant outcome
Kuet KP, Charlesworth D, Peel NFA. Vertebral fracture assessment scans enhance targeting of investigations and treatment within a fracture risk assessment pathway. <i>Osteoporosis International</i> 2013;24:1007-1014.	Not relevant study design
Lee JH, Lee YK, Oh SH, Ahn J, Lee YE, Pyo JH, et al. A systematic review of diagnostic accuracy of vertebral fracture assessment (VFA) in postmenopausal women and elderly men. <i>Osteoporosis International</i> 2016;27:1691-1699.	Not relevant outcome
Lin YC, Huang TS, Wu JS, Cheung YC, Huang YH, Sung CM, et al. Are bilateral decubitus views necessary in assessing for vertebral compression fractures using DXA vertebral fracture assessment? <i>Osteoporos Int</i> 2017;28:2377-2382.	Not relevant study design

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O1:4 DXR vid förhöjd frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Bach-Mortensen P, Hylstrup L, Appleyard M, Hindsø K, Gebuhr P, Sonne-Holm S. Digital X-ray radiogrammetry identifies women at risk of osteoporotic fracture: Results from a prospective study. <i>Calcified Tissue International</i> 2006;79:1-6.	Not relevant outcome
Bouxsein ML, Palermo L, Yeung C, Black DM. Digital X-ray radiogrammetry predicts hip, wrist and vertebral fracture risk in elderly women: A prospective analysis from the study of osteoporotic fractures. <i>Osteoporosis International</i> 2002;13:358-365.	Not relevant outcome
Kälvesten J, Lui LY, Brismar T, Cummings S. Digital X-ray radiogrammetry in the study of osteoporotic fractures: Comparison to dual energy X-ray absorptiometry and FRAX. <i>Bone</i> 2016;86:30-35.	Not relevant outcome
Wilczek ML, Kälvesten J, Algulin J, Beiki O, Brismar TB. Digital X-ray radiogrammetry of hand or wrist radiographs can predict hip fracture risk - A study in 5,420 women and 2,837 men. <i>European Radiology</i> 2013;23:1383-1391.	Not relevant outcome

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

O1:5 Systematisk riskvärdering, utredning och
behandling

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Chang YF, Huang CF, Hwang JS, Kuo JF, Lin KM, Huang HC, et al. Fracture liaison services for osteoporosis in the Asia-Pacific region: current unmet needs and systematic literature review. <i>Osteoporosis International</i> 2017;1-14.	Not relevant outcome
Osuna PM, Ruppe MD, Tabatabai LS. Fracture Liaison Services: Multidisciplinary Approaches to Secondary Fracture Prevention. <i>Endocr Pract</i> 2017;23:199-206.	Not relevant outcome
Svensson HK, Olsson L, Hansson T, Karlsson J, Hansson-Olofsson E. The effects of person-centered or other supportive interventions in older women with osteoporotic vertebral compression fractures-a systematic review of the literature. <i>Osteoporos Int</i> 2017;28:2521-2540.	Not relevant outcome

Bilaga 1 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar
O2:0 Livstilsråd vid förhöjd frakturrisik

Appendix 1 Excluded studies

This list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Reference	Main reason for exclusion
Albert SM, King J, Boudreau R, Prasad T, Lin CJ, Newman AB. Primary prevention of falls: effectiveness of a statewide program. <i>American Journal of Public Health</i> , 2014; 104 (5): e77-84.	Not relevant intervention
Bedra M, Finkelstein J. Feasibility of post-acute hip fracture telerehabilitation in older adults. <i>Studies in Health Technology & Informatics</i> , 2015; 210469-73.	Not relevant outcome
Chilton R, Pires-Yfantouda R, Wylie M. A systematic review of motivational interviewing within musculoskeletal health. <i>Psychology Health & Medicine</i> , 2012; 17 (4): 392-407.	Not relevant outcome
Franco MR, Pereira LS, Ferreira PH. Exercise interventions for preventing falls in older people living in the community. <i>British Journal of Sports Medicine</i> , 2014; 48 (10): 867-8.	Not relevant intervention
Hinrichs T, Bucker B, Klaasen-Mielke R, Brach M, Wilm S, Platen P, et al. Home-Based Exercise Supported by General Practitioner Practices: Ineffective in a Sample of Chronically Ill, Mobility-Limited Older Adults (the HOMEfit Randomized Controlled Trial). <i>Journal of the American Geriatrics Society</i> , 2016; 64 (11): 2270-79.	Not relevant intervention
Kolt GS, Schofield GM, Kerse N, Garrett N, Ashton T, Patel A. Healthy Steps trial: pedometer-based advice and physical activity for low-active older adults. <i>Annals of Family Medicine</i> , 2012; 10 (3): 206-12.	Not relevant study design
Li CM, Chang CI, Yu WR, Yang W, Hsu CC, Chen CY. Enhancing elderly health examination effectiveness by adding physical function evaluations and interventions. <i>Archives of Gerontology & Geriatrics</i> , 2017; 7038-43.	Not relevant outcome
McMahon SK, Wyman JF, Belyea MJ, Shearer N, Hekler EB, Fleury J. Combining Motivational and Physical Intervention Components to Promote Fall-Reducing Physical Activity Among Community-Dwelling Older Adults: A Feasibility Study. <i>American Journal of Health Promotion</i> , 2016; 30 (8): 638-44.	Not relevant intervention
Moren C, Welmer AK, Hagstromer M, Karlsson E, Sommerfeld DK. The Effects of "Physical Activity on Prescription" in Persons With Transient Ischemic Attack: A Randomized Controlled Study. <i>J Neurol Phys Ther</i> , 2016; 40 (3): 176-83.	Not relevant population
Roblin DW, Cram P, Lou Y, Edmonds SW, Hall SF, Jones MP, et al. Diet and exercise changes following bone densitometry in the Patient Activation After DXA Result Notification (PAADRN) study. <i>Archives of osteoporosis</i> , 2018; 13 (1) (no pagination).	Not relevant outcome
Roblin DW, Zelman D, Plummer S, Robinson BE, Lou Y, Edmonds SW, et al. Evaluation of a "Just-in-Time" Nurse Consultation on Bone Health: A Pilot Randomized Controlled Trial. <i>Permanente Journal</i> , 2017; 21.	Not relevant outcome

Skelton DA, Howe TE, Ballinger C, Neil F, Palmer S, Gray L. Environmental and behavioural interventions for reducing physical activity limitation in community-dwelling visually impaired older people. <i>Cochrane Database of Systematic Reviews</i> , 2013; (6): CD009233.	Not relevant population
Watson JM, Crosby H, Dale VM, Tober G, Wu Q, Lang J, et al. AESOPS: a randomised controlled trial of the clinical effectiveness and cost-effectiveness of opportunistic screening and stepped care interventions for older hazardous alcohol users in primary care. <i>Health Technology Assessment (Winchester, England)</i> , 2013; 17 (25): 1-158.	Not relevant outcome
Wolinsky FD, Lou Y, Edmonds SW, Saag KG, Roblin DW, Wright NC, et al. The effects of a patient activation intervention on smoking and excessive drinking cessations: results from the PAADRN randomized controlled trial. <i>Osteoporosis International</i> , 2017; 28 (10): 3055-60.	Not relevant outcome
Voukelatos A, Merom D, Sherrington C, Rissel C, Cumming RG, Lord SR. The impact of a home-based walking programme on falls in older people: the Easy Steps randomised controlled trial. <i>Age & Ageing</i> , 2015; 44 (3): 377-83.	Not relevant intervention
Wu G, Keyes L, Callas P, Ren X, Bookchin B. Comparison of telecommunication, community, and home-based Tai Chi exercise programs on compliance and effectiveness in elders at risk for falls. <i>Archives of Physical Medicine & Rehabilitation</i> , 2010; 91 (6): 849-56.	Not relevant intervention
Wyers CE, Reijven PLM, Breedveld-Peters JJJ, Denissen KFM, Schotanus MGM, van Dongen M, et al. Efficacy of Nutritional Intervention in Elderly After Hip Fracture: A Multicenter Randomized Controlled Trial. <i>Journals of Gerontology Series A-Biological Sciences & Medical Sciences</i> , 2018; 73 (10): 1429-37.	Not relevant intervention

Bilaga 1 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar
O2:1 Osteoporoskola vid förhöjd frakturnrisk enligt
klinsk bedömning

Appendix 1 Excluded studies

This list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Reference	Main reason for exclusion
Olsen CF, Bergland A. The effect of exercise and education on fear of falling in elderly women with osteoporosis and a history of vertebral fracture: results of a randomized controlled trial. <i>Osteoporos Int</i> , 2014; 25 (8): 2017-25.	Not relevant outcome
Bamgbade S, Dearmon V. Fall Prevention for Older Adults Receiving Home Healthcare. <i>Home Healthc Now</i> , 2016; 34 (2): 68-75.	Not relevant population
Graves M, Snyder K, McFelea J, Szczepanski J, Smith MP, Strobel T, et al. Quantitative Measurement of the Improvement Derived From a 10-Mo Progressive Exercise Program to Improve Balance and Function in Women at Increased Risk for Fragility Fractures. <i>J Clin Densitom</i> , 2018; 2323.	Not relevant outcome
Laslett LL, Lynch J, Sullivan TR, McNeil JD. Osteoporosis education improves osteoporosis knowledge and dietary calcium: comparison of a 4 week and a one-session education course. <i>Int J Rheum Dis</i> , 2011; 14 (3): 239-47.	Not relevant study design
Michael YL, Lin JS, Whitlock EP, Gold R, Fu R, O'Connor EA, et al. Interventions to Prevent Falls in Older Adults: An Updated Systematic Review U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews. Agency for Healthcare Research and Quality (US), Rockville (MD), 2010.	Not relevant population
Albert SM, King J. Effectiveness of statewide falls prevention efforts with and without group exercise. <i>Prev Med</i> , 2017; 1055-9.	Not relevant population
Albert SM, King J, Boudreau R, Prasad T, Lin CJ, Newman AB. Primary prevention of falls: effectiveness of a statewide program. <i>Am J Public Health</i> , 2014; 104 (5): e77-84.	Not relevant population
Chen TY, Edwards JD, Janke MC. The Effects of the A Matter of Balance Program on Falls and Physical Risk of Falls, Tampa, Florida, 2013. <i>Prev Chronic Dis</i> , 2015; 12E157.	Not relevant population
Hill AM, Etherton-Bear C, Haines TP. Tailored education for older patients to facilitate engagement in falls prevention strategies after hospital discharge--a pilot randomized controlled trial. <i>PLoS One</i> , 2013; 8 (5): e63450.	Not relevant population
Jang M, Lee Y. The Effects of an Education Program on Home Renovation for Fall Prevention of Korean Older People. <i>Educational Gerontology</i> , 2015; 41 (9): 653-69.	Not relevant population
Kwan Ching W, Kam Yuet Wong F, Yeung WF, Chang K. The effect of complex interventions on supporting self-care among community-dwelling older adults: a systematic review and meta-analysis. <i>Age & Ageing</i> , 2018; 47 (2): 185-93.	Not relevant population
Otaka Y, Morita M, Mimura T, Uzawa M, Liu M. Establishment of an appropriate fall prevention program: A community-based study. <i>Geriatr Gerontol Int</i> , 2017; 17 (7): 1081-89.	Not relevant population
Palvanen M, Kannus P, Piirtola M, Niemi S, Parkkari J, Jarvinen M. Effectiveness of the Chaos Falls Clinic in preventing falls and injuries of home-dwelling older adults: a randomised controlled trial. <i>Injury</i> , 2014; 45 (1): 265-71.	Not relevant population

Saiz Llamosas JR, Casado Vicente V. Quality of life among community-dwelling elderly persons with a history of previous falls. <i>Fisioterapia</i> , 2015; 37 (1): 3-8.	Not relevant population
Vieira ER, Berean C, Pacheco D, Caveny P, Yuen D, Ballash L, et al. Reducing falls among geriatric rehabilitation patients: a controlled clinical trial. <i>Clin Rehabil</i> , 2013; 27 (4): 325-35.	Not relevant population
Yount J. Strength in Numbers: A Community Education Program to Prevent Falls in Older Adults. <i>Home Healthc Now</i> , 2016; 34 (7): 369-75.	Not relevant population
Briggs M, Morzinski JA, Ellis J. Influences of a Church-Based Intervention on Falls Risk Among Seniors. <i>WMJ</i> , 2017; 116 (3): 161-64.	Not relevant population
Lee HC, Chang KC, Tsao JY, Hung JW, Huang YC, Lin SI, et al. Effects of a multifactorial fall prevention program on fall incidence and physical function in community-dwelling older adults with risk of falls. <i>Arch Phys Med Rehabil</i> , 2013; 94 (4): 606-15, 15 e1.	Not relevant population
Banez C, Tully S, Amaral L, Kwan D, Kung A, Mak K, et al. Development, implementation, and evaluation of an Interprofessional Falls Prevention Program for older adults. <i>J Am Geriatr Soc</i> , 2008; 56 (8): 1549-55.	Not relevant population
McQueen JM. Fall management and prevention: a day hospital perspective. <i>British Journal of Therapy and Rehabilitation</i> , 2003; 10 (3): 115-21.	Not relevant population
Buri MH. A group programme to prevent falls in elderly hospital patients. <i>British Journal of Therapy and Rehabilitation</i> , 1997; 4 (10): 550-56.	Not relevant population
Hill AM, Hoffmann T, McPhail S, Beer C, Hill KD, Oliver D, et al. Evaluation of the sustained effect of inpatient falls prevention education and predictors of falls after hospital discharge--follow-up to a randomized controlled trial. <i>J Gerontol A Biol Sci Med Sci</i> , 2011; 66 (9): 1001-12.	Not relevant population
Avanecean D, Calliste D, Contreras T, Lim Y, Fitzpatrick A. Effectiveness of patient-centered interventions on falls in the acute care setting compared to usual care: a systematic review. <i>JBHI Database System Rev Implement Rep</i> , 2017; 15 (12): 3006-48.	Not relevant population
Zijlstra GAR, Du Moulin M, van Haastregt JCM, deJonge M, Kempen G, van der Poel A. Managing concerns about falls in older people: evaluation of the implementation of an evidence-based program. <i>Tijdschrift voor gerontologie en geriatrie</i> , 2013; 44 (6): 272-84.	Not in the specified languages
Noh JW, Park H, Kim M, Kwon YD. Gender Differences and Socioeconomic Factors Related to Osteoporosis: A Cross-Sectional Analysis of Nationally Representative Data. <i>Journal of Women's Health</i> , 2018; 27 (2): 196-202.	Not relevant intervention
Clinical digest. Education programme helps prevent falls and related injuries in hospital trial. <i>Nursing Standard</i> , 2015; 29 (47): 15-15.	Not a systematic review
Abrahamsen B. The Changing Role of Patient Education in Osteoporosis. <i>J Bone Miner Res</i> , 2018; 33 (5): 761-62.	Not a systematic review

Hayes N. Fallcheck. Nurs Stand, 2015; 29 (35): 27.	Not a systematic review
Sherrington C. A patient education program supported by staff training can reduce the rate of falls for older people during inpatient rehabilitation [commentary]. J Physiother, 2015; 61 (4): 224.	Not a systematic review
Taylor N. A patient education program supported by staff training can reduce the rate of falls for older patients during inpatient rehabilitation [synopsis]. Journal of Physiotherapy (Elsevier), 2015; 61 (4): 224-24.	Not a systematic review
Anonymous. Prevent falls and immobility: start with these strength-training tips. Our muscles are our first line of defense against falls, mobility loss, and bone fractures. Harv Womens Health Watch, 2014; 21 (12): 1, 7.	Not a systematic review
Martin JT, Wolf A, Moore JL, Rolenz E, DiNinno A, Reneker JC. The effectiveness of physical therapist-administered group-based exercise on fall prevention: a systematic review of randomized controlled trials. J Geriatr Phys Ther, 2013; 36 (4): 182-93.	Not relevant intervention
Hill AM, Hoffmann T, McPhail S, Beer C, Hill KD, Brauer SG, et al. Factors associated with older patients' engagement in exercise after hospital discharge. Arch Phys Med Rehabil, 2011; 92 (9): 1395-403.	Not relevant intervention
Abbad N, Lemeunier L, Chantelot C, Puisieux F, Cortet B. Secondary prevention program for osteoporotic fractures at Lille University Hospital. Presse Med, 2016; 45 (3): 375-7.	Not relevant intervention
Bosley E. Implementation and Evaluation of Teach-back as a Pedagogical Method for Delivering Fall Prevention Education to Older Adults in an Inpatient Hospital Setting. Implementation & Evaluation of Teach-back as a Pedagogical Method for Delivering Fall Prevention Education to Older Adults in an Inpatient Hospital Setting, 2016;1-1.	Not relevant intervention
Edmonds SW, Cram P, Lou Y, Jones MP, Roblin DW, Saag KG, et al. Effects of a DXA result letter on satisfaction, quality of life, and osteoporosis knowledge: a randomized controlled trial. BMC Musculoskelet Disord, 2016; 17 (1): 369.	Not relevant intervention
Edmonds SW, Wolinsky FD, Christensen AJ, Lu X, Jones MP, Roblin DW, et al. The PAADRN study: a design for a randomized controlled practical clinical trial to improve bone health. Contemp Clin Trials, 2013; 34 (1): 90-100.	Not relevant intervention
Lewin G, De San Miguel K, Knuiman M, Alan J, Boldy D, Hendrie D, et al. A randomised controlled trial of the Home Independence Program, an Australian restorative home-care programme for older adults. Health Soc Care Community, 2013; 21 (1): 69-78.	Not relevant intervention
Szanton SL, Thorpe RJ, Boyd C, Tanner EK, Leff B, Agree E, et al. Community aging in place, advancing better living for elders: a bio-behavioral-environmental intervention to improve function and health-related quality of life in disabled older adults. J Am Geriatr Soc, 2011; 59 (12): 2314-20.	Not relevant intervention

Ueda T, Higuchi Y, Imaoka M, Todo E, Kitagawa T, Ando S. Tailored education program using home floor plans for falls prevention in discharged older patients: A pilot randomized controlled trial. <i>Arch Gerontol Geriatr</i> , 2017; 719-13.	Not relevant intervention
Barr RJ, Stewart A, Torgerson DJ, Seymour DG, Reid DM. Screening Elderly Women for Risk of Future Fractures—Participation Rates and Impact on Incidence of Falls and Fractures. <i>Calcified Tissue International</i> , 2005; 76 (4): 243-48.	Not relevant intervention
Clark EM, Gould V, Morrison L, Ades AE, Dieppe P, Tobias JH. Randomized controlled trial of a primary care-based screening program to identify older women with prevalent osteoporotic vertebral fractures: Cohort for Skeletal Health in Bristol and Avon (COSHIBA). <i>Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research</i> , 2012; 27 (3): 664-71.	Not relevant intervention
Lacroix AZ, Buist DS, Brenneman SK, Abbott TA, 3rd. Evaluation of three population-based strategies for fracture prevention: results of the osteoporosis population-based risk assessment (OPRA) trial. <i>Med Care</i> , 2005; 43 (3): 293-302.	Not relevant intervention
Gardner MJ, Brophy RH, Demetrakopoulos D, Koob J, Hong R, Rana A, et al. Interventions to improve osteoporosis treatment following hip fracture. A prospective, randomized trial. <i>J Bone Joint Surg Am</i> , 2005; 87 (1): 3-7.	Not relevant intervention
Guilera M, Fuentes M, Grifols M, Ferrer J, Badia X, investigators Os. Does an educational leaflet improve self-reported adherence to therapy in osteoporosis? The OPTIMA study. <i>Osteoporosis International</i> , 2006; 17 (5): 664-71.	Not relevant intervention
Ciaschini PM, Straus SE, Dolovich LR, Goeree RA, Leung KM, Woods CR, et al. Community based intervention to optimize osteoporosis management: randomized controlled trial. <i>BMC Geriatrics</i> , 2010; 10 (1): 60.	Not relevant intervention
Yuksel N, Majumdar SR, Biggs C, Tsuyuki RT. Community pharmacist-initiated screening program for osteoporosis: randomized controlled trial. <i>Osteoporosis International</i> , 2010; 21 (3): 391-98.	Not relevant intervention
Schousboe J, C. DeBold R, S. Kuno L, Weiss T, Chen Y-T, A. Abbott T. Education and Phone Follow-Up in Postmenopausal Women at Risk for Osteoporosis: Effects on Calcium Intake, Exercise Frequency, and Medication Use. 2005.	Not relevant intervention
Majumdar SR, Beaupre LA, Harley CH, Hanley DA, Lier DA, Juby AG, et al. Use of a Case Manager to Improve Osteoporosis Treatment After Hip Fracture: Results of a Randomized Controlled Trial. <i>Archives of Internal Medicine</i> , 2007; 167 (19): 2110-15.	Not relevant intervention
Solomon DH, Iversen MD, Avorn J, Gleeson T, Brookhart MA, Patrick AR, et al. Osteoporosis Telephonic Intervention to Improve Medication Regimen Adherence: A Large, Pragmatic, Randomized Controlled Trial. <i>Archives of Internal Medicine</i> , 2012; 172 (6): 477-83.	Not relevant intervention

Lee IS, Lee KO. The Effect of a Comprehensive Intervention Program on the Functional Status and Bone Density of the Socially-Vulnerable and Frail Elderly. <i>Journal of Korean Academy of Community Health Nursing</i> , 2016; 27 (1): 51-59.	Not relevant outcome
Haines TP, Hill AM, Hill KD, Brauer SG, Hoffmann T, Etherton-Beer C, et al. Cost effectiveness of patient education for the prevention of falls in hospital: economic evaluation from a randomized controlled trial. <i>BMC Medicine</i> , 2013; 11:135.	Not relevant outcome
Muller D, Borsi L, Stracke C, Stock S, Stollenwerk B. Cost-effectiveness of a multifactorial fracture prevention program for elderly people admitted to nursing homes. <i>Eur J Health Econ</i> , 2015; 16 (5): 517-27.	Not relevant outcome
Onarheim KH, Iversen JH, Bloom DE. Economic Benefits of Investing in Women's Health: A Systematic Review. <i>PLoS ONE [Electronic Resource]</i> , 2016; 11 (3): e0150120.	Not relevant outcome
Nielsen D, Ryg J, Nissen N, Nielsen W, Knold B, Brixen K. Multidisciplinary patient education in groups increases knowledge on osteoporosis: a randomized controlled trial. <i>Scand J Public Health</i> , 2008; 36 (4): 346-52.	Not relevant outcome
Nielsen D, Ryg J, Nielsen W, Knold B, Nissen N, Brixen K. Patient education in groups increases knowledge of osteoporosis and adherence to treatment: a two-year randomized controlled trial. <i>Patient Educ Couns</i> , 2010; 81 (2): 155-60.	Not relevant outcome
Plawecki K, Chapman-Novakofski K. Effectiveness of community intervention in improving bone health behaviors in older adults. <i>J Nutr Gerontol Geriatr</i> , 2013; 32 (2): 145-60.	Not relevant outcome
Rolnick SJ, Kopher R, Jackson J, Fischer LR, Compo R. What is the impact of osteoporosis education and bone mineral density testing for postmenopausal women in a managed care setting? <i>Menopause</i> , 2001; 8 (2): 141-8.	Not relevant outcome
Gaines JM, Narrett M, Parrish JM. The effect of the addition of osteoporosis education to a bone health screening program for older adults. <i>Geriatr Nurs</i> , 2010; 31 (5): 348-60.	Not relevant outcome
Jeihooni AK, Hidarnia A, Kaveh MH, Hajizadeh E, Askari A. Effects of an Osteoporosis Prevention Program Based on Health Belief Model Among Females. <i>Nurs Midwifery Stud</i> , 2015; 4 (3): e26731.	Not relevant outcome
Qi BB, Resnick B, Smeltzer SC, Bausell B. Self-efficacy program to prevent osteoporosis among Chinese immigrants: a randomized controlled trial. <i>Nurs Res</i> , 2011; 60 (6): 393-404.	Not relevant outcome
Francis KL, Matthews BL, Van Mechelen W, Bennell KL, Osborne RH. Effectiveness of a community-based osteoporosis education and self-management course: a wait list controlled trial. <i>Osteoporosis International</i> , 2009; 20 (9): 1563-70.	Not relevant outcome
Ganda K, Puech M, Chen JS, Speerin R, Bleasel J, Center JR, et al. Models of care for the secondary prevention of osteoporotic fractures: a systematic review and meta-analysis. <i>Osteoporos Int</i> , 2013; 24 (2): 393-406.	Not relevant outcome

Quinones AR, Richardson J, Freeman M, Fu R, O'Neil ME, Motu'apuaka M, et al. Educational group visits for the management of chronic health conditions: a systematic review. <i>Patient Educ Couns</i> , 2014; 95 (1): 3-29.	Not relevant population
Ciance KL. Educating and Engaging Elders in the Sure StepsRTM Fall Prevention Program. Vol. D.N.P., Walden University, 2014, pp. 91 p-91 p.	Not relevant population
Institute for Q, Efficiency in Health C. Institute for Quality and Efficiency in Health Care, 2016; 1401.	Not a systematic review
Joint C. Preventing falls and fall-related injuries in health care facilities. <i>Sentinel Event Alert</i> , 2015; (55): 1-5.	Not a systematic review
Lems WF, Dreinhofer KE, Bischoff-Ferrari H, Blauth M, Czerwinski E, da Silva J, et al. EULAR/EFORT recommendations for management of patients older than 50 years with a fragility fracture and prevention of subsequent fractures. <i>Annals of the Rheumatic Diseases</i> , 2017; 76 (5): 802-10.	Not a systematic review
Kanis JA, Cooper C, Rizzoli R, Reginster JY, on behalf of the Scientific Advisory Board of the European Society for C, Economic Aspects of O, et al. European guidance for the diagnosis and management of osteoporosis in postmenopausal women. <i>Osteoporosis International</i> , 2019; 30 (1): 3-44.	Not a systematic review
Wallace TC, Bauer DC, Gagel RF, Greenspan SL, Lappe JM, LeBoff MS, et al. The National Osteoporosis Foundation's methods and processes for developing position statements. <i>Arch Osteoporos</i> , 2016; 1122.	Not a systematic review
Delle Fave A, Bassi M, Boccaletti ES, Roncaglione C, Bernardelli G, Mari D. Promoting Well-Being in Old Age: The Psychological Benefits of Two Training Programs of Adapted Physical Activity. <i>Front Psychol</i> , 2018; 9828.	Not a systematic review
Jensen AL. Multifaceted Group Education in Patients with Osteoporosis - Implementing a Bone Healthy Lifestyle. <i>Klinisk Sygepleje</i> , 2015; 29 (3): 75-76.	Not a systematic review
Hakestad KA, Torstveit MK, Nordsletten L, Risberg MA. Effect of exercises with weight vests and a patient education programme for women with osteopenia and a healed wrist fracture: a randomized, controlled trial of the OsteoACTIVE programme. <i>BMC Musculoskelet Disord</i> , 2015; 16352.	Not relevant study design
Gold DT, Shipp KM, Pieper CF, Duncan PW, Martinez S, Lyles KW. Group treatment improves trunk strength and psychological status in older women with vertebral fractures: results of a randomized, clinical trial. <i>J Am Geriatr Soc</i> , 2004; 52 (9): 1471-8.	Not relevant study design
Hakestad KA, Torstveit MK, Nordsletten L, Axelsson AC, Risberg MA. Exercises including weight vests and a patient education program for women with osteopenia: a feasibility study of the OsteoACTIVE rehabilitation program. <i>J Orthop Sports Phys Ther</i> , 2015; 45 (2): 97-105, C1-4.	Not relevant study design
Nanduri AP, Fullman S, Morell L, Buyske S, Wagner ML. Pilot Study for Implementing an Osteoporosis Education and Exercise Program in an Assisted Living Facility and Senior Community. <i>J Appl Gerontol</i> , 2018; 37 (6): 745-62.	Not relevant study design

Gold DT, Stegmaier K, Bales CW, Lyles KW, Westlund RE, Drezner MK. Psychosocial Functioning and Osteoporosis in Late Life: Results of a Multidisciplinary Intervention. <i>Journal of Women's Health</i> , 1993; 2 (2): 149-55.	Not relevant study design
Jo WS, Cho EH, Kang BJ, Kwon GD, Ha YC, Jang S, et al. The Impact of Educational Interventions on Osteoporosis Knowledge among Korean Osteoporosis Patients. <i>J Bone Metab</i> , 2018; 25 (2): 115-21.	Not relevant study design
Jakobsen PR, Hermann AP, Sondergaard J, Wiil UK, Dixon RF, Clemensen J. Left in limbo - Experiences and needs among postmenopausal women newly diagnosed with osteoporosis without preceding osteoporotic fractures: A qualitative study. <i>Post Reprod Health</i> , 2018; 24 (1): 26-33.	Not relevant study design
Jensen AL, Lomborg K, Langdahl BL, Wind G. Managing a Bone Healthy Lifestyle After Attending Multifaceted Group Education. <i>Calcif Tissue Int</i> , 2016; 99 (3): 272-81.	Not relevant study design
Jensen AL, Wind G, Langdahl BL, Lomborg K. The Impact of Multifaceted Osteoporosis Group Education on Patients' Decision-Making regarding Treatment Options and Lifestyle Changes. <i>J Osteoporos</i> , 2018; 20189703602.	Not relevant study design
Khong L, Farrington F, Hill KD, Hill AM. "We are all one together": peer educators' views about falls prevention education for community-dwelling older adults--a qualitative study. <i>BMC Geriatr</i> , 2015; 1528.	Not relevant study design
Robins LM, Hill KD, Day L, Clemson L, Finch C, Haines T. Older Adult Perceptions of Participation in Group- and Home-Based Falls Prevention Exercise. <i>J Aging Phys Act</i> , 2016; 24 (3): 350-62.	Not relevant study design
Bombak AE, Hanson HM. Qualitative Insights from the Osteoporosis Research: A Narrative Review of the Literature. <i>J Osteoporos</i> , 2016; 20167915041.	Not relevant study design
Raybould G, Babatunde O, Evans AL, Jordan JL, Paskins Z. Expressed information needs of patients with osteoporosis and/or fragility fractures: a systematic review. <i>Archives of Osteoporosis</i> , 2018; 13 (1): 55.	Not relevant study design
Janiszewska M, Zolnierczuk-Kieliszek D, Kulik T, Dziedzic MA, Baranska A, Kryk A. Men's knowledge about osteoporosis and its risk factors. <i>Prz Menopauzalny</i> , 2016; 15 (3): 148-55.	Not relevant study design
Liddle JL, Lovarini M, Clemson LM, Jang H, Willis K, Lord SR, et al. Men's perspectives on fall risk and fall prevention following participation in a group-based programme conducted at Men's Sheds, Australia. <i>Health Soc Care Community</i> , 2017; 25 (3): 1118-26.	Not relevant study design
Sjöberg C, Wallerstedt SM. Effects of Medication Reviews Performed by a Physician on Treatment with Fracture-Preventing and Fall-Risk-Increasing Drugs in Older Adults with Hip Fracture—A Randomized Controlled Study. <i>Journal of the American Geriatrics Society</i> , 2013; 61 (9): 1464-72.	Not relevant population

Sorbi R, Aghamirsalim M, Eslami V, Karimi Dastjerdi MH, Seraj SM. Effect of an Educational Intervention for Surgeons on Osteoporosis Management at 2-Year Follow-up in Patients With Fragility Fracture. <i>J Clin Rheumatol</i> , 2016; 22 (4): 231-2.	Not relevant population
Zidén L, Häggblom-Kronlöf G, Gustafsson S, Lundin-Olsson L, Dahlin-Ivanoff S. Physical Function and Fear of Falling 2 Years After the Health-Promoting Randomized Controlled Trial: Elderly Persons in the Risk Zone. <i>Gerontologist</i> , 2014; 54 (3): 387-97.	Not relevant intervention
Gustafsson S, Wilhelmson K, Eklund K, Gosman-Hedström G, Zidén L, Kronlöf GH, et al. Health-Promoting Interventions for Persons Aged 80 and Older Are Successful in the Short Term—Results from the Randomized and Three-Armed Elderly Persons in the Risk Zone Study. <i>Journal of the American Geriatrics Society</i> , 2012; 60 (3): 447-54.	Not relevant intervention
Kronlöf GH, Gosman-Hedström G, Eklund K, Dahlin-Ivanoff S, Gustafsson S, Wilhelmson K, et al. Long-Term Outcome for ADL Following the Health-Promoting RCT—Elderly Persons in the Risk Zone. <i>The Gerontologist</i> , 2012; 53 (4): 654-63.	Not relevant intervention
Jensen AL, Lomborg K, Wind G, Langdahl BL. Effectiveness and characteristics of multifaceted osteoporosis group education—a systematic review. <i>Osteoporos Int</i> , 2014; 25 (4): 1209-24.	Overlapping PICO, mined for relevant studies
Lee D-CA, Pritchard E, McDermott F, Haines TP. Falls prevention education for older adults during and after hospitalization: A systematic review and meta-analysis. <i>Health Education Journal</i> , 2014; 73 (5): 530-44.	Overlapping PICO, mined for relevant studies
Kastner M, Perrier L, Munce SEP, Adhietty CC, Lau A, Hamid J, et al. Complex interventions can increase osteoporosis investigations and treatment: a systematic review and meta-analysis. <i>Osteoporos Int</i> , 2018; 29 (1): 5-17.	Overlapping PICO, mined for relevant studies
Morfeld JC, Vennedey V, Muller D, Pieper D, Stock S. Patient education in osteoporosis prevention: a systematic review focusing on methodological quality of randomised controlled trials. <i>Osteoporos Int</i> , 2017; 28 (6): 1779-803.	Overlapping PICO, mined for relevant studies
Wong KC, Wong FKY, Yeung WF, Chang K. The effect of complex interventions on supporting self-care among community-dwelling older adults: a systematic review and meta-analysis. <i>Age Ageing</i> , 2018; 47 (2): 185-93.	Not relevant outcome
Alvaro R, D'Agostino F, Cittadini N, Zannetti EB, Rao C, Feola M, et al. Can Educational Interventions Improve Osteoporotic Women's Adherence to Treatment? A Literature Review. <i>Orthop Nurs</i> , 2015; 34 (6): 340-53; quiz 54-5.	Not relevant outcome
Raybould G, Paskins Z, Babatunde O, Jordan J. Information needs in patients presenting with a fragility fracture or osteoporosis: A systematic review. <i>Rheumatology (United Kingdom)</i> , 2017; 56ii84.	Not relevant study design

Bilaga 1 Exkluderade studier

Underlag för nationella riktlinjer för
rörleseorganens sjukdomar
O2:3 Fysiskaktivitet vid förhöjd frakturrisik

Appendix 1 Excluded articles

This list consists of articles considered relevant in terms of abstract, but the full-text articles did not meet the inclusion criteria, or were considered to have a high risk of bias. Some potentially relevant systematic reviews were excluded because they were not the most complete or the most recently published.

Excluded articles

Reference	Main reason for exclusion
Aboutorabi A, Arazpour M, Bahramizadeh M, Farahmand F, Fadayevatan R. Effect of vibration on postural control and gait of elderly subjects: a systematic review. <i>Aging Clin Exp Res</i> , 2018; 30 (7): 713-26.	Wrong intervention
Abrahin O, Rodrigues RP, Marcal AC, Alves EA, Figueiredo RC, de Sousa EC. Swimming and cycling do not cause positive effects on bone mineral density: a systematic review. <i>Rev Bras Reumatol Engl Ed</i> , 2016; 56 (4): 345-51.	Intervention specific exercise
Antoniak AE, Greig CA. The effect of combined resistance exercise training and vitamin D3 supplementation on musculoskeletal health and function in older adults: a systematic review and meta-analysis. <i>BMJ Open</i> , 2017; 7 (7): e014619.	Intervention specific exercise
Barker AL, Bird ML, Talevski J. Effect of pilates exercise for improving balance in older adults: a systematic review with meta-analysis. <i>Arch Phys Med Rehabil</i> , 2015; 96 (4): 715-23.	Intervention specific exercise
Binkley HM, Rudd LE. Head-Out Aquatic Exercise for Generally Healthy Postmenopausal Women: A Systematic Review. <i>J Phys Act Health</i> , 2018;1-22.	Wrong population (post-menopausal)
Bullo V, Bergamin M, Gobbo S, Sieverdes JC, Zaccaria M, Neunhaeuserer D, et al. The effects of Pilates exercise training on physical fitness and wellbeing in the elderly: A systematic review for future exercise prescription. <i>Prev Med</i> , 2015; 751-11.	Intervention specific exercise
Chapman A, Meyer C, Renehan E, Hill KD, Browning CJ. Exercise interventions for the improvement of falls-related outcomes among older adults with diabetes mellitus: A systematic review and meta-analyses. <i>J Diabetes Complications</i> , 2017; 31 (3): 631-45.	Wrong population (no osteoporosis)
Cheng P, Tan L, Ning P, Li L, Gao Y, Wu Y, et al. Comparative Effectiveness of Published Interventions for Elderly Fall Prevention: A Systematic Review and Network Meta-Analysis. <i>International journal of environmental research and public health</i> , 2018; 15 (3).	Publication date
Choi SD, Guo L, Kang D, Xiong S. Exergame technology and interactive interventions for elderly fall prevention: A systematic literature review. <i>Appl Ergon</i> , 2017; 65570-81.	Intervention specific exercise
Chow TH, Lee BY, Ang ABF, Cheung VYK, Ho MMC, Takemura S. The effect of Chinese martial arts Tai Chi Chuan on prevention of osteoporosis: A systematic review. <i>J Orthop Translat</i> , 2018; 1274-84.	Wrong population (post-menopausal)
de Amorim JSC, Leite RC, Brizola R, Yonamine CY. Virtual reality therapy for rehabilitation of balance in the elderly: a systematic review and META-analysis. <i>Adv Rheumatol</i> , 2018; 58 (1): 18.	Intervention specific exercise
de Oliveira Francisco C, de Almeida Fagundes A, Gorges B. Effects of Pilates method in elderly people: Systematic review of randomized controlled trials. <i>J Bodyw Mov Ther</i> , 2015; 19 (3): 500-8.	Intervention specific exercise
De Souto Barreto P, Rolland Y, Vellas B, Maltais M. Association of Long-term Exercise Training with Risk of Falls, Fractures, Hospitalizations, and Mortality in Older Adults: A Systematic Review and Meta-analysis. <i>JAMA Internal Medicine</i> , 2019; 179 (3): 394-405.	Intervention specific exercise

Del-Pino-Casado R, Obrero-Gaitan E, Lomas-Vega R. The Effect of Tai Chi on Reducing the Risk of Falling: A Systematic Review and Meta-Analysis. <i>Am J Chin Med</i> , 2016; 44 (5): 895-906.	Intervention specific exercise
Dennett AM, Taylor NF. Machines that go "ping" may improve balance but may not improve mobility or reduce risk of falls: a systematic review. <i>J Rehabil Med</i> , 2015; 47 (1): 18-30.	Wrong intervention
Dion ¹ CF, Sa-Caputo D, Pereira HV, Sousa-Goncalves CR, Maiworm AI, Morel DS, et al. Effects of whole body vibration exercises on bone mineral density of women with postmenopausal osteoporosis without medications: novel findings	Wrong intervention
Diong J, Allen N, Sherrington C. Structured exercise improves mobility after hip fracture: a meta-analysis with meta-regression. <i>Br J Sports Med</i> , 2016; 50 (6): 346-55.	Intervention specific exercise
Finnegan S, Seers K, Bruce J. Long-term follow-up of exercise interventions aimed at preventing falls in older people living in the community: a systematic review and meta-analysis. <i>Physiotherapy</i> , 2018; 2020.	Intervention specific exercise
Fisseha B, Janakiraman B, Yitayeh A, Ravichandran H. Effect of square stepping exercise for older adults to prevent fall and injury related to fall: systematic review and meta-analysis of current evidences. <i>J Exerc Rehabil</i> , 2017; 13 (1): 23-	Intervention specific exercise
Francis-Coad J, Etherton-Ber C, Burton E, Naseri C, Hill A-M. Effectiveness of complex falls prevention interventions in residential aged care settings: a systematic review. <i>JBHI Database of Systematic Reviews & Implementation Reports</i> , 2018; 16 (4): 973-1002.	Wrong intervention
Franco MR, Grande GHD, Padulla SAT. Effect of pilates exercise for improving balance in older adults (PEDro synthesis). <i>Br J Sports Med</i> , 2018; 52 (3): 199-200.	Intervention specific exercise
Fratini A, Bonci T, Bull AM. Whole Body Vibration Treatments in Postmenopausal Women Can Improve Bone Mineral Density: Results of a Stimulus Focussed Meta-Analysis. <i>PLoS One</i> , 2016; 11 (12): e0166774.	Wrong intervention
Ghai S, Ghai I, Effenberg AO. Effects of dual tasks and dual-task training on postural stability: a systematic review and meta-analysis. <i>Clin Interv Aging</i> , 2017; 12557-77.	Intervention specific exercise
Guadagnin EC, da Rocha ES, Duysens J, Carpes FP. Does physical exercise improve obstacle negotiation in the elderly? A systematic review. <i>Arch Gerontol Geriatr</i> , 2016; 64138-45.	Wrong outcome
Hamed A, Bohm S, Mersmann F, Arampatzis A. Follow-up efficacy of physical exercise interventions on fall incidence and fall risk in healthy older adults: a systematic review and meta-analysis. <i>Sports Med Open</i> , 2018; 4 (1): 56.	Wrong outcome
Holte HH, Underland V, Hafstad E. Oppsummering av systematiske oversikter om forebygging av fall i institusjoner. Rapport fra Kunnskapssenteret nr. 13–2015. Oslo: Nasjonalt kunnskapssenter for helsetjenesten. 2015.	Publication date
Hopewell S, Adedire O, Copsey BJ, Boniface GJ, Sherrington C, Clemson L, et al. Multifactorial and multiple component interventions for preventing falls in older people living in the community. <i>Cochrane Database of Systematic Reviews</i> , 2018; (7).	Wrong intervention

Huang Y, Liu X. Improvement of balance control ability and flexibility in the elderly Tai Chi Chuan (TCC) practitioners: a systematic review and meta-analysis. <i>Arch Gerontol Geriatr</i> , 2015; 60 (2): 233-8.	Intervention specific exercise
Huang ZG, Feng YH, Li YH, Lv CS. BMJ Open Systematic review and meta-analysis: Tai Chi for preventing falls in older adults. <i>BMJ Open</i> , 2017; 7 (2).	Intervention specific exercise
Jepsen DB, Thomsen K, Hansen S, Jorgensen NR, Masud T, Ryg J. Effect of whole-body vibration exercise in preventing falls and fractures: a systematic review and meta-analysis. <i>BMJ Open</i> , 2017; 7 (12): e018342.	Wrong intervention
Kemmler W, Shojaa M, Kohl M, von Stengel S. Exercise effects on bone mineral density in older men: a systematic review with special emphasis on study interventions. <i>Osteoporos Int</i> , 2018; 29 (7): 1493-504.	Wrong population (age)
Kogler K, Howard N, Schumacher M, Knight H. Variable Surface Training and Fall Risk in the Older Adult. <i>Topics in Geriatric Rehabilitation</i> , 2018; 34 (3): 185-93.	Wrong intervention
Kuijlaars IAR, Sweerts L, Nijhuis-van der Sanden MWG, van Balen R, Staal JB, van Meeteren NLU, et al. Effectiveness of Supervised Home-Based Exercise Therapy Compared to a Control Intervention on Functions, Activities, and Participation in Older Patients After Hip Fracture: A Systematic Review and Meta-analysis. <i>Arch Phys Med Rehabil</i> , 2019; 100 (1): 101-14 e6.	Wrong outcome
Kumar A, Delbaere K, Zijlstra GA, Carpenter H, Iliffe S, Masud T, et al. Exercise for reducing fear of falling in older people living in the community: Cochrane systematic review and meta-analysis. <i>Age Ageing</i> , 2016; 45 (3): 345-52.	Wrong outcomes
Lach HW, Harrison BE, Phongphanngam S. Falls and Fall Prevention in Older Adults With Early-Stage Dementia: An Integrative Review. <i>Res Gerontol Nurs</i> , 2017; 10 (3): 139-48.	Wrong population
Laufer Y, Dar G, Kodesh E. Does a Wii-based exercise program enhance balance control of independently functioning older adults? A systematic review. <i>Clin Interv Aging</i> , 2014; 9:1803-13.	Intervention specific exercise
Lee SH, Kim HS. Exercise Interventions for Preventing Falls Among Older People in Care Facilities: A Meta-Analysis. <i>Worldviews Evid Based Nurs</i> , 2017; 14 (1): 74-80.	Publication date
Lipardo DS, Aseron AMC, Kwan MM, Tsang WW. Effect of Exercise and Cognitive Training on Falls and Fall-Related Factors in Older Adults With Mild Cognitive Impairment: A Systematic Review. <i>Arch Phys Med Rehabil</i> , 2017; 98 (10): 2079-96.	Wrong population
Liu CJ, Chang WP, Araujo de Carvalho I, Savage KEL, Radford LW, Amuthavalli Thiyagarajan J. Effects of physical exercise in older adults with reduced physical capacity: meta-analysis of resistance exercise and multimodal exercise. <i>Int J Rehabil Res</i> , 2017; 40 (4): 303-14.	Wrong population (no osteoporosis)
Liu F, Wang S. Effect of Tai Chi on bone mineral density in postmenopausal women: A systematic review and meta-analysis of randomized control trials. <i>J Chin Med Assoc</i> , 2017; 80 (12): 790-95.	Wrong population (postmenopausal)

Liu T, Sheng L, Huang Z. Influence of exercise intervention on pain, quality of life and functional mobility in patients with osteoporotic vertebral fractures: A systematic review and meta-analysis. <i>International Journal of Clinical and Experimental Medicine</i> , 2017; 10 (7): 9864-70.	Wrong outcome
Lomas-Vega R, Obrero-Gaitan E, Molina-Ortega FJ, Del-Pino-Casado R. Tai Chi for Risk of Falls. A Meta-analysis. <i>J Am Geriatr Soc</i> , 2017; 65 (9): 2037-43.	Intervention specific exercise
Lopez P, Pinto RS, Radaelli R, Rech A, Grazioli R, Izquierdo M, et al. Benefits of resistance training in physically frail elderly: a systematic review. <i>Aging Clin Exp Res</i> , 2018; 30 (8): 889-99.	Intervention specific exercise
Luo X, Zhang J, Zhang C, He C, Wang P. The effect of whole-body vibration therapy on bone metabolism, motor function, and anthropometric parameters in women with postmenopausal osteoporosis. <i>Disabil Rehabil</i> , 2017; 39 (22): 2315-23.	Wrong intervention
Ma CZ, Wong DW, Lam WK, Wan AH, Lee WC. Balance Improvement Effects of Biofeedback Systems with State-of-the-Art Wearable Sensors: A Systematic Review. <i>Sensors (Basel)</i> , 2016; 16 (4): 434.	Intervention specific exercise
March S, Torres E, Ramos M, Ripoll J, Garcia A, Bulilete O, et al. Adult community health-promoting interventions in primary health care: A systematic review. <i>Prev Med</i> , 2015; 76 SupplS94-104.	Wrong intervention
Marin-Cascales E, Alcaraz PE, Ramos-Campo DJ, Martinez-Rodriguez A, Chung LH, Rubio-Arias JA. Whole-body vibration training and bone health in postmenopausal women: A systematic review and meta-analysis. <i>Medicine (Baltimore)</i> , 2018; 97 (34): e11918.	Wrong intervention
Martinez-Carbonell Guillamon E, Burgess L, Immins T, Martinez-Almagro Andreo A, Wainwright TW. Does aquatic exercise improve commonly reported predisposing risk factors to falls within the elderly? A systematic review. <i>BMC Geriatr</i> , 2019; 19 (1): 52.	Intervention specific exercise
Martins AC, Santos C, Silva C, Baltazar D, Moreira J, Tavares N. Does modified Otago Exercise Program improves balance in older people? A systematic review. <i>Prev Med Rep</i> , 2018; 11231-39.	Wrong control group
Moreno-Segura N, Igual-Camacho C, Ballester-Gil Y, Blasco-Igual MC, Blasco JM. The Effects of the Pilates Training Method on Balance and Falls of Older Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. <i>J Aging Phys Act</i> , 2018; 26 (2): 327-44.	Intervention specific exercise
Naseri C, Haines TP, Etherton-Beer C, McPhail S, Morris ME, Flicker L, et al. Reducing falls in older adults recently discharged from hospital: a systematic review and meta-analysis. <i>Age Ageing</i> , 2018.	Wrong setting
Neri SG, Cardoso JR, Cruz L, Lima RM, de Oliveira RJ, Iversen MD, et al. Do virtual reality games improve mobility skills and balance measurements in community-dwelling older adults? Systematic review and meta-analysis. <i>Clin Rehabil</i> , 2017; 31 (10): 1292-304.	Wrong population (no osteoporosis)
Nguyen H, Mirza F, Naeem MA, Baig MM. Falls management framework for supporting an independent lifestyle for older adults: a systematic review. <i>Aging Clin Exp Res</i> , 2018; 30 (11): 1275-86.	Wrong outcomes
Ogawa EF, You T, Leveille SG. Potential Benefits of Exergaming for Cognition and Dual-Task Function in Older Adults: A Systematic Review. <i>J Aging Phys Act</i> , 2016; 24 (2): 332-6.	Intervention specific exercise

Okubo Y, Schoene D, Lord SR. Step training improves reaction time, gait and balance and reduces falls in older people: a systematic review and meta-analysis. <i>Br J Sports Med</i> , 2017; 51 (7): 586-93.	Wrong population (no osteoporosis)
Papa EV, Dong X, Hassan M. Resistance training for activity limitations in older adults with skeletal muscle function deficits: a systematic review. <i>Clin Interv Aging</i> , 2017; 12:955-61.	Wrong population (no osteoporosis)
Pope Z, Zeng N, Gao Z. The effects of active video games on patients' rehabilitative outcomes: A meta-analysis. <i>Prev Med</i> , 2017; 95:38-46.	Wrong population (age)
Rimland JM, Abraha I, Dell'Aquila G, Cruz-Jentoft A, Soiza R, Gudmusson A, et al. Effectiveness of Non-Pharmacological Interventions to Prevent Falls in Older People: A Systematic Overview. The SENATOR Project ONTOP Series. <i>PLoS One</i> , 2016 Fall-CI; 11 (8): e0161579.	Publication date
Rimland JM, Dell'Aquila G, O'Mahony D, Soiza RL, Cruz-Jentoft A, Abraha I, et al. Meta-analysis of Multifactorial Interventions to Prevent Falls of Older Adults in Care Facilities. <i>J Am Geriatr Soc</i> , 2015; 63 (9): 1972-3.	Wrong intervention
Rong K, Liu XY, Wu XH, Li XL, Xia QQ, Chen J, et al. Increasing Level of Leisure Physical Activity Could Reduce the Risk of Hip Fracture in Older Women: A Dose-Response Meta-analysis of Prospective Cohort Studies. <i>Medicine (Baltimore)</i> , 2016; 95 (11): e2984.	Intervention specific exercise
Sandlund M, Skelton DA, Pohl P, Ahlgren C, Melander-Wikman A, Lundin-Olsson L. Gender perspectives on views and preferences of older people on exercise to prevent falls: a systematic mixed studies review. <i>BMC Geriatr</i> , 2017; 17 (1): 58.	Wrong outcome
Sanudo B, de Hoyo M, Del Pozo-Cruz J, Carrasco L, Del Pozo-Cruz B, Tejero S, et al. A systematic review of the exercise effect on bone health: the importance of assessing mechanical loading in perimenopausal and postmenopausal women. <i>Menopause</i> , 2017; 24 (10): 1208-16.	Wrong population (post-menopausal)
Stubbs B, Denking MD, Brefka S, Dallmeier D. What works to prevent falls in older adults dwelling in long term care facilities and hospitals? An umbrella review of meta-analyses of randomised controlled trials. <i>Maturitas</i> , 2015; 81 (3): 335-42.	Publication date
Sun Z, Chen H, Berger MR, Zhang L, Guo H, Huang Y. Effects of tai chi exercise on bone health in perimenopausal and postmenopausal women: a systematic review and meta-analysis. <i>Osteoporos Int</i> , 2016; 27 (10): 2901-11.	Wrong population (post-menopausal)
Tricco AC, Thomas SM, Veroniki AA, Hamid JS, Cogo E, Strifler L, et al. Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis. <i>JAMA</i> , 2017; 318 (17): 1687-99.	Publication date
Weber M, Belala N, Clemson L, Boulton E, Hawley-Hague H, Becker C, et al. Feasibility and Effectiveness of Intervention Programmes Integrating Functional Exercise into Daily Life of Older Adults: A Systematic Review. <i>Gerontology</i> , 2018; 64 (2): 172-87.	Intervention specific exercise
Veronese N, Maggi S, Schofield P, Stubbs B. Dance movement therapy and falls prevention. <i>Maturitas</i> , 2017; 102:1-5.	Intervention specific exercise

Vlaeyen E, Coussement J, Leysens G, Van der Elst E, Delbaere K, Cambier D, et al. Characteristics and effectiveness of fall prevention programs in nursing homes: a systematic review and meta-analysis of randomized controlled trials. <i>J Am Geriatr Soc</i> , 2015; 63 (2): 211-21.	Publication date
Yeh ML, Liao RW, Hsu CC, Chung YC, Lin JG. Exercises improve body composition, cardiovascular risk factors and bone mineral density for menopausal women: A systematic review and meta-analysis of randomized controlled trials. <i>Appl Nurs Res</i> , 2018; 4090-98.	Wrong population (post-menopausal)
Zhao R, Feng F, Wang X. Exercise interventions and prevention of fall-related fractures in older people: a meta-analysis of randomized controlled trials. <i>Int J Epidemiol</i> , 2017; 46 (1): 149-61.	Publication date
Zhao R, Zhang M, Zhang Q. The Effectiveness of Combined Exercise Interventions for Preventing Postmenopausal Bone Loss: A Systematic Review and Meta-analysis. <i>J Orthop Sports Phys Ther</i> , 2017; 47 (4): 241-51.	Wrong population (post-menopausal)
Zou L, Wang C, Chen K, Shu Y, Chen X, Luo L, et al. The Effect of Taichi Practice on Attenuating Bone Mineral Density Loss: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. <i>Int J Environ Res Public Health</i> , 2017; 14 (9).	Wrong population (post-menopausal)

Bilaga 1 Exkluderade studier

Underlag för nationella riktlinjer för
rörleseorganens sjukdomar

O2:5 Fallpreventionsinsatser till äldre med hög risk
för fall

Appendix 1 Excluded articles

This list consists of articles considered relevant in terms of abstract, but the full-text articles did not meet the inclusion criteria, or were considered to have a high risk of bias. Some potentially relevant systematic reviews were excluded because they were not the most complete or the most recently published.

Excluded articles

Reference	Main reason for exclusion
Afifi M, Al-Hussein M, Bouferguene A. Geriatric bathroom design to minimize risk of falling for older adults- A systematic review. <i>European Geriatric Medicine</i> , 2015; 6 (6): 598-603.	Specific intervention
Cheng P, Tan L, Ning P, Li L, Gao Y, Wu Y, et al. Comparative Effectiveness of Published Interventions for Elderly Fall Prevention: A Systematic Review and Network Meta-Analysis. <i>International journal of environmental research and</i>	Publication date
Choi SD, Guo L, Kang D, Xiong S. Exergame technology and interactive interventions for elderly fall prevention: A systematic literature review. <i>Appl Ergon</i> , 2017; 65570-81.	High risk of bias
De Souto Barreto P, Rolland Y, Vellas B, Maltais M. Association of Long-term Exercise Training with Risk of Falls, Fractures, Hospitalizations, and Mortality in Older Adults: A Systematic Review and Meta-analysis. <i>JAMA Internal Medicine</i> ,	Specific intervention
Del-Pino-Casado R, Obrero-Gaitan E, Lomas-Vega R. The Effect of Tai Chi on Reducing the Risk of Falling: A Systematic Review and Meta-Analysis. <i>Am J Chin Med</i> , 2016; 44 (5): 895-906.	Specific intervention
Dennett AM, Taylor NF. Machines that go "ping" may improve balance but may not improve mobility or reduce risk of falls: a systematic review. <i>J Rehabil Med</i> , 2015; 47 (1): 18-30.	Wrong intervention
Elliott S, Leland NE. Occupational Therapy Fall Prevention Interventions for Community-Dwelling Older Adults: A Systematic Review. <i>Am J Occup Ther</i> , 2018; 72 (4): 7204190040p1-40p11.	Specific intervention
Finnegan S, Seers K, Bruce J. Long-term follow-up of exercise interventions aimed at preventing falls in older people living in the community: a systematic review and meta-analysis. <i>Physiotherapy</i> , 2018; 2020.	Specific intervention
Fisseha B, Janakiraman B, Yitayeh A, Ravichandran H. Effect of square stepping exercise for older adults to prevent fall and injury related to fall: systematic review and meta-analysis of current evidences. <i>J Exerc Rehabil</i> , 2017; 13 (1): 23-	Specific intervention
Francis-Coad J, Etherton-Ber C, Burton E, Naseri C, Hill A-M. Effectiveness of complex falls prevention interventions in residential aged care settings: a systematic review. <i>JBHI Database of Systematic Reviews & Implementation</i>	Wrong intervention
Hall WJ. 2017 - Review: In older adults, exercise alone and some combination interventions reduce injurious falls vs usual care. <i>ACP Journal Club</i> , 2018; 168 (6): 2-2.	Not a systematic review
Hamed A, Bohm S, Mersmann F, Arampatzis A. Follow-up efficacy of physical exercise interventions on fall incidence and fall risk in healthy older adults: a systematic review and meta-analysis. <i>Sports Med Open</i> , 2018; 4 (1): 56.	Specific intervention
Holte HH, Underland V, Hafstad E. Oppsummering av systematiske oversikter om forebygging av fall i institusjoner. Rapport fra Kunnskapssenteret nr. 13–2015. Oslo: Nasjonalt kunnskapssenter for helsetjenesten. 2015.	Publication date
Hopewell S, Adedire O, Copey BJ, Boniface GJ, Sherrington C, Clemson L, et al. Multifactorial and multiple component interventions for preventing falls in older people living in the community. <i>Cochrane Database of Systematic</i>	Wrong intervention
Jepsen DB, Thomsen K, Hansen S, Jorgensen NR, Masud T, Ryg J. Effect of whole-body vibration exercise in preventing falls and fractures: a systematic review and meta-analysis. <i>BMJ Open</i> , 2017; 7 (12): e018342.	Wrong intervention

Kogler K, Howard N, Schumacher M, Knight H. Variable Surface Training and Fall Risk in the Older Adult. <i>Topics in Geriatric Rehabilitation</i> , 2018; 34 (3): 185-93.	Wrong intervention
Kua CH, Mak VSL, Huey Lee SW. Health Outcomes of Deprescribing Interventions Among Older Residents in Nursing Homes: A Systematic Review and Meta-analysis. <i>J Am Med Dir Assoc</i> , 2019; 20 (3): 362-72.e11.	Specific intervention
Kumar A, Delbaere K, Zijlstra GA, Carpenter H, Iliffe S, Masud T, et al. Exercise for reducing fear of falling in older people living in the community: Cochrane systematic review and meta-analysis. <i>Age Ageing</i> , 2016; 45 (3): 345-52.	Wrong outcomes
Lach HW, Harrison BE, Phongphanngam S. Falls and Fall Prevention in Older Adults With Early-Stage Dementia: An Integrative Review. <i>Res Gerontol Nurs</i> , 2017; 10 (3): 139-48.	Wrong population
Lee SH, Kim HS. Effect of a multifactorial, interdisciplinary intervention on falls and fall rate of the older people in the community. <i>Value in Health</i> , 2016; 19 (7): A400.	Wrong intervention
Lipardo DS, Aseron AMC, Kwan MM, Tsang WW. Effect of Exercise and Cognitive Training on Falls and Fall-Related Factors in Older Adults With Mild Cognitive Impairment: A Systematic Review. <i>Arch Phys Med Rehabil</i> , 2017; 98	Wrong population
Liu TW, Ng GYF, Chung RCK, Ng SSM. Cognitive behavioural therapy for fear of falling and balance among older people: a systematic review and meta-analysis. <i>Age Ageing</i> , 2018; 47 (4): 520-27.	Wrong outcomes
Lord S. Exercise prevents fall-related injuries in older people. <i>Nature Reviews Endocrinology</i> , 2019; 15 (4): 193-94.	Not a systematic review
March S, Torres E, Ramos M, Ripoll J, Garcia A, Bulilete O, et al. Adult community health-promoting interventions in primary health care: A systematic review. <i>Prev Med</i> , 2015; 76 SupplS94-104.	Wrong intervention
Marques P, Queiros C, Apostolo J, Cardoso D. Effectiveness of bedrails in preventing falls among hospitalized older adults: a systematic review. <i>JB I Database System Rev Implement Rep</i> , 2017; 15 (10): 2527-54.	Specific intervention
Martinez-Carbonell Guillamon E, Burgess L, Immins T, Martinez-Almagro Andreo A, Wainwright TW. Does aquatic exercise improve commonly reported predisposing risk factors to falls within the elderly? A systematic review. <i>BMC</i>	Specific intervention
Mileski M, Brooks M, Topinka JB, Hamilton G, Land C, Mitchell T, et al. Alarming and/or Alerting Device Effectiveness in Reducing Falls in Long-Term Care (LTC) Facilities? A Systematic Review. <i>Healthcare (Basel)</i> , 2019; 7 (1).	High risk of bias
Naseri C, Haines TP, Etherton-Beer C, McPhail S, Morris ME, Flicker L, et al. Reducing falls in older adults recently discharged from hospital: a systematic review and meta-analysis. <i>Age Ageing</i> , 2018.	Wrong setting
Nguyen H, Mirza F, Naeem MA, Baig MM. Falls management framework for supporting an independent lifestyle for older adults: a systematic review. <i>Aging Clin Exp Res</i> , 2018; 30 (11): 1275-86.	Wrong outcomes
Pega F, Kvizhinadze G, Blakely T, Atkinson J, Wilson N. Home safety assessment and modification to reduce injurious falls in community-dwelling older adults: cost-utility and equity analysis. <i>Inj Prev</i> , 2016; 22 (6): 420-26.	Specific intervention
Poscia A, Milovanovic S, La Milia DI, Duplaga M, Grysztar M, Landi F, et al. Effectiveness of nutritional interventions addressed to elderly persons: umbrella systematic review with meta-analysis. <i>Eur J Public Health</i> , 2018; 28	Wrong intervention

Rimland JM, Abraha I, Dell'Aquila G, Cruz-Jentoft A, Soiza R, Gudmusson A, et al. Effectiveness of Non-Pharmacological Interventions to Prevent Falls in Older People: A Systematic Overview. The SENATOR Project ONTOP Series. PLoS One,	Publication date
Rimland JM, Dell'Aquila G, O'Mahony D, Soiza RL, Cruz-Jentoft A, Abraha I, et al. Meta-analysis of Multifactorial Interventions to Prevent Falls of Older Adults in Care Facilities. J Am Geriatr Soc, 2015; 63 (9): 1972-3.	Wrong intervention
Rong K, Liu XY, Wu XH, Li XL, Xia QQ, Chen J, et al. Increasing Level of Leisure Physical Activity Could Reduce the Risk of Hip Fracture in Older Women: A Dose-Response Meta-analysis of Prospective Cohort Studies. Medicine (Baltimore),	Specific intervention
Schultz TJ, Roupas P, Wiechula R, Krause D, Gravier S, Tuckett A, et al. Nutritional interventions for optimizing healthy body composition in older adults in the community: an umbrella review of systematic reviews. JBI	Wrong intervention
Sherrington C, Michaleff ZA, Fairhall N, Paul SS, Tiedemann A, Whitney J, et al. Exercise to prevent falls in older adults: an updated systematic review and meta-analysis. Br J Sports Med, 2017; 51 (24): 1750-58.	Publication date
Stark S, Keglovits M, Arbesman M, Lieberman D. Effect of Home Modification Interventions on the Participation of Community-Dwelling Adults With Health Conditions: A Systematic Review. Am J Occup Ther, 2017; 71 (2):	Specific intervention
Stubbs B, Denkinger MD, Brefka S, Dallmeier D. What works to prevent falls in older adults dwelling in long term care facilities and hospitals? An umbrella review of meta-analyses of randomised controlled trials. Maturitas, 2015; 81	Publication date
Tricco AC, Thomas SM, Veroniki AA, Hamid JS, Cogo E, Strifler L, et al. Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis. JAMA, 2017; 318 (17): 1687-99.	Publication date
Tricco AC, Thomas SM, Veroniki AA, Hamid JS, Cogo E, Strifler L, et al. Quality improvement strategies to prevent falls in older adults: a systematic review and network meta-analysis. Age Ageing, 2019.	Wrong intervention
Wang X, Pi Y, Chen P, Liu Y, Wang R, Chan C. Cognitive motor interference for preventing falls in older adults: a systematic review and meta-analysis of randomised controlled trials. Age Ageing, 2015; 44 (2): 205-12.	Wrong intervention
Vlaeyen E, Coussement J, Leysens G, Van der Elst E, Delbaere K, Cambier D, et al. Characteristics and effectiveness of fall prevention programs in nursing homes: a systematic review and meta-analysis of randomized controlled trials. J	Publication date
Wu H, Pang Q. The effect of vitamin D and calcium supplementation on falls in older adults : A systematic review and meta-analysis. Orthopade, 2017; 46 (9): 729-36.	Wrong intervention
Zhang XY, Shuai J, Li LP. Vision and Relevant Risk Factor Interventions for Preventing Falls among Older People: A Network Meta-analysis. Scientific Reports, 2015; 510559.	Wrong intervention
Zhao R, Feng F, Wang X. Exercise interventions and prevention of fall-related fractures in older people: a meta-analysis of randomized controlled trials. Int J Epidemiol, 2017; 46 (1): 149-61.	Publication date



Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:0 Antiresorptiva läkemedel vid förhöjd frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Benjamin B, Benjamin MA, Swe M, Sugathan S. Review on the comparison of effectiveness between denosumab and bisphosphonates in postmenopausal osteoporosis. <i>Osteoporos Sarcopenia</i> 2016;2:77-81.	Not relevant control group
Bolland MJ, Grey AB, Gamble GD, Reid IR. Effect of osteoporosis treatment on mortality: a meta-analysis. <i>J Clin Endocrinol Metab</i> 2010;95:1174-81.	Not relevant population
Bone HG, Bolognese MA, Yuen CK, Kendler DL, Miller PD, Yang YC, et al. Effects of denosumab treatment and discontinuation on bone mineral density and bone turnover markers in postmenopausal women with low bone mass. <i>J Clin Endocrinol Metab</i> 2011;96:972-80.	Not relevant outcome
Bone HG, Downs RW, Jr., Tucci JR, Harris ST, Weinstein RS, Licata AA, et al. Dose-response relationships for alendronate treatment in osteoporotic elderly women. Alendronate Elderly Osteoporosis Study Centers. <i>J Clin Endocrinol Metab</i> 1997;82:265-74.	Not relevant outcome
Bone HG, Downs RW, Jr., Tucci JR, Harris ST, Weinstein RS, Licata AA, et al. Dose-response relationships for alendronate treatment in osteoporotic elderly women. Alendronate Elderly Osteoporosis Study Centers. <i>J Clin</i>	Not relevant outcome
Chao M, Hua Q, Yingfeng Z, Guang W, Shufeng S, Yuzhen D, et al. Study on the role of zoledronic acid in treatment of postmenopausal osteoporosis women. <i>Pak J Med Sci</i> 2013;29:1381-4.	Not relevant population
Chen JF, Yang KH, Zhang ZL, Chang HC, Chen Y, Sowa H, et al. A systematic review on the use of daily subcutaneous administration of teriparatide for treatment of patients with osteoporosis at high risk for fracture in Asia. <i>Osteoporos Int</i> 2015;26:11-28.	Not relevant population
Chen LX, Zhou ZR, Li YL, Ning GZ, Zhang TS, Zhang D, et al. Comparison of Bone Mineral Density in Lumbar Spine and Fracture Rate among Eight Drugs in Treatments of Osteoporosis in Men: A Network Meta-Analysis. <i>PLoS One</i> 2015;10:e0128032.	Not relevant population
Crandall CJ, Newberry SJ, Diamant A, Lim YW, Gellad WF, Booth MJ, et al. Comparative effectiveness of pharmacologic treatments to prevent fractures: an updated systematic review. <i>Ann Intern Med</i> 2014;161:711-23.	Not relevant population
Crandall CJ, Newberry SJ, Diamant A, Lim YW, Gellad WF, Suttrop MJ, et al. AHRQ Comparative Effectiveness Reviews. In: Treatment To Prevent Fractures in Men and Women With Low Bone Density or Osteoporosis: Update of a 2007 Report. Rockville (MD): Agency for Healthcare Research and Quality (US); 2012.	Not relevant population

Cummings SR, San Martin J, McClung MR, Siris ES, Eastell R, Reid IR, et al. Denosumab for prevention of fractures in postmenopausal women with osteoporosis. <i>N Engl J Med</i> 2009;361:756-65.	Not relevant population
Fogelman I, Ribot C, Smith R, Ethgen D, Sod E, Reginster JY. Risedronate reverses bone loss in postmenopausal women with low bone mass: results from a multinational, double-blind, placebo-controlled trial. BMD-MN Study Group. <i>J Clin Endocrinol Metab</i> 2000;85:1895-900.	Not relevant outcome
Fraser LA, Vogt KN, Adachi JD, Thabane L. Fracture risk associated with continuation versus discontinuation of bisphosphonates after 5 years of therapy in patients with primary osteoporosis: a systematic review and meta-analysis. <i>Ther Clin Risk Manag</i> 2011;7:157-66.	Not relevant population
Freemantle N, Cooper C, Diez-Perez A, Gitlin M, Radcliffe H, Shepherd S, et al. Results of indirect and mixed treatment comparison of fracture efficacy for osteoporosis treatments: a meta-analysis. <i>Osteoporos Int</i> 2013;24:209-17.	Not relevant control group
Gallacher SJ, Dixon T. Impact of treatments for postmenopausal osteoporosis (bisphosphonates, parathyroid hormone, strontium ranelate, and denosumab) on bone quality: a systematic review. <i>Calcif Tissue Int</i> 2010;87:469-84.	Not relevant outcome
Geusens P, Marin F, Kendler DL, Russo LA, Zerbini CA, Minisola S, et al. Effects of Teriparatide Compared with Risedronate on the Risk of Fractures in Subgroups of Postmenopausal Women with Severe Osteoporosis: The VERO Trial. <i>J Bone Miner Res</i> 2018;33:783-794.	Not relevant control group
Guo Z, Wu R, Gong J, Zhu W, Li Y, Li N, et al. The efficacy and safety of bisphosphonates for osteoporosis or osteopenia in Crohn's disease: a meta-analysis. <i>Dig Dis Sci</i> 2013;58:915-22.	Not relevant population
Han SL, Wan SL. Effect of teriparatide on bone mineral density and fracture in postmenopausal osteoporosis: meta-analysis of randomised controlled trials. <i>Int J Clin Pract</i> 2012;66:199-209.	Not relevant population
Hopkins RB, Goeree R, Pullenayegum E, Adachi JD, Papaioannou A, Xie F, et al. The relative efficacy of nine osteoporosis medications for reducing the rate of fractures in post-menopausal women. <i>BMC Musculoskelet Disord</i> 2011;12:209.	Not relevant study design
Inderjeeth CA, Chan K, Kwan K, Lai M. Time to onset of efficacy in fracture reduction with current anti-osteoporosis treatments. <i>J Bone Miner Metab</i> 2012;30:493-503.	Not relevant population
Kendler DL, Marin F, Zerbini CAF, Russo LA, Greenspan SL, Zikan V, et al. Effects of teriparatide and risedronate on new fractures in postmenopausal women with severe osteoporosis (VERO): a multicentre, double-blind, double-dummy, randomised controlled trial. <i>Lancet</i>	Not relevant population

Liu GF, Wang ZQ, Liu L, Zhang BT, Miao YY, Yu SN. A network meta-analysis on the short-term efficacy and adverse events of different anti-osteoporosis drugs for the treatment of postmenopausal osteoporosis. <i>J Cell Biochem</i> 2018;119:4469-4481.	Not relevant study design
Mandema JW, Zheng J, Libanati C, Perez Ruixo JJ. Time course of bone mineral density changes with denosumab compared with other drugs in postmenopausal osteoporosis: a dose-response-based meta-analysis. <i>J Clin Endocrinol Metab</i> 2014;99:3746-55.	Not relevant outcome
Marra LP, Almeida-Brasil CC, Guerra-Júnior AA, Almeida AM, Lemos LL. Efficacy, safety, and cost effectiveness of teriparatide for the treatment of osteoporosis. <i>Value in Health</i> 2016;19:A227.	Not relevant population
Martin KE, Yu J, Campbell HE, Abarca J, White TJ. Analysis of the comparative effectiveness of 3 oral bisphosphonates in a large managed care organization: adherence, fracture rates, and all-cause cost. <i>J Manag Care Pharm</i> 2011;17:596-609.	Not relevant population
Migliore A, Broccoli S, Massafra U, Cassol M, Frediani B. Ranking antireabsorptive agents to prevent vertebral fractures in postmenopausal osteoporosis by mixed treatment comparison meta-analysis. <i>Eur Rev Med</i>	Not relevant outcome
Murad MH, Drake MT, Mullan RJ, Mauck KF, Stuart LM, Lane MA, et al. Clinical review. Comparative effectiveness of drug treatments to prevent fragility fractures: a systematic review and network meta-analysis. <i>The</i>	Not relevant population
Nayak S, Greenspan SL. Osteoporosis Treatment Efficacy for Men: A Systematic Review and Meta-Analysis. <i>J Am Geriatr Soc</i> 2017;65:490-495.	Not relevant population
Palacios S, Kalouche-Khalil L, Rizzoli R, Zapalowski C, Resch H, Adachi JD, et al. Treatment with denosumab reduces secondary fracture risk in women with postmenopausal osteoporosis. <i>Climacteric</i> 2015;18:805-12.	Not relevant study design
Reginster J, Bianic F, Campbell R, Martin M, Williams S, Fitzpatrick L. Abaloparatide for risk reduction of nonvertebral and vertebral fractures in postmenopausal women with osteoporosis: A network meta-analysis.	Not relevant intervention
Ringe JD, Doherty JG. Absolute risk reduction in osteoporosis: assessing treatment efficacy by number needed to treat. <i>Rheumatol Int</i> 2010;30:863-9.	Not relevant control group
Saag KG, Wagman RB, Geusens P, Adachi JD, Messina OD, Emkey R, et al. Denosumab versus risedronate in glucocorticoid-induced osteoporosis: a multicentre, randomised, double-blind, active-controlled, double-dummy, non-inferiority study. <i>Lancet Diabetes Endocrinol</i> 2018;6:445-454.	Not relevant control group
Sanderson J. Clinical Effectiveness of Bisphosphonates for Prevention of Fragility Fractures: A Systematic Review and Network Meta-Analysis. <i>Value Health</i> 2015;18:A634.	Not relevant population

Schwarz P, Jorgensen NR, Mosekilde L, Vestergaard P. The evidence for efficacy of osteoporosis treatment in men with primary osteoporosis: a systematic review and meta-analysis of antiresorptive and anabolic	Not relevant outcome
Serrano AJ, Begona L, Anitua E, Cobos R, Orive G. Systematic review and meta-analysis of the efficacy and safety of alendronate and zoledronate for the treatment of postmenopausal osteoporosis. <i>Gynecol Endocrinol</i> 2013;29:1005-14.	Not relevant population
Silva-Fernandez L, Rosario MP, Martinez-Lopez JA, Carmona L, Loza E. Denosumab for the treatment of osteoporosis: a systematic literature review. <i>Reumatol Clin</i> 2013;9:42-52.	Not relevant population
van de Glind EM, Willems HC, Eslami S, Abu-Hanna A, Lems WF, Hooft L, et al. Estimating the Time to Benefit for Preventive Drugs with the Statistical Process Control Method: An Example with Alendronate. <i>Drugs Aging</i> 2016;33:347-53.	Not relevant population
Wang C. Efficacy and Safety of Zoledronic Acid for Treatment of Postmenopausal Osteoporosis: A Meta-Analysis of Randomized Controlled Trials. <i>Am J Ther</i> 2017;24:e544-e552.	Not relevant population
Wang G, Sui L, Gai P, Li G, Qi X, Jiang X. The efficacy and safety of vertebral fracture prevention therapies in post-menopausal osteoporosis treatment: Which therapies work best? a network meta-analysis. <i>Bone Joint Res</i> 2017;6:452-463.	Not relevant study design
Wang YK, Qin SQ, Ma T, Song W, Jiang RQ, Guo JB, et al. Effects of teriparatide versus alendronate for treatment of postmenopausal osteoporosis: A meta-analysis of randomized controlled trials. <i>Medicine (Baltimore)</i> 2017;96:e6970.	Not relevant population
Wilkes MM, Navickis RJ, Chan WW, Lewiecki EM. Bisphosphonates and osteoporotic fractures: a cross-design synthesis of results among compliant/persistent postmenopausal women in clinical practice versus randomized controlled trials. <i>Osteoporos Int</i> 2010;21:679-88.	Not relevant study design
Yang XC, Deng ZH, Wen T, Luo W, Xiao WF, Zhao RB, et al. Network Meta-Analysis of Pharmacological Agents for Osteoporosis Treatment and Fracture Prevention. <i>Cell Physiol Biochem</i> 2016;40:781-795.	Not relevant population
Zhang J, Wang R, Zhao YL, Sun XH, Zhao HX, Tan L, et al. Efficacy of intravenous zoledronic acid in the prevention and treatment of osteoporosis: a meta-analysis. <i>Asian Pac J Trop Med</i> 2012;5:743-8.	Not relevant population
Zhang L, Pang Y, Shi Y, Xu M, Xu X, Zhang J, et al. Indirect comparison of teriparatide, denosumab, and oral bisphosphonates for the prevention of vertebral and nonvertebral fractures in postmenopausal women with osteoporosis. <i>Menopause</i> 2015;22:1021-5.	Not relevant control group
Zhang W, Zhu C, Sun M, Ge Y, Yan G. Efficacy of bisphosphonates against hip fracture in elderly patients with stroke and Parkinson diseases: meta-analysis of randomized controlled trials. <i>J Stroke Cerebrovasc Dis</i> 2014;23:2714-24.	Not relevant population

Zhang Y, Zhang L, Li S, Sun F, Li J, Ke A, et al. Effect of denosumab, a fully human monoclonal antibody to RANKL, on bone mineral density and fractures: A meta-analysis. <i>International Journal of Clinical and Experimental Medicine</i> 2017;10:5931-5940.	Not relevant population
Zhou J, Wang T, Zhao X, Miller DR, Zhai S. Comparative Efficacy of Bisphosphonates to Prevent Fracture in Men with Osteoporosis: A Systematic Review with Network Meta-Analyses. <i>Rheumatol Ther</i> 2016;3:117-128.	Not relevant study design
Zhou Z, Chen C, Zhang J, Ji X, Liu L, Zhang G, et al. Safety of denosumab in postmenopausal women with osteoporosis or low bone mineral density: a meta-analysis. <i>Int J Clin Exp Pathol</i> 2014;7:2113-22.	Not relevant outcome



Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:1 Antiresorptiva läkemedel vid benskörhetsfraktur

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Adami S, Prizzi R, Colapietro F. Alendronate for the treatment of osteoporosis in men. <i>Calcified Tissue International</i> 2001;69:239-241.	Not relevant population
Adler RA, El-Hajj Fuleihan G, Bauer DC, Camacho PM, Clarke BL, Clines GA, et al. Managing Osteoporosis in Patients on Long-Term Bisphosphonate Treatment: Report of a Task Force of the American Society for Bone and Mineral Research. <i>Journal of Bone and Mineral Research</i> 2016;31:16-35.	Not relevant study design
Alkhenizan A, Almarri S, Evans MF. Alendronate and male osteoporosis. <i>Canadian Family Physician</i> 2001;47:509-510.	Not relevant study design
Allen C, Yeung J, Homik J. Bisphosphonates for fracture prevention in steroid-induced osteoporosis: A meta-analysis. <i>Journal of Rheumatology</i> 2015;42:1282.	Not relevant population
Beaudoin C, Jean S, Bessette L, Ste-Marie LG, Moore L, Brown JP. Denosumab compared to other treatments to prevent or treat osteoporosis in individuals at risk of fracture: a systematic review and meta-analysis. <i>Osteoporos Int</i> 2016;27:2835-44.	Not relevant control group
Byun JH, Jang S, Lee S, Park S, Yoon HK, Yoon BH, et al. The Efficacy of Bisphosphonates for Prevention of Osteoporotic Fracture: An Update Meta-analysis. <i>J Bone Metab</i> 2017;24:37-49.	Not relevant population
Catala-Lopez F, Sanfelix-Gimeno G, Tobias A, Hurtado I, Sanfelix-Genoves J, Peiro S. Efficacy of osteoporosis therapies in a network meta-analysis with indirect comparisons: many concerns for new tools of evidence synthesis? <i>Osteoporos Int</i> 2013;24:1927-8.	Not relevant control group
Chen JF, Yang KH, Zhang ZL, Chang HC, Chen Y, Sowa H, et al. A systematic review on the use of daily subcutaneous administration of teriparatide for treatment of patients with osteoporosis at high risk for fracture in Asia. <i>Osteoporos Int</i> 2015;26:11-28.	Not relevant outcome
Chen L, Wang G, Zheng F, Zhao H, Li H. Efficacy of bisphosphonates against osteoporosis in adult men: a meta-analysis of randomized controlled trials. <i>Osteoporos Int</i> 2015;26:2355-63.	Not relevant population
Chen LX, Zhou ZR, Li YL, Ning GZ, Zhang TS, Zhang D, et al. Comparison of Bone Mineral Density in Lumbar Spine and Fracture Rate among Eight Drugs in Treatments of Osteoporosis in Men: A Network Meta-Analysis. <i>PLoS One</i> 2015;10:e0128032.	Not relevant population
Cosman F. Treatment of osteoporosis and prevention of new fractures: Role of intravenously administered bisphosphonates. <i>Endocrine Practice</i> 2009;15:483-493.	Not relevant population
Crandall CJ, Newberry SJ, Diamant A, Lim YW, Gellad WF, Booth MJ, et al. Comparative effectiveness of pharmacologic treatments to prevent fractures: an updated systematic review. <i>Ann Intern Med</i> 2014;161:711-23.	Not relevant study design

Crandall CJ, Newberry SJ, Diamant A, Lim YW, Gellad WF, Suttorp MJ, et al. AHRQ Comparative Effectiveness Reviews. In: Treatment To Prevent Fractures in Men and Women With Low Bone Density or Osteoporosis: Update of a 2007 Report. Rockville (MD): Agency for Healthcare Research and Quality (US); 2012.	Not relevant population
Davis S, Martyn-St James M, Sanderson J, Stevens J, Goka E, Rawdin A, et al. A systematic review and economic evaluation of bisphosphonates for the prevention of fragility fractures. <i>Health Technol Assess</i> 2016;20:1-406.	Not relevant population
Devogelaer JP, Boutsen Y, Manicourt DH. Biologicals in osteoporosis: Teriparatide and parathyroid hormone in women and men. <i>Current Osteoporosis Reports</i> 2010;8:154-161.	Not relevant study design
Diedhiou D, Cuny T, Sarr A, Norou Diop S, Klein M, Weryha G. Efficacy and safety of denosumab for the treatment of osteoporosis: A systematic review. <i>Ann Endocrinol (Paris)</i> 2015;76:650-7.	Not relevant study design
Fontalis A, Kenanidis E, Prousalis E, Potoupnis M, Tsiridis E. Safety and efficacy of denosumab in osteoporotic patients previously treated with other medications: a systematic review and meta-analysis. <i>Expert Opin Drug Saf</i> 2018;17:413-428.	Not relevant population
Frediani B, Baraldi E, Cremonesi G. Effect of clodronate treatment on risk of fracture: a systematic review and meta-analysis. <i>Calcif Tissue Int</i> 2014;95:295-307.	Not relevant intervention
Freemantle N, Cooper C, Diez-Perez A, Gitlin M, Radcliffe H, Shepherd S, et al. Results of indirect and mixed treatment comparison of fracture efficacy for osteoporosis treatments: a meta-analysis. <i>Osteoporos Int</i> 2013;24:209-17.	Not relevant control group
Gedmintas L, Solomon DH, Kim SC. Bisphosphonates and risk of subtrochanteric, femoral shaft, and atypical femur fracture: a systematic review and meta-analysis. <i>J Bone Miner Res</i> 2013;28:1729-37.	Not relevant population
Gennari L, Bilezikian JP. Osteoporosis in men: Pathophysiology and treatment. <i>Current Osteoporosis Reports</i> 2007;5:22-28.	Not relevant population
Gu HF, Gu LJ, Wu Y, Zhao XH, Zhang Q, Xu ZR, et al. Efficacy and Safety of Denosumab in Postmenopausal Women With Osteoporosis: A Meta-Analysis. <i>Medicine (Baltimore)</i> 2015;94:e1674.	Not relevant outcome
Hagen G. Comparative effectiveness and cost-effectiveness of generic alendronate, risendronate, denosumab and zoledronic acid for secondary prevention of fragility fractures-perliminay results. <i>Value in Health</i> 2015;18:A648.	Not relevant study design
Halbekath JM, Schenk S, Von Maxen A, Meyer G, Mühlhauser I. Risedronate for the prevention of hip fractures: Concern about validity of trials [2]. <i>Archives of Internal Medicine</i> 2007;167:513-514.	Not relevant study design
Han SL, Wan SL. Effect of teriparatide on bone mineral density and fracture in postmenopausal osteoporosis: meta-analysis of randomised controlled trials. <i>Int J Clin Pract</i> 2012;66:199-209.	Not relevant population

Hopkins RB, Goeree R, Pullenayegum E, Adachi JD, Papaioannou A, Xie F, et al. The relative efficacy of nine osteoporosis medications for reducing the rate of fractures in post-menopausal women. <i>BMC Musculoskeletal Disord</i> 2011;12:209.	Not relevant control group
Hwang JS, Liou MJ, Ho C, Lin JD, Huang YY, Wang CJ, et al. The effects of weekly alendronate therapy in Taiwanese males with osteoporosis. <i>Journal of Bone & Mineral Metabolism</i> 2010;28:328-33.	Not relevant population
Inderjeeth CA, Chan K, Kwan K, Lai M. Time to onset of efficacy in fracture reduction with current anti-osteoporosis treatments. <i>J Bone Miner Metab</i> 2012;30:493-503.	Not relevant population
Iwamoto J, Takeda T, Sato Y. Effects of antifracture drugs in postmenopausal, male and glucocorticoid-induced osteoporosis - usefulness of alendronate and risedronate. <i>Expert Opinion on Pharmacotherapy</i> 2007;8:2743-2756.	Not relevant population
Jansen JP, Bergman GJ, Huels J, Olson M. The efficacy of bisphosphonates in the prevention of vertebral, hip, and nonvertebral-nonhip fractures in osteoporosis: a network meta-analysis. <i>Semin Arthritis Rheum</i> 2011;40:275-84.e1-2.	Not relevant population
Kaufman JM, Orwoll E, Goemaere S, San Martin J, Hossain A, Dalsky GP, et al. Teriparatide effects on vertebral fractures and bone mineral density in men with osteoporosis: treatment and discontinuation of therapy. <i>Osteoporosis International</i> 2005;16:510-6.	Not relevant intervention
Keyserlingk C, Hopkins R, Anastasilakis A, Toulis K, Goeree R, Tarride J, et al. Clinical efficacy and safety of denosumab in postmenopausal women with low bone mineral density and osteoporosis: a meta-analysis (Structured abstract). In: <i>Seminars in Arthritis and Rheumatism</i> ; 2011. p 178-186.	Not relevant study design
Lakshmi VV, Gowrishankar NL, Sangeetha R, Jejeena M. A systematic review on diagnosis and management of postmenopausal osteoporosis. <i>International Journal of Pharmaceutical Sciences and Research</i> 2017;8:5001-5011.	Not relevant population
Lee S, Yin RV, Hirpara H, Lee NC, Lee A, Llanos S, et al. Increased risk for atypical fractures associated with bisphosphonate use. <i>Fam Pract</i> 2015;32:276-81.	Not relevant population
Lee YH, Song GG. Efficacy and safety of monthly 150 mg oral ibandronate in women with postmenopausal osteoporosis: a systematic review and meta-analysis of randomized controlled trials. <i>Korean J Intern Med</i> 2011;26:340-7.	Not relevant intervention
Lin T, Wang C, Cai XZ, Zhao X, Shi MM, Ying ZM, et al. Comparison of clinical efficacy and safety between denosumab and alendronate in postmenopausal women with osteoporosis: a meta-analysis. <i>Int J Clin Pract</i> 2012;66:399-408.	Not relevant control group
Liu CL, Lee HC, Chen CC, Cho DY. Head-to-head comparisons of bisphosphonates and teriparatide in osteoporosis: a meta-analysis. <i>Clin Invest Med</i> 2017;40:E146-E157.	Not relevant control group

Liu GF, Wang ZQ, Liu L, Zhang BT, Miao YY, Yu SN. A network meta-analysis on the short-term efficacy and adverse events of different anti-osteoporosis drugs for the treatment of postmenopausal osteoporosis. <i>J Cell Biochem</i> 2018;119:4469-4481.	Not relevant population
Liu M, Guo L, Pei Y, Li N, Jin M, Ma L, et al. Efficacy of zoledronic acid in treatment of osteoporosis in men and women-a meta-analysis. <i>Int J Clin Exp Med</i> 2015;8:3855-61.	Not relevant population
Ma Z, Li Y, Zhou M, Huang K, Hu H, Liu X, et al. Predictors of Ibandronate Efficacy for the Management of Osteoporosis: A Meta-Regression Analysis. <i>PLoS One</i> 2016;11:e0150203.	Not relevant intervention
Marra LP, Almeida-Brasil CC, Guerra-Júnior AA, Almeida AM, Lemos LL. Efficacy, safety, and cost effectiveness of teriparatide for the treatment of osteoporosis. <i>Value in Health</i> 2016;19:A227.	Not relevant population
Massafra U, Integlia D, Broccoli S, Migliore A. Mixed Treatment Comparison to Rank Antiresorptive Agents In Preventing New Non Vertebral Fractures In Postmenopausal Osteoporosis. <i>Value Health</i> 2015;18:A636.	Not relevant population
Mecchella JN, Batsis JA, Larson RJ, Suresh G. Incidence of atypical femur fractures associated with bisphosphonate use for osteoporosis: A systematic review of the literature. <i>Arthritis and Rheumatism</i> 2012;64:S837.	Not relevant population
Migliore A, Broccoli S, Massafra U, Cassol M, Frediani B. Ranking antiresorptive agents to prevent vertebral fractures in postmenopausal osteoporosis by mixed treatment comparison meta-analysis. <i>Eur Rev Med Pharmacol Sci</i> 2013;17:658-67.	Not relevant control group
Miller PD, Schnitzer T, Emkey R, Orwoll E, Rosen C, Ettinger M, et al. Weekly oral alendronic acid in male osteoporosis. <i>Clinical Drug Investigation</i> 2004;24:333-341.	Not relevant outcome
Murad MH, Drake MT, Mullan RJ, Mauck KF, Stuart LM, Lane MA, et al. Clinical review. Comparative effectiveness of drug treatments to prevent fragility fractures: a systematic review and network meta-analysis. <i>The Journal of clinical endocrinology and metabolism</i> 2012;97:1871-80.	Not relevant study design
Nayak S, Greenspan SL. Osteoporosis Treatment Efficacy for Men: A Systematic Review and Meta-Analysis. <i>J Am Geriatr Soc</i> 2017;65:490-495.	Not relevant population
Nct. Combination Risedronate - Parathyroid Hormone Trial in Male Osteoporosis. https://clinicaltrials.gov/show/nct01611571 2012.	Not relevant study design
Nie H, Peng C, Hao J, Hu Z, An H. Zoledronic acid in preventing fractures in women with postmenopausal osteoporosis: A meta analysis. <i>Academic Journal of Second Military Medical University</i> 2011;32:985-990.	Not relevant population
Orwoll ES, Miller PD, Adachi JD, Brown J, Adler RA, Kendler D, et al. Efficacy and safety of a once-yearly i.v. Infusion of zoledronic acid 5mg versus a once-weekly 70-mg oral alendronate in the treatment of male osteoporosis: a randomized, multicenter, double-blind, active-controlled study. <i>Journal of Bone & Mineral Research</i> 2010;25:2239-50.	Not relevant population

Peng J, Liu Y, Chen L, Peng K, Xu Z, Zhang D, et al. Bisphosphonates can prevent recurrent hip fracture and reduce the mortality in osteoporotic patient with hip fracture: A meta-analysis. <i>Pak J Med Sci</i> 2016;32:499-504.	Not relevant population
Ringe JD, Doherty JG. Absolute risk reduction in osteoporosis: assessing treatment efficacy by number needed to treat. <i>Rheumatol Int</i> 2010;30:863-9.	Not relevant population
Ringe JD, Dorst A, Faber H, Ibach K. Alendronate treatment of established primary osteoporosis in men: 3-year results of a prospective, comparative, two-arm study. <i>Rheumatology International</i> 2004;24:110-3.	Not relevant control group
Ringe JD, Farahmand P, Faber H, Dorst A. Sustained efficacy of risedronate in men with primary and secondary osteoporosis: results of a 2-year study. <i>Rheumatology International</i> 2009;29:311-5.	Not relevant population
Ringe JD, Orwoll E, Daifotis A, Lombardi A. Treatment of male osteoporosis: Recent advances with alendronate. <i>Osteoporosis International</i> 2002;13:195-199.	Not relevant population
Saito T, Sterbenz JM, Malay S, Zhong L, MacEachern MP, Chung KC. Effectiveness of anti-osteoporotic drugs to prevent secondary fragility fractures: systematic review and meta-analysis. <i>Osteoporos Int</i> 2017;28:3289-3300.	Not relevant population
Sanderson J, Martyn-St James M, Stevens J, Goka E, Wong R, Campbell F, et al. Clinical effectiveness of bisphosphonates for the prevention of fragility fractures: A systematic review and network meta-analysis. <i>Bone</i> 2016;89:52-8.	Not relevant population
Sanderson J. Clinical Effectiveness of Bisphosphonates for Prevention of Fragility Fractures: A Systematic Review and Network Meta-Analysis. <i>Value Health</i> 2015;18:A634.	Not relevant population
Schwarz P, Jorgensen NR, Mosekilde L, Vestergaard P. Effects of increasing age, dosage, and duration of PTH treatment on BMD increase--a meta-analysis. <i>Calcif Tissue Int</i> 2012;90:165-73.	Not relevant outcome
Schwarz P, Jorgensen NR, Mosekilde L, Vestergaard P. The evidence for efficacy of osteoporosis treatment in men with primary osteoporosis: a systematic review and meta-analysis of antiresorptive and anabolic treatment in men. <i>J Osteoporos</i> 2011;2011:259818.	Not relevant population
Silva-Fernandez L, Rosario MP, Martinez-Lopez JA, Carmona L, Loza E. Denosumab for the treatment of osteoporosis: a systematic literature review. <i>Reumatol Clin</i> 2013;9:42-52.	Not relevant population
Song J, Jin Z, Chang F, Li L, Su Y. Single and combined use of human parathyroid hormone (PTH) (1-34) on areal bone mineral density (aBMD) in postmenopausal women with osteoporosis: evidence based on 9 RCTs. <i>Med Sci Monit</i> 2014;20:2624-32.	Not relevant population
Walker M, Cusano N, Romano M, Sliney J, Zhang C, McMahon D, et al. Treatment of male osteoporosis: Risedronate, teriparatide or both. <i>Journal of Bone and Mineral Research</i> 2012;27.	Not relevant intervention
Wang C. Efficacy and Safety of Zoledronic Acid for Treatment of Postmenopausal Osteoporosis: A Meta-Analysis of Randomized Controlled Trials. <i>Am J Ther</i> 2017;24:e544-e552.	Not relevant population

Wang G, Sui L, Gai P, Li G, Qi X, Jiang X. The efficacy and safety of vertebral fracture prevention therapies in post-menopausal osteoporosis treatment: Which therapies work best? a network meta-analysis. <i>Bone Joint Res</i> 2017;6:452-463.	Not relevant population
Wang YK, Qin SQ, Ma T, Song W, Jiang RQ, Guo JB, et al. Effects of teriparatide versus alendronate for treatment of postmenopausal osteoporosis: A meta-analysis of randomized controlled trials. <i>Medicine (Baltimore)</i> 2017;96:e6970.	Not relevant control group
Whelan AM, Raman-Wilms L. Denosumab: A new injectable treatment for postmenopausal osteoporosis. <i>Canadian Pharmacists Journal</i> 2011;144:72-78.	Not relevant population
Xu Z. Alendronate for the Treatment of Osteoporosis in Men: A Meta-Analysis of Randomized Controlled Trials. <i>Am J Ther</i> 2017;24:e130-e138.	Not relevant population
Xuan S, Ma J, Liu GG. Meta-analysis of efficacy and safety of denosumab in postmenopausal osteoporosis. <i>Value in Health</i> 2015;18:A153.	Not relevant population
Yang XC, Deng ZH, Wen T, Luo W, Xiao WF, Zhao RB, et al. Network Meta-Analysis of Pharmacological Agents for Osteoporosis Treatment and Fracture Prevention. <i>Cell Physiol Biochem</i> 2016;40:781-795.	Not relevant population
Zhang J, Wang R, Zhao Y, Sun X, Zhao H, Lu T, et al. Efficacy of intravenous zoledronic acid in the prevention and treatment of osteoporosis: a meta-analysis (Provisional abstract). In: <i>Asian Pacific Journal of Tropical Medicine</i> ; 2012. p 743-748.	Not relevant study design
Zhang L, Pang Y, Shi Y, Xu M, Xu X, Zhang J, et al. Indirect comparison of teriparatide, denosumab, and oral bisphosphonates for the prevention of vertebral and nonvertebral fractures in postmenopausal women with osteoporosis. <i>Menopause</i> 2015;22:1021-5.	Not relevant study design
Zhang Y, Zhang L, Li S, Sun F, Li J, Ke A, et al. Effect of denosumab, a fully human monoclonal antibody to RANKL, on bone mineral density and fractures: A meta-analysis. <i>International Journal of Clinical and Experimental Medicine</i> 2017;10:5931-5940.	Not relevant population
Zhou J, Ma X, Wang T, Zhai S. Comparative efficacy of bisphosphonates in short-term fracture prevention for primary osteoporosis: a systematic review with network meta-analyses. <i>Osteoporos Int</i> 2016;27:3289-3300.	Not relevant population



Bilaga 3 Exkluderade studier

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Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:2 Teriparatid vid multipla kotfrakturer

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Adami S, Prizzi R, Colapietro F. Alendronate for the treatment of osteoporosis in men. <i>Calcified Tissue International</i> 2001;69:239-241.	Not relevant population
Adler RA, El-Hajj Fuleihan G, Bauer DC, Camacho PM, Clarke BL, Clines GA, et al. Managing Osteoporosis in Patients on Long-Term Bisphosphonate Treatment: Report of a Task Force of the American Society for Bone and Mineral Research. <i>Journal of Bone and Mineral Research</i> 2016;31:16-35.	Not relevant study design
Alkhenizan A, Almarri S, Evans MF. Alendronate and male osteoporosis. <i>Canadian Family Physician</i> 2001;47:509-510.	Not relevant study design
Allen C, Yeung J, Homik J. Bisphosphonates for fracture prevention in steroid-induced osteoporosis: A meta-analysis. <i>Journal of Rheumatology</i> 2015;42:1282.	Not relevant population
Beaudoin C, Jean S, Bessette L, Ste-Marie LG, Moore L, Brown JP. Denosumab compared to other treatments to prevent or treat osteoporosis in individuals at risk of fracture: a systematic review and meta-analysis. <i>Osteoporos Int</i> 2016;27:2835-44.	Not relevant control group
Byun JH, Jang S, Lee S, Park S, Yoon HK, Yoon BH, et al. The Efficacy of Bisphosphonates for Prevention of Osteoporotic Fracture: An Update Meta-analysis. <i>J Bone Metab</i> 2017;24:37-49.	Not relevant population
Catala-Lopez F, Sanfelix-Gimeno G, Tobias A, Hurtado I, Sanfelix-Genoves J, Peiro S. Efficacy of osteoporosis therapies in a network meta-analysis with indirect comparisons: many concerns for new tools of evidence synthesis? <i>Osteoporos Int</i> 2013;24:1927-8.	Not relevant control group
Chen JF, Yang KH, Zhang ZL, Chang HC, Chen Y, Sowa H, et al. A systematic review on the use of daily subcutaneous administration of teriparatide for treatment of patients with osteoporosis at high risk for fracture in Asia. <i>Osteoporos Int</i> 2015;26:11-28.	Not relevant outcome
Chen L, Wang G, Zheng F, Zhao H, Li H. Efficacy of bisphosphonates against osteoporosis in adult men: a meta-analysis of randomized controlled trials. <i>Osteoporos Int</i> 2015;26:2355-63.	Not relevant population
Chen LX, Zhou ZR, Li YL, Ning GZ, Zhang TS, Zhang D, et al. Comparison of Bone Mineral Density in Lumbar Spine and Fracture Rate among Eight Drugs in Treatments of Osteoporosis in Men: A Network Meta-Analysis. <i>PLoS One</i> 2015;10:e0128032.	Not relevant population
Cosman F. Treatment of osteoporosis and prevention of new fractures: Role of intravenously administered bisphosphonates. <i>Endocrine Practice</i> 2009;15:483-493.	Not relevant population
Crandall CJ, Newberry SJ, Diamant A, Lim YW, Gellad WF, Booth MJ, et al. Comparative effectiveness of pharmacologic treatments to prevent fractures: an updated systematic review. <i>Ann Intern Med</i> 2014;161:711-23.	Not relevant study design

Crandall CJ, Newberry SJ, Diamant A, Lim YW, Gellad WF, Suttorp MJ, et al. AHRQ Comparative Effectiveness Reviews. In: Treatment To Prevent Fractures in Men and Women With Low Bone Density or Osteoporosis: Update of a 2007 Report. Rockville (MD): Agency for Healthcare Research and Quality (US); 2012.	Not relevant population
Davis S, Martyn-St James M, Sanderson J, Stevens J, Goka E, Rawdin A, et al. A systematic review and economic evaluation of bisphosphonates for the prevention of fragility fractures. <i>Health Technol Assess</i> 2016;20:1-406.	Not relevant population
Devogelaer JP, Boutsen Y, Manicourt DH. Biologicals in osteoporosis: Teriparatide and parathyroid hormone in women and men. <i>Current Osteoporosis Reports</i> 2010;8:154-161.	Not relevant study design
Diedhiou D, Cuny T, Sarr A, Norou Diop S, Klein M, Weryha G. Efficacy and safety of denosumab for the treatment of osteoporosis: A systematic review. <i>Ann Endocrinol (Paris)</i> 2015;76:650-7.	Not relevant study design
Fontalis A, Kenanidis E, Prousalis E, Potoupnis M, Tsiridis E. Safety and efficacy of denosumab in osteoporotic patients previously treated with other medications: a systematic review and meta-analysis. <i>Expert Opin Drug Saf</i> 2018;17:413-428.	Not relevant population
Frediani B, Baraldi E, Cremonesi G. Effect of clodronate treatment on risk of fracture: a systematic review and meta-analysis. <i>Calcif Tissue Int</i> 2014;95:295-307.	Not relevant intervention
Freemantle N, Cooper C, Diez-Perez A, Gitlin M, Radcliffe H, Shepherd S, et al. Results of indirect and mixed treatment comparison of fracture efficacy for osteoporosis treatments: a meta-analysis. <i>Osteoporos Int</i> 2013;24:209-17.	Not relevant control group
Gedmintas L, Solomon DH, Kim SC. Bisphosphonates and risk of subtrochanteric, femoral shaft, and atypical femur fracture: a systematic review and meta-analysis. <i>J Bone Miner Res</i> 2013;28:1729-37.	Not relevant population
Gennari L, Bilezikian JP. Osteoporosis in men: Pathophysiology and treatment. <i>Current Osteoporosis Reports</i> 2007;5:22-28.	Not relevant population
Gu HF, Gu LJ, Wu Y, Zhao XH, Zhang Q, Xu ZR, et al. Efficacy and Safety of Denosumab in Postmenopausal Women With Osteoporosis: A Meta-Analysis. <i>Medicine (Baltimore)</i> 2015;94:e1674.	Not relevant outcome
Hagen G. Comparative effectiveness and cost-effectiveness of generic alendronate, risendronate, denosumab and zoledronic acid for secondary prevention of fragility fractures-perliminay results. <i>Value in Health</i> 2015;18:A648.	Not relevant study design
Halbekath JM, Schenk S, Von Maxen A, Meyer G, Mühlhauser I. Risedronate for the prevention of hip fractures: Concern about validity of trials [2]. <i>Archives of Internal Medicine</i> 2007;167:513-514.	Not relevant study design
Han SL, Wan SL. Effect of teriparatide on bone mineral density and fracture in postmenopausal osteoporosis: meta-analysis of randomised controlled trials. <i>Int J Clin Pract</i> 2012;66:199-209.	Not relevant population

Hopkins RB, Goeree R, Pullenayegum E, Adachi JD, Papaioannou A, Xie F, et al. The relative efficacy of nine osteoporosis medications for reducing the rate of fractures in post-menopausal women. <i>BMC Musculoskeletal Disord</i> 2011;12:209.	Not relevant control group
Hwang JS, Liou MJ, Ho C, Lin JD, Huang YY, Wang CJ, et al. The effects of weekly alendronate therapy in Taiwanese males with osteoporosis. <i>Journal of Bone & Mineral Metabolism</i> 2010;28:328-33.	Not relevant population
Inderjeeth CA, Chan K, Kwan K, Lai M. Time to onset of efficacy in fracture reduction with current anti-osteoporosis treatments. <i>J Bone Miner Metab</i> 2012;30:493-503.	Not relevant population
Iwamoto J, Takeda T, Sato Y. Effects of antifracture drugs in postmenopausal, male and glucocorticoid-induced osteoporosis - usefulness of alendronate and risedronate. <i>Expert Opinion on Pharmacotherapy</i> 2007;8:2743-2756.	Not relevant population
Jansen JP, Bergman GJ, Huels J, Olson M. The efficacy of bisphosphonates in the prevention of vertebral, hip, and nonvertebral-nonhip fractures in osteoporosis: a network meta-analysis. <i>Semin Arthritis Rheum</i> 2011;40:275-84.e1-2.	Not relevant population
Kaufman JM, Orwoll E, Goemaere S, San Martin J, Hossain A, Dalsky GP, et al. Teriparatide effects on vertebral fractures and bone mineral density in men with osteoporosis: treatment and discontinuation of therapy. <i>Osteoporosis International</i> 2005;16:510-6.	Not relevant intervention
Keyserlingk C, Hopkins R, Anastasilakis A, Toulis K, Goeree R, Tarride J, et al. Clinical efficacy and safety of denosumab in postmenopausal women with low bone mineral density and osteoporosis: a meta-analysis (Structured abstract). In: <i>Seminars in Arthritis and Rheumatism</i> ; 2011. p 178-186.	Not relevant study design
Lakshmi VV, Gowrishankar NL, Sangeetha R, Jejeena M. A systematic review on diagnosis and management of postmenopausal osteoporosis. <i>International Journal of Pharmaceutical Sciences and Research</i> 2017;8:5001-5011.	Not relevant population
Lee S, Yin RV, Hirpara H, Lee NC, Lee A, Llanos S, et al. Increased risk for atypical fractures associated with bisphosphonate use. <i>Fam Pract</i> 2015;32:276-81.	Not relevant population
Lee YH, Song GG. Efficacy and safety of monthly 150 mg oral ibandronate in women with postmenopausal osteoporosis: a systematic review and meta-analysis of randomized controlled trials. <i>Korean J Intern Med</i> 2011;26:340-7.	Not relevant intervention
Lin T, Wang C, Cai XZ, Zhao X, Shi MM, Ying ZM, et al. Comparison of clinical efficacy and safety between denosumab and alendronate in postmenopausal women with osteoporosis: a meta-analysis. <i>Int J Clin Pract</i> 2012;66:399-408.	Not relevant control group
Liu CL, Lee HC, Chen CC, Cho DY. Head-to-head comparisons of bisphosphonates and teriparatide in osteoporosis: a meta-analysis. <i>Clin Invest Med</i> 2017;40:E146-E157.	Not relevant control group

Liu GF, Wang ZQ, Liu L, Zhang BT, Miao YY, Yu SN. A network meta-analysis on the short-term efficacy and adverse events of different anti-osteoporosis drugs for the treatment of postmenopausal osteoporosis. <i>J Cell Biochem</i> 2018;119:4469-4481.	Not relevant population
Liu M, Guo L, Pei Y, Li N, Jin M, Ma L, et al. Efficacy of zoledronic acid in treatment of osteoporosis in men and women-a meta-analysis. <i>Int J Clin Exp Med</i> 2015;8:3855-61.	Not relevant population
Ma Z, Li Y, Zhou M, Huang K, Hu H, Liu X, et al. Predictors of Ibandronate Efficacy for the Management of Osteoporosis: A Meta-Regression Analysis. <i>PLoS One</i> 2016;11:e0150203.	Not relevant intervention
Marra LP, Almeida-Brasil CC, Guerra-Júnior AA, Almeida AM, Lemos LL. Efficacy, safety, and cost effectiveness of teriparatide for the treatment of osteoporosis. <i>Value in Health</i> 2016;19:A227.	Not relevant population
Massafra U, Integlia D, Broccoli S, Migliore A. Mixed Treatment Comparison to Rank Antiresorptive Agents In Preventing New Non Vertebral Fractures In Postmenopausal Osteoporosis. <i>Value Health</i> 2015;18:A636.	Not relevant population
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Migliore A, Broccoli S, Massafra U, Cassol M, Frediani B. Ranking antiresorptive agents to prevent vertebral fractures in postmenopausal osteoporosis by mixed treatment comparison meta-analysis. <i>Eur Rev Med Pharmacol Sci</i> 2013;17:658-67.	Not relevant control group
Miller PD, Schnitzer T, Emkey R, Orwoll E, Rosen C, Ettinger M, et al. Weekly oral alendronic acid in male osteoporosis. <i>Clinical Drug Investigation</i> 2004;24:333-341.	Not relevant outcome
Murad MH, Drake MT, Mullan RJ, Mauck KF, Stuart LM, Lane MA, et al. Clinical review. Comparative effectiveness of drug treatments to prevent fragility fractures: a systematic review and network meta-analysis. <i>The Journal of clinical endocrinology and metabolism</i> 2012;97:1871-80.	Not relevant study design
Nayak S, Greenspan SL. Osteoporosis Treatment Efficacy for Men: A Systematic Review and Meta-Analysis. <i>J Am Geriatr Soc</i> 2017;65:490-495.	Not relevant population
Nct. Combination Risedronate - Parathyroid Hormone Trial in Male Osteoporosis. https://clinicaltrials.gov/show/nct01611571 2012.	Not relevant study design
Nie H, Peng C, Hao J, Hu Z, An H. Zoledronic acid in preventing fractures in women with postmenopausal osteoporosis: A meta analysis. <i>Academic Journal of Second Military Medical University</i> 2011;32:985-990.	Not relevant population
Orwoll ES, Miller PD, Adachi JD, Brown J, Adler RA, Kendler D, et al. Efficacy and safety of a once-yearly i.v. Infusion of zoledronic acid 5mg versus a once-weekly 70-mg oral alendronate in the treatment of male osteoporosis: a randomized, multicenter, double-blind, active-controlled study. <i>Journal of Bone & Mineral Research</i> 2010;25:2239-50.	Not relevant population

Peng J, Liu Y, Chen L, Peng K, Xu Z, Zhang D, et al. Bisphosphonates can prevent recurrent hip fracture and reduce the mortality in osteoporotic patient with hip fracture: A meta-analysis. <i>Pak J Med Sci</i> 2016;32:499-504.	Not relevant population
Ringe JD, Doherty JG. Absolute risk reduction in osteoporosis: assessing treatment efficacy by number needed to treat. <i>Rheumatol Int</i> 2010;30:863-9.	Not relevant population
Ringe JD, Dorst A, Faber H, Ibach K. Alendronate treatment of established primary osteoporosis in men: 3-year results of a prospective, comparative, two-arm study. <i>Rheumatology International</i> 2004;24:110-3.	Not relevant control group
Ringe JD, Farahmand P, Faber H, Dorst A. Sustained efficacy of risedronate in men with primary and secondary osteoporosis: results of a 2-year study. <i>Rheumatology International</i> 2009;29:311-5.	Not relevant population
Ringe JD, Orwoll E, Daifotis A, Lombardi A. Treatment of male osteoporosis: Recent advances with alendronate. <i>Osteoporosis International</i> 2002;13:195-199.	Not relevant population
Saito T, Sterbenz JM, Malay S, Zhong L, MacEachern MP, Chung KC. Effectiveness of anti-osteoporotic drugs to prevent secondary fragility fractures: systematic review and meta-analysis. <i>Osteoporos Int</i> 2017;28:3289-3300.	Not relevant population
Sanderson J, Martyn-St James M, Stevens J, Goka E, Wong R, Campbell F, et al. Clinical effectiveness of bisphosphonates for the prevention of fragility fractures: A systematic review and network meta-analysis. <i>Bone</i> 2016;89:52-8.	Not relevant population
Sanderson J. Clinical Effectiveness of Bisphosphonates for Prevention of Fragility Fractures: A Systematic Review and Network Meta-Analysis. <i>Value Health</i> 2015;18:A634.	Not relevant population
Schwarz P, Jorgensen NR, Mosekilde L, Vestergaard P. Effects of increasing age, dosage, and duration of PTH treatment on BMD increase--a meta-analysis. <i>Calcif Tissue Int</i> 2012;90:165-73.	Not relevant outcome
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Silva-Fernandez L, Rosario MP, Martinez-Lopez JA, Carmona L, Loza E. Denosumab for the treatment of osteoporosis: a systematic literature review. <i>Reumatol Clin</i> 2013;9:42-52.	Not relevant population
Song J, Jin Z, Chang F, Li L, Su Y. Single and combined use of human parathyroid hormone (PTH) (1-34) on areal bone mineral density (aBMD) in postmenopausal women with osteoporosis: evidence based on 9 RCTs. <i>Med Sci Monit</i> 2014;20:2624-32.	Not relevant population
Walker M, Cusano N, Romano M, Sliney J, Zhang C, McMahon D, et al. Treatment of male osteoporosis: Risedronate, teriparatide or both. <i>Journal of Bone and Mineral Research</i> 2012;27.	Not relevant intervention
Wang C. Efficacy and Safety of Zoledronic Acid for Treatment of Postmenopausal Osteoporosis: A Meta-Analysis of Randomized Controlled Trials. <i>Am J Ther</i> 2017;24:e544-e552.	Not relevant population

Wang G, Sui L, Gai P, Li G, Qi X, Jiang X. The efficacy and safety of vertebral fracture prevention therapies in post-menopausal osteoporosis treatment: Which therapies work best? a network meta-analysis. <i>Bone Joint Res</i> 2017;6:452-463.	Not relevant population
Wang YK, Qin SQ, Ma T, Song W, Jiang RQ, Guo JB, et al. Effects of teriparatide versus alendronate for treatment of postmenopausal osteoporosis: A meta-analysis of randomized controlled trials. <i>Medicine (Baltimore)</i> 2017;96:e6970.	Not relevant control group
Whelan AM, Raman-Wilms L. Denosumab: A new injectable treatment for postmenopausal osteoporosis. <i>Canadian Pharmacists Journal</i> 2011;144:72-78.	Not relevant population
Xu Z. Alendronate for the Treatment of Osteoporosis in Men: A Meta-Analysis of Randomized Controlled Trials. <i>Am J Ther</i> 2017;24:e130-e138.	Not relevant population
Xuan S, Ma J, Liu GG. Meta-analysis of efficacy and safety of denosumab in postmenopausal osteoporosis. <i>Value in Health</i> 2015;18:A153.	Not relevant population
Yang XC, Deng ZH, Wen T, Luo W, Xiao WF, Zhao RB, et al. Network Meta-Analysis of Pharmacological Agents for Osteoporosis Treatment and Fracture Prevention. <i>Cell Physiol Biochem</i> 2016;40:781-795.	Not relevant population
Zhang J, Wang R, Zhao Y, Sun X, Zhao H, Lu T, et al. Efficacy of intravenous zoledronic acid in the prevention and treatment of osteoporosis: a meta-analysis (Provisional abstract). In: <i>Asian Pacific Journal of Tropical Medicine</i> ; 2012. p 743-748.	Not relevant study design
Zhang L, Pang Y, Shi Y, Xu M, Xu X, Zhang J, et al. Indirect comparison of teriparatide, denosumab, and oral bisphosphonates for the prevention of vertebral and nonvertebral fractures in postmenopausal women with osteoporosis. <i>Menopause</i> 2015;22:1021-5.	Not relevant study design
Zhang Y, Zhang L, Li S, Sun F, Li J, Ke A, et al. Effect of denosumab, a fully human monoclonal antibody to RANKL, on bone mineral density and fractures: A meta-analysis. <i>International Journal of Clinical and Experimental Medicine</i> 2017;10:5931-5940.	Not relevant population
Zhou J, Ma X, Wang T, Zhai S. Comparative efficacy of bisphosphonates in short-term fracture prevention for primary osteoporosis: a systematic review with network meta-analyses. <i>Osteoporos Int</i> 2016;27:3289-3300.	Not relevant population



Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:3 Kalcium och D-vitamin vid förhöjd frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Anagnostis P, Dimopoulou C, Karras S, Lambrinouadaki I, Goulis DG. Sarcopenia in post-menopausal women: Is there any role for vitamin D? <i>Maturitas</i> 2015;82:56-64.	Not relevant population
Antoniak AE, Greig CA. The effect of combined resistance exercise training and vitamin D3 supplementation on musculoskeletal health and function in older adults: a systematic review and meta-analysis. <i>BMJ Open</i> 2017;7:e014619.	Not relevant outcome
Avenell A, Mak JC, O'Connell D. Vitamin D and vitamin D analogues for preventing fractures in post-menopausal women and older men. <i>Cochrane Database Syst Rev</i> 2014:CD000227.	Not relevant population
Avenell A, Smith TO, Curtain JP, Mak JC, Myint PK. Nutritional supplementation for hip fracture aftercare in older people. <i>Cochrane Database Syst Rev</i> 2016;11:CD001880.	Not relevant intervention
Bergman GJ, Fan T, McFetridge JT, Sen SS. Efficacy of vitamin D3 supplementation in preventing fractures in elderly women: a meta-analysis. <i>Curr Med Res Opin</i> 2010;26:1193-201.	Not relevant population
Bischoff-Ferrari HA, Dawson-Hughes B, Baron JA, Kanis JA, Orav EJ, Staehelin HB, et al. Milk intake and risk of hip fracture in men and women: a meta-analysis of prospective cohort studies. <i>J Bone Miner Res</i>	Not relevant intervention
Bischoff-Ferrari HA, Willett WC, Orav EJ, Lips P, Meunier PJ, Lyons RA, et al. A pooled analysis of vitamin D dose requirements for fracture prevention. <i>N Engl J Med</i> 2012;367:40-9.	Not relevant population
Body JJ, Bergmann P, Boonen S, Boutsen Y, Bruyere O, Devogelaer JP, et al. Non-pharmacological management of osteoporosis: a consensus of the Belgian Bone Club. <i>Osteoporos Int</i> 2011;22:2769-88.	Not relevant outcome
Bolland MJ, Avenell A, Baron JA, Grey A, MacLennan GS, Gamble GD, et al. Effect of calcium supplements on risk of myocardial infarction and cardiovascular events: meta-analysis. <i>BMJ</i> 2010;341:c3691.	Not relevant outcome
Bolland MJ, Grey A, Gamble GD, Reid IR. Vitamin D supplementation and falls: a trial sequential meta-analysis. <i>Lancet Diabetes Endocrinol</i> 2014;2:573-80.	Not relevant outcome
Bolland MJ, Grey A, Reid IR. Differences in overlapping meta-analyses of vitamin D supplements and falls. <i>J Clin Endocrinol Metab</i> 2014;99:4265-72.	Not relevant study design
Bolland MJ, Leung W, Tai V, Bastin S, Gamble GD, Grey A, et al. Calcium intake and risk of fracture: systematic review. <i>BMJ</i> 2015;351:h4580.	Not relevant population
Brandao CM, Machado GP, Acurcio Fde A. Pharmacoeconomic analysis of strategies to treat postmenopausal osteoporosis: a systematic review. <i>Rev Bras Reumatol</i> 2012;52:924-37.	Not relevant study design

Brown S. Vitamin D supplements for the prevention of osteoporosis judged 'inappropriate'. <i>Menopause Int</i> 2013;19:145-6.	Not relevant population
Cameron ID, Gillespie LD, Robertson MC, Murray GR, Hill KD, Cumming RG, et al. Interventions for preventing falls in older people in care facilities and hospitals. <i>Cochrane Database Syst Rev</i> 2012;12:CD005465.	Not relevant outcome
Cameron ID, Murray GR, Gillespie LD, Robertson MC, Hill KD, Cumming RG, et al. Interventions for preventing falls in older people in nursing care facilities and hospitals. <i>Cochrane Database Syst Rev</i> 2010:CD005465.	Not relevant intervention
Cesareo R, Iozzino M, D'Onofrio L, Terrinoni I, Maddaloni E, Casini A, et al. Effectiveness and safety of calcium and vitamin D treatment for postmenopausal osteoporosis. <i>Minerva Endocrinol</i> 2015;40:231-7.	Not relevant population
Chua GT, Wong RY. Association Between Vitamin D Dosing Regimen and Fall Prevention in Long-term Care Seniors. <i>Can Geriatr J</i> 2011;14:93-9.	Not relevant intervention
Crandall M, Duncan T, Mallat A, Greene W, Violano P, Christmas AB, et al. Prevention of fall-related injuries in the elderly: An Eastern Association for the Surgery of Trauma practice management guideline. <i>J Trauma Acute Care Surg</i> 2011;70:100-10.	Not relevant intervention
Datta M, Schwartz GG. Calcium and vitamin D supplementation and loss of bone mineral density in women undergoing breast cancer therapy. <i>Crit Care Med</i> 2012;40:1000-1005.	Not relevant population
Datta M, Schwartz GG. Calcium and vitamin D supplements do not prevent loss of bone mineral density in women undergoing therapy for breast cancer. <i>FASEB Journal</i> 2013;27.	Not relevant population
Davidson Z, Walker K, Truby H. Do glucocorticosteroids alter vitamin D status? A systematic review with meta-analyses of observational studies (Provisional abstract). In; 2012. p 738-744.	Not relevant population
Davidson ZE, Walker KZ, Truby H. Clinical review: Do glucocorticosteroids alter vitamin D status? A systematic review with meta-analyses of observational studies. <i>J Clin Endocrinol Metab</i> 2012;97:738-44.	Not relevant population
Elias M, Burden A, Cadarette S. Systematic review of osteoporosis interventions in pharmacy practice. <i>Journal of Bone and Mineral Research</i> 2010;25:S322-S323.	Not relevant intervention
Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson LM, et al. Interventions for preventing falls in older people living in the community. <i>Cochrane Database Syst Rev</i> 2012:CD007146.	Not relevant intervention
Gradel L, Merker M, Mueller B, Schuetz P. Screening and Treatment of Vitamin D Deficiency on Hospital Admission: Is There a Benefit for Medical Inpatients? <i>Am J Med</i> 2016;129:116 e1-116 e34.	Not relevant intervention
Guo JL, Tsai YY, Liao JY, Tu HM, Huang CM. Interventions to reduce the number of falls among older adults with/without cognitive impairment: an exploratory meta-analysis. <i>Int J Geriatr Psychiatry</i> 2014;29:661-9.	Not relevant outcome

Hadji P, Aapro MS, Body JJ, Bundred NJ, Brufsky A, Coleman RE, et al. Management of aromatase inhibitor-associated bone loss in postmenopausal women with breast cancer: practical guidance for prevention and treatment. <i>Ann Oncol</i> 2011;22:2546-55.	Not relevant population
Hanley DA, Cranney A, Jones G, Whiting SJ, Leslie WD, Guidelines Committee of the Scientific Advisory Council of Osteoporosis C. Vitamin D in adult health and disease: a review and guideline statement from Osteoporosis Canada (summary). <i>CMAJ</i> 2010;182:1315-9.	Not relevant study design
Harvey NC, Biver E, Kaufman JM, Bauer J, Branco J, Brandi ML, et al. The role of calcium supplementation in healthy musculoskeletal ageing : An expert consensus meeting of the European Society for Clinical and	Not relevant study design
Hilgsmann M, Ben SW, Bruyere O, Evers S, Rabenda V, Reginster J. Cost-effectiveness of vitamin D and calcium supplementation in the treatment of elderly women and men with osteoporosis (Provisional abstract). In; 2014. p epub.	Not relevant study design
Hill TR, Aspray TJ. The role of vitamin D in maintaining bone health in older people. <i>Ther Adv Musculoskelet Dis</i> 2017;9:89-95.	Not relevant study design
Italian Society of Osteoporosis MM, Skeletal D, Italian Society of R, Varenna M, Bertoldo F, Di Monaco M, et al. Safety profile of drugs used in the treatment of osteoporosis: a systematical review of the literature. <i>Reumatismo</i> 2013;65:143-66.	Not relevant study design
Jolfaie NR, Rouhani MH, Onvani S, Azadbakht L. The association between Vitamin D and health outcomes in women: A review on the related evidence. <i>J Res Med Sci</i> 2016;21:76.	Not relevant intervention
Kalyani R, Stein B, Valiyil R, Manno R, Maynard J, Crews D. Vitamin D treatment for the prevention of falls in older adults: systematic review and meta-analysis (Structured abstract). <i>Journal of the American Geriatrics Society</i> 2010;58:1299-1310.	Not relevant study design
Kopecky SL, Bauer DC, Gulati M, Nieves JW, Singer AJ, Toth PP, et al. Lack of Evidence Linking Calcium With or Without Vitamin D Supplementation to Cardiovascular Disease in Generally Healthy Adults: A Clinical Guideline From the National Osteoporosis Foundation and the American Society for	Not relevant population
Kozyrakis D, Paridis D, Karatzas A, Soukias G, Dailiana Z. Do Calcium Supplements Predispose to Urolithiasis? <i>Curr Urol Rep</i> 2017;18:17.	Not relevant population
Lamberg-Allardt C, Brustad M, Meyer HE, Steingrimsdottir L. Vitamin D - a systematic literature review for the 5th edition of the Nordic Nutrition Recommendations. <i>Food Nutr Res</i> 2013;57.	Not relevant population
LeBlanc E, Chou R, Zakher B, Daeges M, Pappas M. U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews. In: Screening for Vitamin D Deficiency: Systematic Review for	Not relevant intervention
LeBlanc ES, Zakher B, Daeges M, Pappas M, Chou R. Screening for vitamin D deficiency: a systematic review for the U.S. Preventive Services Task Force. <i>Ann Intern Med</i> 2015;162:109-22.	Not relevant intervention
Lee R, Weber T, Colon-Emeric C. Comparison of cost-effectiveness of vitamin D screening with that of universal supplementation in preventing falls in community-dwelling older adults (Provisional abstract). In; 2013. p	Not relevant outcome

Lee RH, Weber T, Colon-Emeric C. Cost-effectiveness analysis of screening for vitamin D insufficiency to prevent falls and fractures among community-dwelling older adults. <i>Journal of the American Geriatrics</i>	Not relevant outcome
Levis S, Theodore G. Summary of AHRQ's comparative effectiveness review of treatment to prevent fractures in men and women with low bone density or osteoporosis: update of the 2007 report. <i>J Manag Care Pharm</i> 2012;18:S1-15; discussion S13.	Not relevant intervention
Lv QB, Gao X, Liu X, Shao ZX, Xu QH, Tang L, et al. The serum 25-hydroxyvitamin D levels and hip fracture risk: a meta-analysis of prospective cohort studies. <i>Oncotarget</i> 2017;8:39849-39858.	Not relevant population
Michael YL, Lin JS, Whitlock EP, Gold R, Fu R, O'Connor EA, et al. Interventions to Prevent Falls in Older Adults: An Updated Systematic Review In: U.S. Preventive Services Task Force Evidence Syntheses,	Not relevant intervention
Millar H, Davison J. Nutrition education for osteoporosis prevention in men with prostate cancer initiating androgen deprivation therapy. <i>Clin J Oncol Nurs</i> 2012;16:497-503.	Not relevant population
Morfeld JC, Vennedey V, Muller D, Pieper D, Stock S. Patient education in osteoporosis prevention: a systematic review focusing on methodological quality of randomised controlled trials. <i>Osteoporos Int</i> 2017;28:1779-	Not relevant intervention
Murad MH, Drake MT, Mullan RJ, Mauck KF, Stuart LM, Lane MA, et al. Clinical review. Comparative effectiveness of drug treatments to prevent fragility fractures: a systematic review and network meta-analysis. <i>J Clin</i>	Not relevant control group
Murad MH, Drake MT, Mullan RJ, Mauck KF, Stuart LM, Lane MA, et al. Clinical review. Comparative effectiveness of drug treatments to prevent fragility fractures: a systematic review and network meta-analysis. <i>The Journal of clinical endocrinology and metabolism</i> 2012;97:1871-80.	Not relevant control group
Murad MH, Elamin KB, Abu Elnour NO, Elamin MB, Alkatib AA, Fatourechi MM, et al. Clinical review: The effect of vitamin D on falls: a systematic review and meta-analysis. <i>J Clin Endocrinol Metab</i> 2011;96:2997-3006.	Not relevant outcome
Nyman SR, Victor CR. Older people's participation in and engagement with falls prevention interventions in community settings: an augment to the Cochrane systematic review. <i>Age Ageing</i> 2012;41:16-23.	Not relevant intervention
Oh EG, Lee JE, Yoo JY. A systematic review of the effectiveness of lifestyle interventions for improving bone health in women at high risk of osteoporosis. <i>JBI Libr Syst Rev</i> 2012;10:1738-1784.	Not relevant intervention
Peppone LJ, Hebl S, Purnell JQ, Reid ME, Rosier RN, Mustian KM, et al. The efficacy of calcitriol therapy in the management of bone loss and fractures: a qualitative review. <i>Osteoporos Int</i> 2010;21:1133-49.	Not relevant study design
Pfortmueller CA, Lindner G, Exadaktylos AK. Reducing fall risk in the elderly: risk factors and fall prevention, a systematic review. <i>Minerva Med</i> 2014;105:275-81.	Not relevant intervention
Plawecki K, Chapman-Novakofski K. Bone health nutrition issues in aging. <i>Nutrients</i> 2010;2:1086-105.	Not relevant population
Poole CD, Smith JC, Davies JS. The short-term impact of vitamin D-based hip fracture prevention in older adults in the United Kingdom. <i>J</i>	Not relevant study design

Poscia A, Milovanovic S, La Milia DI, Duplaga M, Grysztar M, Landi F, et al. Effectiveness of nutritional interventions addressed to elderly persons: umbrella systematic review with meta-analysis. <i>Eur J Public Health</i>	Not relevant study design
Rabenda V, Bruyere O, Reginster JY. Relationship between bone mineral density changes and risk of fractures among patients receiving calcium with or without vitamin D supplementation: a meta-regression. <i>Osteoporos Int</i> 2011;22:893-901.	Not relevant outcome
Reid IR, Bolland MJ, Grey A. Effects of vitamin D supplements on bone mineral density: a systematic review and meta-analysis. <i>Lancet</i> 2014;383:146-55.	Not relevant population
Rizzoli R. Can we reduce falls and fractures? <i>Osteoporosis International</i> 2017;28:S47.	Not relevant intervention
Rosen CJ, Adams JS, Bikle DD, Black DM, Demay MB, Manson JE, et al. The nonskeletal effects of vitamin D: an Endocrine Society scientific statement. <i>Endocr Rev</i> 2012;33:456-92.	Not relevant study design
Shams-White M, Fu Z, Karlsen M, Sackey J, Shi J, Insogna K, et al. Protein intake and bone mineral density-a systematic review and meta-analysis of randomized controlled trials. <i>Journal of Bone and Mineral Research</i>	Not relevant intervention
Shams-White M, Sackey J, Fu Z, Karlsen M, Du M, Insogna K, et al. Protein intake and bone mineral density-a systematic review and meta-analysis of randomized controlled trials. <i>FASEB Journal</i> 2016;30.	Not relevant intervention
Shams-White MM, Chung M, Du M, Fu Z, Insogna KL, Karlsen MC, et al. Dietary protein and bone health: a systematic review and meta-analysis from the National Osteoporosis Foundation. <i>Am J Clin Nutr</i>	Not relevant intervention
Silk LN, Greene DA, Baker MK. The Effect of Calcium or Calcium and Vitamin D Supplementation on Bone Mineral Density in Healthy Males: A Systematic Review and Meta-Analysis. <i>Int J Sport Nutr Exerc Metab</i>	Not relevant population
Tai V, Leung W, Grey A, Reid IR, Bolland MJ. Calcium intake and bone mineral density: systematic review and meta-analysis. <i>BMJ</i> 2015;351:h4183.	Not relevant outcome
Thach TS, Nguyen ND, Center JR, Eisman JA, Nguyen TV. Does calcium supplementation with and without vitamin D increase cardiovascular risk? A clinico-bayesian interpretation. <i>Osteoporosis International</i> 2011;22:S546.	Not relevant population
Tricco AC, Thomas SM, Veroniki AA, Hamid JS, Cogo E, Striffler L, et al. Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis. <i>JAMA</i> 2017;318:1687-1699.	Not relevant outcome
Uusi-Rasi K, Karkkainen MU, Lamberg-Allardt CJ. Calcium intake in health maintenance - a systematic review. <i>Food Nutr Res</i> 2013;57.	Not relevant outcome
Varsavsky M, Rozas Moreno P, Becerra Fernandez A, Luque Fernandez I, Quesada Gomez JM, Avila Rubio V, et al. Recommended vitamin D levels	Not relevant study design
Watts NB, Adler RA, Bilezikian JP, Drake MT, Eastell R, Orwoll ES, et al. Osteoporosis in men: an Endocrine Society clinical practice guideline. <i>J Clin Endocrinol Metab</i> 2012;97:1802-22.	Not relevant study design
Weaver CM, Gordon CM, Janz KF, Kalkwarf HJ, Lappe JM, Lewis R, et al. The National Osteoporosis Foundation's position statement on peak bone mass development and lifestyle factors: a systematic review and implementation recommendations. <i>Osteoporosis International</i>	Not relevant intervention

Whiting S, Evans C, Foo L. Recent systematic reviews indicate adults need ≥ 800 iu vitamin D to reduce risk of disease. <i>Annals of Nutrition and Metabolism</i> 2013;63:347.	Not relevant study design
Wu H, Pang Q. The effect of vitamin D and calcium supplementation on falls in older adults : A systematic review and meta-analysis. <i>Orthopade</i> 2017;46:729-736.	Not relevant population
Xiao Y, Lu Y. Systematic review on vitamin D prevent and treat bone loss in renal-transplant patients. <i>Transplantation</i> 2010;90:691.	Not relevant population
Xu Z, Fan C, Zhao X, Tao H. Treatment of osteoporosis with eldecalcitol, a new vitamin D analog: a comprehensive review and meta-analysis of randomized clinical trials. <i>Drug Des Devel Ther</i> 2016;10:509-17.	Not relevant intervention
Zarca K, D, -Zaleski I, Roux C, Souberbielle J, Schott A, et al. Cost-effectiveness analysis of hip fracture prevention with vitamin D supplementation: a Markov micro-simulation model applied to the French	Not relevant study design
Zhang W, Zhu C, Sun M, Ge Y, Yan G. Efficacy of bisphosphonates against hip fracture in elderly patients with stroke and Parkinson diseases: meta-analysis of randomized controlled trials. <i>J Stroke Cerebrovasc Dis</i> 2014;23:2714-24.	Not relevant intervention
Zheng YT, Cui QQ, Hong YM, Yao WG. A meta-analysis of high dose, intermittent vitamin D supplementation among older adults. <i>PLoS One</i> 2015;10:e0115850.	Not relevant intervention



Bilaga 3 Exkluderade studier

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O3:4 Kalcium och D-vitamin vid förhöjd frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Anonymous. [Osteoporosis--prevention, diagnosis and treatment. A systematic literature review. SBU conclusions and summary]. Lakartidningen;100:3590-5.	Not relevant study design
Anonymous. Supplementation with vitamin D3 and calcium prevents hip fractures in elderly women. Nutrition Reviews;51:183-5.	Not relevant population
Avenell A, Mak JC, O'Connell D. Vitamin D and vitamin D analogues for preventing fractures in post-menopausal women and older men. Cochrane Database of Systematic Reviews:CD000227.	Not relevant population
Berggren M, Stenvall M, Olofsson B, Gustafson Y. Evaluation of a fall-prevention program in older people after femoral neck fracture: a one-year follow-up. Osteoporosis International;19:801-9.	Not relevant intervention
Bischoff-Ferrari HA, Willett WC, Orav EJ, Lips P, Meunier PJ, Lyons RA, et al. A pooled analysis of vitamin D dose requirements for fracture prevention.[Erratum appears in N Engl J Med. 2012 Aug 2;367(5):481 Note: Orav, Endel J [corrected to Orav, Endel JJ]. New England Journal of Medicine;367:40-9.	Not relevant population
Bischoff-Ferrari HA, Willett WC, Wong JB, Giovannucci E, Dietrich T, Dawson-Hughes B. Fracture prevention with vitamin D supplementation: a meta-analysis of randomized controlled trials. JAMA;293:2257-64.	Not relevant population
Boll, J. M, Grey A, Reid IR. Should we prescribe calcium or vitamin D supplements to treat or prevent osteoporosis? Climacteric 2015;18:22-31.	Not relevant population
Boonen S, Lips P, Bouillon R, Bischoff-Ferrari HA, Verschueren D, et al. Need for additional calcium to reduce the risk of hip fracture with vitamin d supplementation: evidence from a comparative metaanalysis of randomized controlled trials. Journal of Clinical Endocrinology & Metabolism;92:1415-23.	Not relevant population
Chapuy MC, Arlot ME, Delmas PD, Meunier PJ. Effect of calcium and cholecalciferol treatment for three years on hip fractures in elderly women. BMJ;308:1081-2.	Not relevant study design
Chapuy MC, Pampfile R, Paris E, Kempf C, Schlichting M, Arnaud S, et al. Combined calcium and vitamin D3 supplementation in elderly women: confirmation of reversal of secondary hyperparathyroidism and hip fracture risk: the Decalys II study. Osteoporosis International;13:257-64.	Not relevant population
Christakos MK, Dave SJ. Osteoporosis and risk of hip fracture. The role of calcium and Vitamin D in post-menopausal women and older men. PM and R 2015;7:S208.	Not relevant population
Compston JE. The role of vitamin D and calcium supplementation in the prevention of osteoporotic fractures in the elderly. Clinical Endocrinology;43:393-405.	Not relevant population

Cranney A, Horsley T, O'Donnell S, Weiler H, Puil L, Ooi D, et al. Effectiveness and safety of vitamin D in relation to bone health. Evidence Report/Technology Assessment:1-235.	Not relevant population
Feit JM. Calcium and vitamin D supplements for elderly patients. Journal of Family Practice;45:471-2.	Not relevant population
Francis RM, Anderson FH, Patel S, Sahota O, van Staa TP. Calcium and vitamin D in the prevention of osteoporotic fractures. Qjm;99:355-363.	Not relevant study design
Francis RM. Calcium, vitamin D and involutional osteoporosis. Current Opinion in Clinical Nutrition & Metabolic Care;9:13-7.	Not relevant study design
Gates BJ, Sonnett TE, Duvall CA, Dobbins EK. Review of osteoporosis pharmacotherapy for geriatric patients. American Journal of Geriatric Pharmacotherapy;7:293-323.	Not relevant study design
Grant AM, Avenell A, Campbell MK, McDonald AM, MacLennan GS, McPherson GC, et al. Oral vitamin D3 and calcium for secondary prevention of low-trauma fractures in elderly people (Randomised Evaluation of Calcium Or vitamin D, RECORD): a randomised placebo-controlled trial. Lancet 2005;365:1621-8.	Not relevant population
Grant AM, Avenell A, Campbell MK, McDonald AM, MacLennan GS, McPherson GC, et al. Oral vitamin D3 and calcium for secondary prevention of low-trauma fractures in elderly people (Randomised Evaluation of Calcium Or vitamin D, RECORD): a randomised placebo-controlled trial. Lancet;365:1621-8.	Not relevant population
Greenspan SL, Resnick NM, Parker RA. Vitamin D supplementation in older women. Journals of Gerontology Series A-Biological Sciences & Medical Sciences;60:754-9.	Not relevant population
Group D. Patient level pooled analysis of 68 500 patients from seven major vitamin D fracture trials in US and Europe. BMJ;340:b5463.	Not relevant population
Harwood RH, Sahota O, Gaynor K, Masud T, Hosking DJ, Nottingham Neck of Femur S. A randomised, controlled comparison of different calcium and vitamin D supplementation regimens in elderly women after hip fracture: The Nottingham Neck of Femur (NONOF) Study. Age Ageing 2004;33:45-51.	Not relevant outcome
Harwood RH, Sahota O, Gaynor K, Masud T, Hosking DJ, Nottingham Neck of Femur S. A randomised, controlled comparison of different calcium and vitamin D supplementation regimens in elderly women after hip fracture: The Nottingham Neck of Femur (NONOF) Study. Age & Ageing;33:45-51.	Not relevant outcome
Jackson C, Gaugris S, Sen SS, Hosking D. The effect of cholecalciferol (vitamin D3) on the risk of fall and fracture: a meta-analysis. Qjm;100:185-92.	Not relevant population
Kulie T, Groff A, Redmer J, Hounshell J, Schragger S. Vitamin D: an evidence-based review. Journal of the American Board of Family Medicine: JABFM;22:698-706.	Not relevant study design
Larsen ER, Mosekilde L, Foldspang A. Vitamin D and calcium supplementation prevents osteoporotic fractures in elderly community dwelling residents: a pragmatic population-based 3-year intervention study. Journal of Bone & Mineral Research;19:370-8.	Not relevant population

Lee LT, Drake WM, Kendler DL. Intake of calcium and vitamin D in 3 Canadian long-term care facilities. <i>Journal of the American Dietetic Association</i> ;102:244-7.	Not relevant population
Lopez-Torres Hidalgo J, Group A. Prevention of falls and fractures in old people by administration of calcium and vitamin D, randomized clinical trial. <i>BMC Public Health</i> ;11:910.	Not relevant population
Lundberg GD. Does calcium supplementation, with or without vitamin D, reduce bone loss and fractures in older adults? <i>Medscape journal of medicine</i> ;10:50.	Not relevant population
Mosekilde L, Langdahl BL, Nielsen LR, Vestergaard P. [The usefulness of calcium and vitamin D supplementation after the Women's Health Initiative trial]. <i>Ugeskrift for Laeger</i> ;169:3273-6.	Not relevant population
Nakamura K, Iki M. Efficacy of optimization of vitamin D in preventing osteoporosis and osteoporotic fractures: A systematic review. <i>Environmental Health & Preventive Medicine</i> ;11:155-70.	Not relevant population
Orcel P. Calcium and vitamin D in the prevention and treatment of osteoporosis. <i>Revue du Rhumatisme (English Edition)</i> ;64:70S-74S.	Not relevant population
Papaioannou A, Santesso N, Morin SN, Feldman S, Adachi JD, Crilly R, et al. Recommendations for preventing fracture in long-term care. <i>CMAJ</i> 2015;187:1135-1144.	Not relevant study design
Parikh S, Avorn J, Solomon DH. Pharmacological management of osteoporosis in nursing home populations: a systematic review. <i>Journal of the American Geriatrics Society</i> ;57:327-34.	Not relevant population
Pavone V, Testa G, Giardina SMC, Vescio A, Restivo DA, Sessa G. Pharmacological therapy of osteoporosis: A systematic current review of literature. <i>Frontiers in Pharmacology</i> 2017;8.	Not relevant study design
Rabenda V, Bruyere O, Reginster JY. Relationship between bone mineral density changes and risk of fractures among patients receiving calcium with or without vitamin D supplementation: a meta-regression. <i>Osteoporosis International</i> ;22:893-901.	Not relevant population
Reid IR. Effects of vitamin D supplements on bone density. <i>Journal of Endocrinological Investigation</i> 2015;38:91-94.	Not relevant population
Silk LN, Greene DA, Baker MK. The Effect of Calcium or Calcium and Vitamin D Supplementation on Bone Mineral Density in Healthy Males: A Systematic Review and Meta-Analysis. <i>International Journal of Sport Nutrition & Exercise Metabolism</i> ;25:510-24.	Not relevant outcome
Tang BM, Eslick GD, Nowson C, Smith C, Bensoussan A. Use of calcium or calcium in combination with vitamin D supplementation to prevent fractures and bone loss in people aged 50 years and older: a meta-analysis. <i>Lancet</i> ;370:657-66.	Not relevant population
Tella H, Gallagher JC, Smith L. Effect of vitamin D supplementation on BMD in young and elderly caucasian and African American women: Two randomized, placebo controlled trials. <i>Endocrine Reviews</i> 2014;35.	Not relevant population

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:5 Benspecifika läkemedel för kvinnor i postmenopausal ålder

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Allen C, Yeung J, Homik J. Bisphosphonates for fracture prevention in steroid-induced osteoporosis: A meta-analysis. <i>Journal of Rheumatology</i> 2015;42:1282.	Not relevant study design
Amiche MA, Albaum JM, Tadrous M, Pechlivanoglou P, Levesque LE, Adachi JD, et al. Efficacy of osteoporosis pharmacotherapies in preventing fracture among oral glucocorticoid users: a network meta-analysis. <i>Osteoporos Int</i> 2016;27:1989-98.	Not relevant study design
Axelsson K, Lundh D, Lorentzon M. Alendronate treatment is associated with reduced fracture risk and maintained safety in the oldest old. <i>Journal of Bone and Mineral Research</i> 2017;31.	Not relevant population
Bisphosphonates and steroid-induced osteoporosis. <i>Drug and Therapeutics Bulletin</i> 2016;54:135.	Not relevant study design
Grey A, Bolland MJ, Horne A, Mihov B, Gamble G, Reid IR. Duration of antiresorptive activity of zoledronate in postmenopausal women with osteopenia: A randomized, controlled multidose trial. <i>CMAJ</i> 2017;189:E1130-E1136.	Not relevant population
Grey A. Intravenous zoledronate for osteoporosis: less might be more. <i>Therapeutic Advances in Musculoskeletal Disease</i> 2016;8:119-123.	Not relevant population
Makhzoum A, Petriw L, Sattin M, Towheed T. Systematic review of randomized controlled trials evaluating bisphosphonates for the prevention and treatment of glucocorticoid-induced osteoporosis. <i>Journal</i>	Not relevant outcome
Nakamura T, Fukunaga M, Nakano T, Kishimoto H, Ito M, Hagino H, et al. Efficacy and safety of once-yearly zoledronic acid in Japanese patients with primary osteoporosis: two-year results from a randomized placebo-controlled double-blind study (ZOledroNate treatment in Efficacy to osteoporosis; ZONE study). <i>Osteoporosis International</i> 2017;28:389-398.	Not relevant population
Nct. Safety and Tolerability of Intravenous LLP2A-Alendronate for Osteopenia Secondary to Glucocorticoids. https://clinicaltrials.gov/show/nct03197623 2017.	Not relevant population
Vandenbroucke A, Luyten FP, Flamaing J, Gielen E. Pharmacological treatment of osteoporosis in the oldest old. <i>Clinical Interventions in Aging</i> 2017;12:1065-1077.	Not relevant population
Wang YK, Zhang YM, Qin SQ, Wang X, Ma T, Guo JB, et al. Effects of alendronate for treatment of glucocorticoid-induced osteoporosis: A	Not relevant outcome
Yeung J, Allen C, Homik J. Bisphosphonates for steroid-induced osteoporosis: A meta-analysis. <i>Journal of Rheumatology</i> 2014;41:1525.	Not relevant study design

Zhang Y, Zhang L, Li S, Sun F, Li J, Ke A, et al. Effect of denosumab, a fully human monoclonal antibody to RANKL, on bone mineral density and fractures: A meta-analysis. *International Journal of Clinical and Experimental Medicine* 2017;10:5931-5940.

Not relevant population

Zhou J, Wang T, Zhao X, Miller DR, Zhai S. Comparative Efficacy of Bisphosphonates to Prevent Fracture in Men with Osteoporosis: A Systematic Review with Network Meta-Analyses. *Rheumatol Ther*

Not relevant population



Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:8 Oral undersökning för att förebygga käkbensnekros

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Beth-Tasdogan NH, Mayer B, Hussein H, Zolk O. Interventions for managing medication-related osteonecrosis of the jaw. <i>Cochrane Database Syst Rev</i> 2017;10:CD012432.	Not relevant population
Bishop N. Primary osteoporosis. In: <i>Endocr. Dev.</i> ; 2009. p 157-169.	Not relevant population
Calciolari E, Donos N, Park JC, Petrie A, Mardas N. A systematic review on the correlation between skeletal and jawbone mineral density in osteoporotic subjects. <i>Clin Oral Implants Res</i> 2016;27:433-42.	Not relevant intervention
Cavanna L, Bertè R, Arcari A, Mordenti P, Pagani R, Vallisa D. Osteonecrosis of the jaw. A newly emerging site-specific osseous	Not relevant population
Chan BH, Yee R, Puvanendran R, Ang SB. Medication-related osteonecrosis of the jaw in osteoporotic patients: prevention and management. <i>Singapore Medical Journal</i> 2018;59:70-75.	Not relevant population
de Medeiros F, Kudo GAH, Leme BG, Saraiva PP, Verri FR, Honorio HM, et al. Dental implants in patients with osteoporosis: a systematic review with meta-analysis. <i>Int J Oral Maxillofac Surg</i> 2018;47:480-491.	Not relevant intervention
Dodd DZ, Rowe DJ. The relationship between postmenopausal osteoporosis and periodontal disease. <i>J Dent Hyg</i> 2013;87:336-44.	Not relevant intervention
Faraz F, Lamba AK, Verma M, Munjal A, Tandon S. Bisphosphonate-induced osteonecrosis: A wake up call for dentists and physicians. <i>Biomedicine (India)</i> 2009;29:100-104.	Not relevant study design
Francischetti FL, Ferraz Júnior AML, de Oliveira RG, Badel T, Morrison A, Gomes RZ. Therapy for bisphosphonate-related osteonecrosis of the jaw: A systematic review. <i>Revista Portuguesa de Estomatologia, Medicina</i>	Not relevant intervention
Gaudin E, Seidel L, Bacevic M, Rompen E, Lambert F. Occurrence and risk indicators of medication-related osteonecrosis of the jaw after dental extraction: a systematic review and meta-analysis. <i>J Clin Periodontol</i> 2015;42:922-32.	Not relevant intervention
Giro G, Chambrone L, Goldstein A, Rodrigues JA, Zenobio E, Feres M, et al. Impact of osteoporosis in dental implants: A systematic review. <i>World J Orthop</i> 2015;6:311-5.	Not relevant outcome
Górski B, Bryłka M. Bisphosphonates - Risk assessment of osteonecrosis of the jaw and potential benefits for periodontal therapy. <i>Dental and Medical Problems</i> 2012;49:576-582.	Not relevant population
Gowri S, Kannan S. Bisphosphonate-induced osteonecrosis of the jaw: Medical implications and dental complications. <i>Adverse Drug Reaction Bulletin</i> 2015;289:1115-1118.	Not relevant study design
Goyal L, Goyal T, Gupta ND. Osteoporosis and Periodontitis in Postmenopausal Women: A Systematic Review. <i>J Midlife Health</i> 2017;8:151-158.	Not relevant population

Janovska Z. Bisphosphonate-related osteonecrosis of the jaws. A severe side effect of bisphosphonate therapy. <i>Acta medica (Hradec Kralove)</i> 2012;55:111-5.	Not relevant population
Kalra S, Jain V. Dental complications and management of patients on bisphosphonate therapy: A review article. <i>Journal of oral biology and craniofacial research</i> 2013;3:25-30.	Not relevant study design
	Not relevant population
Krishnan K, Santhosh Kumar MP. Effects of bisphosphonates on the jaw bones. <i>Journal of Pharmaceutical Sciences and Research</i> 2016;8:925-930.	
Martelli ML, Brandi ML, Martelli M, Nobili P, Medico E, Martelli F. Periodontal disease and women's health. <i>Curr Med Res Opin</i>	Not relevant population
Martinez-Maestre MA, Gonzalez-Cejudo C, Machuca G, Torrejon R, Castelo-Branco C. Periodontitis and osteoporosis: a systematic review. <i>Climacteric</i> 2010;13:523-9.	Not relevant outcome
McGowan K, McGowan T, Ivanovski S. Risk factors for medication-related osteonecrosis of the jaws: A systematic review. <i>Oral Dis</i> 2018;24:527-536.	Not relevant population
Mücke T, Krestan CR, Mitchell DA, Kirschke JS, Wutzl A. Bisphosphonate and medication-related osteonecrosis of the jaw: A review. <i>Seminars in Musculoskeletal Radiology</i> 2016;20:305-314.	Not relevant population
	Not relevant study design
Osteonecrosis of the jaw due to bisphosphonates. <i>Prescrire International</i> 2008;17:202-203.	
Penoni DC, Fidalgo TK, Torres SR, Varela VM, Masterson D, Leao AT, et al. Bone Density and Clinical Periodontal Attachment in Postmenopausal Women: A Systematic Review and Meta-Analysis. <i>J Dent Res</i> 2017;96:261-269.	Not relevant intervention
Poxleitner P, Engelhardt M, Schmelzeisen R, Voss P. The Prevention of Medication-related Osteonecrosis of the Jaw. <i>Dtsch Arztebl Int</i> 2017;114:63-69.	Not relevant population
Ripamonti CI, Maniezzo M, Campa T, Fagnoni E, Brunelli C, Saibene G, et al. Decreased occurrence of osteonecrosis of the jaw after implementation of dental preventive measures in solid tumour patients with bone metastases treated with bisphosphonates. The experience of the National Cancer Institute of Milan. <i>Annals of Oncology</i> 2009;20:137-	Not relevant population
Ruggiero SL, Mehrotra B. Bisphosphonate-related osteonecrosis of the jaw: diagnosis, prevention, and management. <i>Annual Review of Medicine</i> 2009;60:85-96.	Not relevant population
Santhosh Kumar MP, Ettikan S. Bisphosphonate-related osteonecrosis of the jaws [BRONJ]. <i>Journal of Pharmaceutical Sciences and Research</i> 2016;8:198-203.	Not relevant population

Weber JB, Camilotti RS, Ponte ME. Efficacy of laser therapy in the management of bisphosphonate-related osteonecrosis of the jaw (BRONJ): a systematic review. *Lasers Med Sci* 2016;31:1261-72.

Not relevant intervention

Bilaga 1, Excluded studies

Author, year [ref]	Reason for exclusion (Systematic review search)
Alcalá-Cerra, 2014 [1]	Wrong population (traumatic)
Ameis, 201 [2]	Population too broad
Goodwin, 2016 [3]	Relevant, Low RoB (Robis), incomplete, screen included studies
Jin, 2016 [4]	Relevant, Low RoB (Robis), analysis not clinically sound, screen included studies
Longo, 2012 [5]	High RoB (Robis)
Newman, 2016 [6]	Relevant, Low RoB (Robis), incomplete, screen included studies
Rzewuska, 2015 [7]	Relevant, unclear RoB (Robis), too few studies, screen included studies
Skoch, 2016 [8]	High RoB (Robis)
Author, year (ref)	Reason for exclusion (Studies included in earlier systematic reviews)
Dionyssiotis, 2010 [9]	Wrong study design (no control group)
Dionyssiotis, 2015 [10]	Wrong study design (no control group)
GÜNDOĞDU, 2013 [11]	Wrong language (Turkish)
Hübscher, 2010 [12]	Wrong language (German)
Li, 2014 [13]	Wrong study design (TLO vs flexible)
Liaw, 2009 [14]	Wrong study design (case series) Wrong intervention (rigid braces)
Meccariello, 2017 [15]	Wrong study design (rigid vs. semi-rigid)
Murata, 2012[16]	Wrong intervention (rigid braces)
Pfeifer, 2004 [17]	Irregularities with study data, authors have been contacted without response
Pfeifer, 2011 [18]	Irregularities with study data, authors have been contacted without response
Schmidt, 2012 [19]	Wrong language (German)
Talic, 2012 [20]	Wrong control (rigid vs. semi-rigid)
Valentin, 2014 [21]	Wrong study design (no control group)
Author, year (ref)	Reason for exclusion (Line specific search)
Expert Panels on Neurological Imaging, 2018 [22]	Wrong study design (guidelines)
Jung, 2017 [23]	Wrong study design (ambispective study using questionnaire and interview) Regarding quality of life
Karimi, 2015 [24]	Wrong study design (non-systematic review)
Kim, 2016 [25]	Wrong phenomenon (pain catastrophizing)
Misiak, 2014 [26]	Wrong intervention (bracing) Regarding pre-surgical pain and quality of life
Namdar, 2017 [27]	Wrong control (TLO vs. WKO)
Piazzolla, 2015 [28]	Wrong outcome (evolution of vertebral bone marrow edema)
Raeissadat, 2017 [29]	Meeting abstract, not listed in clinical trials
Ribom, 2015 [30]	Background information, association of hyperkyphosis and backpain with OVF
Shah, 2016 [31]	Wrong study design (no control group)
Slavici, 2017 [32]	Wrong study design (non-systematic review)

References:

1. Alcalá-Cerra G, Paternina-Caicedo Á J, Díaz-Becerra C, Moscote-Salazar LR, F, es-Joaquim A. Orthosis for thoracolumbar burst fractures without neurologic deficit: A systematic review of prospective randomized controlled trials. *Journal of Craniovertebral Junction and Spine* 2014;5:25-32.
2. Ameis A, Randhawa K, Yu H, Cote P, Haldeman S, Chou R, et al. The Global Spine Care Initiative: a review of reviews and recommendations for the non-invasive management of acute osteoporotic vertebral compression fracture pain in low- and middle-income communities. *Eur Spine J* 2017.
3. Goodwin VA, Hall AJ, Rogers E, Bethel A. Orthotics and taping in the management of vertebral fractures in people with osteoporosis: a systematic review. *BMJ Open* 2016;6:e010657.
4. Jin YZ, Lee JH. Effect of Brace to Osteoporotic Vertebral Fracture: a Meta-Analysis. *J Korean Med Sci* 2016;31:1641-9.
5. Longo UG, Loppini M, Denaro L, Maffulli N, Denaro V. Osteoporotic vertebral fractures: current concepts of conservative care. *Br Med Bull* 2012;102:171-89.
6. Newman M, Minns Lowe C, Barker K. Spinal Orthoses for Vertebral Osteoporosis and Osteoporotic Vertebral Fracture: A Systematic Review. *Arch Phys Med Rehabil* 2016;97:1013-25.
7. Rzewuska M, Ferreira M, McLachlan AJ, Machado GC, Maher CG. The efficacy of conservative treatment of osteoporotic compression fractures on acute pain relief: a systematic review with meta-analysis. *Eur Spine J* 2015;24:702-14.
8. Skoch J, Zoccali C, Zaninovich O, Martirosyan N, Walter CM, Maykowski P, et al. Bracing After Surgical Stabilization of Thoracolumbar Fractures: A Systematic Review of Evidence, Indications, and Practices. *World Neurosurg* 2016;93:221-8.
9. Dionyssiotis Y. Management of osteoporotic vertebral fractures. *International journal of general medicine* 2010;3:167-171.
10. Dionyssiotis Y, Trovas G, Thoma S, Lyritis G, Papaioannou N. Prospective study of spinal orthoses in women. *Prosthet Orthot Int* 2015;39:487-95.
11. GÜNDOĞDU M, ÖNCEL S, ŞAHİN E, BAYDAR M, DİLEK B. [The effect of posture support corset on balance, quality of life, dorsal kyphosis in patients with kyphosis due to osteoporosis] [Turkish]. *Turk J Geriatr* 2013;16:235-259.
12. Hübscher M, Schmidt K, Fink M, Vogt L, Banzer W. Prospektive Evaluation funktions- und lebensqualitätsbezogener Effekte einer Wirbelsäulenorthese bei Frauen mit Osteoporose [German]. *Z Orthop Unfall* 2010;148:443-447.
13. Li M, Law S-w, Cheng J, Kee H-m, Wong MS. A comparison study on the efficacy of SpinoMed® and soft lumbar orthosis for osteoporotic vertebral fracture. *Prosthetics and Orthotics International* 2014;39:270-276.
14. Liaw MY, Chen CL, Chen JF, Tang FT, Wong AM, Ho HH. Effects of Knight-Taylor brace on balance performance in osteoporotic patients with vertebral compression fracture. *J Back Musculoskelet Rehabil* 2009;22:75-81.
15. Meccariello L, Muzii VF, Falzarano G, Medici A, Carta S, Fortina M, et al. Dynamic corset versus three-point brace in the treatment of osteoporotic compression fractures of the thoracic and lumbar spine: a prospective, comparative study. *Aging Clinical and Experimental Research* 2017;29:443-449.
16. Murata K, Watanabe G, Kawaguchi S, Kanaya K, Horigome K, Yajima H, et al. Union rates and prognostic variables of osteoporotic vertebral fractures treated with a rigid external support. *J Neurosurg Spine* 2012;17:469-75.
17. Pfeifer M, Begerow B, Minne HW. Effects of a new spinal orthosis on posture, trunk strength, and quality of life in women with postmenopausal osteoporosis: a randomized trial. *American journal of physical medicine & rehabilitation / Association of Academic Physiatrists* 2004;83:177-86.
18. Pfeifer M, Kohlwey L, Begerow B, Minne HW. Effects of two newly developed spinal orthoses on trunk muscle strength, posture, and quality-of-life in women with postmenopausal

osteoporosis: a randomized trial. *American journal of physical medicine & rehabilitation / Association of Academic Physiatrists* 2011;90:805-15.

19. Schmidt K, Hübscher M, Vogt L, Klinkmüller U, Hildebrandt HD, Fink M, et al. Einflüsse einer Wirbelsäulenorthese auf Gangparameter und Alltagsfunktion bei postmenopausaler Osteoporose [German and English]. *Der Orthopäde* 2012;41:200-205.
20. Talic A, Kapetanovic J, Dizdar A. Effects of conservative treatment for osteoporotic thoracolumbal spine fractures. *Mater Sociomed* 2012;24:16-20.
21. Valentin GH, Pedersen LN, Maribo T. Wearing an active spinal orthosis improves back extensor strength in women with osteoporotic vertebral fractures. *Prosthetics and Orthotics International* 2014;38:232-238.
22. Expert Panels on Neurological Imaging IR, Musculoskeletal I, Shah LM, Jennings JW, Kirsch CFE, Hohenwarter EJ, et al. ACR Appropriateness Criteria((R)) Management of Vertebral Compression Fractures. *J Am Coll Radiol* 2018;15:S347-S364.
23. Jung HJ, Park YS, Seo HY, Lee JC, An KC, Kim JH, et al. Quality of Life in Patients with Osteoporotic Vertebral Compression Fractures. *J Bone Metab* 2017;24:187-196.
24. Karimi M. The effects of orthosis on thoracolumbar fracture healing: A review of the literature. *J Orthop* 2015;12:S230-7.
25. Kim HJ, Kim YH, Kang KT, Chang BS, Lee CK, Yeom JS. Contribution of catastrophizing to disability and pain intensity after osteoporotic vertebral compression fracture. *J Orthop Sci* 2016;21:299-305.
26. Misiak B, Snarska KK. Quality of Life of Patients with Back Pain. *The Journal of Neurological and Neurosurgical Nursing* 2014;3:107-115.
27. Namdar N, Arazpour M, Ahmadi Bani M. Comparison of the immediate efficacy of the Spinomed((R)) back orthosis and posture training support on walking ability in elderly people with thoracic kyphosis. *Disabil Rehabil Assist Technol* 2017:1-4.
28. Piazzolla A, Solarino G, Lamartina C, De Giorgi S, Bizzoca D, Berjano P, et al. Vertebral Bone Marrow Edema (VBME) in Conservatively Treated Acute Vertebral Compression Fractures (VCFs): Evolution and Clinical Correlations. *Spine (Phila Pa 1976)* 2015;40:E842-8.
29. Raeissadat SA, Rayegani SM, Sedighipour L, Hashemi M, Bahrami MH. Does weighted kypho-orthosis (WKO) reduce risk of fall in women with osteoporosis? a preliminary study. *Annals of the rheumatic diseases. Conference: annual european congress of rheumatology, EULAR 2017. Spain* 2017;76:700.
30. Ribom EL, Kindmark A, Ljunggren O. Hyperkyphosis and back pain are not associated with prevalent vertebral fractures in women with osteoporosis. *Physiother Theory Pract* 2015;31:182-5.
31. Shah S, Goregaonkar AB. Conservative Management of Osteoporotic Vertebral Fractures: A Prospective Study of Thirty Patients. *Cureus* 2016;8:e542.
32. Slavici A, Rauschmann M, Fleege C. Conservative management of osteoporotic vertebral fractures: an update. *Eur J Trauma Emerg Surg* 2017;43:19-26.

Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:10 Höftskydd vid förhöjd frakturrisik

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Korall, AM, Feldman, F, Scott, VJ, Wasdell, M, Gillan, R, Ross, D, et al. Facilitators of and barriers to hip protector acceptance and adherence in long-term care facilities: a systematic review. <i>J Am Med Dir Assoc</i> . 2015; 16(3):185-93.	Not relevant outcome
Body, JJ, Bergmann, P, Boonen, S, Boutsen, Y, Bruyere, O, Devogelaer, JP, et al. Non-pharmacological management of osteoporosis: a consensus of the Belgian Bone Club. <i>Osteoporos Int</i> . 2011; 22(11):2769-88.	Not a systematic review
Michael, YL, Lin, JS, Whitlock, EP, Gold, R, Fu, R, O'Connor, EA, et al. Interventions to Prevent Falls in Older Adults: An Updated Systematic Review Interventions to Prevent Falls in Older Adults: An Updated Systematic Review. Rockville (MD): Agency for Healthcare Research and Quality (US); 2010.	Duplicate
Booth, V, Logan, P, Harwood, R, Hood, V. Falls prevention interventions in older adults with cognitive impairment: A systematic review of reviews. <i>International Journal of Therapy & Rehabilitation</i> . 2015; 22(6):289-96.	Not relevant population
Cianferotti, L, Fossi, C, Brandi, ML. Hip Protectors: Are They Worth it? <i>Calcif Tissue Int</i> . 2015; 97(1):1-11.	Not relevant study design
Combes, M, Price, K. Hip protectors: are they beneficial in protecting older people from fall-related injuries? <i>J Clin Nurs</i> . 2014; 23(1-2):13-23.	Not relevant outcome
Santesso, N, Carrasco-Labra, A, Brignardello-Petersen, R. Hip protectors for preventing hip fractures in older people. <i>Cochrane Database Syst Rev</i> . 2014; (3):CD001255.	Duplicate
Leyland, S. Assessing fracture risk and preventative strategies in older people. <i>Nurse Prescribing</i> . 2013; 11(11):554-60.	Not relevant study design
Lach, HW, Ball, LJ, Birge, SJ. The Nursing Home Falls Self-Efficacy Scale: development and testing. <i>Clin Nurs Res</i> . 2012; 21(1):79-91.	Not relevant outcome



Bilaga 3 Exkluderade studier

Underlag för nationella riktlinjer för
rörelseorganens sjukdomar

O3:11 Antiresorptiva läkemedel vid osteopeni

Appendix 3 Excluded studies

The list consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Excluded studies

Bilaga 3 Exkluderade studier	Main reason for exclusion
Adachi R. Alendronate reduced clinical and radiographic vertebral fractures in postmenopausal women with osteopenia. <i>ACP Journal Club</i> 2005;143:46.	Not relevant study design
Anastasilakis AD, Toulis KA, Goulis DG, Polyzos SA, Delaroudis S, Giomisi A, et al. Efficacy and safety of denosumab in postmenopausal women with osteopenia or osteoporosis: a systematic review and a meta-analysis. <i>Hormone & Metabolic Research</i> 2009;41:721-9.	Not relevant population
Cheng ZQ, Yin W, Fan JY, Ma TJ. The efficacy of alendronate in the prevention and treatment of postmenopausal osteoporosis. <i>Zhongguo yi xue ke xue yuan xue bao. Acta academiae medicinae sinicae</i> 2002;24:306-309.	Not relevant population
Ensrud KE, Crandall CJ. In older postmenopausal women with osteopenia, zoledronate reduced fragility fractures at 6 years. <i>Annals of Internal Medicine</i> 2019;170:JC42.	Not relevant study design
Eriksen EF. Treatment of osteopenia. <i>Reviews in Endocrine and Metabolic Disorders</i> 2012;13:209-223.	Not relevant study design
Euctr DE. A multi-center, randomized, open-label, controlled, one-year trial to measure the effect of zoledronic acid and alendronate on bone metabolism in post menopausal women with osteopenia and osteoporosis - ROSE. http://www.who.int/trialsearch/trial2.aspx?Trialid=euctr2006-001703-11-de 2006.	Not relevant study design
Euctr ES. A 2-year randomized, multicenter, double-blind, placebocontrolled study to determine the efficacy and safety of intravenous zoledronic acid 5 mg administered either annually at randomization and 12 months, or administered at randomization only in the prevention of bone loss in postmenopausal women with osteopenia - 2312. http://www.who.int/trialsearch/trial2.aspx? Trialid=euctr2004-	Not relevant study design
Grey A, Bolland M, Mihov B, Wong S, Horne A, Gamble G, et al. Duration of antiresorptive effects of low-dose zoledronate in osteopenic postmenopausal women: a randomized, placebo-controlled trial. <i>J Bone</i>	Not relevant population
Grey A, Bolland M, Wong S, Horne A, Gamble G, Reid IR. Low-dose zoledronate in osteopenic postmenopausal women: a randomized controlled trial. <i>J Clin Endocrinol Metab</i> 2012;97:286-92.	Not relevant population
Grey A, Bolland MJ, Wattie D, Horne A, Gamble G, Reid IR. The antiresorptive effects of a single dose of zoledronate persist for two years: A randomized, placebo-controlled trial in osteopenic postmenopausal women. <i>Journal of Clinical Endocrinology and</i>	Duplicate

Hamdy RC. Zoledronic acid: Clinical utility and patient considerations in osteoporosis and low bone mass. <i>Drug Design, Development and Therapy</i> 2010;4:321-335.	Not relevant population
Leong I. Zoledronate prevents fractures in osteopenia. <i>Nature Reviews Endocrinology</i> 2018;14:688.	Not relevant study design
Levis S, Theodore G. Summary of AHRQ's comparative effectiveness review of treatment to prevent fractures in men and women with low bone density or osteoporosis: update of the 2007 report. <i>Journal of Managed Care Pharmacy</i> 2012;18:S1-15; discussion S13.	Not relevant population
MacLean C, Newberry S, Maglione M, McMahon M, Ranganath V, Suttrop M, et al. Systematic review: comparative effectiveness of treatments to prevent fractures in men and women with low bone density or	Not relevant population
Pols HA, Felsenberg D, Hanley DA, Stepán J, Muñoz-Torres M, Wilkin TJ, et al. Multinational, placebo-controlled, randomized trial of the effects of	Not relevant population
Qaseem A, Forciea MA, McLean RM, Denberg TD, Clinical Guidelines Committee of the American College of P. Treatment of Low Bone Density or Osteoporosis to Prevent Fractures in Men and Women: A Clinical	Not relevant study design
Qaseem A, Forciea MA, McLean RM, Denberg TD. Treatment of low bone density or osteoporosis to prevent fractures in men and women: A clinical	Not relevant study design
	Not relevant population
Recknor C. Zoledronic acid for prevention and treatment of osteoporosis. <i>Expert Opinion on Pharmacotherapy</i> 2011;12:807-815.	
Reid I, Horne A, Mihov B, Stewart A, Garratt L, Bolland M, et al. Zoledronate every 18 months for 6 years in osteopenic postmenopausal women reduces non-vertebral fractures and height loss. <i>Calcified tissue international - Abstract</i> 2018;102:S22-S23.	Not relevant population
Reid IR, Horne AM, Mihov B, Stewart A, Garratt E, Wiessing KR, et al. Anti-fracture efficacy of zoledronate in subgroups of osteopenic postmenopausal women: secondary analysis of a randomized controlled trial. <i>J Intern Med</i> 2019.	Not relevant population
Sawka AM, Papaioannou A, Adachi JD, Gafni A, Hanley DA, Thabane L. Does Alendronate reduce the risk of fracture in men? A meta-analysis incorporating prior knowledge of anti-fracture efficacy in women. <i>BMC Musculoskeletal Disorders</i> 2005;6.	Not relevant population

Bilaga 3 Exkluderade studier och studier med hög risk för snedvridning

Underlag för nationella riktlinjer för rörelseorganens sjukdomar

R3 Reumatoid artrit

Appendix 3 Excluded studies and studies with high risk of bias

Table of contents

Excluded health economic studies	page 2-13
Health economic studies with low quality or transferability	page 14

This list consists of articles not included in SBU's report. It has two parts:

Excluded health economic studies

This part consists of articles considered relevant in terms of abstract, but the full-text articles were considered to be irrelevant to the research question and other inclusion criteria, after assessment.

Health economic studies with low quality or transferability

This part consists of articles that were relevant in terms of abstract and full-text, but after assessment were considered to have either too low methodological quality, too low transferability to a Swedish context, or both.

Excluded health economic studies

Reference	Main reason for exclusion
Alemao E, Johal S, Al MJ, Rutten-van Molken M. Cost-Effectiveness Analysis of Abatacept Compared with Adalimumab on Background Methotrexate in Biologic-Naive Adult Patients with Rheumatoid Arthritis and Poor Prognosis. <i>Value Health</i> 2018;21:193-202.	Not relevant intervention
Athanasakis K, Petrakis I, Kyriopoulos J. Investigating the value of abatacept in the treatment of rheumatoid arthritis: a systematic review of cost-effectiveness studies. <i>ISRN Rheumatol</i> 2013;2013:256871.	Wrong publication type
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Health economic studies with low quality or transferability

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Lekander I, Borgstrom F, Svarvar P, Ljung T, Carli C, Vollenhoven R. Cost-effectiveness of real-world infliximab use in patients with rheumatoid arthritis in Sweden (Structured abstract). <i>International Journal of Technology Assessment in Health Care</i> 2010;26:54-61.	Low methodological quality High transferability
Nguyen C, Bounthavong M, Mendes M, Christopher M, Tran J, Kazerooni R, et al. Cost utility of tumour necrosis factor-alpha inhibitors for rheumatoid arthritis: an application of Bayesian methods for evidence synthesis in a Markov model (Provisional abstract). <i>PharmacoEconomics</i> 2012;30:575-593.	Low methodological quality Low transferability