NKR_05_PICO 2_glukokortokoid_injektioner_for_subakromielt_ smertesyndrom

Review information

Authors

Sundhedsstyrelsen[1]

[1][Empty affiliation]

Citation example: S. NKR_05_PICO 2_glukokortokoid_injektioner_for_subakromielt_ smertesyndrom. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Characteristics of studies

Characteristics of included studies

Adebajo 1990

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SEM)*: 51.3 (2.5) ● *Duration of symptoms in weeks, mean (SEM)*: 8.6 (0.6) ● *Number of women (%)*: 40 Control ● *Mean age in years (SEM)*: 54.8 (2.8) ● *Duration of symptoms in weeks, mean (SEM)*: 8.5 (0.8) ● *Number of women (%)*: 45 **Included criteria:** Shoulder pain excaberated by resisted movement. Painful arch. Symptoms for less than 3 months. **Excluded criteria:** Systemic inflammatory arthropathy. Drop arm sign. Peptic ulcer. Injection within 3 months. Arthritis, GH or AC.
Interventions	**Intervention Characteristics** Intervention ● *Description*: p.o. placebo + inj. LA + inj. steroid ● *Dose*: 3 ml. 0.5% lidokain + 80 mg triamcinolone hexacetomide ● *Description of any ad on exercise therapy*: Pendulum and wall climbing exercises ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: p.o. placebo + inj. LA ● *Dose*: 3 ml. 0.5% lidokain

	● *Description of any ad on exercise therapy*: Pendulum and wall climbing exercises ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) VAS 0-10, Mean change, SEM* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Pain VAS, mean change ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Funktion, limitation in function, mean change, SEM* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Limitation in function ● **Range**: 0-3 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirknigner (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** UK **Setting:** Outpatient rheumatology clinick **Authors name:** A.O. Abdebajo **Institution:** Rheumatology Research Unit **Email:** Not stated **Address:** Addenbrooke's Hospital, Cambridge, CB2 2QQ, UK
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Judgement Comment: Refers to a random number sequence
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: Objective outcomes: Outcome assessors were blindedSelf-reported outcomes: Patients were blinded
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: All patients completed the 4-week study period
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Low risk	Judgement Comment: No information of funding and conflicts of interests. The study appears to be free of other sources of bias.

Akbari 2020

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Meadian age in years (range)*: 39.5 (20-64) ● *Mean duration of symptoms*: Not staed ● *Number of women (%)*: 57.1 Control ● *Meadian age in years (range)*: 42.5 (20-64) ● *Mean duration of symptoms: Not stated* ● *Number of women (%)*: 64.3 **Included criteria:** Patients with (i) a history of posterolateral shoulder pain for more than three months which increased on shoulder abduction; (ii) painful restriction of active flexion and/or abduction of the shoulder with more restriction on passive ROM; (iii) a positive Hawkins-Kennedy impingement sign;[12] and (iv) magnetic resonance imaging (MRI) consistent with SIS (rotator cuff impingement) were included in the study. Magnetic resonance imaging criteria for SIS included: signal intensity changesin tendons suggestive of tendinosis, acromial spur indentation without microstructural changes of rotator cuff muscles and tendons and disappearance of the subacromial fat in coronal plane T1 weighted images **Excluded criteria:** Exclusion criteria included (i) a history of inflammatory arthritis; (ii) erythema/swelling of the shoulder joint; (iii) neurological deficit of the upper extremities; (iv) shoulder dislocation; (v) presence of partial/full thickness rotator cuff tear, bursitis, calcific tendinitis, or labral tears on MRI; (vi) significant chronic disease; (vii) a history of or current malignancy; (viii) shoulder trauma occurring within the past three months; (ix) SIS treatment within the past three months; (x) physical therapy of the ipsilateral shoulder within the past six months; (xi) non-consent to subacromial injection; (xii) cases in which surgical intervention was deemed to be the appropriate treatment of choice; (xiii) cervical disc/suspicion of a cervical disc pathology; or (xiv) pregnancy and breastfeeding.
Interventions	**Intervention Characteristics** Intervention ● *Description*: US-guided subacromial corticosteroid injection + LA

	● *Dose*: Methylprednisolone acetate 40 mg in 1 mL and procaine 2% 4 mL were prepared in a 5 mL syringe. ● *Description of any add on exercise therapy*: None ● *Administration of the injection landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: One Control ● *Description*: Blind subacromial corticosteroid injection + LA ● *Dose*: Methylprednisolone acetate 40 mg in 1 mL and procaine 2% 4 mL were injected slowly using a 21-gauge needle 1 cm into the subacromial space. ● *Description of any add on exercise therapy*: None ● *Administration of the injection landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: One
Outcomes	*Smerte (pain) VAS 0-10, median (min max)* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Visuel Analog Scale ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion (function) Constant Score, median (min max)* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Constant score ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Funktion (function) DASH, median (min max)* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: DASH ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion (function) Constant score, mean, SD* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Constant Score ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint

	Alvorlige bivirkninger (SAE) ● **Outcome type**: DichotomousOutcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** This study was supported by the Baskent University Research Fund. **Country:** Turkey **Setting:** Outpatient clinic **Authors name:** Selin Ozen **Institution:** Department of Physical and Rehabilitation Medicine, Başkent University Faculty of Medicine, Ankara, Turkey **Email:** selinhassan@hotmail.com **Address:** Başkent Üniversitesi Tıp Fakültesi Fiziksel Tıp ve Rehabilitasyon Anabilim Dalı, 06490 Bahçelievler, Ankara, Türkiye
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "and randomized into two groups using the Random Allocation Software version 1.0 (developed by -M. Saghaei, MD., Department of Anesthesia, Isfahan University of Medical Sciences, Isfahan, Iran)." Judgement Comment: Random Allocation Software version 1.0
Allocation concealment (selection bias)	Low risk	Quote: "The randomization process was conducted by a junior doctor of the PMR department who had no other involvement in the study."
Blinding of outcome assessment (detection bias)	High risk	Quote: "All patients were screened and assessed for study participation by a single PMR specialist prior to the procedure and at four weeks post-injection. This PMR specialist was blinded to the method of injection applied and had no involvement in the injection procedure." Judgement Comment: Patients not blinded. Most outcomes were patient reported. Patients not blinded. Most outcomes were patient reported.
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: 1/15 was lost to follow-up in the blind injection group and 0/14 in the US-guided group.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Unclear risk	Quote: "Declaration of conflicting interests The authors declared no conflicts of interest with respect to the authorship and/or publication of this article. Funding This study was supported by the Baskent University Research Fund." Judgement Comment: Poor reporting of variance. Very low sample size.

Akgun 2004a

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 48.5 (8.5) ● *Duration of symptoms in months, mean (SD)*: 19.0 (12.2) ● *Number of women (%)*: 75 Control ● *Mean age in years (SD)*: 47.5 (9.5) ● *Duration of symptoms in months, mean (SD)*: 11.8 7.8) ● *Number of women (%)*: 63 **Included criteria:** Unilateral shoulder pain and diagnosed as having stage 2 SIS. Diagnosis was based on history, clinical examination, conventional radiography, subacromial injection test and magnetic resonance imaging (MRI). The patients with positive impingement tests (Neer, Hawkins Kennedy and painful arc tests) and positive subacromial injection test were diagnosed as having shoulder impignement syndrome. **Excluded criteria:** The patients who had: (1) other concomitant shoulder pathologies such as adhesive capsulitis, calcific tendinitis, dislocations, etc., (2) cervical pain or other painful conditions such as fibromyalgia conflicting the clinical picture, (3) any local or systemic contraindication for corticosteroid use such as infection, diabetes, hypertension, etc., (4) history of gastritis or peptic ulcer that may causecomplications with NSAID use, (5) prior applicationsof any treatment modality such as physiotherapy, corticosteroid injections and NSAID during the preceding 3 months were excluded from the study.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Inj. LA + steroid x 2 + naproxon p.o. ● *Dose*: 10 cc of 1% lignocaine + 40 mg of methylprednisolone ● *Description of any ad on exercise therapy*: Relative rest and Codman's pendulum exercises. Permission to start strengthening and stretching exercises was given after 1 month (after our timeframe of interest). A home exercise programme consisting of isometric and isotonicstrengthening while the arm is in a neutral position andposterior capsule stretching was prescribed. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark based ● *Number of injections given before our timeframe of follow-up*: 2 med 10 dages mellemrum Control ● *Description*: Inj LA x 2 + naproxon p.o. ● *Dose*: 10 cc1% lignocaine ● *Description of any ad on exercise therapy*: Relative rest and Codman's pendulum exercises.Permission to start strengthening and stretching exercises was given after 1 month (after out timeframe of interest). A home exercise programme consisting of isometric and isotonicstrengthening while the arm is in a neutral position andposterior capsule stretching was prescribed. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark based ● *Number of injections given before our timeframe of follow-up*: 2 med 10 dages mellemrum

Outcomes	*Smerte (pain at rest) VAS 0-10, Mean change, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS, mean change ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Smerte (pain on activity) VAS 0-10, Mean change, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fullylly reported ● **Scale**: Pain VAS, mean change ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Funktion, Constant score total, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Constant Score total ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated. **Country:** Turkey **Authors name:** M. Birtane **Institution:** Physical Medicine and Rehabilitation Department, Faculty of Medicine, Trakya University **Email:** mbirtane@hotmail.com **Address:** Kocasinan Mah. 18. Sok., Bora Apt. A blok D: 13, Edirne, Turkey
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	Quote: "Patients were randomly divided into three equal groups of 16 patients in a simple systematic manner (·+1) according to the therapeutic injections applied.I"
Allocation concealment (selection bias)	High risk	Judgement Comment: No information on how the allocation sequence was concealed. Allocation sequence could be foreseen
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The evaluation of the patients was performed three times by another physician blinded to the content of the sub-acromial injection:"
Incomplete outcome data (attrition bias)	Low risk	Quote: "All the patients completed the study." Judgement Comment: No dropouts
Selective reporting (reporting bias)	Low risk	Judgement comment: No protocol availabe, the study reports on all the outcomes stated in the methods section.
Other bias	Low risk	Judgement Comment: No reporting of conflicts of interests and funding. The study appears to be free of other sources of bias.

Akgun 2004b

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 48.5 (8.5) ● *Duration of symptoms in months, mean (SD)*: 19.0 (12.2) ● *Number of women (%)*: 75 Control ● *Mean age in years (SD)*: 47.5 (9.5) ● *Duration of symptoms in months, mean (SD)*: 11.8 7.8) ● *Number of women (%)*: 63 **Included criteria:** Unilateral shoulder pain and diagnosed as having stage 2 SIS. Diagnosis was based on history, clinical examination, conventional radiography, subacromial injection test and magnetic resonance imaging (MRI). The patients with positive impingement tests (Neer, Hawkins Kennedy and painful arc tests) and positive subacromial injection test were diagnosed as having shoulder impignement syndrome. **Excluded criteria:** The patients who had: (1) other concomitant shoulder pathologies such as adhesive capsulitis, calcific tendinitis, dislocations, etc., (2) cervical pain or other painful conditions such as fibromyalgia conflicting the clinical picture, (3) any local or systemic contraindication for corticosteroid use such as infection, diabetes, hypertension, etc., (4) history of gastritis or peptic ulcer that may causecomplications with NSAID use, (5) prior applicationsof any treatment modality such as physiotherapy, corticosteroid injections and NSAID during the preceding 3 months were excluded from the study.

Interventions	**Intervention Characteristics** Intervention ● *Description*: Inj. LA + steroid x 2 + naproxon p.o. ● *Dose*: 10 cc of 1% lignocaine + 40 mg of methylprednisolone ● *Description of any ad on exercise therapy*: Relative rest and Codman's pendulum exercises. Permission to start strengthening and stretching exercises was given after 1 month (after our timeframe of interest). A home exercise programme consisting of isometric and isotonicstrengthening while the arm is in a neutral position andposterior capsule stretching was prescribed. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark based ● *Number of injections given before our timeframe of follow-up*: 2 med 10 dages mellemrum Control ● *Description*: Inj LA x 2 + naproxon p.o. ● *Dose*: 10 cc1% lignocaine ● *Description of any ad on exercise therapy*: Relative rest and Codman's pendulum exercises.Permission to start strengthening and stretching exercises was given after 1 month (after out timeframe of interest). A home exercise programme consisting of isometric and isotonicstrengthening while the arm is in a neutral position andposterior capsule stretching was prescribed. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark based ● *Number of injections given before our timeframe of follow-up*: 2 med 10 dages mellemrum
Outcomes	*Smerte (pain at rest) VAS 0-10, Mean change, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS, mean change ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Smerte (pain on activity) VAS 0-10, Mean change, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fullylly reported ● **Scale**: Pain VAS, mean change ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Funktion, Constant score total, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Constant Score total ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint

	Bivirkninger (AE) n/N ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated. **Country:** Turkey **Authors name:** M. Birtane **Institution:** Physical Medicine and Rehabilitation Department, Faculty of Medicine, Trakya University **Email:** mbirtane@hotmail.com **Address:** Kocasinan Mah. 18. Sok., Bora Apt. A blok D: 13, Edirne, Turkey
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	High risk	Quote: "Patients were randomly divided into three equal groups of 16 patients in a simple systematic manner (·+1) according to the therapeutic injections applied.I"
Allocation concealment (selection bias)	High risk	Judgement Comment: No information on how the allocation sequence was concealed. Allocation sequence could be foreseen
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The evaluation of the patients was performed three times by another physician blinded to the content of the sub-acromial injection:"
Incomplete outcome data (attrition bias)	Low risk	Quote: "All the patients completed the study." Judgement Comment: No dropouts
Selective reporting (reporting bias)	Low risk	Judgement comment: No protocol availabe, the study reports on all the outcomes stated in the methods section.
Other bias	Low risk	Judgement Comment: No reporting of conflicts of interests and funding. The study appears to be free of other sources of bias.

Alvarez 2005

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 50 (15) ● *Duration of symptoms in years, mean (SD)*: 3.8 (3.9) ● *Number of women (%)*: 53 Control ● *Mean age in years (SD)*: 46 (12) ● *Duration of symptoms in years, mean (SD)*: 2.5 (3.1) ● *Number of women (%)*: 39 **Included criteria:** Patients with rotator cuff tendinosis or partial cuff tear with symptoms longer than 6 months, with failure of 6 weeksof physical therapy and 2 weeks of nonsteroidal anti-inflammatory drugs, who were older than 30 years of age, and who showed>50% improvement with the Neer impingement test were stratified for Workplace Safety and Insurance Board status and previous injection. **Excluded criteria:** Not stated.
Interventions	**Intervention Characteristics** Intervention ● *Description*: injection into the subacromial space ● *Dose*: 4 mL of 2% xylocaine and 1 mL (6 mg) of betamethasone ● *Description of any ad on exercise therapy*: not stated ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided (10 injections in total checked with dye) ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: injection into the subacromial space ● *Dose*: 5 mL of 2% xylocaine ● *Description of any ad on exercise therapy*: not stated ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided (10 injections in total checked with dye) ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Funktion, ASES score, mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: ASES score ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Funktion, DASH, mean SD* ● **Outcome type**: Continuous Outcome

	● **Reporting**: Fully reported ● **Scale**: DASH ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Livskvalitet, WORC, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: WORC ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Canada **Setting:** Not stated **Authors name:** Sharon Griffin **Institution:** Fowler Kennedy Sport Medicine Clinic, 3M Centre, University of Western Ontario **Email:** sharon.griffin@uwo.ca **Address:** London, Ontario, N6A 3K7 Canada
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "A computer-generated randomization scheme with permuted block sizes of 2 and 4 was implemented."
Allocation concealment (selection bias)	Low risk	Quote: "computer-generated randomization scheme with permuted block sizes of 2 and 4 was implemented. Group assignments were kept in sealed opaque envelopes" Judgement Comment: Group assignments were kept in sealed opaque envelopes accessible only to the study nurse.
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: Evaluator remained blinded to group assignment (we only ectracted PROMs) The study nurse, who was not involved in patient assess- ment, prepared the appropriate solutions in opaque syringes so that the study patient, clinician, and evaluator remained blinded to group assignment.Patients, clinicians and outcome assessors were blinded. Both the Quote: patients and the evaluators remained blinded to group assignment throughout the study.
Incomplete outcome data (attrition bias)	Low risk	Quote: "Of the 62 study patients, 4 patients formally withdrew, refusing further participation in the study (3 from the xylocaine group and 1 from the betamethasone group). Because the primary analysis was an intention-to-treat analysis, the scores at final follow-up before withdrawal have been carried forward for the duration of the study as a conservative estimation of outcome. The remaining 58 subjects (xylocaine = 28, betamethasone = 30) were fol- lowed as outlined in the study design."

		Judgement Comment: Low number of dropouts. Intention to treat analysis
Selective reporting (reporting bias)	Low risk	Judgement comment: No protocol available. Outcome data were reported for all outcomes stated in the methods section.
Other bias	Low risk	Judgement Comment: No reporting of conflicts of interests and funding. The study appears to be free of other sources of bias.

Alvarez Nemegyei 2008

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 53 (9) ● *Duration of symptoms in weeks, mean (SD)*: 8.1 (9.0) ● *Number of women (%)*: 70 Control ● *Mean age in years (SD)*: 52 (9 ● *Duration of symptoms in weeks, mean (SD)*: 3.1 (2.4) ● *Number of women (%)*: 83 **Included criteria:** Age of at least 18 years, a painful shoulder for more than 7 days which had not improved with NSAIDs treatment, and the diagnosis of SIS defined by the compliance with the criteria for rotator cuff tendinitis proposed by the Southampton group and a positive result after undergoing the Neer test of subacromial lidocaine injection. **Excluded criteria:** A hooked acromion, an acromioclavicular joint osteophite or a calcium deposit in the subacromial region present on a anteroposterior x-ray of the shoulder; subjects with a history of allergy to lidocaine, the presence of a systemic inflammatory infectious disease or uncontrolled hypertension or diabetes.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Subacromial injection of 2 mL methylprednisoloneacetate (40 mg/mL) plus 1 mL of 1% lidocaine ● *Dose*: 2 mL methylprednisoloneacetate (40 mg/mL) plus 1 mL of 1% lidocaine ● *Description of any ad on exercise therapy*: All o the patients were submitted to a standard physiotherapy and rehabilitation program provided by another researcher ● *Administration of the injection (landmark guided/ultrasound guided*: ns (formentlig landmark guided) ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Subacromial injection of 3 mL of 1% lidocaine ● *Dose*: 3 mL of 1% lidocaine ● *Description of any ad on exercise therapy*: All o the patients were submitted to a standard physiotherapy and rehabilitation program provided by another researcher ● *Administration of the injection (landmark guided/ultrasound guided*: ns (formentlig landmark guided) ● *Number of injections given before our timeframe of follow-up*: 1

Outcomes	*Smerte (pain)VAS 0-10* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Smerte (pain) VAS, mean ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, Shoulder disability questionnaire (SDQ),* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: SDQ ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Mexico **Setting:** Department of rheumatology and orthopedics **Authors name:** José Álvarez-Nemegyei **Institution:** Unidad de Investigación Médica, Unidad Médica de Alta Especialidad #25, Instituto Mexicano del Seguro Social **Email:** nemegyei@yahoo.com.mx **Address:** Mérida, Yucatán, Mexico
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The treatment assignation sequence was generated through the randomization module of the True Epistat software package."
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed
Blinding of outcome assessment (detection bias)	Low risk	Quote: "S-SDQ measures, pain intensity and in the range of movements were performed at 15 and 30 days after the injection of treatment and, afterwards, every month for 5 months more by one of the researchers (ABP), who was blinded to the treatment received." Judgement Comment: Assessor blinded
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No description of the dropout rates for out timeframe of interest (1 month). No reasons for dropout stated.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	High risk	Judgement Comment: Imbalance in duration of symptoms at baseline

Bhayana 2018

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 44.53 (9.2) ● *Mean duration of symptoms, months (SD)*: Not stated ● *Number of women (%)*: 56.6 Control ● *Mean age in years (SD)*: 42.03 (9.9) ● *Mean duration of symptoms, months (SD)*: Not stated ● *Number of women (%)*: 33.3 **Included criteria:** We included patients who were at least 18 years old with following features: History of shoulder pain for atleast two months that has been not satisfactorily responsive to a trial of oral medication and physical therapy for atleastlast one month, historyof night pain, pain on overhead abduction, less than 50% reduction in glenohumeral range of motion in not more than one direction of external rotation, internal rotation or abduction or positive impingement test. **Excluded criteria:** We excluded patients with history of inflammatory joint disease, significant trauma, periarticular arthritis, allergy to contrast agents, previous history of steroid injection in the same shoulder. Patients with symptomatic acromioclavicular arthritis,fullthickness rotator cuff tear, pregnant patients and those who did not wish to participate in the study were also excluded.

Interventions	**Intervention Characteristics** Intervention ● *Description*: A single experienced radiologist performed the US imaging using the Phillips HD7US machine with 7–10 MHz multi frequency broad band transducer. Intra dermal drug testing with lignocaine was performed 30 min prior to the procedure. A 10 ml syringe connected to 5 cm, 21 Gauge needle was prepared with 2 ml of 40 mg/ml Methylprednisolone Acetate suspension mixed and 2 ml of 1% lignocaine. Patient was seated with the affected arm in hyper extension and internal rotation with elbow bent and back of the hand resting against the lower back. Needle with syringe containing methylprenisolone-lignocaine mixture was inserted parallel to the transducer in a semi oblique plane from the anterior side of the shoulder. ● *Dose*: 2 ml of 40 mg/ml Methylprednisolone Acetate suspension mixed and 2 ml of 1 % lignocaine. ● *Description of any add on exercise therapy*: Home exercise. On each follow up visit, patients were reinforced to continue home exercise program consisting of shoulder abduction and pendulum exercises. ● *Administration of the injection landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before out timeframe of follow-up*: One Control ● *Description*: Blind injections. Landmarkguided,LMG) A single orthopaedic surgeon neither involved in recording clinical assessment of the patients, nor in the randomisation of the patients performed allthe LMG injections. Intra dermal skin testing with lignocaine and iohexol was performed 30 min prior to procedure. A10 ml syringe connected to 5 cm,21 gauge needle was prepared with 2 ml of 40 mg/ml Methylprednisolone Acetate suspension mixed,2 ml lignocaine and 2 ml of radio opaque non-ionic contrast media iohexol (1-N,3-bis(2,3-dihydroxy-propyl) 5-[N(2,3-dihydroxypropyl) acetamido-2,4,6riiodo-benzene-1,3-dicarboxamide).The patient's skin was sterlised with spirit. Access to the subacromial space was achieved using the lateral approach to the subacromial space,inserting the needle just inferior to the mid lateral aspect of th eacromion, with the needle angled slightly cephalad, passing through the deltoid muscle, and directed medially and slightly anterior to the subacromial bursa. ● *Dose*: 2 ml of 40 mg /ml Methylprednisolone Acetate suspension mixed , 2 ml lignocaine and2ml of radio opaque non-ionic contrast media iohexol(1-N,3-bis(2,3-dihydroxy-propyl)5-[N(2,3-dihydroxypropyl)acetamido-2,4,6riiodo-benzene-1,3-dicarboxamide) ● *Description of any add on exercise therapy*: Home exercise. On each follow up visit, patients were reinforced to continue home exercise program consisting of shoulder abduction and pendulum exercises. ● *Administration of the injection landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before out timeframe of follow-up*: One
Outcomes	*smerte (pain) VAS 0-10, mean, SD* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Visuel Analog Scale ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion (function) Constant score, mean, SD* ● **Outcome type**: ContinuousOutcome ● **Reporting**: Fully reported ● **Scale**: Constant Score

	● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE)* ● **Outcome type**: DichotomousOutcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** No funding **Country:** India **Setting:** Orthopedic outpatient clinic **Authors name:** H. Bhayana **Institution:** Department of Orthopaedics, GTB Hospital & UCMS **Email:** Himanshu.bhayana.mamc@gmail.com **Address:** Delhi 110095, India
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "the patients were randomly allocated to receive US guided or LMG injection based on random number sequence."
Allocation concealment (selection bias)	Low risk	Quote: "The clinician who performed the randomisation was blinded of the clinico-radiological assessment of the patients."
Blinding of outcome assessment (detection bias)	Low risk	Quote: "Patients were evaluated by the same clinician who evaluated the patient prior to the injection. Constant score and VAS score were evaluated and documented. The clinician was blinded of the clinico-radiological findings of the patient and the treatment group to which the patient belongs."
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: No dropouts reported.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Low risk	Quote: "Conflict of interest The authors have none to declare. Funding No funding received." Judgement Comment: The study appears to be free of other sources of bias

Blair 1996

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** **Included criteria:** Il patients who were seen in the shoulder clinic from September 1992 to January 1993 with pain in the shoulder that was characteristic of subacromial impingement syndrome were asked to enroll in the study if they met these criteria: (1) the symptoms had lasted for at least three months, (2) a diagnosis of subacromial impingement syndrome had been made on the basis of the lidocaine injection test 23, (3) the patient had not had previous subacromial injec-tions of corticosteroids, (4) there was no evidence of os acromiale on plain radiographs, (5) the patient was not involved in a Workers' Compensation claim related to the shoulder, and (6) there was no clinical or radio-graphic evidence of a full-thickness tear of the rotator cuff. **Excluded criteria:** To identify and exclude patients who had a tear of the rotator cuff, double-contrast arthrography or mag-netic resonance imaging was performed for all patients who had signs of muscular atrophy and weakness on forward elevation or external rotation after subacromial injection of lidocaine as well as for all patients who were more than sixty years old.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Two milliliters containing forty milligrams of triamcinolone acetonide per milliliter with four milliliters of 1 per cent lidocaine without epineph-rine (the corticosteroid group). ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*: Control ● *Description*: ix milliliters of 1 per cent lidocaine without epinephrine (the control group) ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*: Intervention 2 *Description*: ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*: Control 2 ● *Description*: ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*:

	● *Number of injections given before our timeframe of follow-up*:
Outcomes	No outcome for out timeframe of interest. The study reports results for a mean duration of 33 weeks (rrange 12-52) our timeframe of interest was 1 months after the first injection.
Identification	**Sponsorship source:** No funds were received in support of this study **Country:** USA **Setting:** The shoulder Institute, the Hospital for Joint Deseases, New York City **Authors name:** Benjamin Blair **Institution:** Department of Orthopedic Surgery, the Hospital for Joint Deseases, New York City **Email:** Not stated **Address:** Department of Orthopedic Surgery, the Hospital for Joint Deseases, 301 east 17th Street, New York, N.Y. 10003
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Quote: "Patients were randomized to receive either six milliliters of 1 per cent lidocaine without epinephrine" Judgement Comment: No information on how the allocation sequence was generated
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed
Blinding of outcome assessment (detection bias)	Low risk	Quote: "All injections were administered by one of us (B. B.), who was independent of the examiner, in an opaque syringe with a 21-gauge needle. The" Judgement Comment: The outcome assessors were blinded
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No information on attrition rate. No information of any Intention to Treat analysis.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Unclear risk	Judgement Comment: Not clear if outcoems were measured at the same timepoints in the groups. No information of funding and conflicts of interest.

Celik 2009

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Number of women (%)*: 75 Control ● *Number of women (%)*: 68

	Overall mean age in years (range): 50 (31-68) **Included criteria:** (i) age between 30-70; (ii) without sports events; (iii) complains for six months or more; (iv) determination of impingement symptom in the clinical examination (Neer impingement test, Hawkins sign, Jobe supraspinatus test) , having less than 10 % stifness compared to other side in the passive range of motion; (v) lack of deformities such as degenerative arthritis , mezoacromion under the anterior- posterior X-ray examination; (vi) no pathologic symptom other than inflamation in the subacromial bursa after the examination of magnetic resonance. **Excluded criteria:** The patients who had shoulder operation or physical therapy and rehabilitation program, who had rotator cuff lesion or pathologic symptom in radiographies and who were under psychiatric treatment were not selected for this study.
Interventions	**Intervention Characteristics** Intervention ● *Description*: A single subacromial injection of 9 ml bupivacaine and 1 ml betamethasone ● *Dose*: Not stated ● *Description of any ad on exercise therapy*: 15 sessions (3 weeks), wand exercises, posterior and inferior capsule stretching exercises, internalrotation exercises and rotator cuff and scapulotorasicstrengthening exercises ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Exercises only ● *Dose*: n/a ● *Description of any ad on exercise therapy*: 15 sessions (3 weeks), wand exercises, posterior and inferior capsule stretching exercises, internalrotation exercises and rotator cuff and scapulotorasicstrengthening exercises ● *Administration of the injection (landmark guided/ultrasound guided*: n/a ● *Number of injections given before our timeframe of follow-up*: 0
Outcomes	*Smerte (pain at rest) VAS 0-10, mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Smerte (pain at rest) VAS, mean ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, Constant score total, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Constant Score total ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint

Identification	**Sponsorship source:** Not stated **Country:** Turkey **Setting:** Orthopedic clinic for shoulder surgery **Authors name:** Derya Çelik.Istanbul University **Institution:** Istanbul Faculty of Medicine, Department of Orthopaedics and Traumatology **Email:** deryacavga@hotmail.com **Address:** 34093 Çapa, İstanbul.
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Quote: "The patients were randomly separeted in two" Judgement Comment: The patients were randomly allocated to injection and control groups equal in number No information on how the allocation sequence was generated.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "evaluations before and three and six weeks after treatment were made by a physiotherapist and an orthopedist who were unaware of the treat-" Judgement Comment: The evaluations were made by a physiotherapist and an orthopedist who were unaware of the treatment.
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No information on dropuot rates. No intention to treat analysis.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Low risk	Judgement Comment: No information on funding and conflicts of interests. The study appears to be free of other sources of bias.

Cole 2016

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (range)*: 46 (19-68) ● *Duration of symptoms in months, mean (range)*: 26 (1-108) ● *Number of women (%)*: 50 Control ● *Mean age in years (range)*: 42 (23-62) ● *Duration of symptoms in months, mean (range)*: 16 (2-108) ● *Number of women (%)*: 64

	Overall ● *Mean age in years (range)*: 44 (19-68) ● *Duration of symptoms in months, mean (range)*: 21 (1-108) ● *Number of women (%)*: 57 **Included criteria:** A history of shoulder pain with overhead activities and clinical signs of impingement (either in internal rotation or external rotation), with an absence of rotator cuff tears, osteoarthritis, and adhesive capsulitis. To evaluate their existing pathological abnormalities and exclude any cause of pain other than subacromial impingement syndrome **Excluded criteria:** Excluded if they had undergone previous surgery of the affected shoulder or had rotator cuff tears, calcific tendinitis, adhesive capsulitis, inflammatory arthritis, acromioclavicular joint pain, os acromiale, osteoarthritis, fractures, bone tumors, osteonecrosis, or other bone conditions seen on radiographs.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Subacromial corticosteroid injection with ultrasound guidance ● *Dose*: 1 mL of 40 mg/mL methylprednisolone acetate and 5 mL of 1% lidocaine hydrochloride ● *Description of any ad on exercise therapy*: ns ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound-guided injections were performed usinga lateral approach ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Subacromial corticosteroid injection without ultrasound guidance ● *Dose*: 1 mL of 40 mg/mL methylprednisolone acetate and 5 mL of 1% lidocaine hydrochloride ● *Description of any ad on exercise therapy*: ns ● *Administration of the injection (landmark guided/ultrasound guided*: Blind injections were performed with the patient in the same upright sitting position with the ultrasound probe on the acromion to keep the patients blinded to the treatment group ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain overhead activities) VAS 0-100, mean, SEM* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Pain VAS 0-100 ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, ASES score, mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: ASES score ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint

Identification	**Sponsorship source:** Not stated **Country:** Australia **Authors name:** George A.C. Murrell **Institution:** Orthopaedic Research Institute **Email:** murrell.g@ori.org.au **Address:** St George Hospital, 4-10 Short Street, Kogarah NSW 2217, Sydney, Australia
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The patients were randomized by computer-generated ran- domization to receive either an ultrasound-guided subacro- mial injection (ultrasound group) or an unguided subacromial injection (blind group)."
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "Patients and the outcome assessor were blinded to the allocation of treatment group; however, the surgeon and sonographer performing" Judgement Comment: Patients and the outcome assessor were blinded to the allocation of treatment group
Incomplete outcome data (attrition bias)	Low risk	Quote: "All patients who received injections returned for follow- up at 6 weeks." Judgement Comment: No dropouts
Selective reporting (reporting bias)	Low risk	Judgement Comment: Australian New Zealand Clinical Trials Registry (registration no. ACTRN12 615000562572).
Other bias	Unclear risk	Judgement Comment: No information on conflicts of interests and funding. Seeems that results are gives per shoulder and not per person. Uklart hvornår hhv. antal patienter og antal skuldre indgår i beregningerne. Problematisk at inkludere to skuldre på samme patient (ikke uafhængige).

Crawshaw 2010

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 57.2 (10.3) ● *Duration of symptoms in weeks, median (IQR)*: 14 (10-26) ● *Number of women (%)*: 52 Control ● *Mean age in years (SD)*: 54.9 (10) ● *Duration of symptoms in weeks, median (IQR)*: 17 (12-28) ● *Number of women (%)*: 57

	Included criteria: Aged 40 and older, unilateral shoulder pain, subjectively rate their pain as moderate or severe on a 3 point scale (mild/moderate/severe), and have a non-capsular pattern of restriction. Capsular pattern was defined as painful and limited passive glenohumeral mobility, with lateral rotation relatively more restricted than abduction andmedial rotation. Some loss of lateral rotation was permitted but no more than 25% compared with opposite side. Participants also had to show a Neer impingement sign (passive shoulder elevation with scapular fixed) or have positive results on the Hawkins impingement test (shoulder elevation to 90°, elbow flexed to 90°, then passively internally rotate the humerus). **Excluded criteria:** Exclusion criteria were known blood coagulation disorders; evidence of referred pain from the cervical spine or internal organs; history of rheumatoid arthritis, polymyalgia rheumatica, or other inflammatory arthritis; bilateral shoulder pain; neurological diagnosis such as cerebrovascular event with shoulder involvement; contraindication to steroid-lidocaine injection; pregnancy or breast feeding; previous fracture, dislocation, or surgery to shoulder, upper limb, neck, or thorax; steroid injections or physiotherapy for the symptomatic shoulder within the previous six months; or inability to provide informed consent.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Subacromial corticosteroidinjection combined with exercise and manual therapy ● *Dose*: 20 mg triamcinolone acetonide mixed with 4.5 ml 1% lidocaine ● *Description of any ad on exercise therapy*: Manual mobilisation techniques and exercises from six mobilisation techniques and 23 exercises. Exercises were progressive as deemed appropriate by the treating physiotherapist. The treating therapist was asked to include a manual therapy technique at least once. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Exercise and manual therapy alone ● *Dose*: n/a ● *Description of any ad on exercise therapy*: Manual mobilisation techniques and exercises from six mobilisation techniques and 23 exercises. Exercises were progressive as deemed appropriate by the treating physiotherapist. The treating therapist was asked to include a manual therapy technique at least once. ● *Administration of the injection (landmark guided/ultrasound guided*: n/a ● *Number of injections given before our timeframe of follow-up*: 0
Outcomes	*Smerte (SPADI pain), mean change, 95% CI* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: SPADI pain ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Funktion, SPADI total, mean change, 95% CI* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: SPADI total ● **Range**: 0-100

	● **Direction**: Lower is better ● **Data value**: Change from baseline *Funktion, SPADI disability, mean change, 95% CI* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: SPADI disability ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Change from baseline Adherencer til træning n/N ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Higher is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** The study was funded by a project grant 17236 Arthritis Research **Country:** UK **Setting:** Arthritis Research **Authors name:** Dickon P Crawshaw **Institution:** Leeds Musculoskeletal and Rehabilitation Service, Leeds Community Healthcare **Email:** p.conaghan@leeds.ac.uk **Address:** Leeds LS7 4SA UK
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "We then randomised participants to one of the two treatment groups using an independent telephone randomisation service and booked appointments to start treatment according to allocation." Judgement Comment: Simple block randomisation was performed for seven sites based on a computer generated randomisation list.
Allocation concealment (selection bias)	Low risk	Quote: "We then randomised participants to one of the two treatment groups using an independent telephone randomisation service and booked appointments to start treatment according to allocation." Judgement Comment: Central allocation by telephone.
Blinding of outcome assessment (detection bias)	High risk	Quote: "Outcomes were measured by self completed questionnaires at baseline and at one, six, and 12 weeks; a staff member other than the treating physiotherapist provided the questionnaires." Judgement Comment: A staff member other than the treating physiotherapist provided the questionnaires Outcomes were self-reported outcomes, and patients were not blinded
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Patients' data were analysed according to the randomised group irrespective of deviations from the protocol. Low and equal number of dropouts. 1/115 did not recieve injection in the Injection + exercise group and 2/115 did not recieve exercise in this group.1/117 in the exercise group did not recieve exercise.
Selective reporting (reporting bias)	Low risk	Quote: "Trial registration ISRCT 25817033; EudraCT No 2005- 003628-20." Judgement Comment: Trial registration ISRCT 25817033; EudraCT No 2005-003628-20. Reference to a protocol. Primary and secondary outcoems reported as stated in the protocol.
Other bias	Low risk	Quote: "Funding: The study was funded by a project grant 17236 from Arthritis Research UK. Competing interests: All authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare that (1) DPC and PGC have support from Arthritis Research UK for the submitted work. All authors declare no interests under (2), (3), and (4)." Judgement Comment: The study appears to be free of other sources of bias.

Dogu 2012

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 55.17 (9.24) ● *Duration of symptoms in months, mean (SD)*: 7.43 (5.37) ● *Number of women (%)*: 15 (65.2) Control ● *Mean age in years (SD)*: 56.74 (8.02) ● *Duration of symptoms in months, mean (SD)*: 9.74 (7.67) ● *Number of women (%)*: 16 (69.6)

	Included criteria: Patients diagnosed with SIS who had shoulder pain for at least 3 mos were included in this study. The diagnoses were based on history, clinical examinations, and magnetic resonance imaging. To assess SIS, three provocative tests were performed: Neer,Hawkins, and Jobe's ''Empty Can'' tests. **Excluded criteria:** Exclusion criteria were evidence of another pathology that could cause shoulder pain, such as adhesive capsulitis or calcific tendinitis; dislocations; chronic inflammatory arthritis; detection of full-thickness tears or total rupture and labral tears on MRI; previous applications of any treatment modality such as physiotherapy and corticosteroid injections; use of regular systemic nonsteroidal antiinflammatory drugs or corticosteroids; and presence of cervical pain or other painful conditions such asfibromyalgia and polymyalgia rheumatica.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Ultrasound-guided injections were performedby a musculoskeletal radiologist using a lateral approach. ● *Dose*: 1 ml of 5 mg/ml betamethasone dipropionate, 9 ml of 10 mg/ml prilocaine hydrochlorideand 0.02 ml of 0.01 mmol gadolinium diethylenetriaminepentaacetic acid ● *Description of any ad on exercise therapy*: No patient received physical therapy ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound-guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Blind injections were given by a physiatrist using a posterior approach. A probe was placed on the trapezius muscle. ● *Dose*: 1 ml of 5 mg/ml betamethasone dipropionate, 9 ml of 10 mg/ml prilocaine hydrochlorideand 0.02 ml of 0.01 mmol gadolinium diethylenetriaminepentaacetic acid ● *Description of any ad on exercise therapy*: No patient received physical therapy ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark-guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain at rest) VAS 0-10, mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Smerte (pain at rest) VAS, mean ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Smerte (pain on activity) VAS 0-10, mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Smerte (pain on activity) VAS, mean ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Smerte (Constant pain at rest), mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported

	● **Scale**: Smerte (pain at rest) VAS, mean ● **Range**: 0-15 ● **Direction:** Higher is better ● **Data value**: Endpoint *Funktion, Shoulder disability questionnaire (SDQ), mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SDQ ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Turkey **Comments:** "Financial disclosure statements have been obtained, and no conflicts of interest have been reported by the authors or by any individuals in control of the content of this article." **Authors name:** Beril Dogu **Institution:** Department of Physical andRehabilitation Medicine **Email:** Not stated **Address:** S¸ is¸li Etfal Eg˘itim ve Aras¸tırma Hastanesi 34377, S¸ is¸li, Istanbul, Turkey
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The patients were randomized by a random- number sequence to receive either US-guided subacro- mial injections (group 1) or blind injections (group 2)."

Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: Outcomes were self-reported and patient were blinded.
Incomplete outcome data (attrition bias)	Unclear risk	Quote: "In group 1, 15 (65%) patients were injected in the subacromial space. Of the remaining eight patients, six were injected in the deltoid and two were injected in the rotator cuff. In group 2, 16 (70%) patients were injected in the subacromial space, 3 patients were injected in the deltoid, and 4 patients were injected in the rotator cuff." Judgement Comment: 4 dropouts accounted for. Group allocation ns. Analysis ns 4 dropouts accounted for. Group allocation ns. Analysis ns All randomized patients recieved the intervention. No information of dropouts.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. the study reports on all the putcome stated in the methods section.Total Constant score not reported (power measurement missing).
Other bias	Low risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Haghighat 2015

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 50.45 (6.78) ● *Duration of symptoms in monthd, mean (SD)*: 1.8 (0.54) ● *Number of women (%)*: 40 Control ● *Mean age in years (SD)*: 52.3 (7.48) ● *Duration of symptoms in months, mean (SD)*: 1.87 (0.48) ● *Number of women (%)*: 35 **Included criteria:** 1) Posterolateral shoulder pain, 2) Pain in abduction orpainful restriction of glenohumeral mobility, 3) provocation of symptoms by Neer and Hawkins tests. **Excluded criteria:** Exclusion criteria were as follows: shoulder pain due to osseous pathology (e.g. osteoarthritis, osteonecrosis), duration of shoulder pain more than three months, previous trauma in the shoulder region, previous physiotherapy or local steroid injection in last three months, any evidence of predisposing condition such as diabetes mellitus, rheumatoid arthritis, hypothyroidism and unwillingness to participate in the present study.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Corticosteroid injections were performed under ultrasound guidance. For subacromial bursalinjection we used the lateral approach ● *Dose*: 40 mg methylprednisolone with 1cc lidocaine 2% ● *Description of any ad on exercise therapy*: Not stated ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1

	Control ● *Description*: Posterior approach was used for subacromial bursa injection in anatomical (blind) method ● *Dose*: 40 mg methylprednisolone with 1cc lidocaine 2% ● *Description of any ad on exercise therapy*: Not stated ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) VAS 0-10, Mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Smerte (SPADI pain), mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SPADI pain ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion (function) SPADI disability, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: SPADI disability ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpointt
Identification	**Sponsorship source:** Not stated **Country:** Iran **Setting:** Physical Medicine and Rehabilitation outpatient clinics **Authors name:** Parisa Taheri **Institution:** Department of Physical Medicine and Rehabilitation, University of Isfahan Medical Sciences **Email:** Prs_taheri@yahoo.com **Address:** Isfahan, Iran
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: Participants were randomly assigned to control and case groups, two groups of 20 subjects, using randomized allocation. No information on how the allocation sequence was generated.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: Participants were randomly assigned to control and case groups, two groups of 20 subjects, using randomized allocation. No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	High risk	Judgement Comment: No information on blinding of outcome assessors. critical outcomes of interest (pain and function) were mostly self-reported and patients not blinded.
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: 8 patients excluded for named reasons prior to randomisation.No dropouts reported after randomisation.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available, the study reports on all the outcomes stated in the methods section.
Other bias	Low risk	Quote: "Conflict of Interest: The authors declare that there is no conflict of interests regarding the publication of this paper." Judgement Comment: No information on funding.The study appears to be free of other sources of bias

Hong 2011

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 50.8 (9.9) ● *Duration of symptoms, mean (SD)*: 8.9 (10.6) ● *Number of women (%)*: 63 Control ● *Mean age in years (SD)*: 51.0 (10.0) ● *Duration of symptoms, mean (SD)*: 8.6 (9.2) ● *Number of women (%)*: 56 Intervention 2 ● *Mean age in years (SD)*: 48.6 (13.0) ● *Duration of symptoms, mean (SD)*: 13.0 (12.1) ● *Number of women (%)*: 60 **Included criteria:** Inclusion criteria were (1) participants with clinically diagnosed periarticular disorder of the shoulder (impingement syndrome, rotator cuff lesions, subacromial-subdeltoid bursitis, and/or biceps tendon abnormalities) (2) participants aged 20 to 70 years, (3) a first flare of shoulder pain of periarticular cause, (4) at least 1 month’s duration, and (5) pain of moderate to severe intensity, defined as a score of 3 or more points on a 10-cm visual analog scale (VAS) rated from 0 (no pain) to 10 (worst imaginable pain).

	Excluded criteria: Exclusion criteria were (1) current adhesive capsulitis (normal radiograph of affected shoulder, restriction of passive motion 30° in 2 planes of movement, measured to onset of pain by using a gravity inclinometer)30; (2) full-thickness tear in ultrasound examination; (3) presence of another medical or psychological condition, including cancer, rheumatoid arthritis, endocrine disease (ie, diabetes), major depression, or schizophrenia; (4) previous trauma history at currently affected shoulder; (5) primary osteoarthritis of the glenohumeral joint in a simple radiograph; (6) previous corticosteroid injection history at the affected shoulder; and (7) use of medication such as antiplatelet agent or anticoagulation.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Inj. steroid ● *Dose*: 4 mL of 40 mg of triamcinolone acetonide ● *Description of any ad on exercise therapy*: On week 2 postinjection, evaluators handed out picture leaflets and provided education for home exercise. Programs were to be performed 3 times a day lasting 10minutes each round ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Inj. LA ● *Dose*: 4 mL of 1% lidocaine ● *Description of any ad on exercise therapy*: On week 2 postinjection, evaluators handed out picture leaflets and provided education for home exercise. Programs were to be performed 3 times a day lasting 10minutes each round ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1 Intervention 2 ● *Description*: Inj. steroid+LA ● *Dose*: 2mL of 20 mg of triamcinolone acetonide and 2 mLof 1% lidocaine ● *Description of any ad on exercise therapy*: On week 2postinjection, evaluators handed out picture leaflets and provided education for home exercise. Programs were to be performed 3 times a day lasting 10minutes each round ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) VAS 0-10, Mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS, mean ● **Range**: 0-10 ● **Direction**:Lower is better ● **Data value**: Endpoint *Funktion, Shoulder disability questionnaire (SDQ), mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SDQ ● **Range**: 0-100

	● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** No commercial party having a direct financial interest in the results of the research supporting this article has or will confer a benefit on the authors or on any organization with which the authors are associated. **Country:** Korea **Setting:** Department of Physical Medicine and Rehabilitation **Authors name:** Seung-Hyun Yoon **Institution:** Department of Physical Medicine and Rehabilitation, Ajou University School of Medicine and Ajou University Hospital **Email:** yoonsh@ajou.ac.kr **Address:** San 5, Wonchon-dong, Yeongtong-gu, Suwon 443-721, Republic of Korea
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "were randomly assigned to 1 of 3 groups by using a block randomization method, which ensured that approximately equal numbers were allocated to each group. 32 A computerized random-number generator and table were used to perform group allocations, which were managed by an assistant (other than the authors)."
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "The injection was prepared with sterile technique using opaque syringes so that participants, injection operators, and evaluators remained blinded to group assignment." Judgement Comment: 'triple-blind'
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Dropouts 3/5/3. Equally distributed. Reasons provided. Low number of dropouts for equal reasons.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.

Other bias	Low risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Hsieh 2013

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 57.59 (10.30) ● *Duration of symptoms, mean (SD)*: 6.28 (3.59) ● *Number of women (%)*: 59 Control ● *Mean age in years (SD)*: 55.87 (11.42) ● *Duration of symptoms, mean (SD)*: 7.14 (4.72) ● *Number of women (%)*: 63 **Included criteria:** (a) shoulder pain for more than 1 month, (b) painful abduction with a visual analog scale (VAS) score for pain Q 4, (c) the presence of a painful arc of motion or pain at the mid- to terminal range of shoulder abduction or internal rotation and a soft end feel, (d) tenderness over the subacromial bursa, and (e) a reduction in pain of over 40% on active shoulder abduction at the terminal range after the injection of 3 mL of 1% lidocaine into the subacromial bursa **Excluded criteria:** (a) a history of uncontrolled chronic diseases, for example, malignant neoplasms, hypocoagulability, and infection; (b) previoussurgery of the affected shoulder; (c) any evidence of a rotator cuff tear or tendinopathy, demonstrated by positive resistive tests or sonographic findings; (d) calcification of the rotator cuff, demonstrated by x-ray or sonographic findings; (e) the presence of arthritis, such as inflammatory arthritis (e.g., rheumatoid arthritis, seronegative spondyloarthropathy, and crystal-related arthropathy), osteoarthritis, frozen shoulder, subacromial spurs, or deformity of the acromion; (f) the presence of instability of the affected shoulder; (g) a previous fracture near the shoulder region; (h) the presence of cervical radiculopathy or myelopathy; and (i) having received a corticosteroid or hyaluronate subacromial or shoulder joint injection in the past 3 months.
Interventions	**Intervention Characteristics** Intervention ● *Description*: After the sterilization of the skin on the lateral side of the affected arm, a needle was inserted into thesubdeltoid bursa under US guidance ● *Dose*: 0.5 mL (5 mgImLj1) ofdexamethasone and 3 mL(10 mgImLj1) of lidocaine hydrochloride ● *Description of any ad on exercise therapy*: Not stated ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: 1–2 cm beneath the middle point of the lateral edge of the acromion,we inserted a needle medially and in a slightly cranial direction into the bursa ● *Dose*: 0.5 mL (5 mgImLj1) ofdexamethasone and 3 mL(10 mgImLj1) of lidocaine hydrochloride ● *Description of any ad on exercise therapy*: Not stated ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided

	● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) VAS 0-10, Mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Smerte (SPADI pain), mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SPADI pain ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, SPADI total, mean SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SPADI total ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, SPADI disability, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SPADI disability ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, Shoulder disability questionnaire (SDQ), mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SDQ ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Livskvalitet, SF 36, social functioning, mean, SD* ● **Outcome type**: Continuous Outcome

- **Reporting**: Fully reported
- **Scale**: SF 36, social functioning,
- **Range**: 0-100
- **Direction**: Higher is better
- **Data value**: Endpoint

Livskvalitet, SF 36, physical role, mean, SD

- **Outcome type**: Continuous Outcome
- **Reporting**: Fully reported
- **Scale**: SF 36, physical role
- **Range**: 0-100
- **Direction**: Higher is better
- **Data value**: Endpoint

Livskvalitet, SF 36, bodily pain, mean, SD

- **Outcome type**: Continuous Outcome
- **Reporting**: Fully reported
- **Scale**: SF 36, bodily pain
- **Range**: 0-100
- **Direction**: Higher is better
- **Data value**: Endpoint

Livskvalitet, SF 36, general health, mean, SD

- **Outcome type**: Continuous Outcome
- **Reporting**: Fully reported
- **Scale**: SF 36, general health
- **Range**: 0-100
- **Direction**: Higher is better
- **Data value**: Endpoint

Livskvalitet, SF 36, vitality, mean, SD

- **Outcome type**: Continuous Outcome
- **Reporting**: Fully reported
- **Scale**: SF 36, vitality
- **Range**: 0-100
- **Direction**: Higher is better
- **Data value**: Endpoint

Livskvalitet, SF 36, physical functioning, mean, SD

- **Outcome type**: Continuous Outcome
- **Reporting**: Fully reported
- **Scale**: SF 36, physical functioning
- **Range**: 0-100
- **Direction**: Higher is better

	● **Data value**: Endpoint *Livskvalitet, SF 36, emotional role, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SF 36, emotional role ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Livskvalitet, SF 36, mental health, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SF 36, mental health ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** The authors acknowledge the financial support provided by the Shin Kong Wu Ho-Su Memorial Hospital. **Country:** Taiwan **Setting:** Department of Physical Medicine and Rehabilitation **Authors name:** Lin-Fen Hsieh **Institution:** Department of Physical Medicine and Rehabilitation, Shin Kong Wu Ho-Su Memorial Hospital, No. 95 **Email:** M001026@ms.skh.org.tw; reh6110@yahoo.com.tw **Address:** Wen Chang Road, Shin Lin District, Taipei 111, Taiwan
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "The assignment scheme was generated using a table of computer-generated random numbers. Each patient was allocated to one of the treatment groups according to the randomization sequence."
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: Each patient was allocated to one of the treatment groups according to the randomization sequence. No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: All of the evaluations were performed by a blinded assessor who was a well-experienced physical therapist. The outcome assessor was blinded to the treatment assignment.
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: 2 subjects in each group withdrew during the follow-up period due to reasons unrelated to the study. Low number of dropouts for equal reasons.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.

Other bias	Low risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Naredo 2004

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 52.9 (11) ● *Duration of symptoms, mean (SD)*: 11.9 (14.6) ● *Number of women (%)*: 71 Control ● *Mean age in years (SD)*: 51.9 (13.8) ● *Duration of symptoms, mean (SD)*: 10.2 (14.7) ● *Number of women (%)*: 60 **Included criteria:** Patients referred to our rheumatology department with a first flare of shoulder pain of periarticular etiology, at least one month of duration, without response to nonsteroidal antiinflammatory drugs (NSAID). Periarticular disorders of the shoulder included impingement syndrome, rotator cuff lesions, subacromial-subdeltoid bursitis, and/or biceps tendon abnormalities. **Excluded criteria:** Patients with chronic inflammatory arthritis and previous trauma were excluded. No patient had received previous physiotherapy or local steroid injection in the shoulder.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Corticosteroid injection was sonographically guided to the SA-SD bursa in 14 patients , to biceps tendon sheath in 3 patients,and to rotator cuff calcification in 4 patients ● *Dose*: 20 mg triamcinolone ● *Description of any ad on exercise therapy*: No patient received physical therapy during the follow up period. How ever patients with loss of shoulder ROM was instructed to start a home training physiotherapy program of pendulum exercises and slow shoulder abduction. ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Blind subacromial injection ● *Dose*: 20 mg triamcinolone ● *Description of any ad on exercise therapy*: No patient received physical therapy during the followup period. How ever patients with loss of shoulder ROM was instructed to start a home training physiotherapy program of pendulum exercises and slow shoulder abduction. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1

Outcomes	*Smerte (pain) VAS 0-100, Mean change, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Smerte VAS 0-100 ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Funktion, SFA, mean change, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SFA ● **Range**: 0-70 ● **Direction**: Lower is better ● **Data value**: Change from baseline *Bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Spain **Setting:** Rheumatolog **d**epartment **Authors name:** Dr. E. Naredo **Institution:** Department of Rheumatology, the Research Unit, and the Epidemiology Unit, Severo Ochoa Hospital, Madrid, Spain **Email:** esnaredo@eresmas.com **Address:** Calle Arturo Soria 259, 4º A, 28033 Madrid, Spain
Notes	Indirectness: En del patienter har ikke SAPS, men bicepspatologi og calcificerende tendinit

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Patients were randomized by a random-number sequence to receive either a blind subacromial injection of 20 mg triamcinolone (Group 1, 20 patients) or a sonographic-guided injection of 20 mg triamcinolone (Group 2, 21 patients) by another independent rheumatologist experienced in US (EN), without knowledge of the clinical evaluation, within 5 days after the initial clinical evaluation." Judgement Comment: random-number sequence.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Unclear risk	Quote: "Each patient was reviewed 6 weeks postinjection by the same rheuma- tologist who performed the initial clinical evaluation (FC), blinded to the injection technique and the sonographic findings." Judgement Comment: PROMs only. Unclear if patients were blinded to allocation group.
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No information on attrition.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section. Protocol registration not reportedUnexpected outcome: "Number of patients with 50% decrease in VAS for pain (VAS 50) and SFA score (SFA 50)."
Other bias	Low risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Penning 2012/2014

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 52 (9) ● *Duration of symptoms, mean (SD)*: Not stated ● *Number of women (%)*: 49 Control ● *Mean age in years (SD)*: 54 (11) ● *Duration of symptoms, mean (SD)*: Not stated ● *Number of women (%)*: 56 **Included criteria:** Eligible patients were over 18 years of age and had pain in the shoulder, either at rest or on movement. The diagnosis of impingement was made clinically without the routine use of ultrasound. All presented with a painful arc, with or without abnormal scapulohumeral movement. **Excluded criteria:** Exclusion criteria included: pain for less than six weeks; injection with corticosteroids in the preceding three months; flexion of < 100° in the frontal plane; external rotation limited by > 50% compared with the opposite side; allergy to lidocaine, steroids or hyaluronic acid; pregnancy or suspected pregnancy; dementia; prior infection of the shoulder joints; tumour; osteoporosis; rheumatoid arthritis; referred pain, such as from the neck; an associated neurological disorder; polymyalgia; ankylosingspondylitis; whiplash injury; previous fractures or surgery on the shoulder, upper

	limb, neck or thorax; and behavioural, cognitive or psychiatric disorders. Patients unable to complete Dutch questionnaires independently or reluctant to adhere to the allocated treatment or to complete follow-up were also excluded.
Interventions	**Intervention Characteristics** Intervention ● *Description*: LA+steroid ● *Dose*: 8 ml lidocaine 1% with 2 ml triamcinolone acetonide 10 mg/ml ● *Description of any ad on exercise therapy*: No associated treatment was allowed for 12 weeks. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1-3 Control ● *Description*: LA+NaCl ● *Dose*: 8 ml lidocaine 1% with 2 ml NaCl 0.9% ● *Description of any ad on exercise therapy*: No associated treatment was allowed for 12 weeks. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1-3
Outcomes	*Smerte (pain) VAS 0-10, Mean, 95% CI* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Pain VAS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, Constant score total, mean, 95 % CI* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Constant Score total ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Funktion, Shoulder disability questionnaire (SDQ), mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: SDQ ● **Range**: 0-100 ● **Direction**: Lower is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome

	● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** The Netherlands **Authors name:** Ludo IF Penning
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Patients were randomized blindly into three treatment groups. An independent statistician (FK) generated a random numbers list which, by permutation of random blocks, block size 9, was balanced for treatments within" Judgement Comment: An independent statistician generated a random numbers list which, by permutation of random blocks, block size 9, was balanced for treatments within strata. Strata were based on age (≤ 40 years versus >40 years). Probably suffient method for sequence generation.
Allocation concealment (selection bias)	Low risk	Judgement Comment: After selection and baseline assessment, consecutive numbered opaque envelopes of the appropriate stratum were opened by one of several independent trial nurses.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "All injections were administered by the same physician (LIFP). Both physician and patients were blinded to the contents of the syringe. In order to achieve an effective blinded injection a 19 gauge 1.5 inch needle and a 10 ml syringe were used to prevent the physician identifying the difference in viscosity of the administered solutions. The syringes were filled by an independent trial nurse and masked with black adhesive tape. The nurse was thus responsible for the blinding procedure. Inclusion, follow-up assessments and data analysis were blinded for allocated treatment [22]." Judgement Comment: PROMs. Patients blinded
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: All dropouts accounted for. Equally distributed in groups. Low number of dropouts and intention to treat analysis
Selective reporting (reporting bias)	Low risk	Quote: "Trial registration: ISRCTN51511455." Judgement Comment: All outcomes were reported according to the protocol
Other bias	Low risk	Quote: "Competing interests: The authors declare that they have no competing interests". No information on funding

Petri 1987a

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Overall ● *Mean age in years (SD)*: Not stated ● *Duration of symptoms in months, mean (SD)*: 3.9 (6.9) ● *Number of women (%)*: 31% **Included criteria:** Criteria for entry into the study were the presence of at least 2 of the following 3 findings: painful abduction at any degree ofmotion, painful arc of movement from 45” to 120°, or tenderness over the insertion of the supraspinatus tendon. Biceps tendinitis was not an inclusion criterion **Excluded criteria:** Patients were excluded for any of the following: significant glenohumeral arthritis, a supraspinatus injection during the preceding 3 months, a reason to suspect rotator cuff tear (weakness of arm elevation, a positive “drop arm sign,” or a high-riding humerus visible on roentgenogram of the shoulder), contraindication to the use of NSAIDs (e.g., allergy, renal insufficiency, gastritis, or ulcer), or an allergy to lidocaine.
Interventions	**Intervention Characteristics** Intervention ● *Description*: LA + steroid + placebo p.o. ● *Dose*: Injection with 3 cc of 1%lidocaine and 1 cc of 40 mg/ml triamcinolone, plus placebopill twice a day for 30 days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: LA + NSAID p.o. ● *Dose*: Injection with 4 cc of 1% lidocaine, plusnaproxen (500 mg) twice a day for 30 days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Intervention 2 ● *Description*: LA + steroid + NSAID p.o. ● *Dose*: Injection with 3 cc of 1% lidocaine and 1 cc of 40 mg/ml triamcinolone, plus naproxen (500 mg) twice a day for 30days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control 2 ● *Description*: LA + placebo p.o. ● *Dose*: Injection with 4 cc of 1% lidocaine, plus placebo pill twice aday for 30 days

	• *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. • *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided • *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) 0-5, Mean change, SEM* • **Outcome type**: Continuous Outcome • **Reporting**: Partially reported • **Scale**: Smerte 0-5 Likert scale • **Range**: 0-5 • **Direction**: Lower is better • **Data value**: Endpoint *Funktion, clinical index, mean change, SEM* • **Outcome type**: Continuous Outcome • **Reporting**: Partially reported • **Scale**: Clinical index • **Direction**: Higher is better • **Data value**: Change from baseline *Bivirkninger (AE) n/N* • **Outcome type**: Dichotomous Outcome • **Reporting**: Fully reported • **Direction**: Lower is better • **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* • **Outcome type**: Dichotomous Outcome • **Reporting**: Fully reported • **Direction**: Lower is better • **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** USA **Authors name:** Michelle Petri **Institution:** Halsted 148, Johns Hopkins Hospital, 600 N. **Email:** Not stated **Address:** Wolfe Street, Baltimore, MD 21205.
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Patients were randomized to 1 of 4 possible treat- ment groups by a random number sequence." Judgement Comment: No information on how the allocation sequence was genrated, but probably sufficient generation since they stated that they used a random number sequnece.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: After the 4-week evaluation, the code was broken.
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: No dropouts accounted for after randomisation
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Unclear risk	Judgement Comment: 100 patients included. Population with known high rate of substance abuse, no dropouts seems unlikely. No information on conflicts of interests and funding.

Petri 1987b

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Overall ● *Mean age in years (SD)*: Not stated ● *Duration of symptoms in months, mean (SD)*: 3.9 (6.9) ● *Number of women (%)*: 31% **Included criteria:** Criteria for entry into the study were the presence of at least 2 of the following 3 findings: painful abduction at any degree ofmotion, painful arc of movement from 45” to 120°, or tenderness over the insertion of the supraspinatus tendon. Biceps tendinitis was not an inclusion criterion **Excluded criteria:** Patients were excluded for any of the following: significant glenohumeral arthritis, a supraspinatus injection during the preceding 3 months, a reason to suspect rotator cuff tear (weakness of arm elevation, a positive “drop arm sign,” or a high-riding humerus visible on roentgenogram of the shoulder), contraindication to the use of NSAIDs (e.g., allergy, renal insufficiency, gastritis, or ulcer), or an allergy to lidocaine.
Interventions	**Intervention Characteristics** Intervention ● *Description*: LA + steroid + placebo p.o. ● *Dose*: Injection with 3 cc of 1%lidocaine and 1 cc of 40 mg/ml triamcinolone, plus placebopill twice a day for 30 days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1

	Control ● *Description*: LA + NSAID p.o. ● *Dose*: Injection with 4 cc of 1% lidocaine, plusnaproxen (500 mg) twice a day for 30 days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Intervention 2 ● *Description*: LA + steroid + NSAID p.o. ● *Dose*: Injection with 3 cc of 1% lidocaine and 1 cc of 40 mg/ml triamcinolone, plus naproxen (500 mg) twice a day for 30days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control 2 ● *Description*: LA + placebo p.o. ● *Dose*: Injection with 4 cc of 1% lidocaine, plus placebo pill twice aday for 30 days ● *Description of any ad on exercise therapy*: All patients received instructions in range-of-motion exercises (abduction, flexion, and rotation) for the shoulder,to be done in the supine position. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) 0-5, Mean change, SEM* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Smerte 0-5 Likert scale ● **Range**: 0-5 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, clinical index, mean change, SEM* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Clinical index ● **Direction**: Higher is better ● **Data value**: Change from baseline *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint

	Alvorlige bivirkninger (SAE) n/N ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** USA **Authors name:** Michelle Petri **Institution:** Halsted 148, Johns Hopkins Hospital, 600 N. **Email:** Not stated **Address:** Wolfe Street, Baltimore, MD 21205.
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Patients were randomized to 1 of 4 possible treat- ment groups by a random number sequence." Judgement Comment: No information on how the allocation sequence was genrated, but probably sufficient generation since they stated that they used a random number sequnece.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: After the 4-week evaluation, the code was broken.
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: No dropouts accounted for after randomisation
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Unclear risk	Judgement Comment: 100 patients included. Population with known high rate of substance abuse, no dropouts seems unlikely. No information on conflicts of interests and funding.

Saeed 2014

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: Not stated ● *Duration of symptoms in weeks, mean (SD)*: 19.64 (1.84)

	● *Number of women (%)*: Not stated Control ● *Mean age in years (SD)*: Not stated ● *Duration of symptoms in weeks, mean (SD)*: 20.02 (1.52) ● *Number of women (%)*: Not stated Overall ● *Number of women (%)*: 65% **Included criteria:** Shoulder pain of at least 3-month duration with minimal or no response to non-steroidal anti-inflammatorydrugs (NSAIDs). Plain radiographs of the shoulder were obtained for all patients to exclude fracture, glenohumeral osteoarthritis,chronic inflammatory arthritis, bone tumours, osteonecrosis and other bone conditions. **Excluded criteria:** Patients who had clinical and radiological findings indicating moderate osteoarthritis, referred pain from the neck or internal organs and generalized muscular pain syndrome with bilateral muscular pain in the neck and shoulders, a history of inflammatory arthritis, previous fractures or surgery to the shoulder, or contraindications to local steroid injections were excluded. Patients who had been treated with local corticosteroid injections and/or physiotherapy within 1 month of studyinitiation were excluded.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Ultrasound guided subacromial injection ● *Dose*: 40 mg methylprednisolone acetate with 4 ml of lidocaine hydrochloride ● *Description of any ad on exercise therapy*: No patient received physicaltherapy during the follow-up period. ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Landmark guided subacromial injection ● *Dose*: 40 mg methylprednisolone acetate with 4 ml of lidocaine hydrochloride ● *Description of any ad on exercise therapy*: No patient received physicaltherapy during the follow-up period. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) VAS 0-10, Mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better

	● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Ireland **Setting:** Rheumatology outpatient clinic **Authors name:** A. Saeed **Institution:** Department of Rheumatology, Adelaide and Meath Hospital **Email:** modelian@gmail.com **Address:** Tallaght, Dublin 24, Ireland
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "a computer-generated randomization scheme with per- mitted block sizes of 2 and 4 was implemented. after the baseline registration, each participant was allocated a study number."
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Judgement Comment: A single consultant rheumatologist blinded to the results of ultrasound and to the treatment received by the patient, performed the shoulder evaluations at baseline and at 6 and 12 weeks post-injection.
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: aproximately 20% in each group were excluded after randomization as they required repeat injection or surgical refferal. Dropouts accounted for. Balanced between groups
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section. One of our critical outcomes of interest (function) was not reported in the study. No protocol available. Outcome data were reported for all outcomes specified in the methods section. Oneof our critical outcomes of interest (function) was not reported in the study.
Other bias	High risk	Judgement Comment: Uklart hvornår hhv. antal patienter og antal skuldre indgår i beregningerne. Problematisk at inkludere to skuldre på samme patient (ikke uafhængige). No information on conflicts of interests and funding. The study appears to be free of other sources of bias No information on conflicts of interests and funding. The study appears to be free of other sources of bias

Strobel 1996

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	
Interventions	**Intervention Characteristics** Intervention ● *Description*: Kombination af mepivacainhydrochlorid og 20 mg Triamcinolon hexaacertonid

	● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*: Control ● *Description*: 5 ml 0,5% iges mepivacain hydrochlorid ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*:
Outcomes	No usable dsta for our outcome of interest
Identification	**Sponsorship source:** Not stated **Country:** Germany **Authors name:** G Strøbel
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was generated
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed
Blinding of outcome assessment (detection bias)	Unclear risk	Judgement Comment: No information on blinding of outcome assessors
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No reporting on attrition
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section. None of our outcomes of interest were reported in the study
Other bias	Unclear risk	Judgement Comment: Poor reporting. No information on conflicts of interests and funding

Ucuncu 2009

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 52.1 (11.6) ● *Duration of symptoms in months, mean (SD)*: 10.7 (12.5) ● *Number of women (%)*: 73.3 Control ● *Mean age in years (SD)*: 52.9 (9.7) ● *Duration of symptoms in months, mean (SD)*: 9.6 (8.7) ● *Number of women (%)*: 73.3 **Included criteria:** Patients with shoulder pain for at least 1 month and not satisfactorily responding to at least 1 month of nonsteroidal antiinflammatory drugs treatment were included. **Excluded criteria:** Patients with chronic inflammatory arthritis (ie, rheumatoid arthritis, anklyosing spondilitis), diabetes mellitus, previously majortrauma in shoulder area, pain in both shoulders, or who had received previous physical therapy or local CS injections were excluded.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Ultrasound guided injection ● *Dose*: 1 mL 40 mg triamcinolone and 1 mL 1% lidocaine,a total of 2 mL, in both groups ● *Description of any ad on exercise therapy*: The patients did not receive physical therapy during the follow-up period. ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Blind injection wasadministered with a lateral entry approach to the subacromial region ● *Dose*: 1 mL 40 mg triamcinolone and 1 mL 1% lidocaine,a total of 2 mL, in both groups ● *Description of any ad on exercise therapy*: The patients did not receive physical therapy during the follow-up period. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1
Outcomes	*Smerte (pain) VAS 0-10, Mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Smerte (pain at rest) VAS 0-10, mean SD* ● **Outcome type**: Continuous Outcome

	● **Reporting**: Fully reported ● **Scale**: Smerte (pain at rest) VAS, mean ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, Constant score total, mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Constant Score total ● **Range**: 0-100 ● **Direction**: Higher is better ● **Data value**: Endpoint *Bivirkninger (AE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Partially reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Turkey **Setting:** Outpatient clinic **Authors name:** Erhan C¸apkin **Institution:** Faculty of Medicine, Department of Physical Medicine and Rehabilitation, Karadeniz Technical University, Farabi Hospita **Email:** drcapkin@yahoo.com **Address:** Trabzon 61080, Turkey
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was generated.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	High risk	Judgement Comment: No information on blinding of outcome assessors, assume not blinded.

Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No information on attrition.
Selective reporting (reporting bias)	Low risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section.
Other bias	Low risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Vecchio 1993

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Meadian age in years (range)*: 56.5 (52-69) ● *Duration of symptoms in weeks, median (range)*: 5 (3.5-9.5) ● *Number of women (%)*: 57% Control ● *Meadian age in years (range)*: 56.0 (45-68.5) ● *Duration of symptoms in weeks, median (range)*: 4 (2-8) ● *Number of women (%)*: 59% **Included criteria:** Those with clinically defined RCT i.e. shoulder pain exacerbated by movement against resistance in at least one of abduction, external rotation or internal rotation; passive range of movement remained approximately normal if the active range was limited by pain), of less than 12 weeks' duration were asked for informed consent to participate in the trial. **Excluded criteria:** Patients with frozen shoulder, clinical rotator cuff tears (i.e. weak arm elevation, positive 'drop arm sign'), bicipital tendinitis (anterior shoulder pain with negative Yergason's and Speed's tests) or acromioclavicular arthritis, diagnosed in the presence of localized pain and tenderness, exacerbation with AC joint stressing manoeuvres and a high arc of pain on abduction were excluded.
Interventions	**Intervention Characteristics** Intervention ● *Description*: Inj. LA + steroid ● *Dose*: 40 mg methylprednisolone plus 1 ml 1% lignocaine (total 2 ml), ● *Description of any ad on exercise therapy*: Patients were instructed in pendulum and wall climbing exercises and encouraged to perform them at home. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: Inj. LA ● *Dose*: Subacromial 1% lignocaine, 1 ml, ● *Description of any ad on exercise therapy*: Patients were instructed in pendulum and wall climbing exercises and encouraged to perform them at home. ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1

Outcomes	*Smerte (pain) VAS 0-30 (pain at rest,on activity and during night, 0-10 for each), median change, IQR* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported ● **Scale**: Smerte 0-30 ● **Range**: 0-30 ● **Direction**: Higher is better ● **Data value**: Change from baseline
Identification	**Sponsorship source:** Not stated **Country:** UK **Setting:** Primary health care centre **Authors name:** P. C VECCHIO **Institution:** Rheumatology Research Unit, Addenbrooke's Hospital
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was generated.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Unclear risk	Judgement Comment: No information on blinding of outcome assessors.
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: 2 dropouts prior to randomisation accounted for. 1 in each group.
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: No protocol available. Outcome data were reported for all outcomes specified in the methods section. One of our outcome of interest was not reported in the study (function) Outdated outcomes.
Other bias	Low risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Withrington 1985

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 61.3

	● *Duration of symptoms in months, mean*: 4.1 ● *Number of women (%)*: 75% Control ● *Mean age in years*: 55.3 ● *Duration of symptoms in months, mean*: 4.6 ● *Number of women (%)*: 77% **Included criteria:** Patients presenting with supraspinatus tendonitis who were willing to accept the protocol were entered in the trial. Supraspinatus tendonitis was defined as a clinical entity of tenderness over the supraspinatus tendon, pain on resisted abduction of the glenohumeral joint in the presence of a normal passive range of glenohumeral movement. **Excluded criteria:** A past history or clinical evidence of inflammatory arthritis excluded the patient from entry to the trial.
Interventions	**Intervention Characteristics** Intervention ● *Description*: injection of 80 mg of methylprednisonole diluted in 2 ml 5" lidocain (a total of 4 ml) ● *Dose*: ● *Description of any ad on exercise therapy*: No formal physiotherapy, encoraged to mode their shoulders through a full range of movement ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Control ● *Description*: injection of 4 ml 0.9% saline ● *Dose*: ● *Description of any ad on exercise therapy*: No formal physiotherapy, encoraged to mode their shoulders through a full range of movement ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: 1 Intervention 2 ● *Description*: ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*: Control 2 ● *Description*: ● *Dose*: ● *Description of any ad on exercise therapy*: ● *Administration of the injection (landmark guided/ultrasound guided*: ● *Number of injections given before our timeframe of follow-up*:

Outcomes	*Smerte (pain) VAS 0-10, Mean, SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Pain VAS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** UK **Authors name:** R. H. Withrington **Institution:** Department of Rheumatology, St. Mary's Hospital, London; England
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was generated.
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "not participating in the assessments. Both the patient and the assessing doctor were unaware in which group the patient was entered. The following investigations were performed: full blood" Judgement Comment: outcome assessors were blinded.
Incomplete outcome data (attrition bias)	Unclear risk	Judgement Comment: No information on attrition.
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: No protocol available. No methods section. None of our outcoems of interests were reported
Other bias	Unclear risk	Judgement Comment: No information on conflicts of interests and funding. The study appears to be free of other sources of bias.

Zufferey 2012

Methods	**Study design:** Randomized controlled trial **Study grouping:** Parallel group
Participants	**Baseline Characteristics** Intervention ● *Mean age in years (SD)*: 53 (11) ● *Duration of symptoms, mean (SD)*: 20

	● *Number of women (%)*: 41 Control ● *Mean age in years (SD)*: 54 (10) ● *Duration of symptoms, mean (SD)*: 27 ● *Number of women (%)*: 45 **Included criteria:** Inclusion criteria are patients over age of 18 with shoulder pain that did not respond to NSAID or physiotherapy. **Excluded criteria:** Exclusion criteria included history of inflammatory arthritis, radiological gleno-humeral osteoarthritis and previous steroid local injection within 12 weeks.
Interventions	**Intervention Characteristics** Intervention ● *Description*: US-guided local steroid injection ● *Dose*: All patients received 2 mL of Diprophos® (7 mg ofa mixture made up of one third soluble and two-third long acting bethamethasone) ● *Description of any ad on exercise therapy*: ns ● *Administration of the injection (landmark guided/ultrasound guided*: Ultrasound guided ● *Number of injections given before our timeframe of follow-up*: New infiltrations after two weeks were tolerated but considered as poor results Control ● *Description*: Blind injection ● *Dose*: All patients received 2 mL of Diprophos® (7 mg ofa mixture made up of one third soluble and two-third long acting bethamethasone) ● *Description of any ad on exercise therapy*: ns ● *Administration of the injection (landmark guided/ultrasound guided*: Landmark guided ● *Number of injections given before our timeframe of follow-up*: . New infiltrations after two weeks were tolerated but considered as poor results
Outcomes	*Smerte (pain at rest) NRS 0-10, mean , SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Smerte (pain at rest) NRS 0-10 ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Smerte (pain on activity) NRS 0-10, mean , SD* ● **Outcome type**: Continuous Outcome ● **Reporting**: Fully reported ● **Scale**: Smerte (pain at rest) NRS ● **Range**: 0-10 ● **Direction**: Lower is better ● **Data value**: Endpoint *Funktion, Constant score 0-75* ● **Outcome type**: Continuous Outcome ● **Reporting**: Partially reported

	● **Scale**: Constant score 0-75 (without strength) ● **Range**: 0-75 ● **Direction**: Higher is better ● **Data value**: Endpoint *Alvorlige bivirkninger (SAE) n/N* ● **Outcome type**: Dichotomous Outcome ● **Reporting**: Fully reported ● **Direction**: Lower is better ● **Data value**: Endpoint
Identification	**Sponsorship source:** Not stated **Country:** Switzerland **Setting:** Three rheumatology centers **Authors name:** P. Zufferey **Institution:** Service de rhumatologie, DAL, CHUV **Email:** Pascal.zufferey@chuv.ch **Address:** Avenue Pierre-Decker 4, 1011 Lausanne, Switzerland
Notes	

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Quote: "Patients signed an informed consent and were assigned treatment groups by random-number sequence."
Allocation concealment (selection bias)	Unclear risk	Judgement Comment: No information on how the allocation sequence was concealed.
Blinding of outcome assessment (detection bias)	Low risk	Quote: "Follow-up evaluation was performed by a rheumatol- ogist who was blinded to the results of the initial US and clinical assessments as well as the route of steroid administration."
Incomplete outcome data (attrition bias)	Low risk	Judgement Comment: Dropouts accounted for. 1 and 2 in each group. Low and equal number of dropouts.
Selective reporting (reporting bias)	Unclear risk	Judgement Comment: Protocol registration not reported.Atypical outcome measures.
Other bias	Unclear risk	Judgement Comment: "New infiltrations after two weeks were tolerated but considered as poor results."Unclear how many repeated injections were given and how "poor results" were reported.

Footnotes

Characteristics of excluded studies

Chavez Lopez 2009

Reason for exclusion	Wrong comparator

Chen 2006

Reason for exclusion	Wrong study design

Cift 2015

Reason for exclusion	Wrong comparator

Hopewell 2017

Reason for exclusion	Trial protocol

Jensen 2015

Reason for exclusion	Wrong comparator

Johansson 2011

Reason for exclusion	Wrong comparator

Karthikeyan 2010

Reason for exclusion	Wrong comparator

Kim 2012

Reason for exclusion	Wrong comparator

Lee 2011

Reason for exclusion	Wrong comparator

McInerney 2003

Reason for exclusion	Wrong patient population

Min 2013

Reason for exclusion	Wrong comparator

Pierce 2018

Reason for exclusion	Wrong study design

Plafki 2000

Reason for exclusion	Wrong comparator

Pons 2001

Reason for exclusion	Wrong comparator

Rabini 2012

Reason for exclusion	Wrong comparator

Radnovich 2014

Reason for exclusion	Wrong comparator

Rhon 2014

Reason for exclusion	Wrong comparator

Richardson 1975

Reason for exclusion	Wrong study design

Valtonen 1978a

Reason for exclusion	

Watson 2008

Reason for exclusion	Wrong comparator

Yilmaz 2008

Reason for exclusion	Wrong comparator

Footnotes

Characteristics of studies awaiting classification

Footnotes

Characteristics of ongoing studies

Footnotes

References to studies

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Data and analyses

1 Steroid injection vs No steroid injection

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 Smerte (pain)	12	741	Std. Mean Difference (IV, Random, 95% CI)	-0.48 [-0.70, -0.25]
1.1.1 Træning i tillæg	8	561	Std. Mean Difference (IV, Random, 95% CI)	-0.50 [-0.77, -0.22]
1.1.2 Ingen træning	4	180	Std. Mean Difference (IV, Random, 95% CI)	-0.40 [-0.82, 0.01]
1.2 Funktion (function)	11	720	Std. Mean Difference (IV, Random, 95% CI)	0.43 [0.23, 0.64]
1.2.1 Træning i tillæg	6	456	Std. Mean Difference (IV, Random, 95% CI)	0.59 [0.29, 0.88]
1.2.2 Ingen træning	5	264	Std. Mean Difference (IV, Random, 95% CI)	0.22 [-0.03, 0.46]
1.3 Livskvalitet (qualty of life)	1	58	Mean Difference (IV, Fixed, 95% CI)	8.00 [-4.46, 20.46]
1.4 Bivirknigner (AE) risk difference	10	646	Risk Difference (M-H, Fixed, 95% CI)	0.01 [-0.02, 0.05]
1.5 Bivirknigner (AE) risk ratio	10	646	Risk Ratio (IV, Random, 95% CI)	1.33 [0.66, 2.69]
1.6 Alvorlige bivirkninger (SAE)	9	538	Risk Difference (M-H, Fixed, 95% CI)	0.00 [-0.02, 0.02]
1.7 Adherence til træning (adherence) frafald, alle årsager)	1	232	Risk Ratio (IV, Fixed, 95% CI)	2.03 [0.19, 22.13]

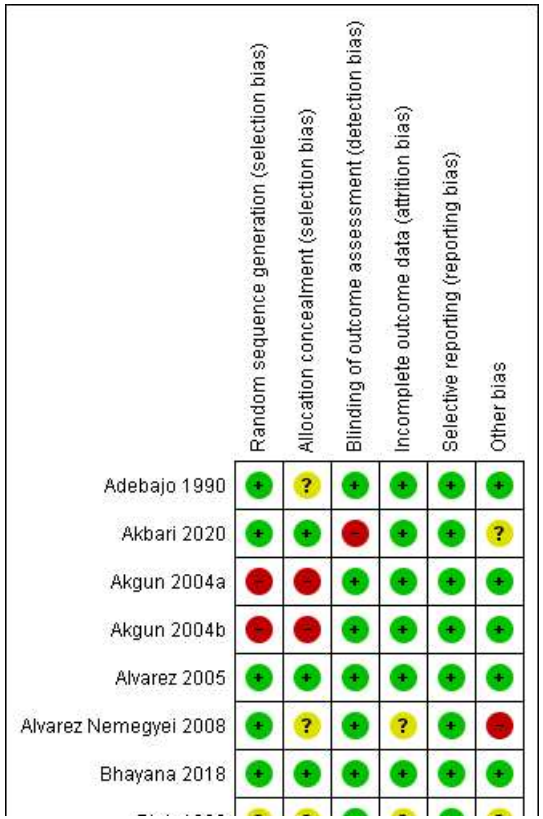
2 Ultrasound guided vs landmark guided

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
2.1 Smerte (pain) VAS 0-10	10	615	Mean Difference (IV, Random, 95% CI)	-0.65 [-1.33, 0.03]
2.1.1 Low risk of bias/patientblinded	2	102	Mean Difference (IV, Random, 95% CI)	-0.19 [-0.77, 0.38]
2.1.2 High risk of bias	8	513	Mean Difference (IV, Random, 95% CI)	-0.74 [-1.61, 0.12]

2.2 Funktion (function)	9	490	Std. Mean Difference (IV, Random, 95% CI)	0.28 [-0.00, 0.57]
2.2.1 Low risk of bias/patientblinded	2	102	Std. Mean Difference (IV, Random, 95% CI)	0.23 [-0.16, 0.62]
2.2.2 High risk of bias	7	388	Std. Mean Difference (IV, Random, 95% CI)	0.30 [-0.08, 0.69]
2.3 Livskvalitet (quality of life)	1	92	Mean Difference (IV, Fixed, 95% CI)	2.43 [-7.45, 12.30]
2.4 Bivirkninger (AE) Risk ratio	5	235	Risk Ratio (IV, Random, 95% CI)	0.20 [0.04, 1.13]
2.5 Bivirkninger (AE) Risk difference	5	235	Risk Difference (M-H, Random, 95% CI)	-0.03 [-0.09, 0.03]
2.6 Alvorlige bivirkninger (SAE)	7	427	Risk Difference (M-H, Fixed, 95% CI)	0.00 [-0.02, 0.02]

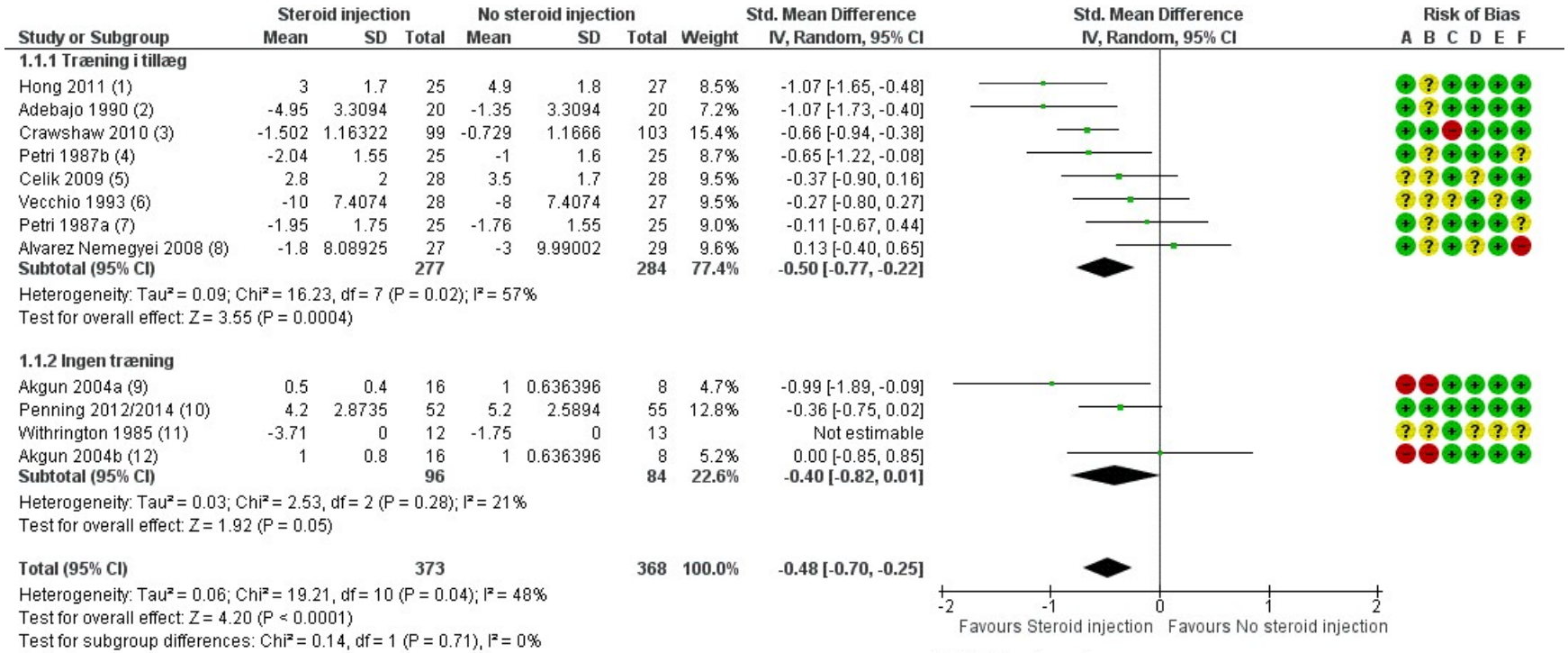
Figures

Figure 1



Risk of bias summary: review authors' judgements about each risk of bias item for each included study.

Figure 2 (Analysis 1.1)



Footnotes

(1) Begge grupper får instruktion i hjemmetræning
(2) Begge grupper får samtidig instruktion i hjemmeøvelser
(3) Begge grupper får instruktion i træning og manuel behandling
(4) Triamcinolone vs. placeboinjection. Ingen information om eventuel træning i tillæg til injektion
(5) Begge grupper får standard fysioterapi program (træning + manuel behandling)
(6) Begge grupper instrueres i hjemmetræning
(7) naproxen + triamcinolone vs. naproxen. Ingen information om eventuel træning i tillæg til injektion.
(8) Begge grupper får standard fysioterapi
(9) 2 injektioner. Begge grupper får instruktion i træning efter 1 mdr. efter vores outcome of interest
(10) Ingen træning i tillæg
(11) follow-up 2 weeks. Ingen information om eventuel træning i tillæg til injektion
(12) 1 injektion. Begge grupper får instruktion i træning efter 1 mdr. efter vores outcome of interest

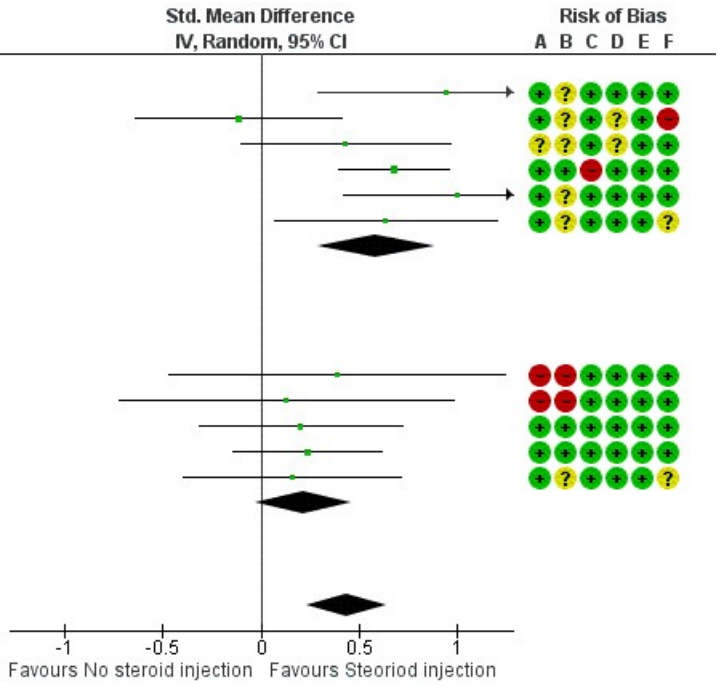
Risk of bias legend

(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of outcome assessment (detection bias)
(**D**) Incomplete outcome data (attrition bias)
(**E**) Selective reporting (reporting bias)
(**F**) Other bias

Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.1 Smerte (pain).

Figure 3 (Analysis 1.2)

Study or Subgroup	Steroid injection Mean	SD	Total	No steroid injection Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
1.2.1 Træning i tillæg								
Adebajo 1990 (1)	0.85	0.6708	20	0.3	0.4472	20	7.0%	0.95 [0.29, 1.60]
Alvarez Nemegyei 2008 (2)	26	60.6694	27	33	63.0949	29	9.4%	-0.11 [-0.64, 0.41]
Celik 2009 (3)	60.2	8.4	28	56.2	9.8	28	9.3%	0.43 [-0.10, 0.96]
Crawshaw 2010 (4)	14.24	10.83	99	6.88	10.7962	103	16.6%	0.68 [0.39, 0.96]
Hong 2011 (5)	-5.8	2.7	25	-9	3.5	27	8.3%	1.00 [0.42, 1.58]
Petri 1987b (6)	5.24	3.7	25	2.8	3.85	25	8.5%	0.64 [0.07, 1.21]
Subtotal (95% CI)			**224**			**232**	**59.0%**	**0.59 [0.29, 0.88]**
Heterogeneity: Tau² = 0.07; Chi² = 10.68, df = 5 (P = 0.06); I² = 53%								
Test for overall effect: Z = 3.83 (P = 0.0001)								
1.2.2 Ingen træning								
Akgun 2004a (7)	87.8	15.4	16	82.1	11.384419	8	4.6%	0.39 [-0.47, 1.24]
Akgun 2004b (8)	84.1	16.2	16	82.1	11.384419	8	4.7%	0.13 [-0.72, 0.98]
Alvarez 2005 (9)	-75.4	22.9	30	-80.2	23.7	28	9.6%	0.20 [-0.31, 0.72]
Penning 2012/2014 (10)	79.4	16.1637	52	75.6	15.6832	56	13.3%	0.24 [-0.14, 0.62]
Petri 1987a (11)	5.51	3.7	25	4.86	4.25	25	8.8%	0.16 [-0.39, 0.72]
Subtotal (95% CI)			**139**			**125**	**41.0%**	**0.22 [-0.03, 0.46]**
Heterogeneity: Tau² = 0.00; Chi² = 0.24, df = 4 (P = 0.99); I² = 0%								
Test for overall effect: Z = 1.75 (P = 0.08)								
Total (95% CI)			**363**			**357**	**100.0%**	**0.43 [0.23, 0.64]**
Heterogeneity: Tau² = 0.05; Chi² = 16.67, df = 10 (P = 0.08); I² = 40%								
Test for overall effect: Z = 4.14 (P < 0.0001)								
Test for subgroup differences: Chi² = 3.47, df = 1 (P = 0.06), I² = 71.1%								



Footnotes

(1) Begge grupper får samtidig instruktion i hjemmeøvelser
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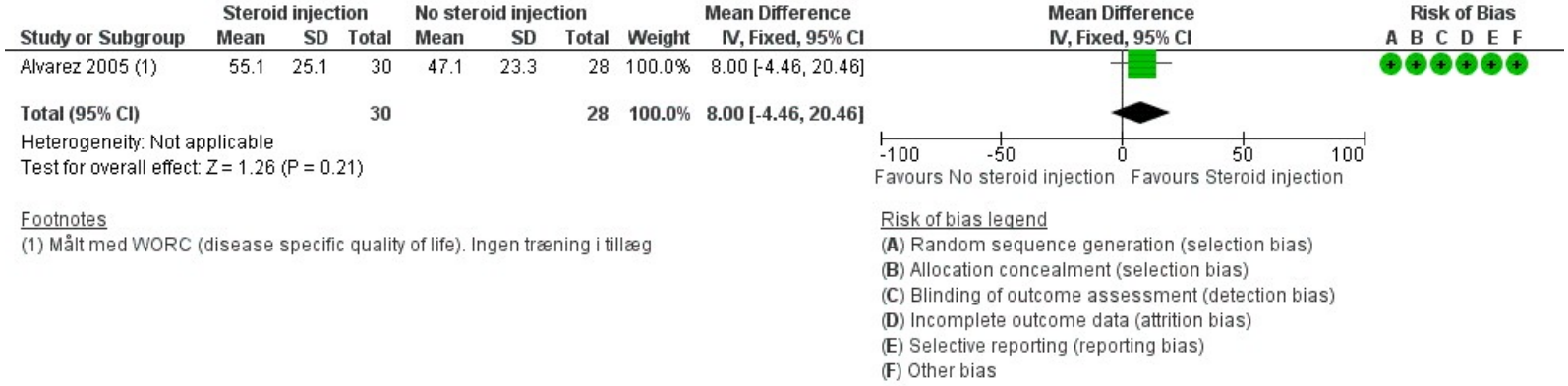
(5) Begge grupper får instruktion i hjemmetræning
(6) Triamcinolone vs. placeboinjection. Ingen information om eventuel træning i tillæg til injektion
(7) 2 injektioner. Begge grupper får instruktion i træning efter 1 mdr. efter vores outcome of interest
(8) 1 injektion. Begge grupper får instruktion i træning efter 1 mdr. efter vores outcome of interest
(9) Ingen information om eventuel træning i tillæg til injektion
(10) Ingen træning i tillæg
(11) naproxen + triamcinolone vs. naproxen. Ingen information om eventuel træning i tillæg til injektion.

Risk of bias legend

(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of outcome assessment (detection bias)
(**D**) Incomplete outcome data (attrition bias)
(**E**) Selective reporting (reporting bias)
(**F**) Other bias

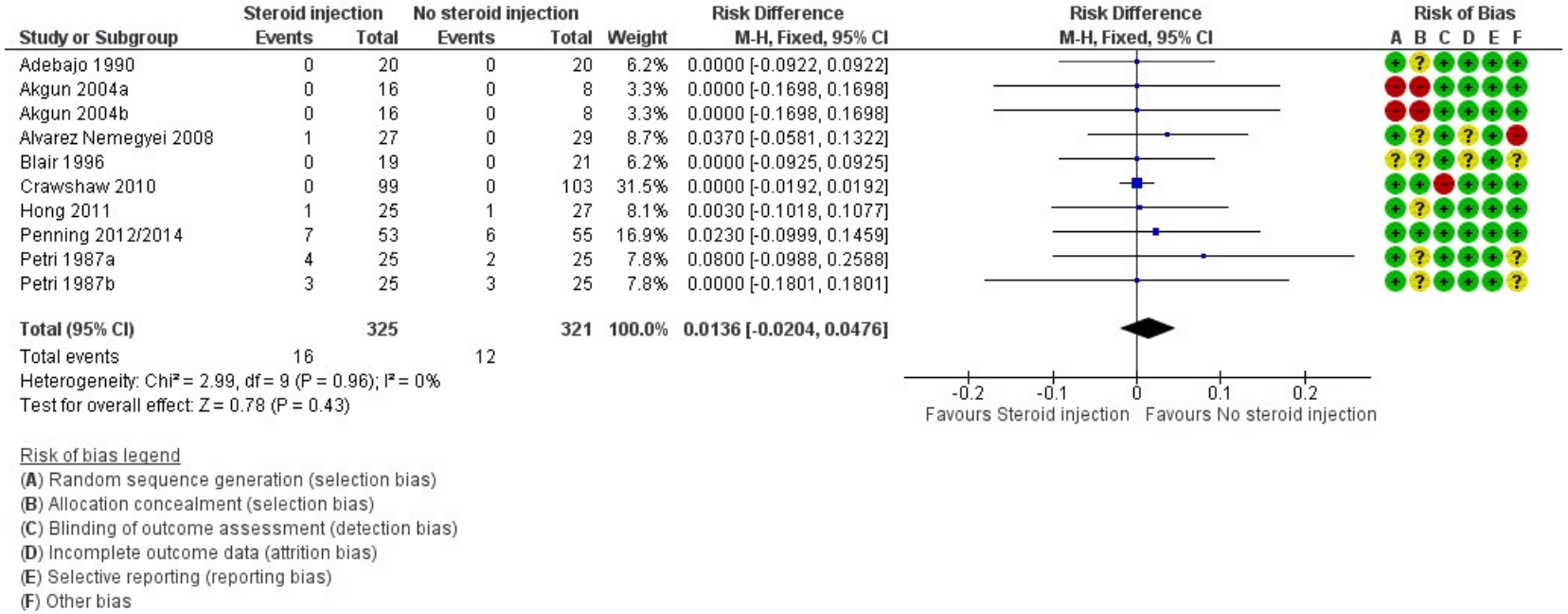
Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.2 Funktion (function).

Figure 4 (Analysis 1.3)



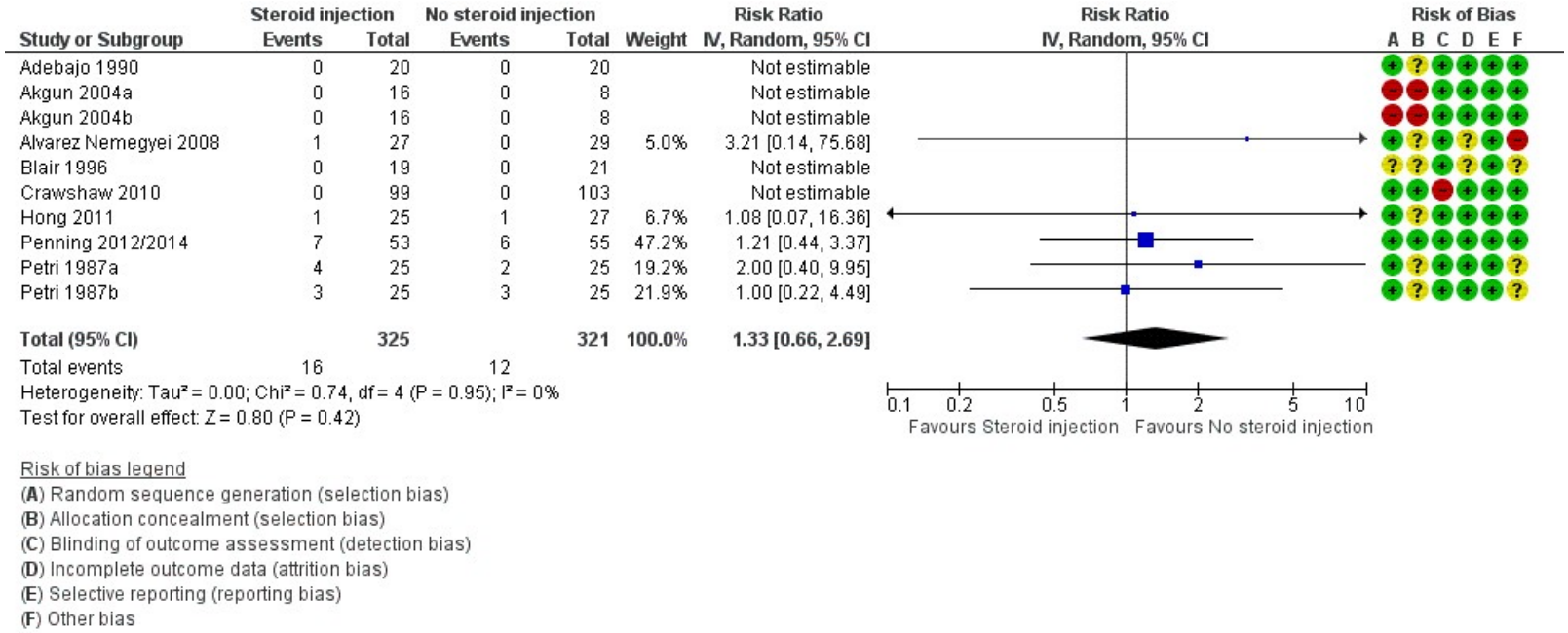
Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.3 Livskvalitet (qualty of life).

Figure 5 (Analysis 1.4)



Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.4 Bivirknigner (AE) risk difference.

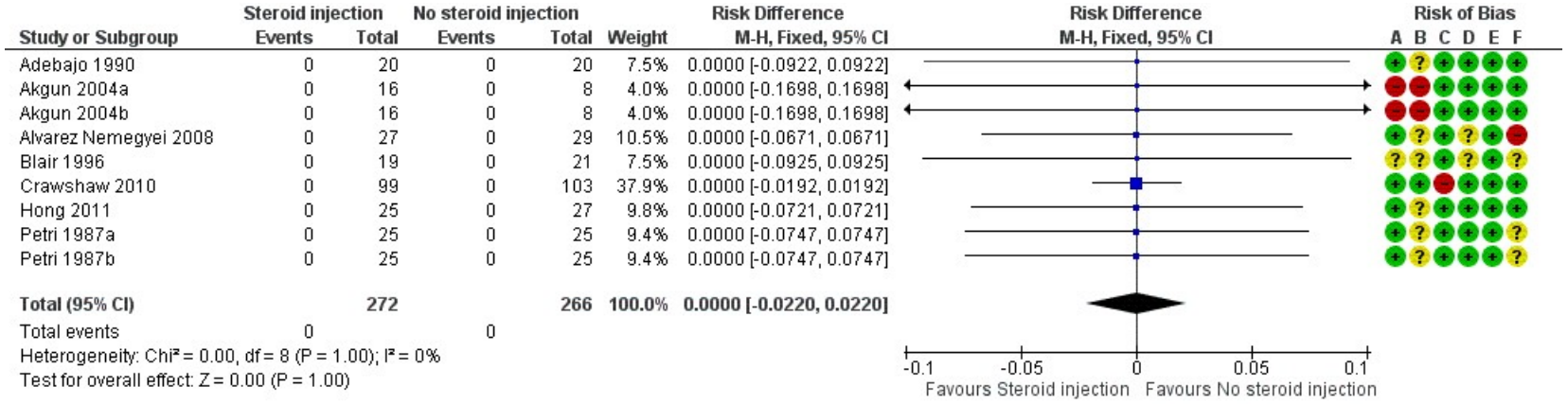
Figure 6 (Analysis 1.5)



Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of outcome assessment (detection bias)
(**D**) Incomplete outcome data (attrition bias)
(**E**) Selective reporting (reporting bias)
(**F**) Other bias

Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.5 Bivirknigner (AE) risk ratio.

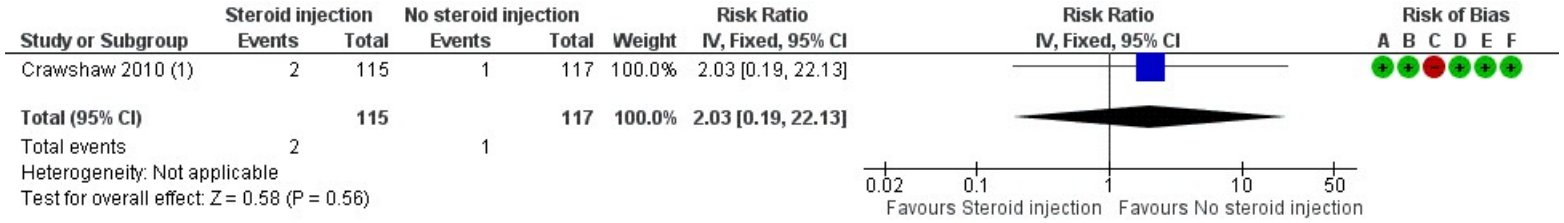
Figure 7 (Analysis 1.6)



Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of outcome assessment (detection bias)
(D) Incomplete outcome data (attrition bias)
(E) Selective reporting (reporting bias)
(F) Other bias

Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.6 Alvorlige bivirkninger (SAE).

Figure 8 (Analysis 1.7)

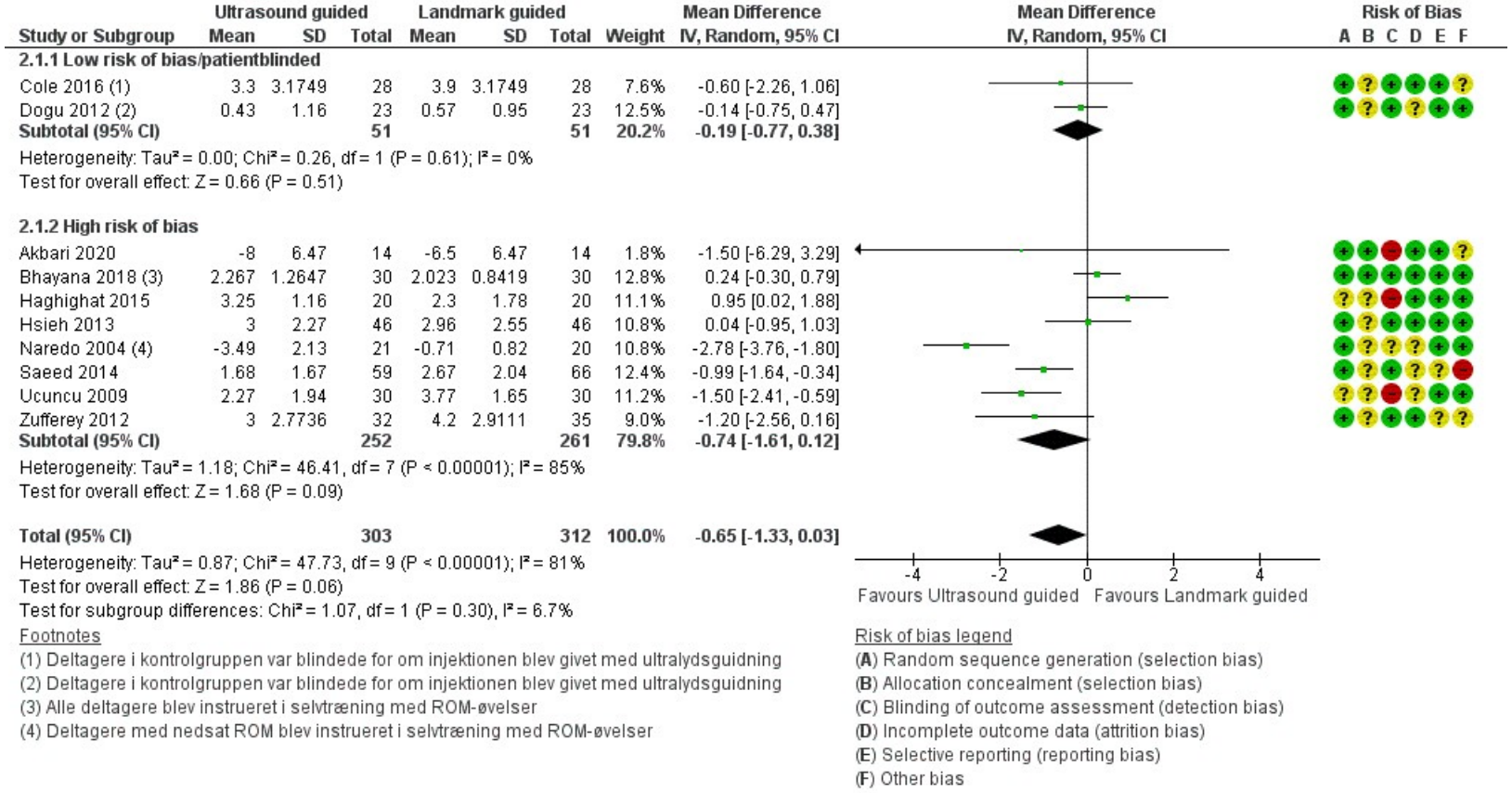


Footnotes
(1) Begge grupper får instruktion i træning og manuel behandling

Risk of bias legend
(A) Random sequence generation (selection bias)
(B) Allocation concealment (selection bias)
(C) Blinding of outcome assessment (detection bias)
(D) Incomplete outcome data (attrition bias)
(E) Selective reporting (reporting bias)
(F) Other bias

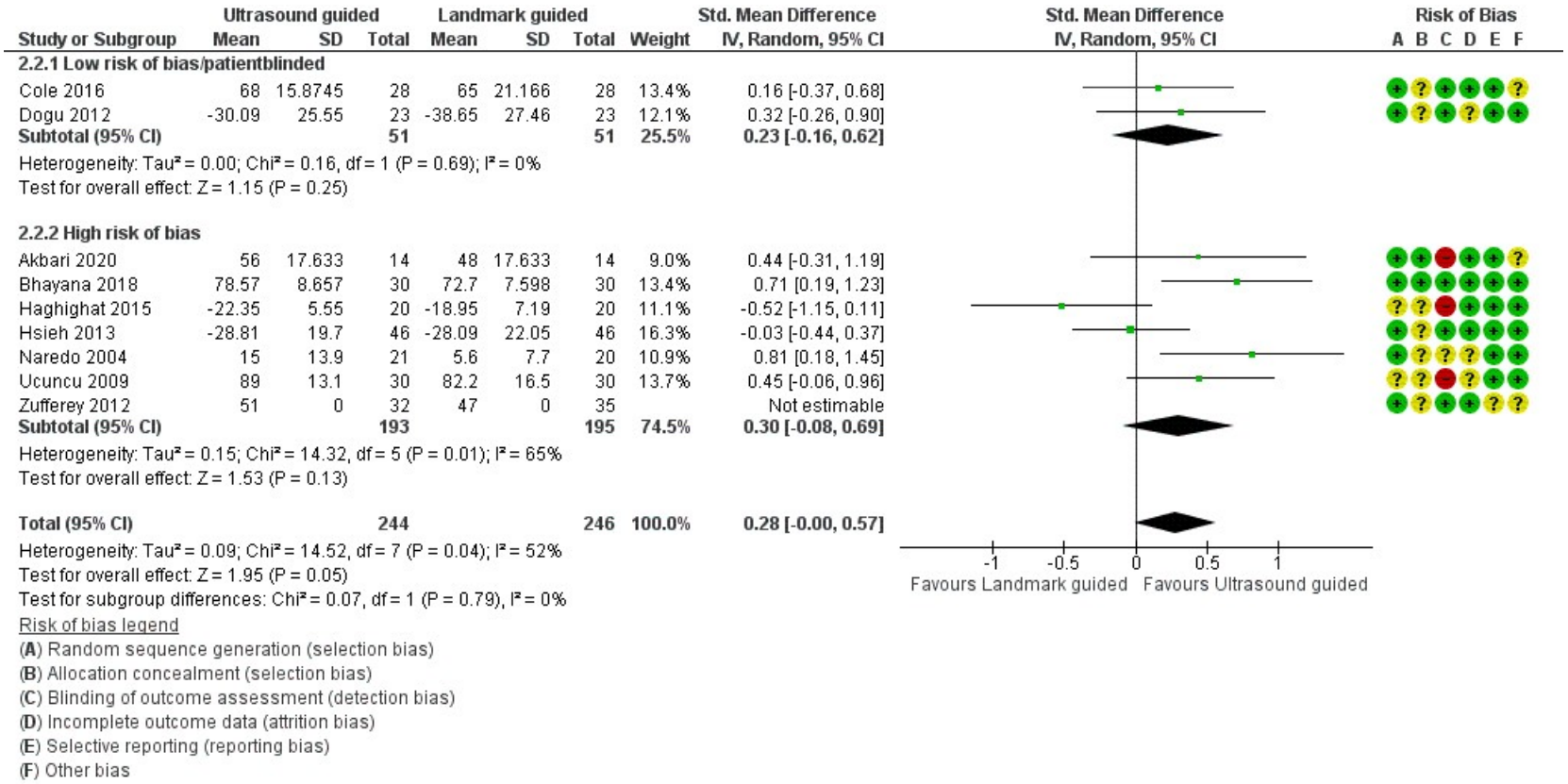
Forest plot of comparison: 1 Steroid injection vs No injection, outcome: 1.7 Adherence til træning (adherence) frafald, alle årsager).

Figure 9 (Analysis 2.1)



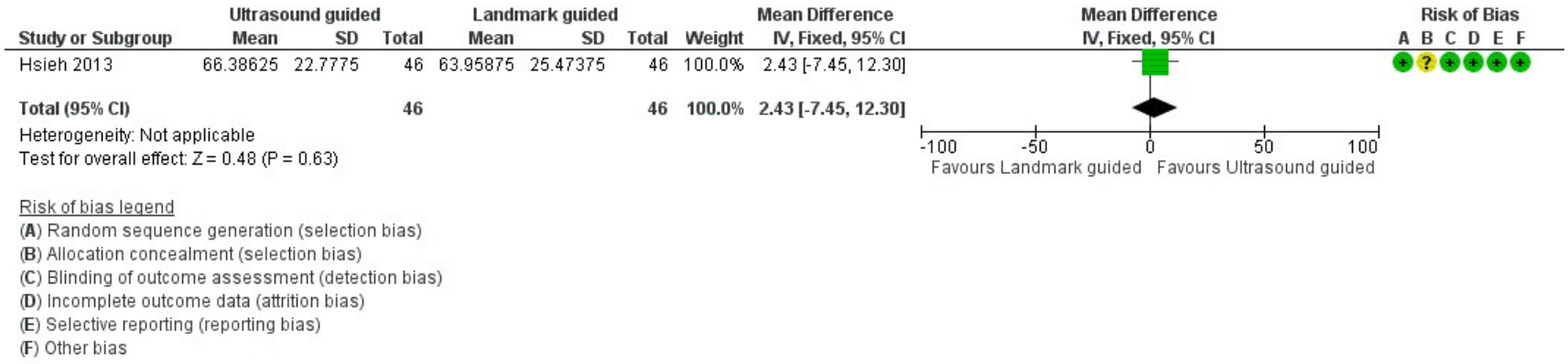
Forest plot of comparison: 2 Ultrasound guided vs landmark guided, outcome: 2.1 Smerte (pain) VAS 0-10.

Figure 10 (Analysis 2.2)



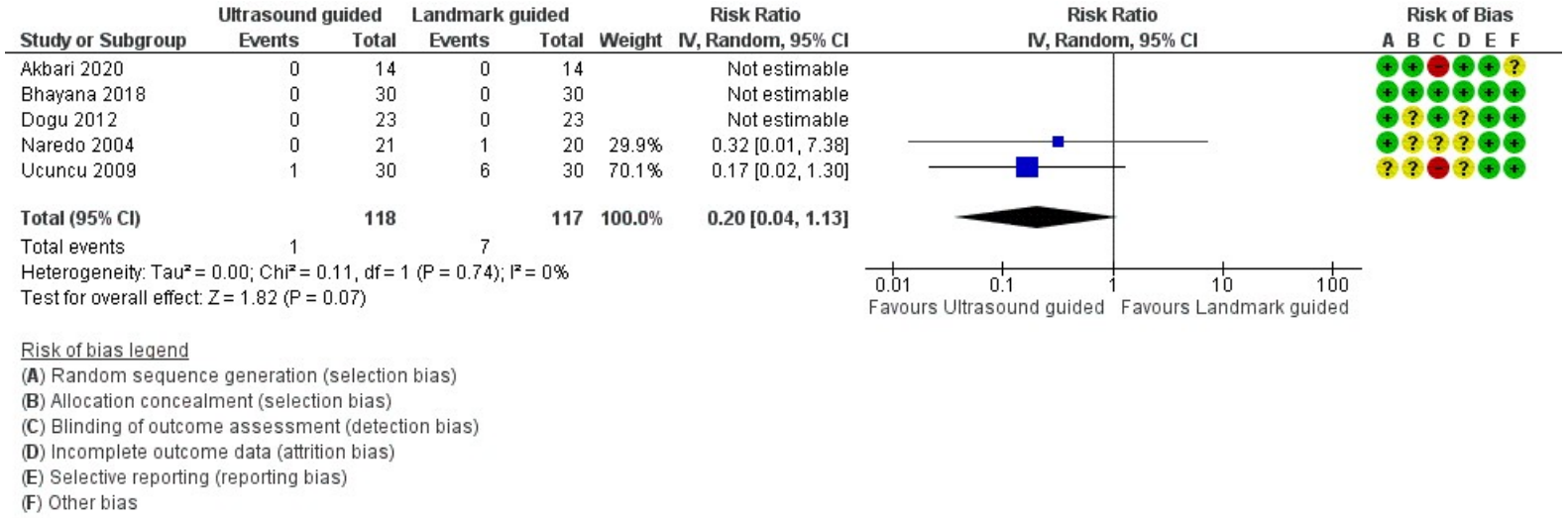
Forest plot of comparison: 2 Ultrasound guided vs landmark guided, outcome: 2.2 Funktion (function).

Figure 11 (Analysis 2.3)



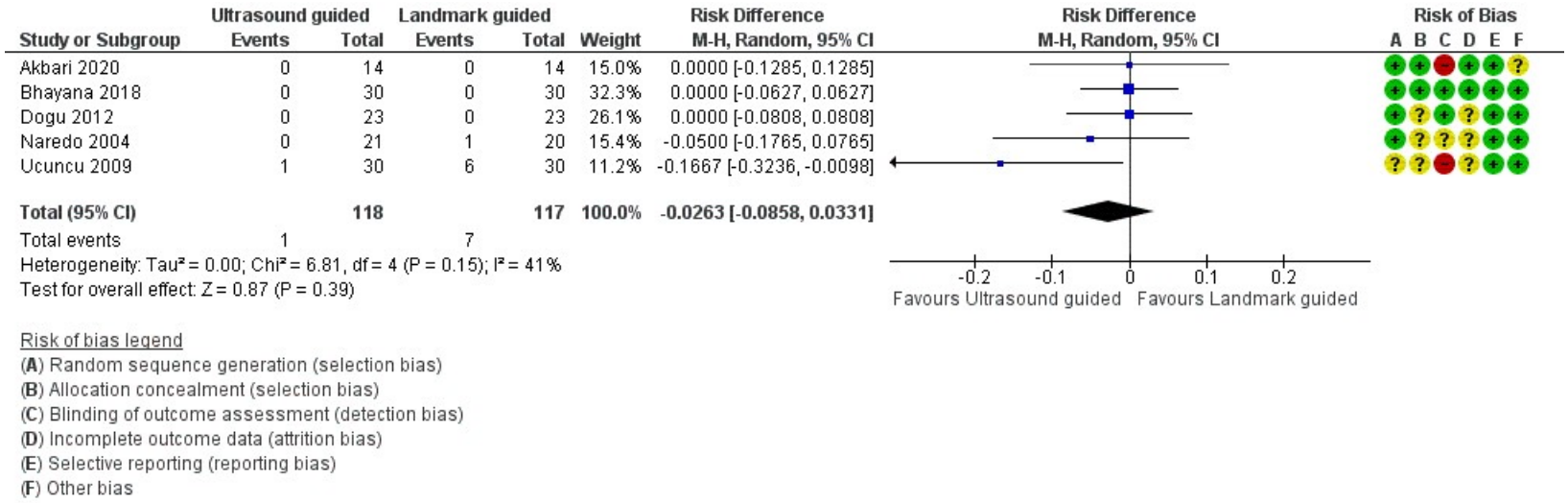
Forest plot of comparison: 2 Ultrasound guided vs landmark guided, outcome: 2.3 Livskvalitet (quality of life).

Figure 12 (Analysis 2.4)



Forest plot of comparison: 2 Ultrasound guided vs landmark guided, outcome: 2.4 Bivirkninger (AE) Risk ratio.

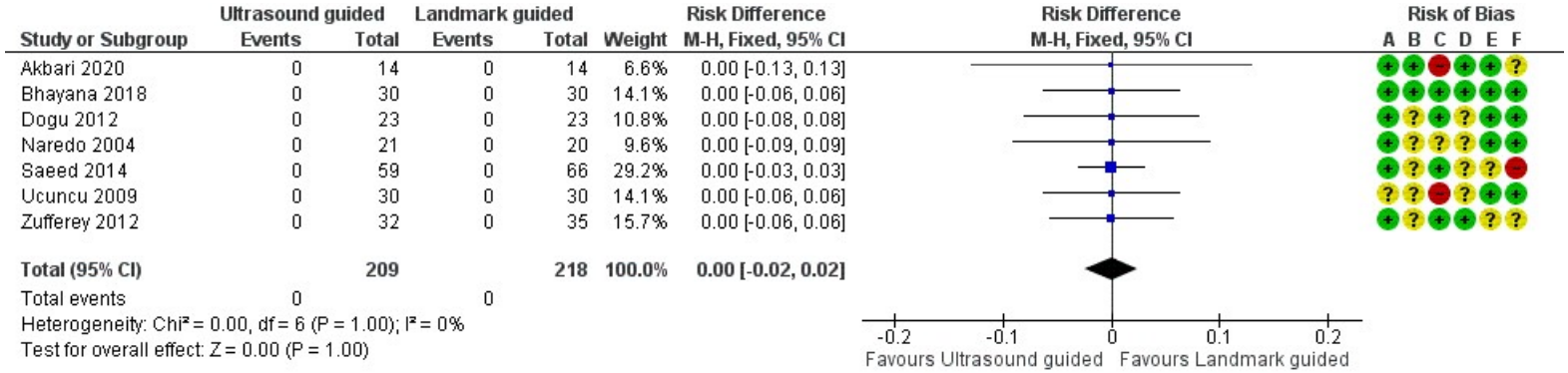
Figure 13 (Analysis 2.5)



Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of outcome assessment (detection bias)
(**D**) Incomplete outcome data (attrition bias)
(**E**) Selective reporting (reporting bias)
(**F**) Other bias

Forest plot of comparison: 2 Ultrasound guided vs landmark guided, outcome: 2.5 Bivirkninger (AE) Risk difference.

Figure 14 (Analysis 2.6)



Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of outcome assessment (detection bias)
(**D**) Incomplete outcome data (attrition bias)
(**E**) Selective reporting (reporting bias)
(**F**) Other bias

Forest plot of comparison: 2 Ultrasound guided vs landmark guided, outcome: 2.6 Alvorlige bivirkninger (SAE).