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| Author | Title | Intervention | Sample Size | AGE | Height | Weight | Duration of symptoms (weeks) | Inclusion  Criteria | Exclusion  Criteria | History of tendinopathy | Loading Test | Physical Activity  levels | Recruitment  strategy | CO MORBIDITY | Co Morbid Pain | Medication  use at baseline | Sleep | Duration of Intervention | Socio  demographics | Imaging  at baseline |
| Bae | "Effect of Motor Control and Strengthening Exercises on Pain, Function, Strength and the Range of Motion of Patients with Shoulder Impingement Syndrome." | Group 1:COMBO: EXERCISE (MOTOR CONTROL) + PASSIVE (HEAT + TENS + ULTRASOUND) Group 2: PASSIVE: HEAT + TENS + ULTRASOUND | Intervention1: 17 (6 M/ 11 F) Intervention 2: 18 (6 M / 12 F) | Intervention1: 49.9 ± 5.5 Intervention 2: 48.3 ± 4.3 | Intervention 1: 161.7 (7.7) Intervention 2: 162 (7.6) | Intervention 1: 59.1 (8.6) Intervention 2: 62.7 (8.5) | NR | One positive finding in any of the followingcategories9,19): a painful arc of movement during flexion or abduction, positive Neer or Kennedy-Hawkinsimpingement signs, or pain on resisted lateral rotation, abduction or the Jobe test | Type III acromion, calcification or fracture, shoulder instability, previous shoulder surgery and cervicobrachialgia or shoulder pain during neck movement. | NR | One of the following symptoms: pain during flexion and abduction, a positive response in the Neer impingement test or in the Hawkins-Kennedy impingement test, and pain in the empty can test or pain on external rotation and abduction | NR | NR | NR | NR | NR | NR | 4 weeks | NR | Imaging not used for diagnosis |
| Bennell | "Efficacy of standardised manual therapy and home exercise programme for chronic rotator cuff disease: randomised placebo controlled trial." | Group 1: COMBO: MASSAGE + MOBILISATION + MOTOR CONTROL TRAINING + ROM) Group 2: PLACEBO - SHAM ULTRASOUND | Intervention1: 59 (34 M) Intervention 2: 61 (30 M) | Intervention1:59.3 ± 10.1 Intervention 2: 60.8 ± 12.4 | Intervention 1: 169.0 (9.1) Intervention 2: 167.5 (10.8) | Intervention 1: 79.5 (13.5) Intervention 2: 78.9 (15.9) | Intervention 1: 96 (24-216) Intervention 2: 56 (24-96) | Over 18 years, shoulder pain for more than three months, severity of pain on movement rated greater than 3/10 on an 0-10 numerical rating scale, pain on active abduction or external rotation, and a positive quick test for shoulder impingement.24 | Resting severity of shoulder pain greater than 7/10; reason to suspect a complete rotator cuff tear (for example, substantial shoulder weakness, a positive drop-arm sign, or a high riding humerus on plain radiograph); previous shoulder surgery; radiological evidence of shoulder osteoarthritis, calcification, or previous fracture; systemic pathology including inflammatory joint disease or neoplastic disorders; more than 50% restriction of passive range of motion in two or more planes; shoulder pain referred from vertebral structures diagnosed by spinal clearing tests25; symptoms of complex regional pain syndrome; active intervention in the previous three months including corticosteroid injection, arthrographic distension of the glenohumeral joint with corticosteroid and saline (hydrodilatation), or physiotherapy; antiinflammatory drugs in the previous two weeks; and inability to understand written and spoken English. | NR | Positive quick test for shoulder impingement. | NR | People with chronic rotator cuff disease were recruited through medical practitioners and from the community through print and radio media. | NR | NR | Corticosteroid injection - Exercise group 10/59 (17) Placebo group 15/61 (25) | NR | 4 Weeks supervised intervention + 12 weeks HEP | NR | Imaging not used for diagnosis |
| Bisset | Mobilisation with movement and exercise, corticosteroid injection, or wait and see for tennis elbow: randomised trial. | Group 1: COMBO: MANIPULATION + EX Group 2: CORTICOSTEROID Group 3: WAIT AND SEE | Intervention1: 66 (45M) Intervention 2: 65 (40M) Intervention3: 67 (43) | Intervention1: 47.9 ± 7.2 Intervention 2: 47.8 ± 8.2 Intervention3: 47.3 ± 8.1 | NR | NR | Intervention 1: Median 16 (11-35) Intervention 2: 26 (12-42) Intervention 3: 26 (10- 42) | Pain over the lateral elbow that increased on palpation of the lateral epicondyle, gripping, resisted wrist, or second or third finger extension13 and age 18-65 years with pain of at least six weeks’ duration. | Any treatment of the elbow pain by a healthcare practitioner within the preceding six months; bilateral elbow symptoms; cervical radiculopathy; any other elbow joint pathology; peripheral nerve involvement; previous surgery to the elbow; or a history of dislocation, fracture of the elbow, or tendon ruptures. Systemic or neurological disorders; shoulder, wrist, and hand pathology; and contraindications to corticosteroids | Previous episodes of lateral elbow pain Wait and See 33%, Corticosteroid group 29%, Physiotherapy 21% | Pain over the lateral elbow that increased on palpation of the lateral epicondyle, gripping, resisted wrist, or second or third finger extension | NR | Volunteers were people from the greater Brisbane region of Australia who responded to advertisements and media releases between March 2002 and April 2004. | NR | NR | NR | NR | 6 Weeks | Employment status - Unemployed 16%, Manual 35%, Non Manual 50% | Imaging not used for diagnosis |
| Cherry | The effect of cryotherapy and exercise on lateral epicondylitis: | Group 1: EXERCISE - STRETCHING & STRENGTHENING Group 2: CRYOTHERAPY + EXERCISES Group 3: Cryo-MAX® and exercise. Group 4: Cryo-MAX® only | Intervention1: 9 Intervention 2: 21 Intervention 3: 22 Intervention 4: 19 | Total Sample 48.5, ± 10.8 | NR | NR | NR | Eligibility criteria: Participants had to be 18 years of age or older n Pain localised to lateral elbow n Symptoms present for more than three months n Received no treatment or surgery in the past three months n No history of other musculoskeletal or neuromuscular disorders of the involved upper limb. A minimum pain level of three was needed on two out of the six provocative tests for participants to continue with the study. | Eligibility criteria: Participants had to be 18 years of age or older n Pain localised to lateral elbow n Symptoms present for more than three months n Received no treatment or surgery in the past three months n No history of other musculoskeletal or neuromuscular disorders of the involved upper limb. A minimum pain level of three was needed on two out of the six provocative tests for participants to continue with the study. | NR | 1. Resistive wrist extension with the elbow extended; 2. Resistive wrist extension with the elbow flexed to 90°; 3. Resistive middle finger extension with the elbow extended; 4. Ability to lift a chair with elbows extended and forearms pronated using both hands (Paoloni et al, 2004); 5. Ability to lift a chair with elbow extended and forearm pronated using only the affected arm (Paoloni et al, 2004); 6. Pain with palpation. | NR | Participant recruitment was conducted from the local community by placing flyers at locations where potential participants were likely to be found. These facilities included but were not limited to local gyms, fitness centres, tennis facilities, racquetball clubs, construction and automotive companies, and grocery stores. In addition, local newspaper advertisements were used. | Filled out a ‘general health screening’ qaire (no data) | NR | NR | NR | 6 Weeks | NR | Imaging not used for diagnosis |
| Chester | Eccentric calf muscle training compared with therapeutic ultrasound for chronic Achilles tendon pain-A pilot study." | Group 1: EXERCISE - Alfredson Program Group 2: ULTRASOUND | Intervention1: 8 (4 M) Intervention 2: 8 (7 M)**Total Sample:** | Intervention1: 59 ± 10 Intervention 2: 48 ± 12 | NR | NR | Intervention 1: 100(56) Intervention 2: 60 (44) | Minimum of 3 months duration of pain arising from an area between 2 and 6 cm above the distal insertion of the Achilles tendon. Confirmation of Achilles tendinopathy during clinical examination included a palpable painful swelling in the area of pain and a negative Thompson’s (Simmonds’) test (Magee, 1997). To be included in the study, subjects had to be able to stand on the affected leg only and balance for a minimum of 10 seconds | A history of current or previous tendon rupture or a history of lower limb musculoskeletal injury. | NR | NR | Occasional cricket (1), cycling to work (1), occasional swimming (1), none (5) Occasional football referee (1), cycling to work (1), occasional swimming (1), jogging (1 above), none (4). Half or more subjects in each group did not participate in any sporting or physical recreational activity. | Referrals with a suggested diagnosis of Achilles tendinopathy were approached. | Exercise group = Asthma (1), myocardial infarctions (2), general osteoarthritis (1), low back pain (2)US group= Asthma (1), general osteoarthritis (1) | Presence of LBP (n=1) and OA (n=1) documented | NR | NR | 6 Weeks | NR | Imaging not used for diagnosis |
| Cloke | A pilot randomized, controlled trial of treatment for painful arc of the shoulder. | Group 1: COMBO: EXERCISE + MANUAL THERAPY Group 2: CSI INJECTION Group 3: COMBO EXERCISE & CSI INJECTION Group 4: NSAID's | Intervention1: 29 Intervention 2: 28 Intervention 3: 29 Intervention 4: 27 | Total Sample 54.5 years (range 23-88 years). AL | NR | NR | Total sample: Painful arc <6 months | Older than 18 years with less than 6 months’ duration of ‘‘painful arc/subacromial impingement’’ to our trial clinic during a 6-month period. At the clinic, the patients were seen for confirmation of diagnosis by history and examination. The clinical sign of painful arc was considered positive if there was pain originating from the subacromial region of the shoulder during arm active abduction against gravity without resistance. | Pain originating from the neck radiating to the shoulder. Systemic inflammatory arthritis, for example, rheumatoid arthritis. Severe loss of range of motion exceeding 50% lateral rotation or 30" of elevation compared with the unaffected contralateral side consistent with primary frozen shoulder or severe secondary capsulitis. Glenohumeral or acromioclavicular joint osteoarthritis as a primary pathology or presentation. A clinically incompetent rotator cuff, that is, marked weakness of rotator cuff muscles (pseudoparalysis). Milder weakness and pain on testing of cuff strength were not exclusion criteria. Further investigations of the rotator cuff were not undertaken in keeping with the intended setting of initial primary care. Shoulder injection by a recognized technique, physiotherapy using a EMTP, or chiropractic or osteopathic treatment within the previous 3 months. Other physiotherapy modalities not in the EMTP were not an exclusion criteria. Known sensitivity/allergic reaction to local anesthetic agents or steroid carrier compounds. | NR | Painful arc | NR | We wrote to all general practitioners (GPs) within Newcastle and North Tyneside Primary Care Trusts. We asked them to refer all patients | NR | NR | NR | NR | 18 weeks | NR | Imaging not used for diagnosis |
| Engebretsen | Radial extracorporeal shockwave treatment compared with supervised exercises in patients with subacromial pain syndrome: single blind randomised study." | Group 1: EXERCISE: MOTOR CONTROL + ENDURANCE Group 2: SHOCK WAVE THERAPY | Intervention1: 51 Intervention 2: 52 | Intervention1 NR: Intervention 2:NR Intervention3:NR | NR | NR | NR | Women and men aged between 18 and 70 years with subacromial shoulder pain lasting at least three months were eligible for inclusion. | NR | NR | NR | NR | Participants were recruited by physicians at a physical medicine outpatient clinic in Oslo, Norway, | NR | NR | Drug Treatment Daily 26/52 (50) 23/52 (44) | NR | 12 weeks | Working Baseline EX 31/52 (60) ESWT 26/52 (50) | Imaging not used for diagnosis |
| Engebretsen | "Supervised exercises compared with radial extracorporeal shock-wave therapy for subacromial shoulder pain: 1-year results of a single-blind randomized controlled trial." | Group 1: EXERCISE: MOTOR CONTROL + ENDURANCE Group 2: SHOCK WAVE THERAPY | Intervention1: 52 (26) Intervention 2: 52 (26) | Intervention1: 49 ± 9.3 Intervention 2:47 ± 11.7 | NR | NR | Intervention 1: 12-24 (36%), 24-48 (29%), 48-96 (15%), >96 (19%) Intervention 2: 3–6 15 (29%) 6–12 15 (29%) 12–24 6 (11%) >24 16 (31%) Intervention 3: | Women and men between 18 and 70 years of age with subacromial shoulder pain lasting at least 3 months. following clinical diagnostic criteria were used for inclusion: dysfunction or pain on abduction, normal passive glenohumeral range of motion, pain on 2 of 3 isometric tests (abduction at 0° or 30°, external or internal rotation), and a positive Kennedy- Hawkins sign. Patients with rotator cuff rupture were included if they met these criteria. Previous treatments, including NSAIDs, subacromial injections, and physical therapy, were allowed. | Bilateral shoulder pain, previous surgery on the affected shoulder, instability, clinical signs of a cervical syndrome, rheumatoid arthritis, clinical and radiological signs of glenohumeral or acromioclavicular arthritis, inability to understand Norwegian, serious psychiatric disorder, use of anticoagulant medicine (except low-dose aspirin), pregnancy, previously had one of the study interventions, and unwillingness to accept either of the interventions in this study. | NR - Participants must have had ‘no consultation for this pain in the affected shoulder in the previous 12 months’ | Pain on 2 of 3 isometric tests (abduction at 0° or 30°, external or internal rotation), and a positive Kennedy- Hawkins sign. | NR | The data were collected between 2006 and 2008 at Oslo University Hospital, Ullevaal, Norway (As part of a previous RCT Engebreetsen et al 2009) | Provided data for EuroQol-5D/health today and EuroQol-5D/index | NR | Previous corticosteriod - Ex Group range 57-60% EWST Group 38-45% Medication use Exercise Group 50% EWST Group 44% | NR | 12 weeks | Education: <12 years at school EX 30 (58%) EWST 29 (56%) | Imaging not used for diagnosis |
| Ersen | "A randomized-controlled trial of prolotherapy injections in the treatment of plantar fasciitis.". | Group 1: EXERCISE: STRETCHING Group 2: PROLOTHERAPY | Intervention1: 24 (6M) Intervention 2: 26 (5 M) | Intervention1: 46.3±7.6 Intervention 2: 45.1±6.7 | NR | NR | Intervention 1: 136 ± 93.2 Intervention 2: 131.2 ± 95.6 | Diagnosis was based on the identification of symptoms and physical examination findings. A lateral radiograph of the ankle was taken to exclude epin calcanei. Patients with tarsal tunnel syndrome and epin calcanei were excluded from the study. | NR | NR | NR | NR | NR | NR | NR | NR | NR | 12 weeks | NR | A lateral radiograph of the ankle was taken to exclude epin calcanei |
| Ginn | 'Exercise therapy for shoulder pain aimed at restoring neuromuscular control: a randomized comparative clinical trial',. | Group 1: EXERCISE: STRETCHING & STRENGTHING Group 2: INJECTION CSI Group 3: COMBO TREATMENT (PASSIVE EXERCISES & ROM) | Intervention1: 48 (27 M) Intervention 2: 48 (29 M) Intervention3: 42 (26 M) | Intervention1: 52.6 (22–83) Intervention 2: 55.4 (29–87) Intervention3: 52.6 (22–83) | NR | NR | Intervention 1: 29.2 (32.4) Intervention 2: 29.6 (44.8) Intervention3: 29.6 (43.6) | Unilateral shoulder pain of more than 1 month’s duration, with and without associated stiffness. Subjects were eligible to enrol in the trial if their shoulder pain was of local mechanical origin, defined as pain over the shoulder joint and/or into the proximal arm, which was exacerbated by active shoulder movements. These criteria were preferred because of the lack of validity and reliability of the current diagnostic classification of shoulder pain. shoulder pain was deemed to be referred from vertebral column structures if it was not reproduced by active shoulder movements, if it was reproduced by active neck movements or by palpation of the cervico-thoracic vertebral column, or if paraesthesiae were present in the affected upper limb. | Shoulder pain was bilateral, associated with instability, due to an inflammatory or neoplastic disorder, referred from vertebral column structures or due to trauma within the previous 4 weeks. Patients with bilateral shoulder pain were excluded because some outcome measurements relied on comparison with the contralateral side. Patients who had experienced recent trauma to their shoulder were excluded due to the possibility that many aspects of the physical therapy treatments under investigation would be contraindicated. | NR | Subjective report of defined as pain over the shoulder joint and/or into the proximal arm, which was exacerbated by active shoulder movements | NR | Participants who had been referred to a large metropolitan public hospital with unilateral shoulder pain. | NR | NR | NR | NR | 5 Weeks | NR | Imaging not used for diagnosis |
| Giombini | Short-term effectiveness of hyperthermia for supraspinatus tendinopathy in athletes: a short-term randomized controlled study. | Group 1: EXERCISE: ROM Group 2: LASER Group 3: ULTRASOUND | Intervention1: 11 (9 men) Intervention 2: 14 (12 men) Intervention 3: 12 (8 men) | Intervention1: 26.3 ± 6.2 Intervention 2: 25.3 ± 4.8 Intervention3: 28.6 ± 6.6 | NR | NR | NR | Gradual onset of shoulder pain that impaired sports activities for 3 to 6 months before entering the study. All patients had undergone nonoperative management, including complete or modified rest from their sports, and several 1-week cycles of nonsteroidal anti inflammatory drugs. The diagnosis of supraspinatus tendinopathy was formulated if the following 3 criteria were met: (1) impingement with a positive Hawkins sign in internal rotation or impingement in 90° of forward flexion with forced external rotation, (2) pain with supraspinatus muscle testing in the “empty can” position, and (3) ultrasonographic evidence of nonhomogeneous signal intensity without a frank tear in the supraspinatus tendon. Ultrasound scanning was performed bilaterally by a fully trained radiologist with a special interest in musculoskeletal imaging using a state-of-the-art, real-time ultrasound machine | Athletes without full passive range of motion of the affected shoulder. Athletes with supraspinatus tendinopathy after a single traumatic episode; athletes with severe neck pain, frozen shoulder, calcific tendinopathy, or degenerative joint disease of the acromioclavicular or glenohumeral joint; athletes who had received an intra-articular or subacromial injection of corticosteroids; and patients with a clinical or ultrasonographic diagnosis of a rotator cuff tear.  Patients with previous surgery in the affected or contralateral shoulder. | NR | positive Hawkins sign in internal rotation or impingement in 90° of forward flexion with forced external rotation, pain with supraspinatus muscle testing in the “empty can” position, | All patients were engaged in their sports at county (n = 11), regional (n = 6), national (n = 11), or international (n = 9) level, and all were training in their chosen sports at least 3 times a week (range, 3-11 times). | Athletes who attended the Physiotherapy Department of the Sport Science Institute | NR | NR | NR | NR | 4 weeks | NR | ultrasonographic evidence of nonhomogeneous signal intensity without a frank tear in the supraspinatus tendon. |
| Hay | A pragmatic randomised controlled trial of local corticosteroid injection and physiotherapy for the treatment of new episodes of unilateral shoulder pain in primary care | Group 1: COMBO (ADVICE + ROM +. ULTRASOUND +MANUAL THERAPY) Group 2: INJECTION: CSI | Intervention1: 103 (53 M) Intervention 2: 104 (44 M) | Intervention1: 57.5 ± 13 Intervention 2: 57.6 ± 14 | NR | NR | Intervention 1: 7.3 (3 - 17.1) Intervention 2: 8.2 (4-18.2) | Pain in the shoulder region, including the upper arm, elicited or exacerbated by active or passive shoulder movement, and no consultation for this pain in the affected shoulder in the previous 12 months. | A history of inflammatory arthritis, polymyalgia rheumatica, or gross structural or neurological abnormality of the shoulder; contraindications to local steroid injection; history or examination leading to a suspicion of potentially serious disease; referred pain from neck or internal organs; clinical findings of ruptured rotator cuff; previous fracture or surgery to shoulder, upper limb, neck, or thorax; previous physical therapy for shoulder pain within the past 12 months; pregnancy or breast feeding | NR | Pain in the shoulder region, including the upper arm, elicited or exacerbated by active or passive shoulder movement | NR | Participants who consulted their general practitioner with a new episode of unilateral shoulder pain between June 1998 and March 2000 | Longstanding medical condition PT 61 (59) CSI 59 (57) Ever had neck problems Ex 59/103 (58) Injection 57/104 (57) | Ever had neck problems Ex 59/103 (58) | Taken pain killers in past 48 hours Physiotherapy Group 73 (71) Injection Group 73 (70) | NR | 6 Weeks | Social class (manual) Exercise 60/103 (58) Injection53/104 (51) Work Employed 49 (48) 48 (46) Time off work 10 (12) 6 (8) | Imaging not used for diagnosis |
| Kearney | Achilles tendinopathy management: A pilot randomised controlled trial comparing platelet-rich plasma injection with an eccentric loading programme. | Group 1: EXERCISE - Alfredson Program Group 2: PRP | Intervention1: 10 (3 M) Intervention 2: 10 (4 M) | Intervention1: 49.9 (36 to 66) Intervention 2: 47.8 (35 to 59) | Intervention 1: 169.8 (162 to 187) Intervention 2: 170.7 (163 to 182) Intervention3: | Intervention 1: 78.6 (57 to 112) Intervention 2:82.4 (64 to 103) Intervention3: | Intervention 1: 112.4 (32 - 576) Intervention 2: 123.2 (36 - 624) | Patients with a clinical diagnosis of mid-substance Achilles tendinopathy. This comprised a subjective history of increasing pain on loading activities for a minimum duration of three months, objective findings of pain on palpation at a level 2 cm to 6 cm above the tendon insertion, and confirmation on ultrasonography of local tendon thickening with hypoechoic areas and irregular fibre orientation. | Tendinopathy secondary to a systemic condition such as rheumatoid arthritis or diabetes. Achilles tendinopathies presenting at the insertion were also excluded. It is recognised that both of these subgroups of patients represent a separate population with separate underlying causes. Additionally, patients who had sustained a previous rupture or had undergone previous surgery on the Achilles tendon were excluded, as were patients who had had previous lower limb injuries in the previous twelve months. | NR | NR | NR | All patients were referred to this clinic for a surgical opinion regarding their mid-substance Achilles tendinopathy, having already failed previous non-operative management. | 2 (20) Smokers | NR | NR | NR | 12 weeks | NR | confirmation on ultrasonography of local tendon thickening with hypoechoic areas and irregular fibre orientation. |
| Knobloch | Eccentric training decreases paratendon capillary blood flow and preserves paratendon oxygen saturation in chronic achilles tendinopathy. | Group 1: EXERCISE - ECCENTRIC Group 2: CRYOTHERAPY & RELATIVE REST | Intervention1: 15 (8 Male) Intervention 2: 5 (3 Male 2 Female) | Intervention1: 33 +/- 12 Intervention 2: 32 +/- 10 | Intervention 1: 177 +/- 7 Intervention 2: 176 +/- 8 Intervention3: | Intervention 1:71 +/- 12 Intervention 2: 78 +/- 10 Intervention3: | NR | All subjects were required to be older than 18 years. Patients with both unilateral and bilateral Achilles tendinopathy were included. The diagnosis of Achilles tendinopathy was made if patients had pain and tenderness with or without swelling at the tendon at rest or with exercise, either at the insertional zone on the calcaneus or in the midportion area of the Achilles tendon 2 to 6 cm proximal to the distal insertion. | Individuals with prior Achilles tendon surgery were excluded as well as individuals with vascular occlusive disease or venous congestion. Pregnancy was also an exclusion from the study. None of the patients included had received prior therapy with eccentric exercise training prior to the study. | NR | NR | All Active - variety of sports - Aerobic Sport Most Common (See paper for individual breakdown) | Recruited by advertisements in the medical school and several fitness clubs in the local city. Patients seeking medical attention due to Achilles tendinopathy in the Medical School Hannover were also informed about the study and offered to participate | Hypertension 3/20 - Smoking 4/20 - Medication (Corticoids, Antibiotics, Chinolones, antirheumatic 7/20), allergy 1/20 | NR | Medication during the last 6 mo None Eccentric 9 (60%) Control 3 (60%) Antibiotics Eccentric 1 (7%) control 1 (20%) Chinolones Eccentric 0 Controls 1 (20%) Other antibiotics Eccentric 1 (7%) Control 0 Inhalative corticoids Eccentric 1 (7%) Control 0 Non steroidal antirheumatic drugs Eccentric 0 Control 2 (40%) Oral contraceptives (% in females) Eccentric 4 (57%) Control 1 (20%) | NR | 12 weeks | NR | Imaging not used for diagnosis |
| Koch | EFFICACY OF CYRIAX PHYSIOTHERAPY VERSUS ECCENTRIC STRENGTHENING AND STRETCHING EXERCISES IN CHRONIC LATERAL EPICONDYLITIS PATIENTS | Group 1: EXERCISE - STRETCHING & ECCENTRIC Group 2: MANUAL THERAPY CYRIAX | Intervention1: 30 Intervention 2: 30 | Intervention1: NR Intervention 2: NR Intervention3: NR | NR | NR | NR | 30 to 60 years, both males and females, having unilateral symptomatic lateral epicondylitis, presence of tenderness on palpation over the lateral humeral epicondyle, presence of pain with gripping activity, patients with positive Mill’s test, Cozen’s test and Middle finger extension test. | Bilateral lateral epicondylitis, previous surgery or trauma to the region, history of fracture of Radius/Ulna, Rheumatoid diseases or Neurologic impairment, severe Neck/Shoulder problem likely to cause elbow complaints, and any elbow deformity. | NR | Presence of pain with gripping activity, patients with positive Mill’s test, Cozen’s test and Middle finger extension test | NR | Participants recruited from Government Wenlock Hospital and Dr. M. V. Shetty Trust Hospital, Mangalore | NR | NR | NR | NR | 4 weeks | NR | Imaging not used for diagnosis |
| Kongsgaard | "Corticosteroid injections, eccentric decline squat training and heavy slow resistance training in patellar tendinopathy | Group 1: EXERCISE - ECCENTRIC Group 2: INJECTION: CSI Group 3:EXERCISE - STRENGTHING - HSR - | Intervention1:13 Intervention 2:13 Intervention3:13 | Intervention1: 31.3 ± 8.3 Intervention 2: 34.3 ± 10.0 Intervention3: 31.7 ± 8.5 | Intervention 1: 181  5 Intervention 2: 185 ± 11 Intervention 3: 185 ± 9 | Intervention 1: Intervention 2: Intervention3: | Intervention 1: 75.2 (52) Intervention 2: 73.2 (56.4) Intervention3:75.2 (42.4) | Pain duration of 43 months was required to qualify as a chronic condition. The clinical diagnosis required confirmation by ultrasonography: local anterior–posterior (AP) thickening of the tendon of at least 1mm compared with the mid-tendon level, and a hypo-echoic area and presence of a colour Doppler signal within the hypo-echoic area. A 4-week ‘‘wash-out’’ period from any previous treatment was required. | Corticosteroid injections within 12 months, (2) previous knee surgery, (3) arthritis, (4) diabetes or (5) any confounding diagnosis to the knee joint. | NR | NR | Recreational Athletes - Activity level (h/week) All 6.0 +/- 3.0 CSI 5.8 +/- 2.4 ECC 6.1 +/- 3.3. HSR 6.2 +/- 3.5 | Not spceficied but carried out at the Institute of Sports Medicine, Copenhagen. | NR | NR | NR | NR | 12 weeks | NR | The clinical diagnosis required confirmation by ultrasonography: local anterior–posterior (AP) thickening of the tendon of at least 1mm compared with the mid-tendon level, and a hypo-echoic area and presence of a colour Doppler signal within the hypo-echoic area |
| Liu | "Effects of Low-Level Laser Therapy and Eccentric Exercises in the Treatment of Patellar Tendinopathy." | Group 1: EXERCISE: ECCENTRIC Group 2: EXERCISE + LASER | Intervention1: 7 Intervention 2: 7 Intervention3: 7 | Intervention1: NR Intervention 2: NR Intervention3: NR | NR | NR | NR | Unilateral painful activity-related symptoms from the patellar tendon region for at least three months; (ii) tenderness with palpation over the inferior pole of the patella; (iii) no history of trauma to the knee; (iv) unsuccessful conservative treatment before entering the study, but not in the preceding one month; (v) no other current knee or lower extremity problems including chondromalacia, muscle strains, and hip or ankle injuries; (vi) positive decline squat test. This is a clinical diagnostic test. | NR | NR | positive decline squat test | NR | NR | NR | NR | NR | NR | 4 weeks | NR | Imaging not used for diagnosis |
| Lombardi | "Progressive resistance training in patients with shoulder impingement syndrome: a randomized controlled trial." . | Group 1: EXERCISE - STRENGTHENING Group 2: CONTROL | Intervention1:30 Intervention 2: 30 | Intervention1:56.3 ± 11.6 Intervention 2: 54.8 ± 9.4 5 | NR | NR | Intervention 1: 54.8 (38.4) Intervention 2: 55.6 (37.2) | Positive Neer test and Hawkin test for the diagnosis of shoulder impingement syndrome in the previous 2 months and pain between 3 and 8 on the numeric pain scale in the arc of movement that produces the greatest shoulder pain. | History of shoulder fractures or dislocation; cervical radiculopathy; degenerative joint disease of the glenohumeral joint; surgery on the shoulder, back, or thorax; inflammatory arthropathy; infiltration of the shoulder in the previous 3 months; and those undergoing any type of physical intervention for the shoulder were excluded from the study. | NR | Positive Neer test and Hawkin test | NR | Participants were outpatients who were selected from the clinics of the Federal University of Sao Paulo, Brazil. | NR | NR | NR | NR | 8 weeks | NR | Imaging not used for diagnosis |
| Ludewig | "Effects of a home exercise programme on shoulder pain and functional status in construction workers." | Group 1: EXERCISE (STRETCHING AND STRENGTHENING) Group 2: Symptomatic Control Group 3: Asymptomatic Control | Intervention1:34 Intervention 2: 33 Intervention 3:25 | Intervention1: 48.0 ± 1.8 Intervention 2: 49.2 ± 1.8 Intervention 3: 49.4 ± 2.5 | Intervention 1: 1.78 ± 0.01 Intervention 2: 1.77 ± 0.01 Intervention3: 1.80 ± 0.01 | Intervention 1: 87.4 (2.2) Intervention 2: 89.9 (2.7) Intervention3: 90.7 (2.1) | NR | Self reported occupational exposure to overhead work for longer than one year and a minimum of 130° of active scapular plane abduction as measured goniometrically during a clinical examination. Current reported history of shoulder pain localised to the glenohumeral joint region excluding cervical and periscapular pain, but including the common site of referred pain of the rotator cuff to the C5–6 dermatome above the deltoid insertion. For inclusion, symptomatic subjects also had to present with at least two positive shoulder impingement tests (Neer, Hawkins/Kennedy, Yocum, Jobe, and/or Speeds tests) and pain reproduction during two of three additional categories of clinical tests. (1) a painful arc on active scapular plane abduction of the arm17; (2) tenderness to palpation of the biceps or rotator cuff tendons; and (3) pain with one or more resisted glenohumeral joint motions (flexion, abduction, internal rotation, or external rotation). Flexion and abduction were resisted at 90° of elevation, and internal and external rotation were resisted both at the subject’s side and at 90° of abduction. | (1) had a history of rotator cuff surgery; (2) reported a history of glenohumeral dislocation, or other traumatic injury to the shoulder; (3) reported only periscapular or cervical pain during arm elevation; or (4) had shoulder symptoms reproduced by a cervical assessment | NR | At least two positive shoulder impingement tests (Neer, Hawkins/Kennedy, Yocum, Jobe, and/or Speeds tests)14–16 and pain reproduction during two of three additional categories of clinical tests. These categories included: (1) a painful arc on active scapular plane abduction of the arm17; (2) tenderness to palpation of the biceps or rotator cuff tendons; and (3) pain with one or more resisted glenohumeral joint motions (flexion, abduction, internal rotation, or external rotation). Flexion and abduction were resisted at 90° of elevation, and internal and external rotation were resisted both at the subject’s side and at 90° of abduction. | Construction Workers: Overhead work (% of day) EX 32.7 (3.5) Symp Cont 35.5 (4.8) Asympt 31.2 (4.2) | Volunteers were recruited through local unions, and at safety meetings conducted for campus construction employees, representing a convenience sample. | NR | NR | NR | NR | 8 weeks | NR | Imaging not used for diagnosis |
| Mellor | Education plus exercise versus corticosteroid injection use versus a wait and see approach on global outcome and pain from gluteal tendinopathy: prospective, single blinded, randomised clinical trial. | Group 1: EDUCATION + EXERCISE Group 2: CORTICOSTEROID Group 3: WAIT AND SEE | Intervention1: 69 (13M) Intervention 2: 66 (9M) Intervention 3: 69 (15M) | Intervention1: 54.8 ± 8.1 Intervention 2: 55.3 ± 9.4 Intervention 3: 54.5 ± 9.1 | Intervention 1: 170 ± 1 Intervention 2: 179 ± 1 Intervention3: 170 ± 1 | Intervention 1: 75.9 (14.4) Intervention 2: 74.4 (14.6) Intervention3: 77.3 (16.7) | Intervention 1: 104 Intervention 2: 78 Intervention 3: 104 | Age 35-70 years, lateral hip pain for more than three months, pain intensity of at least 4/10 on a numerical rating scale (0=no pain, 10=worst pain), and clinical diagnosis of gluteal tendinopathy by a physiotherapist and confirmed by magnetic resonance imaging evidence of an intratendinous increase in signal intensity in the gluteus minimus and medius tendons on T2 weighted images of the hip. | Low back pain, sciatic or groin pain intensity of more than 2/10 on a numerical rating scale, corticosteroid injection use within the previous 12 months, current physiotherapy, total hip replacement, and other neurological conditions (supplementary appendix S1). | NR | 'Reproduction of pain on at least one of five diagnostic clinical tests (FABER test, Static muscle contraction in FABER position, FADER test, Adduction test, Static muscle contraction in Adduction position i.e. resisted abduction) or single leg stand' | Active Australia questionnaire, total time spent in overall activity in the past week, mins\* 462.5 (428.6) | Community dwelling participants were recruited from Brisbane and Melbourne, Australia, via advertisements in print, radio, and social media | Premenopausal 43 (21.1) - Perimenopausal 24 (11.8) - Postmenopausal 93 (45.6) - Unknown 7 (3.4) | NR | NR | NR | 8 weeks | Large amount of data provided - see study | Diagnosis confirmed by magnetic resonance imaging evidence of an intratendinous increase in signal intensity in the gluteus minimus and medius tendons on T2 weighted images of the hip. |
| Murtezani | Exercise and Therapeutic Ultrasound Compared with Corticosteroid Injection for Chronic Lateral Epicondylitis: A Randomized Controlled Trial." | Group 1: COMBO - EXERCISE, STRENGTHENING, STRETCHING & ULTRASOUND Group 2: CORTICOSTEROID | Intervention1: 49 (28M) Intervention 2: 24 (12M) | Intervention1: 51.6 ± 6.7 Intervention 2: 51 ± 6.2 | Intervention 1:174 ± 6.3 Intervention 2: 172.8 ± 6.0 | Intervention 1: 79.3 (8.7) Intervention 2: 75.1 (7.4) Intervention3: | Intervention 1: 48. 8 (30.25) Intervention 2: 54.4 (33.6) | Over 18 years of age, with lateral elbow pain for more than 3 months with a verified diagnosis of tennis elbow. The diagnosis was based on a history of lateral elbow pain and tenderness over the forearm extensor origin and pain increasing on resisted middle finger extension and resisted wrist extension with the elbow extended. | Carpal or radial tunnel syndrome, cervical radiculopathy, painful shoulder or rotator cuff tendinitis, inflammatory joint disease, trauma to the affected elbow in the past 6 weeks, bilateral elbow symptoms, contraindications for corticosteroid use and previous elbow surgery | NR | Pain increasing on resisted middle finger extension and resisted wrist extension with the elbow extended | NR | Participants were referred by general health practitioners, ortho - pedists, and rheumatologists to Clinic of Physical and Rehabilitation Medicine of the University Clinical Center of Kosovo | 40% SMOKERS | NR | Previous treatment for condition: NSAID Eccentric 100%, Control 67%, Topical NSAID Eccentric 52%, Control 33%, CSI Eccentric 36% Control 29% | NR | 12 weeks | Finished University 38% | Imaging not used for diagnosis |
| Nagrale | Cyriax physiotherapy versus phonophoresis with supervised exercise in subjects with lateral epicondylalgia: a randomized clinical trial. | Group 1: PHONOPHORESIS + EXERCISE (STRETCHING AND STRENGTHENING) Group 2: MANUAL THERAPY CYRIAX | Intervention1: 30 (65%) Intervention 2: 30 (78% Female) | Intervention1: 32 ± 5.25 Intervention 2: 38 ±6.24 | NR | NR | Intervention 1: 12.5 (4.3) Intervention 2: 14.5(4.5) | 30-60 years of age and had been diagnosed with the tenoperiosteal variety of lateral epicondylalgia with symptoms of one month or more. Patients with tenoperiosteal lateral epicondylalgia were clinically identified with the following criteria: 1) tenderness to palpation over the lateral humeral epicondyle, 2) pain with gripping, 3) pain with passive wrist flexion with the elbow extension, and 4) pain with resisted wrist extension | Bilateral elbow pain, previous surgery or trauma to the region, medial epicondylgia, supracondylar variety of lateral epicondylalgia defined by the presence of tenderness 3–5mm above the lateral epicondyle, cervical radiculopathy, corticosteroid injection within six months, and peripheral nerve entrapment. | NR | Pain with gripping, pain with passive wrist flexion with the elbow extension, and pain with resisted wrist extension. | NR | Subjects were referred by their healthcare providers as well as recruited via advertisements in local newspapers and health magazines | NR | NR | NR | NR | 4 weeks | 23.33% of patients to repetitive motions such as keyboarding or manual tool use were domestic workers (i.e., homemakers) while the remainder were exposed | Imaging not used for diagnosis |
| Nejati | "Treatment of Subacromial Impingement Syndrome: Platelet-Rich Plasma or Exercise Therapy? A Randomized Controlled Trial." | Group 1: EXERCISE - STRETCH & STRENGTHENING Group 2: PRP | Intervention1: 20 (6M) Intervention 2: 22 (9M) | Intervention1: 53.9 ± 10.6 Intervention 2: 52.5 ± 7.3 | NR | NR | NR | Diagnosed via a clinical assessment. Patients underwent shoulder magnetic resonance imaging (MRI) for diagnosis confirmation. The inclusion criteria were (1) a minimum age of 40 years, (2) shoulder pain lasting at least 3months prior to the study, (3) platelet count of more than 100,000, and (4) positive result in at least 3 of the following tests: empty can test, Speed test, Jobe test, Neer impingement sign, and Hawkins-Kennedy test. | |(1) Radicular pain; (2) presence of pathologies such as frozen shoulder, calcific tendinitis, biceps dislocation, and a superior labrum anterior posterior lesion; (3) previous surgery within 6 months; (4) inflammatory diseases such as rheumatoid arthritis, polymyalgia rheumatica, or fibromyalgia; (5) full thickness rotator cuff tear on MRI; (6) ligamentous laxity (positive sulcus test) or shoulder dislocation (positive apprehension test); (7) corticosteroid injection within 3 months prior to the study; (8) physical therapy 6 months prior to the study; (9) fear of MRI; and (10) contraindication to MRI | NR | Positive result in at least 3 of the following tests: empty can test, Speed test, Jobe test, Neer impingement sign, and Hawkins-Kennedy test. | NR | Participants were recruited through advertising posters were put up in several local hospitals. Moreover, a number of medical practitioners interested in shoulder pathologies were notified of the objectives of the study by email and were asked to introduce their patients to us. | NR | NR | NR | NR | 12 weeks | NR | Patients underwent shoulder magnetic resonance imaging (MRI) for diagnosis confirmation. The 3-mm cuts were taken in T1-weighted, T2-weighted, proton density sequences in 3 planes (sagittal, coronal, and axial) using a 1.5-T MAGNETOM Essenza, a Tim systemMRI (Siemens). |
| Petersen | Chronic Achilles tendinopathy - A prospective randomized study comparing the therapeutic effect of eccentric training, the AirHeel brace, and a combination of both." | Group 1: EXERCISE - ECCENTRIC Group 2: BRACE Group 3: COMBO - BRACE AND ECCENTRIC EXERCISE | Intervention1: 37 (23 M/ 14 F) Intervention 2: 35 (20M / 15 F) Intervention3: 28 (17M/11F) | Intervention1: 42.1 (± 11 Intervention 2: 42.6 ± 10.7 Intervention3: 43 ± 12 | Intervention 1: 176.4 ± 9.3 Intervention 2: 177.9 ± 8.9 Intervention3: 177.5 ± 8.6 | Intervention 1: 79.4 (17.1) Intervention 2: 82.3 (13.4) Intervention3: 76.9 (10.7) | Intervention 1: 28.4 (10)) Intervention 2: 29.2 (10) Intervention3:28 (9.2) | A painful thickening of the Achilles tendon located at a level of 2 to 6 cm above the tendon insertion. In all tendons, the diagnosis was confirmed by ultrasonography. | All patients with pain at the insertion of the tendon (insertional tendinitis) or Haglund deformity were excluded from the study. Patients with previous surgery or tendon rupture were excluded from this study. | NR | NR | 92/100 'active in sports' Majority recreational athletes involved in activities such as jogging or running (29%), walking (15%), or other sports activities (33%). | The patients were recruited by announcing the study in local newspapers. | NR | NR | NR | NR | 12 weeks | NR | In all tendons, the diagnosis was confirmed by ultrasonography. |
| Peterson | A randomized controlled trial of exercise versus wait-list in chronic tennis elbow (lateral epicondylosis) | Group 1: EXERCISE - STRENGTHING Group 2: ‘Wait and See’ | Intervention1: 40 (24M) Intervention 2: 41 (23M) | Intervention1: 49.1 ± 8.1 Intervention 2: 47.4 ± 8.6 | NR | NR | Intervention 1: 95.6 (118.8) Intervention 2: 95.6 (118.8) | 20–75 years, symptoms of TE for more than 3 months, and a verified diagnosis. diagnosis was checked by pain on palpation, stretching (Mill’s test), loading (maximum voluntary contraction (MVC)), and Maudsley’s middle finger test by the same physician, a general practitioner and pain specialist. For a verified diagnosis, pain on palpation and a positive outcome of one or more of the other three tests was required. | Any of concomitant supinator syndrome, compartment syndrome of the anconeus muscle, rhizopathy, inflammatory joint disease, fibromyalgia, previous elbow surgery, and inability to understand Swedish. | Number of previous episodes Exercise Mean 1.3 Control Mean 0.8 Time since last episode, weeks Exercise Mean 76 Control Mean 45  Duration of present episode, weeks Exercise Mean 107 Control Mean 96 | Pain on palpation, stretching (Mill’s test), loading (maximum voluntary contraction (MVC)), and Maudsley’s middle finger test by the same physician | **YES** -- Gothenburg Quality of Life Instrument (GQL)--Activity sub scale: lists 32 specified leisure time activities and two open alternatives, covering six areas. The subjects were asked to indicate which of these activities they had performed during the last year with response alternatives ‘never’ (0), ‘occasionally’ (1) and ‘often or regularly’ (2). The scores were summed across the area to an overall activity score, high scores indicating an active life-style. | General practitioners and physiotherapists at primary health care in Uppsala County. In addition, subjects with symptoms were invited to participate in a randomized controlled trial through advertisements in the main local newspaper in order to recruit a sufficiently large number of subjects. | NR | NR | NR | NR | 12 weeks | Yes - reported data on education and martial status. | Imaging not used for diagnosis |
| Pienimäki | Progressive strengthening and stretching exercises and ultrasound for chronic lateral epicondylitis | Group 1: EXERCISE - HEP (STRETCHING AND STRENGTHENING) Group 2: ULTRASOUND | Intervention1: 20 (8M) Intervention 2: 19 (6M) | Intervention1: 43 (33-53) Intervention 2: 41 (31-53) | Intervention 1: 166 (152-182) Intervention 2: 166 (154-179) : | Intervention 1:73 (50-98) Intervention 2: 75 (52-108 Intervention3: | Intervention 1: <24 (9), > 24 (11) Intervention 2: <24 (11), > 24 (8) | Positive Mill’s test and resisted wrist and/or middle finger extension produced typical pain at the origin on the lateral epicondyle. A third inclusion criterion was local tenderness on palpation over the lateral epicondyle. | Cubital osteo-arthritis, carpal or radial tunnel syndrome, rheumatoid arthritis, severe cervical spondylosis or cervical radicular syndrome, painful shoulder or rotator cuff tendinitis, previous fractures of arm causing limitations in arm function, and no clinical signs of tennis elbow syndrome | NR | Positive Mill’s test and resisted wrist and/or middle finger extension produced typical pain at the origin on the lateral epicondyle. Local tenderness on palpation over the lateral epicondyle. | 11/39 regular sport | They were selected from patients referred to the Oulu University Hospital for clinical evaluation and treatment by their general practitioners because they had not responded to primary treatment | 20/39 Smokers | NR | NR | NR | 6-8 weeks | Strenuous hobby using arms 20/39 Duration of sick leave (mean, weeks) Exercise Group 6.3 Ultrasound Group 7.1 | Imaging not used for diagnosis |
| Pienimäki | Long-term follow-up of conservatively treated chronic tennis elbow patients. A prospective and retrospective analysis | Group 1:EXERCISE - HEP (STRETCHING AND STRENGTHENING) Group 2: ULTRASOUND | **inconsistency here-no biggy-but only counting those with complete data i.e. 23/30…yet in hay above all 207 are considered, even though they had <200 provide compete followup data-I don’t know which is right, but should treat them the same???? applies to main review too obviously...**.Intervention1: 12 Intervention 2: 11 | Intervention1: 43 (33-53) Intervention 2: 41 (31-53) | Intervention 1: 166 (152-182) Intervention 2: 166 (154-179) : | Intervention 1:73 (50-98) Intervention 2: 75 (52-108 Intervention3: | Intervention 1: <24 (9), > 24 (11) Intervention 2: <24 (11), > 24 (8) | To be included in the study, all patients had a positive Mill’s test and resisted wrist and/or middle finger extension produced typical pain at the origin on the lateral epicondyle. A third inclusion criterion was local tenderness on palpation over the lateral epicondyle. | Cubital OA, Carpal Tunnel Syndrome, RA, Cervical Spondylosis, Rotator cuff tendinitis, cubital, forearm or humeral fracture limiting function | NR | Positive mills Test and positive resisted middle finger or wrist extension pain at LET | Original Study 11/39 regular sport | NR - Follow up Study | Follow up study of original Pienmaki study 1996 (see below) | NR | NR | NR | NA Follow Up | Unemployed 17% Exercise 9% US During trial. 18% sick leave in US group | Imaging not used for diagnosis |
| Radford | "Effectiveness of calf muscle stretching for the short-term treatment of plantar heel pain: a randomised trial." | Group 1: EXERCISE STRETCHING + SHAM ULTRASOUND Group 2: SHAM ULTRASOUND Group 3: | Intervention1: 46 (15) Intervention 2: 46 (21) | Intervention1: 50.7 ± 11.8 Intervention 2: 50.1 ± 11.0 | NR | NR | Intervention 1: Median 52 (16 to 244) Intervention 2: 52 (12 - 484) | (i) Localised pain at the plantar heel; (ii) that was worst when first standing or walking after rest; and (iii) that improved initially after first standing but worsened with increasing activity. As plantar heel pain is diagnosed clinically the majority of the time, we chose to not use expensive imaging procedures for diagnosis; thus maximising generalisability of our findings to standard clinical practice. Participants also needed to be 18 years of age or older and have had symptoms for four weeks or longer. | Any inflammatory, osseous, metabolic or neurological abnormalities. They were also excluded if they had received a corticosteroid injection within the past three months. Participants were encouraged not to commence use of any new treatments during the trial (e.g. anti-inflammatory medication, foot orthoses etc.). | NR | NR | NR | Participants were recruited from local community newspaper advertisements in Campbelltown (Sydney, Australia) and treated at a university podiatry clinic. | NR | NR | NR | NR | 2 weeks | NR | Imaging not used for diagnosis |
| Rompe | Eccentric loading compared with shock wave treatment for chronic insertional Achilles tendinopathy. | Group 1: EXERCISES HEP - STRETCH & STRENGTH Group 2: CORTICOSTEROID Group 3: SHOCKWAVE | Intervention1: 25 (11M) Intervention 2: 25 (9M) | Intervention1: 39.2 ± 10.7 Intervention 2: 40.4 ± 11.3 | NR | NR | Intervention 1:43.6 (30.8) Intervention 2: 50 (27.2) Intervention3:36.8 (42) | Localized pain over the distal part of the Achilles tendon at its insertion onto the calcaneus, with local tenderness and a reduced level of activity. The Williams arc sign test and the Royal London Hospital test were applied to rule out more extensive tendinopathy or paratendinopathy involving the body of the Achilles tendon. All patients had plain radiographs of the calcaneus to identify tendon calcification. We included patients who had an established diagnosis of chronic insertional Achilles tendinopathy for at least six months combined with failure of nonoperative management, including at least one injection of a local anesthetic and/or a corticosteroid, a prescription for an anti inflammatory medication, and physiotherapy and/or use of orthotics or a heel lift. Patients were between the ages of eighteen and seventy years, and they had to be able to complete questionnaires and to give informed consent. | Thickening of the tendon and/or an irregular tendon structure with hypoechoic areas and/or an irregular fiber orientation orientation in the midportion of the tendon. Patients showing a Haglund deformity, an osseous prominence on the posterosuperior and lateral aspect of the calcaneus with a Fowler-Philip angle of >75 on plain radiographs, were excluded. We excluded from the study those patients who had received peritendinous injections (local anesthetic and/or corticosteroids) within the previous four weeks, patients in whom symptoms had been present for less than six months, and patients with other conditions that could contribute substantially to posterior ankle pain, such as classic midsubstance Achilles tendinopathy, ankle arthritis, radiculopathy, or systemic neurological conditions. Patients were also excluded if they had congenital or acquired deformities of the knee and ankle, prior surgery of the ankle or the Achilles tendon, a prior Achilles tendon rupture, or a dislocation or fracture in the area in the preceding twelve months. | NR | NOT CLEAR - Load-induced pain, NRS [0-10], without saying what that is / was assessed | 23/75 Athletic - No details provided | Patients who had consulted one of 3 participating orthopaedic physicians for Achilles tendon complaints were referred to the clinic of the senior author | NR | NR | NR | NR | 12 weeks | NR | In all patients enrolled in the study, an ultrasound study also excluded thickening of the tendon and/or an irregular tendon structure with hypoechoic areas and/or an irregular fiber or entation in the midportion of the tendon. Patients presenting with superficial or retrocalcaneal fluid on the ultrasound examination as a sign of bursitis were excluded. All patients had plain radiographs of the calcaneus to identify tendon calcification. Patients showing a Haglund deformity, an osseous prominence on the posterosuperior and lateral aspect of the calcaneus with a Fowler Philip angle of >75on plain radiographs23, were excluded. |
| Rompe | Eccentric loading, shock-wave treatment, or a wait-and-see policy for tendinopathy of the main body of tendo achillis: a randomized controlled trial." | Group 1: EXERCISE: STRETCHING Group 2: SHOCK WAVE THERAPY | Intervention1: 25 (9M) Intervention 2: 25 (11M) Intervention3: 25 (9M) | Intervention1: 48.1 ± 9.9 Intervention 2: 51.2 ± 10.3 Intervention3: 46.4 ± 11.4 | NR | NR | Intervention 1: 99.2 (32.8) Intervention 2: 105.2 (42.8) | Pain over the main body of the Achilles tendon 2 to 6 cm proximal to its insertion, swelling, and impaired function. All patients enrolled had an ultrasound study that revealed local thickening of the tendon and/or irregular tendon structure with hypoechoic areas and/or irregular fiber orientation. Achilles tendinopathy for at least 6 months before treatment and failure of nonoperative management. All patients included had undergone a combination of at least one peritendinous injection of a local anesthetic and/or corticosteroid, a trial of anti-inflammatory medications, use of orthotics and/or a heel lift, and physiotherapy. Patients were to be 18 to 70 years old, able to complete questionnaires, and able to give informed consent. | We excluded from the study patients who had received peritendinous injections of a local anesthetic and/or corticosteroid within the last 4 weeks, patients with bilateral Achilles tendinopathy, patients in whom symptoms were present for <6 months, and patients with other conditions that could significantly contribute to posterior ankle pain (osteoarthrosis, inflammatory arthritides, radiculopathy, systemic neurologic conditions, etc). Patients were also excluded if they had congenital or acquired deformities of the knee and ankle, prior surgery to the ankle or the Achilles tendon, prior Achilles tendon rupture; and/or if they had prior dislocations or fractures in the area in the preceding 12 months. | NR | NOT CLEAR - Load-induced pain, NRS [0-10], without saying what that is / was assessed | 23/75 Athletic - No details provided | Patients who had consulted one of 3 participating orthopaedic physicians for Achilles tendon complaints were referred to the clinic of the senior author | NR | NR | NR | NR | 12 weeks | NR | All patients enrolled had an ultrasound study that revealed local thickening of the tendon and/or irregular tendon structure with hypoechoic areas and/or irregular fiber orientation |
| Rompe | Home training, local corticosteroid injection, or radial shock wave therapy for greater trochanter pain syndrome. | Group 1: EXERCISE - Alfredson Program Group 2: SHOCK WAVE THERAPY Group 3: WAIT AND SEE | Intervention1: 76 (23 M) Intervention 2: 75 (21 M) Intervention3: 78 (23) | Intervention3: 46 ± NR Intervention 2: 50 ± NR Intervention3: 47 ± NR | NR | NR | Intervention 1: 3.9 (2-6) Intervention 2: Week 3.6 (2-6) | Local tenderness on palpation of the area of the great trochanter of patients with this symptom as the reason for the consultation. Physical examination included asking subjects “Is this tender or painful?” while applying 1.5 to 3.0 kg of pressure over the lateral and posterior aspects of the greater trochanter with the subject in the lateral decubitus position. The examiner used a Wagner Force Dial dolorimeter (Wagner Instruments, Greenwich, Connecticut). Pain located anterior, lateral, or posterior to the greater trochanter for more than 6 months. Pain while lying on the affected side. Positive resisted external rotation test result. No radiologic evidence at imaging of hip joint disease or knee joint disease (Kellgren-Lawrence scale). | History of acute trauma. Presence of signs and symptoms of another cause of regional hip pain, such as dysplasia, deformities, sciatica. Presence of hip internal rotation ≤20° in the context of pain with internal rotation. Presence of signs of general myofascial tenderness on palpation. Bilateral GTPS. Previous injection of the trochanteric area during the preceding 6 months. Previous spinal surgery. Previous hip surgery. Acute low back pain. Local infection to the hip joint region. Blood coagulation disorders or use of anticoagulant medication. Any known kind of vascular, neurologic, or neoplastic comorbidity. | NR | Positive resisted external rotation test result. | Approximately 60% engaged in PA - various | Consecutive patients referred to 2 orthopaedic outpatient clinics for persisting lateral hip pain were checked for the following inclusion criteria. After diagnosis, patients were asked to contact the clinics for an appointment for treatment. | NR | Concomitant low back pain (%) eX 51 (67) CSI 53 (71) ESWT 38 (49) | Use of analgesics during past week EX 11 (14) CSI 10 (13) EWST 13 (17). | NR | 12 weeks | NR | Imaging not used for diagnosis |
| Rompe | "Plantar fascia-specific stretching versus radial shock-wave therapy as initial treatment of plantar fasciopathy." | Group 1: EXERCISE - Alfredson Program Group 2: SHOCK WAVE THERAPY | Intervention1: 54 (18) Intervention 2: 48 (18) | Intervention1: 53.1 (27-70) Intervention 2: 49.8 (29-68) Intervention3: | NR | Intervention 1: 76.1 (51-121) Intervention 2:78.2 (49-115) Intervention3: | Intervention 1: 56 (32 - 48) Intervention 2: 44 (24 - 160) Intervention3: 60 (24 - 44) | History of plantar fasciitis for <6 weeks Numeric Rating Scale (NRS) score ‡6 points for pain during the first few steps of walking in the morning Localized pain on palpation of the proximal plantar fascia Willingness to abstain from any other treatments or medications during the treatment and follow-up period | <18 years of age Receiving local injections prior to the randomization visit Receiving physical therapy prior to the randomization visit Receiving NSAIDs\* for any chronic conditions whether or not related to plantar fasciitis prior to the randomization visit Prior self-treatment with any kind of stretching Receiving systemic therapeutic anticoagulants Bilateral plantar fasciitis History and/or physical findings of lower-extremity dysfunction, local arthritis, generalized polyarthritis, rheumatoid arthritis, ankylosing spondylitis, or local arthrosis Neurologic abnormality (changes of deep tendon reflexes, or motor or sensory deficit) Arthrosis of the foot or ankle, as confirmed by radiographic diagnosis (anteroposterior and lateral views) Previous surgery of the foot Participation in a Workers’ Compensation program or plans to apply for the program Thrombopathy, infection, tumor, diabetes mellitus, systemic lupus erythematosus, severe cardiac disease, or other severe systemic diseases. Pregnancy | NR - excluded participants with pain for >6 weeks? | NR | **NR** | NR | NR | NR | NR | NR | 12 weeks | NR | For all patients, conventional radiographs of the heel were made in two planes to rule out fracture, tumor, and infection. Because there is no evidence of a correlation between the presence or absence of a plantar heel spur and treatment outcome, the presence of a plantar heel spur on radiographs played no role in establishing the diagnosis of plantar fasciopathy. Depending on the individual case, supplementary magnetic resonance imaging and/or bone scintigraphy were performed |
| Roos | Clinical improvement after 6 weeks of eccentric exercise in patients with mid-portion Achilles tendinopathy - a randomized trial with 1-year follow-up. | Group 1: EXERCISE - Alfredson Program Group 2: NIGHT SPLINT Group 3: COMBO (ECCENTRIC + SPLINT) | Intervention1: 16 Intervention 2: 13 Intervention3: 15 | Total Sample 46 (range, 26–60 years) | NR | NR | Sample: Median 22  (range, 4 - 720) | activity level prior to the current problems should be at least equivalent to heavy household work, heavy yard work and walking on even ground. The patients should report at least moderate pain/problems when performing physical activities, and the duration of symptoms should be more than 4 weeks. The examiner also did a clinical examination and verified symptoms 2–6 cm proximally of the insertion. | To ensure the diagnosis, patients with symptoms localized at the insertion of the tendon were excluded. | NR - excluded participants with pain for >4 weeks? | NR | 65% active in sports prior to the current symptoms -Physical activity level was evaluated on a seven-grade scale from 0 to 6, 0 | Patients seeking medical care within primary care in Helsingborg, Sweden | NR | NR | NR | NR | 12 weeks | NR | Imaging not used for diagnosis |
| Smidt | Corticosteroid injections, physiotherapy or a wait-and-see policy for lateral epicondylitis: a randomised controlled trial." | Group 1: COMBO - MASSAGE, ULTRASOUND, STRETCHING AND STRENGTHENING Group 2: INJECTION CSI Group 3: WAIT AND SEE | Intervention1: 64 (36M) Intervention 2: 62 (28M) Intervention3: 59 (28M) | Intervention1: 48 (41–52) Intervention 2: 47 (41–54) Intervention 3: 46 (42–54) | NR | NR | Intervention 1: 11 (8–21) Intervention 2: 11 (8–16) Intervention3: 11 (8–21) | Pain at the lateral side of the elbow, increasing with pressure on the lateral epicondyle and with resisted dorsiflexion of the wrist; age 18–70 years; ability to complete questionnaires in Dutch; and informed consent. | Elbow complaints with physiotherapy or injections during the preceding 6 months; bilateral elbow symptoms; duration less than 6 weeks; presence of signs and symptoms suggestive of another cause of elbow pain—eg, cervical radiculopathy; congenital or acquired deformities of the elbow; surgery of the elbow; dislocation, tendon ruptures, or fractures in the area in the preceding 12 months; systemic musculoskeletal or neurological disorders; and contraindications for corticosteroids. | Previous episodes of lateral elbow pain Wait and see 18 (31%) Corticosteroid 25 (40%) Physiotherapy 16 (25%) | Pain at the lateral side of the elbow, increasing with pressure on the lateral epicondyle and with resisted dorsiflexion of the wrist | NR | Individuals who consulted one of 85 participating family doctors for elbow complaints. | Concomitant neck disorders WAIT AND SEE 12 (20%) CSI 18 (29%) PHYSIO 9 (14%) | Concomitant neck disorders WAIT AND SEE 12 (20%) CSI 18 (29%) PHYSIO 9 (14%) | Use of analgesics during past week WAIT AND SEE 9 (15%) CSI 10 (16%) PHYSIO 8 (13%) | NR | 6 Weeks | NR | Imaging not used for diagnosis |
| Steffansson | Using Pressure Massage for Achilles Tendinopathy A Single-Blind, Randomized Controlled Trial Comparing a Novel Treatment Versus an Eccentric Exercise Protocol | Group 1: EXERCISE - Alfredson Program Group 2: Pressure Massage Group 3: COMBO (MASSAGE & ECCENTRIC EXERCISE) | Intervention1: 19 Intervention 2: 21 Intervention 2: 20 | Intervention1: 46.0 ± 12.9 Intervention 2: 42.3 ± 11.1 Intervention 3: 46.0 ± 9.9 | Intervention 1: 177.0 ± 7.7 Intervention 2: 178.0 ± 8.4 Intervention3: 178.0 ± 6.0 | Intervention 1: 93.1 ± 18.6 Intervention 2: 87.0 ± 14.2 Intervention3: 87.1 ± 21.7 | Intervention 1:115.2 (158.8) Intervention 2: 89.2 (125.6) 22.3 ± 31.4 Intervention3:136.4 (162) | Age >18 years, Clinically diagnosed with AT by a clinician, Pain on palpation over Achilles tendon, Duration >12 weeks, Swelling of tendon, AT confirmed on ultrasonographic scan | Insertional tendinopathy, History of fracture to the ankle affecting the joint, Rheumatic conditions, Circulatory disorders or diabetes, Injuries to the Achilles tendon, other than AT | NR | NR | NR | Patients who had been diagnosed with Achilles tendinopathy were recruited from clinicians and physical therapists and were referred to the first author. | NR | NR | NR | NR | 12 weeks | NR | Diagnosis confirmed on ultrasonographic scan |
| Struijs | "Conservative treatment of lateral epicondylitis - Brace versus physical therapy or a combination of both - A randomized clinical trial. | Group 1:COMBO: MASSAGE, ULTRASOUND, STRETCHING AND STRENGTHENING Group 2: BRACE Group 3: COMBO - BRACE AND PT | Intervention1: 56 (27 M) Intervention 2: 68 (36 M) Intervention3: 56 (28M) | Intervention1: 43 ± 8 Intervention 2: 46 ± 11 Intervention 3: 47 ± 9 | NR | NR | Intervention 1: 16 (16) Intervention 2: 23 (30) Intervention3: 21 (37) | Clinically diagnosed lateral epicondylitis and complaints for at least 6 weeks. The diagnosis lateral epicondylitis was made if patients reported pain on the lateral side of the elbow, which was aggravated with both pressure on the lateral epicondyle of the humerus and resisted dorsiflexion of the wrist | Bilateral complaints, with a clear decrease of pain in the previous 2 weeks, who had received any treatment for the lateral epicondylitis episode in the last 6 months before inclusion, and who were unable to fill out questionnaires. | NR - but they must have some info as they say 'additional subgroup analyses carried out for duration of complaints, presence of neck/shoulder problems, previous episodes of tennis elbow complaints, and allocation to the preferred therapy showed no differences for subgroups | Pain aggravated with resisted dorsiflexion of the wrist' | NR | Patients were recruited by both general practi- tioners and primary care physical therapists and referred to an outpatient clinic. | Neck/shoulder complaints % (n) EX 18 (10) BRACE 25 (17) COMBO 18 (10 | Neck/shoulder complaints % (n) EX 18 (10) BRACE 25 (17) COMBO 18 (10 | NR | NR | 6 Weeks | NR | Imaging not used for diagnosis |
| Tonks | "Steroid injection therapy is the best conservative treatment for lateral epicondylitis: a prospective randomised controlled trial." | Group 1: EXERCISE STRETCHING & STRENGTHING Group 2: INJECTION (LOCAL ANAESTHETIC & STEROID) Group 3: INJECTION + EXERCISE Group 4: CONTROL | Intervention1: 12 Intervention 2: 12 Intervention3: 12 Intervention 4: 12 | Intervention1: 43.8 ± 7.5 Intervention 2: 48.2 ± 6.5 Intervention 3: 41.9 ± 7.4 | NR | NR | NR | Symptoms of tennis elbow who had not had treatment for this complaint in the preceding 6 months, pain reproduced on palpation of the common extensor origin, pain reproduced on resisted extension of the wrist with the elbow extended and age over 18 years. | Coexisting cervical spine or other upper limb pathology 35/80 (44%) Incorrect diagnosis 12/80 (15%) Elbow injection therapy in the preceding six months 12/ 80 (15%) Contraindication to injection therapy 4/80 (5%) Elbow physiotherapy in the preceding six months 2/80 (2%) Treatment no longer required/did not attend 15/80 (19%) | NR | Pain reproduced on resisted extension of the wrist with the elbow extended | NR | Patients deemed by their general practitioners to have a diagnosis of tennis elbow and referred to the outpatient department for further management were assessed for their suitability for inclusion in the study. | NR | NR | NR | NR | 6-8 weeks | NR | Imaging not used for diagnosis |
| Visnes | "No effect of eccentric training on jumper's knee in volleyball players during the competitive season - A randomized clinical trial. | Group 1: EXERCISE: ECCENTRIC Group 2: CONTROL (USUAL TRAINING) | Intervention1: 13 (8M) Intervention 2: 16 (11M) | Intervention1: 26.8 ± 4.6 (19–35) Intervention 2: 26.4 ± 3.4 (20–31) | Intervention 1: 183.9 6 9.9 (168–198) Intervention 2: 184.7 6 8.1 (170–19 | Intervention 1: 84.4 6 16.4 (51–112) Intervention 2:84.4 6 16.4 (51–112) Intervention3: | Intervention 1: 268 (176) Intervention 2: 316 (300) | History of pain in the quadriceps or patellar tendons or their patellar or tibial insertions (localized on a knee map) in connection with training or competition, and tenderness to palpation corresponding to the painful area. Symptoms had to have been present for a minimum of 3 months, and the Victorian Institute of Sport Assessment (VISA) score18 had to be less than 80 points. Data on both knees were recorded if the patient had bilateral problems, and the knee with the lowest VISA score at the time of inclusion was used in the final data analysis. The subjects had to be between 18 and 35 years old. | Osgood-Schlatter and Sinding-Larsen-Johansson disease in the adolescent athlete and significant osteoarthritis in the older athlete. Subjects were excluded if they had a history of knee problems caused by patellofemoral pain syndrome, inflammatory joint conditions, or degenerative conditions. | NR | NR | Volleyball athletes: training (h/wk) 5.8 +/- 1.3 Control 6.4 +/- 2.6 and additional weight training 1.4 and 1.9 hrs/week | Patients were recruited from the clubs in the elite and 1st divisions for men and women in Norway during the fall (November to December, first half of the competitive season) | NR | NR | NR | NR | 12 weeks | NR | Imaging not used for diagnosis |
| Viswas | "Comparison of effectiveness of supervised exercise program and Cyriax physiotherapy in patients with tennis elbow (lateral epicondylitis): a randomized clinical trial." | Group 1: EXERCISE: STRETCHING & STRENGTHING Group 2: MANUAL THERAPY CYRIAX | Intervention1: 10 (4M) Intervention 2: 10 (6M) | Intervention1: 37.40 4.88 Intervention 2: 38.2 ± 4.3 | NR | NR | Intervention 1:9.1 ± 0.88 Intervention 2: 8.8 ± 0.9 | Pain with gripping. Pain with resisted wrist extension Pain with passive wrist flexion with the elbow extension. Tenderness on palpation over the lateral epicondyle of humerus | Cardiovascular diseases. Neurological impairments. Aversion to manual contact. Neuromuscular diseases. Previous trauma to the elbow region. Elbow pain. Previous surgery to the elbow region. Peripheral nerve entrapment. Cervical radiculopathy. Corticosteroid injection within 6 months. Previous therapy for elbow joint (minimizing expectation bias). | NR | Pain with gripping. Pain with resisted wrist extension Pain with passive wrist flexion with the elbow extension.' | NR | Participants were referred by an orthopaedic consultant, health care providers, and also self-referral to an outpatient clinic. | NR | NR | NR | NR | 4 weeks | NR | Imaging not used for diagnosis |
| Vuvan | Unsupervised Isometric Exercise versus Wait-and-See for Lateral Elbow Tendinopathy | Group 1: ADVICE & ISOMETRIC EXERCISE Group 2: WAIT & SEE | Intervention1: 21 (14M/7F) Intervention 2: 19 (15M/4F) | Intervention1: 48.0 ± 7.9  Intervention 2: 49.0 ± 10.2 | Intervention 1: 174.1 (10.7) Intervention 2: 173.6 (9.9) | Intervention 1: 79.6 (19.9) Intervention 2: 79.3 (9.0) Intervention3: | Intervention 1: 24 (8-32) Intervention 2: 12 (8-24) | 18-70 years; unilateral lateral elbow pain ≥ 6 weeks duration; average pain severity during the past week ≥ 2 on a 11-point numerical rating scale (NRS, 0 = no pain, 10 = worst pain imaginable); provoked by at least 2 of: gripping, palpation of the lateral epicondyle, stretching of forearm extensor muscles, or resisted wrist, second or third finger extension; and reduced pain-free grip strength. | Other primary sources of elbow pain (e.g. exacerbation of elbow pain with neck movements or manual palpation, pain localised over the radiohumeral joint, abnormal findings on neural examination); concomitant musculoskeletal pain conditions reported by participants to be their predominant complaint; major neurological, inflammatory or systemic conditions; treatment by a healthcare practitioner within the preceding 3 months; injections within the preceding 6 months; or major trauma, fracture or surgery in the last year | NR | Provoked by at least 2 of: gripping, palpation of the lateral epicondyle, stretching of forearm extensor muscles, or resisted wrist, second or third finger extension | Repetitive/manual tasks at work, no. (%) 33 (82.5) Gripping sport, no. (%) 30 (75) | Participants were recruited from the greater Brisbane region of Australia between September 2015 and July 2017 through print and online advertisements. | NR | NR | NR | Only asked if sleep was affected by pain | 8 weeks | NR | Imaging not used for diagnosis |
| Walther | "The subacromial impingement syndrome of the shoulder treated by conventional physiotherapy, self-training, and a shoulder brace: results of a prospective, randomized study." | Group 1: EXERCISE - SELF TRAINING - STRETCHING & STRENGTHENING Group 2: EXERCISE - STRETCHING Group 3: BRACE | Intervention1: 20 (9 M) Intervention 2: 20 (11 M) Intervention 3: 20 (14 M) | Intervention1: 52.1 Intervention 2: 51.5 Intervention 3: 48.6 | NR | NR | Intervention 1: 92 (12-288) Intervention 2: 128 (8-480) Intervention3: 108 (20-240) | Diagnosis of subacromial impingement was established by clinical examination, radiographs of the shoulder in three planes, and ultrasound.16,39 The Neer test (subacromial injection of 10 mL pure bupivacaine) was positive in all patients. | Concomitant cervical radiculopathy, frozen shoulder, full-thickness tear of the rotator cuff, disorders of the acromioclavicular joint, degenerative arthritis of the glenohumeral joint, calcifying tendinitis, shoulder instability, posttraumatic disorders, and involvement in workers’ compensation claims. | NR | Resolution of pain using the neer test following subacromial injection | NR | NR | NR | NR | NR | NR | 12 weeks | NR | Diagnosis of subacromial impingement was established by clinical examination, radiographs of the shoulder in three planes, and ultrasound. |
| Wen | "Eccentric strengthening for chronic lateral epicondylosis: a prospective randomized study." | Group 1: EXERCISE: ECCENTRIC Group 2: ELECTO MODALITIES & STRETCHING EXERCISES | Intervention1: 14 (9M) Intervention 2: 14 (6M) | Intervention1: 48.0 ± 9.0 Intervention 2: 43.9 ± 4.7 | NR | NR | Intervention 1: 12.3 (6.1) Intervention 2: 16.7 (12.3) | Older than 18 years; lateral elbow pain for at least 4 weeks; and physical examination evidence of lateral epicondylosis, including local tenderness at or just distal to the lateral epicondyle, along with reproduction of pain with resisted wrist extension, with the elbow completely extended, regardless of previous treatments. | Medical contraindication to the exercises, mental incompetence, and age younger than 18 years. | NR | Reproduction of pain with resisted wrist extension, with the elbow completely extended | NR | Participants were recruited from a university-based outpatient family medicine practice. | NR | NR | NR | NR | 14 weeks | NR | Imaging not used for diagnosis |
| Winters | Comparison of physiotherapy, manipulation, and corticosteroid injection for treating shoulder complaints in general practice: randomised, single blind study. | Group 1: COMBO ("CLASSIC PHYSIOTHERAPY" EXERCISE + MASSAGE + PHYSICAL APPLICATIONS) Group 2: INJECTION CSI Group 3: MANIPULATION | Intervention1: 64 (32 M) Intervention 2: 47 (15 M) Intervention 3: 61 (29M) | Shoulder girdle group Intervention1: 46.4 ± 11.2 Synovial Group 53.1 ± 12.6 & Intervention 2: Shoulder girdle group Intervention1:43.9 ± 12.6 Synovial Group 46.7 ± 12.1 Intervention 3: Synovial Group 53.5 ± 12.5 | NR | NR | Total Sample: Duration of complaints before first consultation: <1 45 (23), 2-4 51 (26), 5-25 64 (32), >26 38 (19) | Shoulder complaints were defined as pain localised in the region of the deltoid muscle, acromioclavicular joint, superior part of the trapezoid muscle, and scapula. Radiation of the pain in the arm could be present, and, besides the pain, the range of movement of the upper arm or shoulder girdle could be limited. | Treatment for shoulder complaints in the six months before consultation; bilateral shoulder complaints; presence of specific rheumatic disorders (polymyalgia rheumatica, rheumatoid arthritis, systemic lupus erythematosus, and fibromyalgia); shoulder complaints because of acute severe trauma such as fracture, dislocation, and cuff rupture (patients with a history of minor trauma were not excluded); presence of herniated cervical disc; presence of dementia or other psychiatric disorders; and refusal | History of previous shoulder complaints 86 (43) | NR | NR | Individuals who consulted seven general practices in the Netherlands with shoulder complaints. | Sickness absenteeism 15/94 (16) | NR | NR | NR | NS | Married or living with partner 162 (82) - Employment: Full time 57 (29) None 104 (52) | Imaging not used for diagnosis |
| Yelland | Prolotherapy injections and physiotherapy used singly and in combination for lateral epicondylalgia: a single-blinded randomised clinical trial | Group 1: EXERCISE - Alfredson Program Group 2: PROLOTHERAPY Group 3: COMBO - ECCENTRIC + INJECTION | Intervention1: 40 (24 M / 16 f) Intervention 2: 40 (22 M / 18 F) Intervention 3: 40 (22 M / 18 F) | Intervention1: 51.0 ± 9.0 Intervention 2: 49.2 ± 7.2 Intervention 3: 47.8 ± 7.0 | NR | NR | Intervention 1: 84 (57.2 –204) Intervention 2: 96 (28–312) Intervention3:24 (18 - 48) | 18–70 years and had a clinical diagnosis of LE, defined as pain over the lateral humeral epicondyle of at least 6 weeks’ duration provoked by palpation and resisted wrist/middle finger extension or gripping [11]. In addition, participants needed to score at least 20/100 on the Patient Rated Tennis Elbow Evaluation (PRTEE) and be able to understand enough English to complete the outcome questionnaires. | Any treatment for their elbow pain by a health care practitioner within the preceding 3 months, concomitant neck or other arm pain causing disability or requiring treatment within the last 6 months, clinical evidence of other primary sources of lateral elbow pain, upper limb fractures within the preceding 10 years, elbow surgery, systemic inflammatory disorder or malignancy, any contraindications to the study treatments, unresolved litigation or workers compensation claims, and pregnancy or breastfeeding | Previous episode of LE, N (%) Prolotherapy 12 (30%) Combination 13 (33.3%) Physiotherapy 15 (37.5%) | Did a clinical exam take place? pain over the lateral humeral epicondyle of at least 6 weeks’ duration provoked by palpation and resisted wrist/middle finger extension or gripping | NR | Participants were recruited from September 2012 to June 2014, via referrals from health professionals and through local media, social and web-based advertising. | NR | NR | NR | NR | 4 weeks | Employment Manual work PROLO 17 (42.5%) COMBO 20 (50%) PHYSIO 24 (60%) 61 (50.8%) Non-manual work 19 (47.5%) 13 (32.5%) 11 (27.5%) 43 (35.8%) Not working 4 (10%) 7 (17.5%) 5 (12.5%) 16 (13.3%) | Imaging not used for diagnosis |
| Yelland | Prolotherapy injections and eccentric loading exercises for painful Achilles tendinosis: a randomised trial. | Group 1: COMBO: MOBILISATION WITH MOVEMENT AND EXERCISE (STRENGTHENING AND SENSORIMOTOR) Group 2: PROLOTHERAPY Group 3: EXERCISE + PROLOTHERAPY | Intervention1: 15 Intervention 2: 14 Intervention 3: 14 | Intervention1: Median 46 (40–58) Intervention 2: median 48 (41–54) Intervention 3: Median 46 (40–57) | NR | NR | Intervention 1: 21.0 (43.0) Intervention 2: 23.0 (22.0) Intervention3:19.5 (18.0) | diagnosis of unilateral or bilateral midportion Achilles tendinosis with pain between 2 and 7 cm proximal to the calcaneal attachment in adults >18 years with activity-related pain for at least 6 weeks. The clinical severity of the tendinosis had to yield a score on the Victorian Institute of Sport Assessment—Achilles (VISA-A)2 of <80 of a maximum of 100 for participants involved in sport and <70 of 90 for people not involved in sport. **LATER ON IT SAYS ELIGIBILITY ASSESSMENT INCLUDED A DOPPLER-and only 43 with positive doppler enetered study** | Previous steroid or prolotherapy injections or surgery to the affected tendon, previous completion of >50% of the Achilles ELE protocol and any allergies or medical conditions that might limit completion of trial treatments. | Received previous treatment Eccentric 14 (93.3) Prolotherapy 14 (100) Combination 12 (85.7) | NR | 85-90% of participants were PA | The participants were recruited from April 2006 to June 2007 via referrals from health professionals and through advertising in newspapers, brochures and a website. | NR | NR | NR | NR | 12 weeks | NR | Applicant eligibility was assessed by phone interview followed by a clinical assessment and ultrasound with Doppler ultrasound |