TABLE E-1 Studies on Eccentric Exercises and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
Mafi et al.[60], 2001	Prospective multicenter study (Level I)	44 patients (22 of 44 patients randomized to eccentric exercises)	Achilles tendon	12 weeks	Reduction of pain during activity (jogging/walking) (VAS from 69 to 12)	-
Purdam et al.[149], 2004	Nonrandomized pilot study (Level II)	17 patients (22 tendons)	Patellar tendon	15 months	Reduction of pain during activity (VAS from 74.2 to 28.5); return to previous activity level	-
Roos et al.[26], 2004	Prospective randomized clinical trial (Level I)	44 patients	Achilles tendon	52 weeks	Pain reduction; improvement of symptoms, function and foot and ankle-related quality of life (Foot and Ankle Outcome Score from 62 to 87)	Muscle soreness
Jonsson and Alfredson[99], 2005	Prospective study (Level I)	25 patients (19 patellar tendons)	Patellar tendon	Mean 32.6 months	Reduction of pain (VAS from 73 to 23); improvement in function (VISA-P score from 41 to 83)	-
Young et al.[150], 2005	Prospective randomized controlled trial (Level I)	17 patients	Patellar tendon	12 months	Improvement of knee function (VISA-P score from 63 to 87); reduction of tendon pain with activity (VAS from 52 to 30)	-
Bahr et al.[151], 2006	Prospective study (Level I)	35 patients (40 knees)	Patellar tendon	12 months	Improvement of knee function (VISA-P score from 30 to 70); reduction of pain in standing jump (from 3.9 to 1.7), in counter-movement jump (from 3.9 to 1.8) and in leg press (from 4.0 to 1.3)	-
Jonsson et al.[152], 2006	Prospective study (Level III)	9 patients	Supraspinatus tendon	52 weeks	Reduction of pain (VAS from 71 to 18); Constant score from 51 to 80	-
Sayana and Maffulli[153], 2007	Prospective study (Level VI)	34 patients	Achilles tendon	12 weeks	Improvement of function (VISA-A score from 39 to 50 points)	-
Croisier et al.[154], 2007	Prospective study (Level III)	92 patients	Lateral epicondylar tendons	9 weeks	Reduction of pain (VAS from 6.9 to 1.2); increase of muscle strength; reduction of disability (disability questionnaire score from 8.5 to 14.4)	-
Frohm et al.[27], 2007	Prospective, randomized clinical trial (Level I)	20 patients	Patellar tendon	12 weeks	Improvement in symptoms and function (VISA-P score from 36 to 75); reduction of pain (VAS from 5 to 1)	No complication
Nørregaard et al.[155], 2007	Prospective (Level I)	45 patients	Achilles tendon	12 months	Reduction of pain and symptoms; global improvement	-
Petersen et al.[28], 2007	Randomized controlled clinical trial (Level I)	100 patients (139 Achilles tendons) (46 tendons randomized to eccentric exercises)	Achilles tendon	54 weeks	Reduction of pain at rest, during gait and during sports activities; improvement in function of hindfoot region (AOFAS hindfoot scale from 77 to 85); improvement of quality of life	-
Jonsson et al.[156], 2008	Short-term prospective pilot study (Level IV)	27 patients (34 Achilles tendons)	Achilles tendon	Mean 4 months	Reduction of pain (VAS from 69.9 to 21)	-
Maffulli et al.[157], 2008	Prospective study (Level IV)	45 patients	Achilles tendon	12 weeks	Improvement of function (VISA-A score from 36 to 52)	-
de Jonge et al.[29], 2010	Randomized controlled single-blind clinical trial (Level I)	58 patients (70 tendons) (34 tendons randomized to eccentric exercises)	Achilles tendon	12 months	Improvement of function (VISA-A score from 50 to 76); global improvement	-
Rompe et al.[30], 2009	Randomized controlled trial (Level I)	68 patients (34 of 68 randomized to eccentric exercises)	Achilles tendon	4 months	Improvement of function (VISA-A score from 50 to 73); reduction of load-induced pain (pain rating from 7 to 4); global improvement (Likert scale of 1 or 2)	Ache in calf after eccentric loading
Kulig et al.[158], 2009	Case series (Level IV)	10 patients	Tibialis posterior tendon	6 months	Improvement in symptoms and function (FFI from 31.1 to 10.9); reduction of pain after 5-min walk test (VAS from 21.6 to 7.4)	-

VAS: visual analogue scale; VISA-A: Victorian Institute of Sport Assessment-Achilles; VISA-P: Victorian Institute of Sport Assessment-Patellar; AOFAS: American Orthopaedic Foot and Ankle Society; FFI: Foot Function Index.

TABLE E-2 Studies on Extracorporeal Shock Wave Therapy and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
Schmitt et al.[39], 2001	Prospective, randomized controlled study (Level I)	40 patients	Tendinopathy of supraspinatus	12 weeks	Increase in function (Constant score from 40.70 to 66.50); reduction of pain during rest (VAS from 5.35 to 2.30) and pain during activity (VAS from 7.75 to 4.85)	No side effects
Speed et al.[40], 2002	Double-blind placebo randomized controlled trial (Level I)	75 patients	Lateral epicondylitis	3 months	Reduction of pain (VAS from 73.4 to 47.9) and night pain (VAS from 40.4 to 33.5); improvement in function	Withdrawn after 2 treatments due to worsening of symptoms
Speed et al.[41], 2002	Double-blind randomized controlled trial (Level I)	74 patients	Chronic tendinopathy of rotator cuff	6 months	Reduction of pain and improvement in shoulder function (SPADI from 53.6 to 24.1); reduction of night pain (VAS from 60.9 to 27.3)	No adverse effects
Jakobeit et al.[159], 2002	Prospective study (Level IV)	80 patients	Chronic calcareous tendinopathy of rotator cuff	4 weeks	Reduction or absence of pain at rest, pain during night sleep, pressure pain, pain in movement and pain during shoulder stress; reduction of restriction of shoulder movement (active abduction from 80% to 10%, active anteversion from 59% to 2%, clasping of hands to nape of neck from 65% to 11%, hands clasped at small of back from 46% to 9%); reduction or complete resorption of calcifications	-
Cosentino et al.[42], 2003	Single-blind randomized study (Level I)	70 patients	Calcifying tendinopathy of rotator cuff	6 months	Decrease of pain and increase in shoulder function (Constant score from 45 to 76)	-
Gerdesmeyer et al.[43], 2003	Double-blind, randomized placebo-controlled trial (Level I)	144 patients	Calcifying tendinopathy of rotator cuff	12 months	Improvement of shoulder function (CMS from 60 to 91); reduction of pain (VAS from 6.5 to 0.9)	Petechiae, bleeding, hematoma and erythema after treatment; no clinically adverse effects (including neurologic disorders, tendon rupture, infection, bone edema, osteonecrosis, or muscle hematoma)
Chung and Wiley[44], 2004	Double-blind randomized controlled trial (Level I)	60 patients	Lateral epicondylitis	8 weeks	Reduction of overall pain (VAS from 3.9 to 2.0), resting pain (VAS from 1.2 to 1.0), night pain (VAS from 1.3 to 0.4), activity pain (VAS from 5.2 to 2.4); improvement of quality life (EQ-5D thermometer from 81 to 84); increase of maximum pain-free grip strength (from 24.7 to 30.0 kg)	Nausea during therapy; aching after therapy; soreness after therapy; increased pain symptoms after therapy
Peters et al.[160], 2004	Prospective study (Level I)	90 patients	Calcific tendinopathy of shoulder	6 months	Reduction of pain; decrease of calcifications	Transitory reddening of skin; pain; small hematomas
Chung et al.[161], 2005	Prospective cohort (Level II)	60 patients	Lateral epicondylitis	12 months	Reduction of overall pain (VAS from 3.9 to 0.3), resting pain (VAS from 1.2 to 0.05), night pain (VAS from 1.3 to 0.3), activity pain (VAS from 5.2 to 0.2); improvement of quality of life; increase of maximum pain-free grip strength	-
Pettrone and McCall[45], 2005	Randomized double-blind controlled trial (Level I)	108 patients	Lateral epicondylitis	12 weeks	Reduction of pain (VAS from 74 to 37.6); improvement in function (activity score from 7.7 to 3.5); improvement of grip strength (from 71 to 87.1 lb)	Pain; nausea; local reaction; sweating; dizziness; hypertonia;

						hypesthesia; paresthesia; joint stiffness; myalgia; tremor; vasodilation; pallor
Lebrun[46], 2005	Randomized double-blind controlled trial (Level I)	60 patients	Lateral epicondylitis	8 weeks	Reduction of overall pain; improvement of quality of life; increase of pain-free grip strength	-
Moretti et al.[162], 2005	Prospective study (Level IV)	54 patients	Calcifying tendinopathy of rotator cuff	6 months	Improvement of shoulder function (Constant score from 24.5 to 68.2); reduction of pain (VAS from 4.5 to 1.92)	No systemic or local complications
Furia[163], 2005	Prospective study (Level III)	36 patients	Chronic lateral epicondylitis	12 weeks	Reduction of pain (VAS from 8.0 to 2.5); improvement in function (RAND 36-Item Health Survey Physical Functioning score from 65.6 to 88.0)	No complications
Furia[164], 2006	Case control study (Level III)	68 patients	Achilles tendon	12 months	Reduction of pain (VAS from 7.9 to 2.8); reduction or absence of symptoms (Roles and Maudsley scale)	Pain during treatment; transitory reddening of skin; transitory numbness on plantar aspect of heel
Albert et al.[47], 2007	Prospective randomized trial (Level I)	80 patients	Calcifying tendinopathy of rotator cuff	3 months	Improvement of function (CMS score from 50.7 to 63.2); reduction of pain	No serious adverse events
Vulpiani et al.[165], 2007	Prospective study (Level IV)	73 patients (83 knees)	Patellar tendinopathy	24 months	Reduction of pain (VAS from 7.1 to 1.35); global improvement (subjective clinical evaluation from 1.21 to 0.31)	-
Hsu et al.[166], 2008	Prospective study (Level I)	33 patients	Calcific tendinopathy of shoulder	12 months	Reduction of pain (VAS from 7.2 to 1.3); improvement in function (Constant score from 57.3 to 88); absence or decrease of calcium deposits	Local erythematous changes; local discomfort
Staples et al.[48], 2008	Double-blind, randomized, placebo-controlled trial (Level I)	68 patients	Lateral epicondylitis (tennis elbow)	6 months	Reduction of pain (Pain Index mean change 31.7); improvement in function (Function Index mean change 9.2, DASH Function mean change 21.0, DASH Sport mean change 34.9, DASH Work mean change 27.9); increase of pain-free grip (mean change 0.43) and maximum grip strength (mean change 0.23)	Pain or tenderness in arm; burning sensation
Vulpiani et al.[167], 2009	Observational study (Level IV)	105 patients (127 tendons)	Achilles tendon	24 months	Reduction of pain (VAS from 7.49 to 2.6); improvement in function	-
Schofer et al.[49], 2009	Prospective, randomized controlled study (Level I)	40 patients	Rotator cuff	12 months	Increase in function (Constant score); subjective improvement; reduction of pain	-

VAS: visual analogue scale; SPADI: Shoulder Pain and Disability Index; CMS: Constant and Murley Scale; EQ-5D: EuroQol-5D; DASH: Disabilities of the Arm, Shoulder and Hand.

TABLE E-3 Studies on High-Volume Injections and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon/Injected Substance	Follow-up	Outcome	Complications
Crisp et al.[75], 2008	Retrospective (Level IV)	9 patients	Patellar tendon. Injection contained 10 mL 0.5% bupivacaine, 25 mg hydrocortisone and between 12 and 40 mL normal saline solution	9 months	Reduction of pain; improvement in function	1 patient failed to respond to therapy; 3 patients experienced partial recurrence of patellar tendinopathy
Chan et al.[74], 2008	Retrospective (Level IV)	30 patients	Achilles tendon. Injection contained 10 mL of 0.5% bupivacaine hydrochloride, 25 mg hydrocortisone acetate and up to 40 mL injectable normal saline solution	Mean 8 months	Pain and functional improvement	-

TABLE E-4 Studies on Platelet-Rich Plasma and Tendinopathy

Study	Level of Evidence	Tendon	No. of Patients	Follow-up	Outcome	Complications
Mishra and Pavelko[85], 2006	Prospective cohort study (Level II)	Common extensor or flexor tendon	20 patients	Mean 25.6 months (range 12-38 months)	Reduction of VAS pain score (93% of treated patients)	No complications
Filardo et al.[168], 2010	Prospective (Level IV)	Patellar tendon	15 patients	6 months	Significant improvement in Tegner score, EQ VAS score and pain level	No complications
Kon et al.[78], 2009	Prospective (Level IV)	Patellar tendon	20 male athletes	6 months	Improvement in Tegner, EQ VAS and SF-36 scores	No complications related to injections or any severe adverse events
de Vos et al.[93], 2010	Prospective randomized study (Level I)	Achilles tendon	54 randomized patients	24 weeks	Mean VISA-A score improved in both treatment and placebo groups. Increase was not different between groups	No complications

VAS: visual analogue scale; SF-36: Short Form-36 Health Survey; EQ: EuroQol; VISA-A: Victorian Institute of Sport Assessment-Achilles.

TABLE E-5 Studies on Injection of Autologous Blood and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
Edwards and Calandruccio[94], 2003	Prospective (Level IV)	28 patients	Extensor carpi radialis brevis	9.5 months (range 6-24 months)	Decrease in pain score (from 7.8 to 2.3) and Nirschl score (from 6.5 to 2.0)	-
Suresh et al.[169], 2006	Prospective (Level IV)	20 patients	Common flexor origin of elbow	10 months	Decrease in VAS pain and in modified Nirschl score (from 6 to 1); reduction of hypoechoic changes in flexor tendon; reduction of neovascularity	No infection, neurovascular damage or rupture of tendon
Connell et al.[170], 2006	Retrospective (Level IV)	35 patients	Extensor tendon origin of elbow	6 months	Reduction in VAS pain (from 9 to 0) and Nirschl scores (from 6 to 0); reduction in total number of interstitial cleft formations and anechoic foci; reduction in tendon thickness; reduction of hypoechoic changes and neovascularity	No infection, neurovascular damage or rupture of tendon
James et al.[171], 2007	Prospective cohort study (Level IV)	44 patients (47 knees)	Patellar tendon	14.8 months (range 6-22 months); 21 patients (22 knees)	Reduction in overall tendon thickness and in size of area of tendinopathy; improvement in VISA-P score (from 39.8 to 74.3)	No complication
Moon et al.[172], 2008	Prospective (Level IV)	24 patients (26 elbows)	Insertion area of extensor carpi radialis brevis and flexor origin tendon	6 months	Improvement in VAS and Mayo elbow performance scores	No complication

VAS: visual analogue scale; VISA-P: Victorian Institute of Sport Assessment-Patellar.

TABLE E-6 Studies on Polidocanol Injections and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
Ohberg and Alfredson[100], 2002	Prospective (Level IV)	10 patients	Achilles tendon	6 months	Reduction of pain during activity (VAS from 74 to 8)	No side effects
Ohberg and Alfredson[173], 2003	Prospective (Level IV)	11 patients	Achilles tendon	Mean 8 months	Reduction of pain during tendon-loading activity (VAS from 82 to 14) and reduction of neovascularization	No side effects
Alfredson and Ohberg[101], 2005	Prospective (Level IV)	15 patients (15 patellar tendons)	Patellar tendon	Mean 6 months	Reduction of pain (VAS from 81 to 10)	3 tendons presented remaining neovascularization after treatment
Alfredson and Ohberg[102], 2005	Prospective (Level IV)	20 patients	Achilles tendon	Mean 3 months	Reduced level of tendon pain; neovascularization absent after treatment	No adverse events or side effects
Zeisig et al.[174], 2006	Prospective (Level IV)	11 patients (13 elbows)	Extensor tendon origin of elbow	8 months	Reduction of pain (VAS from 75 to 34); increase of maximal grip strength (from 29 to 40 kg)	No complications related to treatment
Alfredson et al.[103], 2006	Prospective (Level IV)	14 patients (14 shoulders)	Supraspinatus tendon	Mean 8 months	Reduction of pain (VAS from 79 to 21)	5 patients with a poor result of polidocanol injections
Hoksrud et al.[34], 2006	Randomized controlled trial/cross-over study (Level I)	33 patients (42 tendons)	Patellar tendon	12 months	Improvement of pain level and function (VISA-P score from 54 to 75)	No adverse events or side effects
Lind et al.[175], 2006	Prospective (Level IV)	42 patients	Achilles tendon	24 months	Reduction of VAS (from 75 to 7) and in mean midportion tendon thickness (from 10 to 8 mm)	No adverse events or side effects
Alfredson et al.[104], 2007	Prospective (Level IV)	20 patients	Achilles tendon	6 months	Reduction of tendon pain level (VAS from 76 to 24)	-
Willberg et al.[176], 2008	Prospective (Level IV)	48 patients (52 Achilles tendons)	Achilles tendon	Mean 14 months	Reduction of VAS (from 66 to 24)	No adverse events or side effects
Hoksrud et al.[177], 2008	Cohort study (Level III)	63 patients (79 Achilles tendons)	Achilles tendon	15 months	Improvement of function	-
Zeisig et al.[178], 2010	Follow-up study (Level IV)	25 patients (28 elbow tendons)	Extensor tendon origin of elbow	24 months	Structural tendon changes and high blood flow at inclusion	-
Clementson et al.[179], 2008	Retrospective study (Level IV)	28 patients (29 Achilles tendons)	Achilles tendon	Between 6 and 12 months	Good or excellent on self-assessment questionnaire or telephone interview	8 patients experienced discomfort during treatment; 1 patient stopped treatment because of affection of sural nerve with paresthesias and numbness

VAS: visual analogue scale; VISA-P: Victorian Institute of Sport Assessment-Patellar.

TABLE E-7 Studies on Intratendinous Injections of Corticosteroids and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
Saartok and Eriksson[180], 1986	Randomized single-blind pilot study (Level I)	21 patients (11 of 21 randomized to corticosteroid injections)	Tennis elbow (lateral epicondylitis)	2 weeks	Reduction of pain at rest and during daily activity; reduction of limitation of extension; improvement of grip strength	No side effects
Anderson et al.[181], 1991	Prospective study (Level IV)	55 patients	Extensor pollicis brevis tendon	4 years	Reduction of pain; Finkelstein test negative	Pain at injection site (18 of 55 patients); inflammatory flare reaction (pain, swelling, heat) (5 of 55 patients); ecchymosis at injection site (9 of 55 patients); radial nerve paresthesia, temporary (2 of 55 patients); vasovagal reaction (2 of 55 patients); subcutaneous fat atrophy (16 of 55 patients)
Price et al.[182], 1991	Prospective randomized double-blind study (Level I)	88 patients (59 of 88 randomized to corticosteroid injections)	Tennis elbow (lateral epicondylitis)	24 weeks	Reduction of pain (VAS from 47 to 18) and tenderness (tenderness score from 2.1 to 0.6)	Skin atrophy
Vecchio et al.[183], 1993	Prospective double-blind trial (Level I)	28 patients (28 of 55 randomized to corticosteroid injections)	Rotator cuff	12 weeks	Reduction of pain; increase of active abduction and active external rotation; improvement of total resisted movement score	Mild transient post-injection ache
Sölveborn et al.[184], 1995	Prospective randomized double-blind study (Level I)	109 patients	Extensor carpi radialis brevis tendon	1 year	Reduction of pain in long-term period (VAS from 44 to 18)	No side effects
Verhaar et al.[185], 1996	Prospective randomized trial (Level I)	106 patients (42 of 106 randomized to corticosteroid injections)	Extensor digitorum tendon and extensor carpi radialis brevis tendon	52 weeks	Increase in grip strength; reduction of pain in short-term period	No side effects (infections, skin hypopigmentation)
Stahl and Kaufman[186], 1997	Prospective randomized double-blind study (Level I)	58 patients (30 of 60 elbows randomized to corticosteroid injections)	Flexor-pronator tendon origin of elbow	12 months	Reduction of pain in short-term period	No local complications
Hay et al.[187], 1999	Multicenter randomized controlled trial (Level I)	164 patients (53 of 164 elbows randomized to corticosteroid injections)	Tennis elbow (lateral epicondylitis)	12 months	Reduction of pain severity and disability; improvement in function; increase of pain-free grip strength in affected arm	Local skin atrophy (1 of 53 patients)
Smidt et al.[188], 2002	Prospective randomized controlled study (Level I)	185 patients (62 of 185 randomized to corticosteroid injections)	Tennis elbow (lateral epicondylitis)	52 weeks	General improvement; reduction of pain and functional disability; increase of pain-free grip strength	Increased pain <1 day (6 of 62 patients); increased pain >1 day (10 of 62 patients); radiating pain to forearm or upper arm (17 of 62 patients); facial flush (2 of 62 patients); skin irritation (3 of 62 patients); red swollen elbow

						(2 of 62 patients); change of skin color (7 of 62 patients)
Crowther et al.[189], 2002	Prospective randomized study (Level I)	93 patients	Extensor tendon origin of elbow	3 months	Reduction of pain (VAS from 67 to 12)	No side effects
Koenig et al.[190], 2004	Uncontrolled prospective study (Level IV)	5 patients (6 tendons)	Achilles tendon	3 months	Reduction of pain at rest and pain at activity; reduction of intratendinous hyperemia	-
Gill et al.[118], 2004	Retrospective cohort study (Level IV)	43 patients	Achilles tendon	Mean 38 months	Clinical condition improved in 40% of patients, unchanged in 53% of patients and worsened in 7% of patients	No major complications (tendon rupture) and 1 minor complication (purple skin discoloration)
Lewis et al.[191], 2005	Randomized controlled trial (Level I)	164 patients (53 of 164 randomized to corticosteroid injections)	Tennis elbow (lateral epicondylitis)	5 days	Reduction of pain after 24 hours of treatment	-
Bisset et al.[192], 2006	Single-blind randomized controlled trial (Level I)	198 patients (65 of 198 randomized to corticosteroid injections)	Tennis elbow (lateral epicondylitis)	52 weeks	Global improvement, grip force augmentation and pain reduction	Pain after treatment (12 of 65 patients); hypopigmentation (2 of 65 patients); atrophy of subcutaneous tissue (1 of 65 patients)
Tonks et al.[193], 2007	Prospective randomized controlled trial (Level I)	48 patients (12 of 48 randomized to corticosteroid injections)	Common extensor origin	7 weeks	Increase of pain-free grip strength and extensor weight strength; improvement of PRFEQ score	Skin depigmentation and atrophy
Peters-Veluthamaningal et al.[194], 2008	Randomized placebo-controlled double-blind trial (Level I)	50 patients (25 of 50 randomized to corticosteroid injections)	Flexor tendon	12 months	Reduction of frequency of triggering; reduction of pain	Hot flushes (9 patients); steroid-flare (6 patients)
Lindenhovius et al.[195], 2008	Prospective double-blind randomized clinical trial (Level I)	64 patients (31 of 33 randomized to corticosteroid injections)	Lateral aspect of elbow	6 months	Reduction of pain (VAS from 5.8 to 2.4); DASH score from 31 to 18; increase of grip strength (percentage of grip strength [involved/noninvolved] from 83% to 98%)	Slight discoloration of skin around injection site (1 patient)
Ekeberg et al.[196], 2009	Double-blind randomized clinical trial (Level I)	106 patients (53 of 106 randomized to corticosteroid injections)	Rotator cuff	6 weeks	Improvement in shoulder pain (SPADI from 53 to 29; Western Ontario rotator cuff index from 45 to 67; abduction from 131° to 141°; flexion from 151° to 156°; pain at rest from 6 to 3; pain in activity from 6 to 2	Post-injection pain in shoulder

VAS: visual analogue scale; PRFEQ: Patient Rated Forearm Evaluation Questionnaire; DASH: Disabilities of the Arm, Shoulder and Hand; SPADI: Shoulder Pain and Disability Index.

TABLE E-8 Studies on Radiofrequency-Based Microtenotomy and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
Tasto et al.[127], 2005	Prospective nonrandomized consecutive case series (Level IV)	13 patients	Common extensor tendon origins of elbow	24 months	Pain reduction; upper-limb DASH and SF-36 questionnaire improvement	No perioperative or postoperative complications or adverse events
Taverna et al.[197], 2007	Randomized controlled study (Level I)	60 patients	Supraspinatus tendon	12 months	Pain score 1.0; ASES score >90; Constant score >80; UCLA questionnaire >30	No perioperative or postoperative complications or adverse events
Liu et al.[198], 2008	Prospective (Level IV)	17 patients	Achilles tendon	Not reported	Reduction of VAS score (from 8.7 to 1.6)	No postoperative complications
Meknas et al.[199], 2008	Randomized controlled trial (Level I)	24 patients	Extensor tendon of elbow	18 months	Grip strength improvement; functional score increase	No complications or adverse events

DASH: Disabilities of the Arm, Shoulder and Hand; SF-36: Short Form-36 Health Survey; ASES: American Shoulder and Elbow Surgeons; UCLA: University of California, Los Angeles; VAS: visual analogue scale.

TABLE E-9 Studies on Endoscopy and Tendinopathy

Study	Level of Evidence	No. of Patients	Tendon	Follow-up	Outcome	Complications
van Dijk et al.[129], 1997	Prospective study (Level IV)	16 patients	Posterior tibial tendon	12 months	Absence of symptoms; improvement in function	No complications
Al-Duri and Aichroth[200], 2001	Retrospective study (Level IV)	17 patients (18 knees)	Patellar tendinopathy	Mean 12 months	-	-
Owens et al.[201], 2001	Case series (Level IV)	16 patients	Recalcitrant lateral epicondylitis	Mean 24.1 months	Reduction of pain at rest (pain score 0.58), pain with activities of daily living (pain score 1.58) and pain with sports and work (pain score 3.25)	No complications, including no nerve injury or instability
Maquirriain et al.[202], 2002	Case series (Level IV)	7 patients	Chronic Achilles tendinopathies	Mean 16 months	Improvement of final outcome (rating system from 39 to 89)	Hematoma; edema
Budoff et al.[203], 2005	Case series (Level IV)	60 patients (62 shoulders)	Rotator cuff	114 months	Improvement of function (50% excellent results with UCLA shoulder score); reduction of pain (no pain in 58% of patients operated on)	Decreased passive range of motion
Cummins[204], 2006	Case series (Level IV)	18 patients	Chronic lateral epicondylitis	Mean 21.6 months	Reduction of worst level of pain (VAS from 8.6 to2.2), pain at rest (VAS from 4.3 to 0.3), pain lifting a heavy object (VAS from 8.2 to 1.4), pain with repetitive lifting (VAS from 7.5 to 1.6) and night pain (VAS from 5.6 to 0.5)	No complications
Ogon et al.[205], 2006	Prospective study (Level IV)	15 patients	Chronic patellar tendinopathy	Mean 41 months	Improvement of function (Blazina score from 3.7 to 0.4); reduction of tendon edema	-
Jerosch and Schunck[206], 2006	Prospective study (Level IV)	20 patients	Lateral epicondylitis	Mean 21 months	Reduction of subjective pain at rest (VAS from 5.0 to 0.5), pain at daily living activities (VAS from 6.0 to 1.0) and pain at athletic activities (VAS from 7.3 to 1.2); improvement in function (from 5.2 to 10.9)	Local synovitis; presence of plica humeroradialis as additional alterations. No postoperative instability or other complications
Willberg et al.[207], 2007	Prospective study (Level IV)	15 patients	Jumper's knee-patellar tendinopathy	Mean 13 months	Reduction of pain during their actual sport activity (VAS from 79 to 12)	-
Lorbach et al.[208], 2008	Case series (Level IV)	20 patients	Chronic patellar tendinopathy	24 months	Improvement of performance and activity level (Tegner score from 4.4 to 7.95; Lysholm score from 57.1 to 97.3); reduction of pain related to function and activities (Kujala score from 53.7 to 95.4)	No postoperative complications (wound infections or revisions)
Vega et al.[209], 2008	Prospective study (Level IV)	8 patients	Chronic Achilles tendinopathy	Mean 27.1 months	Excellent clinical outcome (Nelen scale); disappearance or considerable decrease in nodular swelling; decrease in thickening of tendon	No signs of flexion-extension deficit; no pain or cosmetic problems with resulting scars
Baker and Baker[210], 2008	Case series (Level IV)	40 patients (42 elbows)	Recalcitrant lateral epicondylitis	Mean 130 months	Reduction of pain (pain score at rest 0, pain score with activities of daily living 1.0, pain score with work or sports 1.9); improvement in function (functional subscore of MEPI 11.7 out of 12 points)	-
Grewal et al.[211], 2009	Prospective study (Level IV)	36 patients with chronic lateral epicondylitis with arthroscopic release	Chronic lateral epicondylitis	Mean 42 months	Reduction of pain (PRTEE for pain 14.6 out of 50, ASES-e pain score 16.1, where 0 = no pain); improvement in function (PRTEE for functional disability 11.3 out of 50, ASES-e function score 27.9, where 36 = full function); global improvement (total PRTEE 26.2 out of 100, MEPI score 78.6)	-
Wada et al.[212], 2009	Prospective study (Level IV)	18 patients (20 elbows)	Chronic lateral epicondylitis	28 months	Reduction of pain at rest (VAS from 3.9 to 0.3), pain during activity (VAS from 7.8 to 0.9); improvement in function (JOA elbow score from 29.2 to 89.9)	No complications, including nerve injury or instability

UCLA: University of California, Los Angeles; VAS: visual analogue scale; MEPI: Mayo Elbow Performance Index; PRTEE: Patient-Rated Tennis Elbow Evaluation; ASES: American Shoulder and Elbow Surgeons; JOA: Japanese Orthopaedic Association.