

Supplementary file 3. Results of the 1<sup>st</sup> round of the Delphi survey.

Outcome measurement instrument	Truthful + Feasible	NOT Truthful + Feasible	NOT Feasible + Truthful	NOT Feasible and NOT Truthful
<b>PATIENT SATISFACTION</b>	25 (81%)	4 (13%)	-	2 (6%)
Satisfying or not satisfying (Yes/no)	14 (45%)		17 (55%)	
6-point scale (score range, 1–6; 1 being excellent)	19(61%)		12 (39%)	
7-point Likert: (from extremely dissatisfied to extremely satisfied)	19(61%)		12 (39%)	
4-grade scale (totally satisfied, satisfied with minor reservations with the treatment, satisfied with major reservations with the treatment, or not satisfied with the treatment)	19(61%)		12 (39%)	
5-point scale (1, very satisfied; 2, somewhat satisfied; 3, neutral; 4, somewhat dissatisfied; and 5, very dissatisfied)	21(68%)		10(32%)	
4 grades (very satisfying, satisfying, fair, and unsatisfied)	13(42%)		18(58%)	
4-point Likert scale (as poor, fair, good or excellent)	13(42%)		18(58%)	
3-grades (very satisfying, satisfying, not satisfying)	10 (32%)		21(68%)	

3-item scale: (1) satisfied, (2) somewhat dissatisfied and (3) dissatisfied	11(35%)	20(65%)
3-item scale (satisfied, neutral or dissatisfied)	9 (29%)	22 (71%)
3-item scale: satisfied without reservations, satisfied with reservations, unsatisfied	11(35%)	20(65%)
Numeric Rating Scale (0-10)	18 (58%)	13 (42%)
Asking whether the patient would have the treatment again	13(42%)	18(58%)
Visual Analogue Scale (0-100)	21(68%)	10(32%)
Graded as "90–100 %" (very high), "80–89 %" (high), "50–79 %" (fair) or "<50 %" (low)	11(35%)	20(65%)
'Using a subjective assessment question'	9(29%)	22(71%)
<b>OVERALL ASSESSMENT</b>		
A 4-point scale (excellent, good, acceptable, poor)	24(77%)	7(23%)
A 6-point scale (0 = no more symptoms, 1 = much better, 2 = slightly better, 3 = no changes, 4 = slightly worse, 5 = much worse)	13(42%)	18(58%)
Asking if symptoms had improved, worsened or stayed the same	20(65%)	11(35%)
Asking if symptoms had improved, worsened or stayed the same	16(52%)	15(48%)
A 4 point scale (excellent, good, fair, poor)	15(48%)	16(52%)

A 4-point scale (excellent, good, fair, poor)	15(48%)	16(52%)
8 ordinal categories asking to what extent the symptoms from the sick tendon had changed: much worse, moderately deteriorated, slightly deteriorated, unchanged, slightly improved, moderately improved, very significantly improved and completely cured	15(48%)	16(52%)
Patient assessment of the efficacy of the treatment (very good, good, moderate, sufficient, poor)	15(48%)	16(52%)
Physicians evaluation of the therapeutic effect, 4-point scale (no — slight -moderate —severe/good)	7(23%)	24(77%)
A 2-step evaluation scale. Asking patients to estimate their pretreatment subjective symptoms and the current status of their treated Achilles tendon.	5(16%)	26(84%)
Roles and Maudsley Score. A 4-point scale	20(65%)	11(35%)
<b>IMPROVEMENT</b>		
Asking patients if they subjectively noted "improvement" after the treatment.	7(23%)	24(77%)

A 6-point Likert scale (completely recovered, much better, a little better or unchanged/much worse.	22(71%)	9(29%)
Asking if the treatment had improved/worsened their condition or did not affect their condition	13(42%)	18(58%)
<b>RESULTS OF TREATMENT</b>		
Asking patients about final outcome (in their perception as success or fail)	12(39%)	19(61%)
A 5-point Likert scale categorized as being pain free, significantly improved, mildly improved, no improvement or made worse by the treatment.	19(61%)	12(39%)
A 3-point Likert scale (Fair, good, excellent	11(35%)	20(65%)
4-point functional scale for surgery outcome (excellent, good, fair, poor)	14(45%)	17(55%)
4-point Boyden Scale (excellent, good, fair, poor)	18(58%)	13(42%)
Global ratings of change scale (GROC) A 15-point rating scale	23(74%)	8(26%)

Patient's Global Assessment Response to Therapy (PGART) A 5-point Likert scale (0, excellent/ideal response to 4, no response/treatment ineffective)	18(58%)	13(42%)
Clinical Global Impression. A 7-point ordinal scale	25(81%)	6(19%)
Kenneth Johnson Satisfaction Score. A 4-point scale (dissatisfied, satisfied with major reservations, satisfied with minor reservations, satisfied)	14(45%)	17(55%)
Outcome survey developed by the American Orthopaedic Foot & Ankle Society (AOFAS). A 0-100 point rating scale	14(45%)	17(55%)
Pain Impact Scale Visual analog scale (VAS) to assess the impact of pain on the categories "family and responsibility at home," "recreation," "social activities," and "running training or other physical activities." Each VAS ranges from "no limitation" (0 mm) to "complete limitation" (100 mm).	13(42%)	18(58%)
Patient Global Impression of Change Scale. A 15 point rating scale evaluating the change in symptoms	23(74%)	8(26%)
Perception of Treatment Effectiveness. A 5-point Likert scale (dichotomised according to success, where 'success' was defined as	24(77%)	7(23%)

marked or moderate improvement. (marked improvement – moderate improvement – same – moderate worsening – marked worsening)		
Perceived improvement. A six point Likert score at final follow-up to assess perceived rehabilitation (1; completely recovered – 2; much better – 3; a little better – 4/6; unchanged/much worse)	22(71%)	9(19%)
Symptom Resolution. Asking if the symptoms were “completely relieved, significantly improved, improved, unchanged, or worse.	20(65%)	11(35%)
Short-form 36 Health Survey (SF-36)	10 (32%)	21(68%)
“Residual Symptoms”. Graded on a 4-point scale (0 none, 1 slight, 2 improved, 3 unaltered or worse)	18(58%)	13(42%)
Patients' Own Assessments at the Follow-up” (5 years). Asking patients to assess the effect of the treatment (options are cured, improved, unchanged, worse, unknown)	13(42%)	18(58%)
“Patient rating” A rating from 0-10 (0 (unusable tendon) to 10 (completely pain free tendon))	19(61%)	12(39%)
“Likelihood on a scale from 1 to 10”. Asking to score the likelihood on a scale from 1 to 10 whether a patient would be willing to repeat	9(29%)	22(71%)

the procedure if symptoms recurred or when incompletely resolved and the likelihood of them recommending the procedure to friends or family members.		
“Would a patient have the procedure again” Asking patients if they would have the procedure again if they were given this choice.	10(32%)	21(68%)
“Pain status and patient reports of their functional status” Examining pain status and functional status through patient interviews and focused physical examinations resulting in 1 of 3 options. Excellent clinical outcome was defined as complete resolution of pain and associated symptoms with return to full baseline activities after treatment. Good outcome was defined as significantly decreased pain and increased functional status with mild continued tendon irritation and stiffness not requiring further intervention. Minimal benefit was defined as persistent pain and functional impairment with continued pain, swelling, and tenderness over the Achilles tendon.	13(42%)	18(58%)
“Return to 100%”. Asking patients when they feel they are at 100%	10(32%)	21(68%)

<p>“Clinical outcome” A 2-item questionnaire in which pain is categorized on a 6-level scale (1 = no pain and 6 = daily pain) and performance is scored at 4 levels (1 = normal function and 4 = unable to participate in sports).</p>	15(48%)	16(52%)
<p>“Willingness to recommend procedure”. Asking patients whether or not they would recommend a friend to undergo the same procedure.</p>	10(32%)	21(68%)
<p>Clinical Observer Global Assessment (COGA): The COGA requires physicians to make a global assessment of the subject's disease status using a 0–100 mm VAS.</p>	8(26%)	23(74%)
<p>“Patient impression of change for function” not further specified</p>	6(19%)	25(81%)
<p>“Patient impression for change of pain” not further specified</p>	6(19%)	25(81%)
<p>“Patient acceptable symptom state instrument for satisfaction”. Defined as the symptom score (on a 0- to 100-mm VAS) beyond which patients consider themselves to be well</p>	14(45%)	17(55%)



<p>“General recovery” A 4-stage scale to evaluate recovery</p> <p>Excellent: Pain free, able to return to previous level of sports or exertion, Full ROM (Range of Motion)</p> <p>Good: Occasional pain on exertion or after training, able to return to previous level of sports or exertion Full ROM Fair: Improvement, but lesser than pre-operatively, participation in sport activities or performance decreased. Mild limitation of ROM Poor: No improvement, as painful as before the operation, participation in sport activities ended and in exercise or work markedly reduced due to the operated tendon. Limitation of ROM</p>	13(42%)	18(58%)
“Recovery time” not further specified	4(13%)	27(87%)
<b>RETURN TO SPORT/COMPETITION</b>		
Again active in sports (yes/no) and time per week (hours)	24(77%)	7(23%)
Return to previous level of sport (Yes/no)	15(48%)	16(52%)
Return to sports (yes previous level, yes reduced level, no)	20(65%)	11(35%)
Divided into 5 categories. 1:not active in sports, 2:no return to sports, 3:returning to sport but not in desired sport, 4:returning to	22(71%)	9(29%)
	21(68%)	10(32%)

desired sport but not at the preinjury level, and 5: returning to preinjury level in the desired sport		
A 4-point scale (1) excellent, no symptoms, at preinjury level; (2) good, minor sporadic symptoms, at preinjury level; (3) fair, some improvement, but limited by pain, preinjury level not attained; and (4) bad, sports abandoned.	14(45%)	17(55%)
Return to sports (Yes/no) and time to return to sport (months)	14(45%)	17(55%)
Return to previous level of sports (yes/no) and time to return to sports (months)	18(58%)	13(42%)
Return to competition (yes/no)	15(48%)	16(52%)
<b>RETURN TO ACTIVITY</b>		
Asking the patient whether they are returned to activity and the time frame of their return]	17(55%)	14(45%)
Asking the patient if they have resumed their normal level of activity]	20(65%)	11(35%)
Asking the return to activity, defined as the weeks required for a patient to resume his or her sports training]	12(39%)	19(61%)

Asking patient whether he or she returned to daily activities, without limitations]	21(68%)	10(32%)
Tegner Score Asking the patient to state the highest level of activity on which they can currently perform	12(39%)	19(61%)
<b>LEVEL OF SPORTS PARTICIPATION</b>		
Asking patients the activity level of sporting activities (hours/week)	23(74%)	8(26%)
Asking patients the ability to return to prior level of sports activities]	15(48%)	16(52%)
Asking patients the ability to return to prior level of sports activities]	19(61%)	12(39%)
Asking details regarding sports participation, sports level and sports activities	15(48%)	16(52%)
<b>RETURN TO WORK DUTIES</b>		
Ankle Activity Score. Asking the patient to state the highest level of activity on which they can currently perform.	20(65%)	11(35%)
Asking patients the time course following the treatment until return to full work duties]	15(48%)	16(52%)

Asking patients the ability to work (Yes without limitations, With limited duty, did not return to work)	18(58%)	13(42%)
Decreased Desired Activity. Asking if patients have decreased desired activity (Yes/no)	16(52%)	15(48%)
International Physical Activity Questionnaire (IPAQ). A 7-item questionnaire assessing physical activity undertaken in the previous 7 days.	8(26%)	23(74%)
Patient Improvement. Subjective outcome on a 4-level scale (worse, no result, improvement or completely recovered)	19(61%)	12(39%)
Time to return to running without pain. Asking the patient the time needed to return to running without pain.	16(52%)	15(48%)
Time to return to walking without pain. Asking the patient the time needed to return to walking without pain	15(48%)	16(52%)
Working Status. Asking patients if they reported sick leave (yes/no)	13(42%)	18(58%)
Time to return to full weight bearing. Asking patients the time from treatment to when they could achieve full weight bearing	14(45%)	17(55%)

Time to maximum symptom improvement. Asking patients how many months transpires after treatment until they achieve maximum symptomatic improvement.	13(42%)	18(58%)
"Subjective outcome on a four level scale". Subjective outcome on a four level scale (worse, no result, improvement or completely recovered)	15(48%)	16(52%)
"Testa et al's system". A 4-point scale (excellent, good, fair, poor)	18(58%)	13(42%)
Time to return to pre-injury levels Asking patients whether they have returned to pre-injury level in the desired sport at 3 and 6 months	24(77%)	7(23%)
<b>PAIN WITH ACTIVITY/LOADING</b>		
A 100 mm Visual Analogue Scale (VAS), where no pain is recorded as 0 and severe pain as 100]	22(71%)	9(29%)
A VAS scale from 0-10 (0 no pain, 10 severe pain)	22(71%)	9(29%)
A 3-item pain scale (pronounced, moderate, none)	9(29%)	22(71%)
A Likert box scale (from 0 to 10) for pain]	20(65%)	11(35%)
A Numeric Rating Scale from 0 -10	21(68%)	10(32%)

A 5-item pain scale in combination with a Numeric Rating scale (0 – 10)	16(52%)	15(48%)
Using a dolometer scale from 0-10 (0=no pain, 10 =very severe pain)	15(48%)	16(52%)
Nirschl Pain Phase Scale of Athletic Overuse Injuries	10(32%)	21(68%)
A 7-item pain scale	14(45%)	17(55%)
<b>PAIN AT REST</b>		
A 3-item pain scale (pronounced, moderate, none)	9(29%)	22(71%)
A Visual Analogue Scale (VAS) from 0-10 (0 no pain, 10 severe pain)	19(61%)	12(39%)
A Likert box scale (from 0 to 10) for pain	18(58%)	13(42%)
A 100 mm VAS , where no pain was recorded as 0 and severe pain as 100	19(61%)	12(39%)
<b>PAIN AFTER ACTIVITY</b>		
Asking about the presence of pain after activity (Yes/no)	16(52%)	15(48%)
Evaluating pain after activity using a VAS (0-10)	23(74%)	8(26%)
Blazina score A 4-stage grading scale	18(58%)	13(42%)

Achilles tendinopathy symptom assessment. Using an Achilles tendinopathy symptom-assessment sheet (= a self-administered questionnaire) that involves the use of verbal descriptor scales to rate the severity of Achilles pain with activity, at rest, and at night. The pain is rated as absent (0 points), mild (1 point), moderate (2 points), severe (3 points), or very severe (4 points)	21(68%)	10(32%)
Number of hops to pain. Measuring the number of hops to pain	15(48%)	16(52%)
Number of single leg heel rises to pain. Measuring the number of single leg heel rises to pain	15(48%)	16(52%)
Pain Disability Index	13(42%)	18(58%)
Patient rated pain score. Verbally assessing the patient rated pain score (verbally rated 0 –10, with zero representing no pain and 10 representing the worst pain the patient had ever experienced)	20(65%)	11(35%)
Patient-Reported Outcomes Measurement Information System- Pain Interference (PROMIS-PI)	20(65%)	11(35%)
“Spontaneous or provoked pain”	6(19%)	25(81%)

"Matched pain". Asking patients about pain graded on a scale from 1 to 10 (with 1 being very painful, and 10 totally painless) and to compare the treated with the uninjured side.	10(32%)	21(68%)
"Rated pain". Asking patients to rate the overall pain situation with the aid of a dolometer (scale from 0-10, 0 = no pain, 10 = very severe pain)	15(48%)	16(52%)
"Maximum tolerable stress during walking". Asking patients the maximum tolerable stress during walking, running and on full athletic activity, quantified according to three grades (no symptoms, mild symptoms and severe symptoms)	16(52%)	15(48%)
"Subjective outcome". A subjective outcome scale including pain and performance	13(42%)	18(58%)
Dexterity. Measuring dexterity	7(23%)	24(77%)
Patient-Reported Outcomes Measurement Information System-Physical Function (PROMIS-PF) A 45-item questionnaire	12(39%)	19(61%)
"Tendon flexibility/stiffness". A 4-item scoring system (score range 0-15)	14(45%)	17(55%)



"Motion analysis". Using 3D motion analysis and surface EMG, temporal kinematic (lower limb stiffness, ankle angle at 80 ms pre-contact, ankle angle at contact, peak ankle angle, ankle stretch amplitude) and EMG measures (onset, offset and peak times relative to contact) are captured.	4(13%)	27(87%)
"Numeric scale". Asking functional limitations on a Numeric scale (0 = no limitations, 10 = extremely limited)	19(61%)	12(39%)
"Patient survey". Asking patients about their function (not further specified)	5(16%)	26(84%)
"Functional ability" Not further specified	5(16%)	26(84%)
Function (VAS) : Asking patients to rate their function on a 0-100mm Visual Analogue Scale	12(39%)	19(61%)
Hospital Anxiety and Depression Scale (HADS)	15(48%)	16(52%)
Patient-Reported Outcomes Measurement Information System (PROMIS) Depression A questionnaire assessing emotional distress/depression (available in short and full form)	16(52%)	15(48%)
Tampa Scale of Kinesiophobia (TSK)	17(55%)	14(45%)
Pain Catastrophizing Scale (PCS) A 13-item questionnaire	21(68%)	10(32%)

Pain Anxiety Symptoms Scale (PASS-20) A 20-item questionnaire	20(65%)	11(35%)
Pain Coping Inventory (PCI) The PCI is a validated questionnaire to determine the level of active and passive coping. Patients are asked to rate 33 items on a 4-point Likert scale ranging from 1 (hardly ever) to 4 (very often). These items are used to calculate the score of their corresponding domains. The domains transformation, distraction and reducing demands forms the score for active coping; the passive coping score is formed by retreating, worrying and resting. The sum of the domains is added up and divided by the maximum score. Both active and passive coping have a score ranging from 0 to 1, where a score closest to 1 represents a high level of active or passive coping.	17(55%)	14(45%)
Achilles Tendon Beliefs Questionnaire (ATBQ): A questionnaire adapted from the validated fear-avoidance beliefs questionnaire. No full version available and not further specified	8(26%)	23(74%)
Pain Self-Efficacy Questionnaire (PSEQ) The PSEQ requires the participant to state their confidence, despite pain, on a numerical	20(65%)	11(32%)

rating scale of 0-6 in 10 domains; the total score ranges from 0 to 60, where a higher score represents stronger self-efficacy beliefs		
<b>STRENGTH TESTING</b>	19(61%)	12(39%)
Measuring isokinetic calf muscle strength with a dynamometer (1) (Peak torque and total work of concentric and eccentric plantar flexion) (2)	9(29%)	22(71%)
Measuring isokinetic calf muscle strength with a dynamometer (Peak torque and total work of concentric and eccentric plantar flexion AND dorsiflexion)	9(29%)	22(71%)
Measuring maximum number of toe raises (elevating the heel 5 cm	14(45%)	17(55%)
Measuring ankle and hallux plantar flexion strength (measured with MicroFET2 isokinetic dynamometer)(3)	6(19%)	25(81%)
Testing patients for maximum isometric voluntary muscle contraction and for isometric endurance at two-thirds of their own maximum isometric voluntary muscle contraction.(4)	7(23%)	24(77%)
Measuring isometric plantarflexion strength of the gastrocnemius complex bilaterally with the ankle in neutral position (5)	9(29%)	22(71%)

Electromyographic data were recorded using conventional bipolar SEMG (6) technique from both legs. Isometric ankle plantar flexion force under maximal and submaximal conditions was measured	2(6%)	29(94%)
Measuring isokinetic concentric ankle plantar flexion strength at 60°/sec and 120°/sec with a Biodex dynamometer. The knee was placed in 60° flexion.	6(19%)	25(81%)
The isometric extension strength of the lower limbs was measured separately for the involved and uninvolved sides using an isometric leg press dynamometer. The knee and ankle angles were fixed at 90°	8(26%)	23(74%)
Measuring maximum isometric plantarflexion force was measured with a strain gauge load cell (7)	9(29%)	22(71%)
Subjectively asking patient if they noticed an improvement in ankle strength	5(16%)	26(84%)
Isokinetic measurement of muscle strength (Nm) using a Biodex dynamometer at the point when pain began. strength was measured between 20° of dorsiflexion and 30° of plantarflexion at a speed of 90°/s	7(23%)	24(77%)

Single-leg heel rise test. Testing Calf muscle strength by asking the patient to perform a maximum number of single leg heel raises. (Unable/Able, number of heel raises, Work (Joule), cm above the ground (measured from the heel))	27(87%)	4(13%)
Isometric strength. Measuring isometric plantar flexion torque with a Biodex dynamometer.	14(45%)	17(55%)
Functional Test battery. A test consisting of 2 jump tests, 2 strength tests, and 1 endurance test	21(68%)	10(32%)
Isokinetic strength Tested on a Cybex/Biodex isokinetic testing device to assess concentric and eccentric plantarflexion strength (peak torque)	12(39%)	19(61%)
Kinematic measures calculating; ankle angle 80 ms prior to ground contact, ankle angle at ground contact, peak ankle angle and ankle stretch amplitude (and/or total range of motion)	7(23%)	24(77%)
Isometric endurance Testing patients for their maximum isometric voluntary contraction (MIVC) bilaterally, and for isometric endurance, at two thirds of their own MIVC (patients were asked to maintain a isometric contraction at 66% of their MVIC for as long as	18(58%)	13(42%)

possible). Results are expressed as percentage in respect to the unaffected side.		
Surface Electromyography (sEMG) measures Capturing EMG measures of the soleus and tibialis anterior muscle (onset, offset and peak times relative to contact) and/or Surface EMG measures from gastrocnemius muscle and flexor hallucis longus	3(10%)	28(90%)
Ankle plantar flexion power and moment Using a motion tracking device and measuring Ankle plantar flexor moment and power while ascending 2 consecutive steps, each with a height comparable to a standard 17 cm step.	6(19%)	25(81%)
Plantar flexion peak torque. Calculating Strength performance capacity (of the ankle plantar flexors) during maximum stress concentrically and eccentrically. (Not further specified).	9(29%)	22(71%)
Ability to climb stairs Evaluating the ability to climb stairs (measured in seconds) using two floors with 40 steps	12(39%)	19(61%)
Ability to perform 20 heel raises. The ability to perform 20 single-leg heel raises (able/unable)	20(65%)	11(35%)
Ability to Jump. Ability to do a single leg tiptoe jump (able/unable)	17(55%)	14(45%)

<p>Agility. Measured using the Sargent jump test. The subject stands in a lateral position from the wall, with both feet together, and lifts both arms in a completely straightened posture. Next, the subject touches his or her fingertips to the bottom of the measurement platform and waits for the signal while fixing his or her eyes on a high place. The inspector gives the starting signal verbally. On the signal, the subject immediately jumps as high as possible to strike the highest part of the measurement platform. This exercise is performed three times following the same method. The jumped distance is measured.</p>	19(61%)	12(39%)
<p>Plantar flexion power of the lesser toes Measured by the assessor and graded 1-5</p>	9(29%)	22(71%)
<p>Balance. Balance was measured using a dynamic balance measuring equipment, Biodex Balance System (Biodex Medical Systems Inc, Shirley, NY). The platform movements of this equipment are classified into eight stages. Movements are gradually moved from stage 8, the most stable stage, to stage 1, the most unstable stage. The platform can revolve up to 20 degrees in all directions. When</p>	9(29%)	22(71%)

the degree of physical pressure centered movement is measured on the computer, it is converted to the balance index using the equipment's software. A lower degree of movement is indicated by a lower score.		
Calf Muscle Performance deficits. Measuring Calf Muscle Performance using a dynamometer. Concentric and eccentric muscle powers are assessed. The plantarflexion angle at which peak torque is achieved is also recorded.	10(32%)	21(68%)
Gait Abnormalities at walking pace. The F-Scan in-shoe foot pressure measurement system (Tekscan, Inc., Boston, MA) is used to assess gait abnormalities at walking pace.	6(19%)	25(81%)
Single Hop Test Participants are instructed to hop as far as possible, and successful attempts are defined when they are able to hold the single-footed landing position for at least 2 seconds. To reduce practice effects, participants are first allowed to practice until they are happy with the method. After this, an average of 3 successful attempts for each condition is used for data analysis. Measurement	26(84%)	5(16%)



is made to the nearest centimeter from the distal tip of the first phalanx to the start position.		
“Walking on the tip of toes”. Asking patient to walk on the tip of the toes of the injured side (unable, < 5 sec, 5-10 sec, > 10 sec)	18(58%)	13(42%)
“Performance tests”. A subjective evaluation is based on three “yes” or “no” questions (subjective assessment of the affected limb, ability to walk normally, ability to run normally) followed by evaluations of walking downstairs, rising on to heel and toes, and a balance test. Finally, an active range of motion of the ankle in dorsiflexion (knee extended) and stability of the ankle joint using the anterior drawer test are measured. The total test score is then calculated	11(35%)	20(65%)
Ankle plantar flexion rate of torque development: Assessing ankle plantarflexion rate of torque development (Nm/s (no image available). A custom-built ankle dynamometer is used for testing. Participants are seated barefoot in the dynamometer with the ankle in plantargrade and knee joint flexed to 50° to optimize the activation of soleus and gastrocnemius. A standardised warm-up procedure consists of five minutes of static bicycling followed by	6(19%)	25(81%)

four familiarisation trials with two seconds of MVIC. Two actual trials are recorded, and additional trials were repeated until the MVIC achieved of the two highest trials are within 5% to determine a valid and repeatable result.		
Plantarflexion coefficient of variation of torque; assess plantarflexor torque during maximal voluntary isometric contraction (no image available). A custom-built ankle dynamometer is used for testing. Participants are seated barefoot in the dynamometer with the ankle in plantargrade and knee joint flexed to 50° to optimize the activation of soleus and gastrocnemius. A standardised warm-up procedure consists of five minutes of static bicycling followed by four familiarisation trials with two seconds of MVIC. Two actual trials are recorded, and additional trials were repeated until the MVIC achieved of the two highest trials are within 5% to determine a valid and repeatable result.	4(13%)	27(87%)
Load used in the intervention; not further specified	6(19%)	25(81%)
Reactive strength index; used to assess the stretch shortening cycle function. A TOTALGYM® Gravity Training System GTS (see image) is	5(16%)	26(84%)

used to perform a jump task. Vertical and antero-posterior components of force, peak of force, time to achieve force and impulse are measured. Both submaximal (SM) and maximal (M) hops are chosen to assess the RSI. Reactive strength index (RSI) is calculated as the quotient of the jump height and contact time (jump height (m)/ ground contact time (sec))		
Motor control performance. Assessing several motor performance measures with multiple tests; single leg heel raises, doriflexion, moment and power	9(29%)	22(71%)
Rating of perceived exertion. Rate of perceived effort (RPE) is a quantitative measure of perceived effort during physical activity, training or competition. Patient are asked how much effort they perceived on a scale from 0 to 10, where 0 were "no exertion" and 10 was "maximal exertion, the hardest they have ever experienced".	16(52%)	15(48%)
"Gastrocnemius and soleus flexibility". The flexibility of the gastrocnemius and soleus muscles are determined using a pluriometer (see explanatory image). Patients are instructed to	24(77%)	7(23%)

stretch their calf muscle with an extended knee as much as possible for the gastrocnemius muscle and with 45 degrees of flexion for the soleus muscle. The plurimeter is positioned on the ventral side of the tibia 10 cm above the lateral and medial malleolus.		
VISA-A. A 8-item questionnaire to evaluate the clinical severity for patients with chronic Achilles tendinopathy (0-100, 100 corresponding with being completely asymptomatic)	26(84%)	5(16%)
American Orthopaedic Foot & Ankle Society- Ankle-Hindfoot (AOFAS). A 9-item questionnaire evaluating pain, function and alignment (0-100, 100 corresponding with being completely asymptomatic).	12(39%)	19(61%)
Foot and Ankle Outcome Score (FAOS). A 42-item questionnaire evaluating symptoms, pain, function/daily living, function/sports and recreational activities and quality of life	12(39%)	19(61%)
Achilles Tendinopathy Scoring System (ATSS). A 0- to 100-point scale office evaluation using subjective (morning stiffness, activity-related	16(52%)	15(48%)

pain, and the patient's own assessment of function and sport performance) and objective (gait asymmetry, tendon tenderness, calf strength, single-legged hop test, and ankle range of motion) criteria.		
Ankle Osteoarthritis Scale (AOS). A 18-item visual analogue questionnaire. A self-administered questionnaire which evaluates pain and disability. The two subscales are measured into 100mm long intervals. A higher score indicates greater pain or disability.	11(35%)	20(65%)
Pain level and functional impairment. A 2-item scale in which pain is categorized on a 6-level scale (1 = no pain and 6 = daily pain) and performance is scored at 4 levels (1 = normal function and 4 = unable to participate in sports).	16(52%)	15(48%)
Foot & Ankle Ability Measure (FAAM). A 21-item questionnaire with an activities-of-daily living subscale and an eight-item sports subscale.	21(68%)	10(32%)
Foot Function Index (FFI). A questionnaire consisting of 17 self-reported items divided into 3 subcategories on the basis of patient values: pain, disability and activity limitation.	22(71%)	9(29%)

Functional Index of Lower Limb Activity (FILLA). A questionnaire to measure the subjects' own assessment of their ability to perform functional activities on a visual analogue scale.	8(26%)	23(74%)
Achilles Tendon Rupture Score. A 10-item questionnaire to assess limitations. The score ranges from 0-100 with lower scores indicating more limitations.	18(58%)	13(42%)
Lower Extremity Functional Scale (LEFS). A 20-item questionnaire to measure "patients' initial function, ongoing progress, and outcome"	17(55%)	14(45%)
Maryland Foot Score (MFS). A 10 item self-administered questionnaire which assesses pain and function. Higher scores indicate less pain and less functional impairment.	10(32%)	21(68%)
Disablement in Physical Activity (DPA) Scale. The DPA Scale is a 16-item rating scale correlated with the participant's impairment, functional limitations, disability, and quality of life issues. Each item is rated on a scale of 1 (no problem) to 5 (severe) with a maximum score of 64 points and minimum score of 0 points.	10(32%)	21(68%)
Foot and Ankle Outcomes Questionnaire. A 25 item questionnaire to determine pain and stability of the foot and ankle during various	14(45%)	17(55%)

activities, the degree to which the foot and ankle interfere with normal work and daily life, and general stiffness and swelling.		
Manchester-Oxford Foot Questionnaire (MOXFQ). A 16 item questionnaire assessing pain and functionality. This self-administered questionnaire assesses how foot problems impair health-related quality of life. This questionnaire consists of 3 domains/scales: Walking/standing, Pain and Social interaction	13(42%)	18(58%)
Pain and activity Jacob and Segessar measure. A 6-point scale to assess the severity of pain. (Not further specified)	13(42%)	18(58%)
Pain Experience Scales (PES). PES describes the sensory and affective pain qualities, which are recorded using a simple descriptive scale. A summary score of each sensory and affective quality is calculated. (Not further specified)	5(16%)	26(84%)
University of Peloponnese Pain; Functionality and Quality of life questionnaire. A 4 part questionnaire	6(19%)	25(81%)
"Adapted classification of Achilles tendon disease" The patients' symptoms and level of dysfunction is classified according to an adapted classification of Achilles tendon disease.	13(42%)	18(58%)

<p>“Unspecified Questionnaire”. The questionnaire includes questions about physical activity level, work, other injuries, previous treatment for the Achilles tendon pain and medication. It also assesses the start and duration of the Achilles tendon pain, how it affects the patients' activity level and how it affects walking, walking up and down stairs and running. Questions about symptoms, such as morning stiffness and swelling, are also included. At the 1-year follow-up, the short version of the questionnaire also evaluates the patients' perception of the success of the treatment protocol and whether they felt they are fully recovered. (Described in detail as no image of the questionnaire was available.)</p>	7(23%)	24(77%)
<p>“Achilles tendon questionnaire”. A questionnaire assessing current symptoms, pain, stiffness and quality of life.</p>	14(45%)	17(55%)
<p>“Treatment effectiveness”. Asking whether the treatment is effective? The 4 multiple-choice answers are as follows: no/yes, but there are minor residual complaints/yes, there was a temporary effect/yes, complaints never reoccurred.</p>	12(39%)	19(61%)



<p>“Modified pain and performance questionnaire”. A 2-item questionnaire. Pain is categorized on a 6-level scale (1 = no pain and 6 = daily pain) and performance is scored at 4 levels (1 = normal function and 4 = unable to participate in sports).</p>	12(39%)	19(61%)
<p>“Ability to wear a shoe”. Asking the ability to wear a closed-back shoe (yes/no)</p>	11(35%)	20(65%)
<p>“Dysfunction” A scale to rate dysfunction Dysfunction: dysfunction is mild if the patient is able to engage in normal activities. 2 points is counted; Dysfunction is moderate if the pain worsens after walking and relieved by rest, 4 points is counted; Dysfunction is severe when loss of active function and difficulty while walking, 6 points is counted</p>	10(32%)	21(68%)
<p>VAS foot and ankle (VAS-FA) An adapted questionnaire consisting of 3 categories. VAS-FA Thai version (0 to 100 scale, from very bad to excellent), has 3 categories: pain (4 questions; frequency and intensity of pain at rest and with physical activities), function (11 questions; gait, climbing stairs, occupation, driving a car, standing, standing on 1 leg, walking, running, daily activities, traveling, and</p>	11(35%)	20(65%)

walking on uneven ground), and other complaints (5 questions; weakness, callous, range of motion, footwear, and sensation).		
EuroQol 5-dimensional questionnaire (EQ-5D). A 6-item questionnaire to measure generic health status	19(61%)	12(39%)
Short Form-12 Health Survey (SF-12). A 12-item questionnaire assessing the impact of health on an individual's everyday life.	20(65%)	11(35%)
EQ-VAS. Asking patients to indicate their overall health on a vertical visual analogue scale, ranging from "worst possible" to "best possible" health.	19(61%)	12(39%)
8-dimension assessment of quality-of-life (AQoL-8D). A 35-item questionnaire evaluating 8 dimensions of quality of life	6(19%)	25(81%)
<b>PAIN AT FOLLOW UP</b>		
Visual Analogue Scale (VAS) 0-10, not further specified]	11(35%)	20(65%)
11-point numeric scale (numeric rating scale, NRS), not further specified]	14(45%)	17(55%)
A 100 mm Visual Analogue Scale (VAS), not further specified]	15(48%)	16(52%)

Pain during the previous week (both at rest and during activities) using a 0–10 cm Visual Analogue Scale (VAS)	18(58%)	13(42%)
Morning pain and pain during activity, by means of a 0-10 Visual Analogue Scale (VAS)	19(61%)	12(39%)
The best, average and worst pain over the previous week (Visual Analogue Scale 0-10)	17(55%)	14(45%)
Pain after doing 20 one-legged heel rises (function), pain on pinching the tendon gently between two fingers (palpation), and self-reported morning pain (VAS 0-100)	17(55%)	14(45%)
Asking average pain over several days (Visual Analogue Scale 0-10)	10(32%)	21(68%)
Asking how severe is your pain today? On a 100 mm Visual Analogue Scale (VAS)	15(48%)	16(52%)
Asking how bad is your pain now? (Visual Analogue Scale 0-10)	16(52%)	15(48%)
Using an algometer to assess the minimum strength to generate pain and as the pain (Visual Analogue Scale) triggered by the algometer]	13(42%)	18(58%)
Pain during the day (NRS 0-10)	11(35%)	20(65%)
Pain intensity in the last 24H (Visual Analogue Scale 0-10)	13(42%)	18(58%)

Pain at this moment, the best pain and worst pain in the past 24 hours, using a 11-point numeric scale (numeric rating scale, NRS)	15(48%)	16(52%)
Asking pain status (pain-free or not pain-free)	12(39%)	19(61%)
Asking 'average' pain (Visual Analogue Scale 0-10)	11(35%)	20(65%)
Worst pain in the last week (NRS 0-10)	17(55%)	14(45%)
<b>MORNING PAIN</b>		
Morning pain at rest (Visual Analogue Scale 0-10)	27(87%)	4(13%)
Pain first thing in the morning (Visual Analogue Scale 0-100) (Not further specified)	20(65%)	11(35%)
Pain first thing in the morning (Visual Analogue Scale 0-100) (Not further specified)	23(74%)	8(26%)
<b>PAIN AT REST</b>		
Pain at rest (VAS 0-10)	23(74%)	8(26%)
Pain at rest (VAS 0-10)	20(65%)	11(35%)
Pain at rest (Yes/no)	17(55%)	14(45%)
<b>MORNING STIFFNESS</b>		
Morning stiffness. Asking morning stiffness severity, measured on a 100-mm VAS	23(74%)	8(26%)

Duration of stiffness Asking the duration of morning stiffness (in minutes)	21(68%)	10(32%)
Pain in the last 24 hours. A self-administered 3-part numeric pain rating scale (NPRS). Subjects are asked to indicate their “worst pain” and “best pain” in the previous 24 hours in addition to their “current pain.” The average of all is utilized as a subject’s score.	14(45%)	17(55%)
American Orthopaedic Foot and Ankle Score- Pain Subscore (AOFAS) Using a 4-point scale to rate pain (40, none; 30, mild/occasional; 20, moderate/daily; 0, severe/almost always present.	14(45%)	17(55%)
Pain over the past week Asking ‘best pain’ and ‘worst pain’ in the past week (on a 0-10 NRS)	20(65%)	11(35%)
PainDETECT questionnaire. A questionnaire to assess potential markers of neuropathic pain	12(39%)	19(61%)
Time course of complaints. Asking the time course/duration of complaints/rehabilitation after treatment.	11(35%)	20(65%)
Worst pain. Asking ‘How bad is your pain when it is at its worse?’ (VAS 0-10)	18(58%)	13(42%)

Achilles tendinopathy symptom assessment. A questionnaire that involves the use of verbal descriptor scales to rate the severity of Achilles pain with activity, at rest, and at night. The pain is rated as absent (0 points), mild (1 point), moderate (2 points), severe (3 points), or very severe (4 points).	21(68%)	10(32%)
"Study Specific Questionnaire". A questionnaire to assess pain and function and to obtain details of symptom history, treatment and sporting participation.	12(39%)	19(61%)
"Subjective level and duration of pain/discomfort". Asking the level of pain/discomfort and the duration of pain/discomfort. (Not further specified)	8(26%)	23(74%)
"Discomfort during/after injection". Asking to rate perceived discomfort during and after an injection. The treatment group is asked to rate on a Likert scale the degree of discomfort experienced during an injection procedure (4 options: no significant discomfort, mild discomfort, moderate discomfort, or severe pain) and over the 48 hours after injection, relative to pre-injection (5 options:	11(35%)	20(65%)

improved, no change, mild discomfort, moderate discomfort, or severe pain).		
“Residual pain at follow-up”. An assessment of residual pain during effort is categorized in three options: absence of pain, minor pain (that is not limiting running activities) and major pain (pain preventing running activities).	15(48%)	16(52%)
“Digital pain scale” Assessing pain using a digital scale (DS) ranging from 0 to 10 (0 = no pain, 10 = the worst possible pain).	17(55%)	14(45%)
“Opposite limb symptoms”. Asking the condition of the contralateral tendon (affected, not affected)	16(52%)	15(48%)
Brief Pain Inventory (sf-BPI). A questionnaire which assesses the severity of pain and its impact on functioning.	18(58%)	13(42%)
McGill Pain Questionnaire (sf-MPQ). A questionnaire used to evaluate a person experiencing significant pain.	10(32%)	21(68%)
<b>LEVEL OF PHYSICAL ACTIVITY</b>	26(84%)	5(16%)
Asking the frequency of activities in times per week (0-1, 2-3, 4-5, 6-7)	17(55%)	14(45%)

Rating activity level in sedentary, recreational and competitive	14(45%)	17(55%)
Rating activity level as 25%, 50%, 75% or 100% of normal activity level	13(42%)	18(58%)
Physical Activity Level Last Week. A questionnaire to assess the level of physical activity in the last week (in kilocalories per day)	7(23%)	24(77%)
Physical Activity Scale (PAS). A 7 point scale to grade physical activity (level 1, performing hardly any physical activity – level 6, performing hard or very hard exercise regularly several times a week)	17(55%)	14(45%)
Level of Activity. Grading activity on a 4-point scale (0 = match fitness, 1 = full training, 2 = light training, 3 = no activity)	14(45%)	17(55%)
Wallgren-Tegner Activity Scale. A modified 15-point version of the Tegner activity scale (No full version available online)	7(23%)	24(77%)
<b>NEOVASCULARIZATION</b>		
Identifying the sites of maximum neovascularization in the sagittal plane, recorded as vertical distances in centimeters from the plantar aspect of the patient's heel	9(29%)	22(71%)



Using the modified Ohberg score. In this scoring system, scores were determined as 0 (no vessels), 1+ (1 vessel, mostly anterior to the tendon), 2+ (1 or 2 vessels throughout the tendon), 3+ (3 vessels throughout the tendon), or 4+ (more than 3 vessels throughout the tendon)	9(29%)	22(71%)
Doppler color fraction measurement %. Activity is quantified as Doppler color fraction (ie, as the total number of colored pixels within the region of interest using a custom-made macro	8(26%)	23(74%)
Graded according to the amount of intratendinous Doppler activity inside the region of interest (ROI). When Doppler activity was present, the center with the most pronounced Doppler activity was defined and 1 cm of the tendon in both proximal and distal directions was used as the ROI. The semi quantitative grading system has five grades (0–4): 0, no Doppler activity; 1, one or two tiny color foci; 2, up to 50% color inside the ROI; 3, 50–90% color inside the ROI; 4, 90–100% color inside the ROI	8(26%)	23(74%)
Presence of intra-tendinous neo-vascularization (yes/no)	12(39%)	19(61%)

<b>STRUCTURAL ABNORMALITIES</b>	18(58%)	13(42%)
Presence of inhomogeneous tendon texture, hypoechogenic tendon thickening (compared to surrounding tendon areas), partial tear, tendon calcification, or fluid in the paratendon (Yes/no)	15(48%)	16(52%)
An ultrasound scoring system	9(29%)	22(71%)
Using a 4-grade scale to evaluate the tendon structure: 0—normal structure (homogenous echogenicity), 1—light structural changes (discrete hypoechogenic areas), 2—moderate structural changes (some well-defined hypoechogenic areas), and 3—severe structural changes (extended hypoechogenic areas)	11(35%)	20(65%)
Stratifying tendons for severity of structural changes as “mild” (one area of disorganized echotexture, i.e., focal dishomogeneous area with loss of fibrillar pattern), “moderate” (some areas of disorganized echotexture, i.e., dishomogeneous hypo- or hyperechoic tendon damage with altered fibrillar pattern) and “severe” (diffuse disorganized echotexture and hypo- or hyperechoic areas with irregularity of tendon margins and/or calcifications)	10(32%)	21(68%)

Quantifying echogenicity as the mean greyscale value for the central 1 cm of the entire depth of the tendon cross-section.	8(26%)	23(74%)
Tendon thickness (in mm)	21(68%)	10(32%)
Quantified tendon structure assessed with Ultrasound Tissue Characterization. Calculating the proportions of four echo-types within the thickest part of the tendon (a volume with an overall length of 3 cm is created). Echo types I and II represent normally aligned tendon structure as outcome.	9(29%)	22(71%)
Structural abnormalities (Magnetic Resonance Imaging). Presence of degenerative intratendinous lesions or tendon thickening. The outcome is 'tendinosis' (Yes/no) which is characterized by the presence of central hyperintense images or tendon thickening.	10(32%)	21(68%)
Microcirculatory assessment. A combined laser-Doppler and flowmetry system is used to evaluate microcirculation at 2 distinct tissue depths noninvasively. Blood flow and blood flow velocity are measured in arbitrary units (AU). The measured signals for blood flow are electrical values of frequencies and amplitudes, so that the unit is a combination of electrical units.	5(16%)	26(84%)

<b>TENDON STIFFNESS</b>	14(45%)	17(55%)
The combination of ultrasound imaging and dynamometry is used to measure tendon mechanical properties (strain, stiffness). Tendon force is calculated by dividing passive plantar flexion torque (measured by the dynamometer during ankle rotation) by the moment arm of the Achilles tendon (Formula 3). Tendon stiffness is calculated by dividing the change in tendon force by the change in strain as the ankle is rotated from plantar flexion to dorsiflexion (Formula 4).	7(23%)	24(77%)
Determining leg stiffness by modeling the vertical ground reaction force on a portable mat (Axon Jump 2.0, Axon Bioingeniería Deportiva, Bs. As., Argentina) measuring flight and contact time during hopping.	5(16%)	26(84%)
<b>TENDON DIAMETER</b>	18(58%)	13(42%)

Using ultrasound to obtain tendon characteristics (diameter). On a longitudinal view, tendon diameter was measured at the widest anterior-posterior point within 2 cm of the tendon insertion.	17(55%)	14(45%)
Measuring maximum tendon diameter with tape measure. (Not further specified)	4(13%)	27(87%)
<b>TENDON OXYGEN SATURATION</b>		
Using a noninvasive, real-time, combined laser Doppler and spectrophotometry system (O2 system).	7(23%)	24(77%)
Measured using a somatic/peripheral oximeter.	6(19%)	25(81%)
Post-operative tendon thickening. Presence of tendon thickening (Yes/no). Not further specified	5(16%)	26(84%)
Parallel pitch lines Drawing parallel pitch lines	7(23%)	24(77%)
Parallel pitch lines Drawing parallel pitch lines	6(19%)	25(81%)
Glucose uptake assessed with Positron Emission Tomography (PET). Using a PET scan, the muscle and tendon glucose uptake is determined. PET scanner is used to image the legs in four adjacent regions from toes to the upper thigh with the patient lying	4(13%)	27(87%)

supine. The emission scans to measure the amount of the tracer taken up.		
Tendon vascularization assessed with Real-Time Harmonic Contrast Enhanced Ultrasound (CEUS)	3(10%)	28(90%)
Tendon elasticity assessed with Shear wave elastography (SWE)	11(35%)	20(65%)
Tendon strain. Using A combination of ultrasound imaging and isometric dynamometry to capture in vivo achilles tendon strain.	9(29%)	22(71%)
The Fowler-Philip ANGLE Calculate the Fowler-Philip ANGLE.	4(13%)	27(87%)
Ultrasound characterization. Using ultrasound to determine the stage of the tendinopathy (reactive or degenerative). The evolution of the affected tendons is monitored ultrasonographically on every visit in which bilateral thickness is recorded.	11(35%)	20(65%)
Calcaneal pitch angle. A radiographic evaluation using standing lateral foot radiograph. Measuring change in calcaneal pitch angle.	4(13%)	27(87%)
Bohler's angle. A radiographic evaluation using standing lateral foot radiograph. Measuring change in calcaneal pitch angle	4(13%)	27(87%)

<b>COMPLICATIONS</b>	23(74%)	8(26%)
Presence of complications (Yes/No)	21(68%)	10(32%)
Recording of complications subdivided in major (e.g. skin edge necrosis, new partial rupture, deep vein thrombosis) and minor (e.g. superficial wound infection, seroma, hematoma, scar formation, sural nerve irritation) complications	21(68%)	10(32%)
Hallux specific complications. Using a specialized questionnaire to assess possible hallux-specific complications and concerns with great-toe dysfunction. (Not further specified)	7(23%)	24(77%)
Frequency of adverse events and adherence Assessing the frequency of adverse events and adherence with the treatment. Adverse events (any events for which there is a known or plausible association with treatment and those for which there is none) are recorded using a questionnaire that participants complete at 1, 3, 6 and 12 months. Adherence with the treatment program is measured by daily registration in a diary. (Not further specified)	21(68%)	10(32%)

"Recalcification following surgery". Radiologic outcome with a special interest in recalcification after surgery (not further specified)	8(26%)	23(74%)
<b>ANKLE RANGE OF MOTION</b>		
A test to asses ankle dorsiflexion and plantarflexion.	13(42%)	18(58%)
Measuring full range of motion of the ankle with a standard goniometer	23(74%)	8(26%)
Measuring active plantar and dorsiflexion of the ankle (Not further specified)	7(23%)	24(77%)
Measuring ankle dorsiflexion (not further specified)	6(19%)	25(81%)
Using a test which entails a standing lunge performed both with the knee bent and with the knee straight.	21(68%)	10(32%)
1st MTP joint Range of Motion. Measuring the passive and active ranges of motion of the first metatarsophalangeal joint with a hand-held goniometer.	20(65%)	11(35%)
<b>TENDERNESS</b>		
	24(77%)	7(23%)



Classified by the examiner according to a five-point scale (0 none, 1 slight, 2 moderate, 3 wincing, 4 wincing with withdrawal)	13(42%)	18(58%)
Assessing tenderness of the Achilles tendon that corresponded to the site of pain by physical examination (on a 0–10 pain scale)	21(68%)	10(32%)
Tenderness is graded by the patient's response to pinching the affected Achilles tendon gently between the finger and thumb. If a patient winces and withdraws the outcome is classified as grade 3, grade 2 comprises wincing without withdrawal and for grade 1 tenderness involves neither wincing nor withdrawing	12(39%)	19(61%)
A clinical examiner recording the degree of Achilles tendon tenderness using a four point scale (0 – 3: none, mild, moderate, severe tenderness).	10(32%)	21(68%)
Identifying and marking the site of maximum tenderness (assessed with palpation)	17(55%)	14(45%)
<b>PAIN ON PALPATION</b>		
Asking the patient to state whether palpation tenderness was present or absent. The examiner graduates the pain reaction as 1	24(77%)	7(23%)
	14(45%)	17(55%)

=none, 2 = light, 3 = modest, or 4 = severe, with spontaneous pain response and guarding movement		
The Achilles tendon is palpated through a pinch grip between the thumb and index finger to find the most tender/painful point. This location is marked with an ink marker. The painful location was pinched for a few seconds with a force equal to the force needed to hold a 1kg weight between the thumb and index finger. The procedure for holding the 1kg weight is practiced before testing. The patient is asked to rate the pain caused by the pinching on a VAS	15(48%)	16(52%)
The pain is defined as mild when pressing heavily (2 points is counted); the pain was defined as moderate when pressing moderately, (4 points is counted); the pain was defined as severe when pressing mildly(6 points is counted)	14(45%)	17(55%)
Assessing palpatory pain by pinching the tendon gently between two fingers (VAS 0-100)	16(52%)	15(48%)
<b>TENDON PAIN-PRESSURE THRESHOLD</b>		
	23(74%)	8(26%)

Using an algometer to assess the pressure pain threshold (in kPa/s or in kg)	20(65%)	11(35%)
Measured using the PainMatcher which gives an electro-cutaneous stimulation to the skin of two fingers, the index finger and the thumb in one hand. The increase in the constant current generation of the PainMatcher is interrupted when the person releases the fingers from the stimulation electrode and a value, PM value, between 0 and 99 (arbitrary units but directly related to the pulse width) is displayed on the LCD screen on the instrument. The pain threshold is assessed when the patient experiences the least sensation of pain	5(16%)	26(84%)
Measured using an electronic Von Frey' device (Electronic Von Frey Anesthesiometer) (in g/mm <sup>2</sup> ). Testing is performed by applying the pressure probe to the patient until pain is experienced. The unit will display the amount of pressure.	13(42%)	18(58%)
Manually assessed tenderness score. The tenderness of the symptomatic tendons is determined manually by applying a moderate amount of pressure (about 1 kg) with the first and second	15(48%)	16(52%)

finger on each side of the tendon. The tendon is palpated 0, 1, 3, 5, 7 and 10 cm proximal to the calcaneal insertion, and at each level the tenderness score is noted according to the subjects' answers of the pain perceived (0 = none, 1 = mild, 2 = moderate and 3 = severe).		
Algometry. Using a digital pressure algometer. Pressure is applied manually to the area of interest using a 1-cm <sup>2</sup> rubber tip fixed to the gauge. Algometry values are registered as the minimum strength to generate pain (algometry 1) and as the pain (VAS) triggered by the algometer with a strength of 3 kg × cm <sup>2</sup> (algometry 2).	19(61%)	12(39%)
Heat Pain Threshold (HPT) Assessing the Heat Pain Threshold in Celsius.	6(19%)	25(81%)
Heat Temporal Summation (HTS) A test of central facilitation of pain	6(19%)	25(81%)
<b>CALF CIRCUMFERENCE</b>		
Measuring calf muscle circumference, measured 10 cm below the knee joint line at stance	23(74%)	8(26%)
	20(65%)	11(35%)

Measuring maximum calf muscle circumference with tape measure (in cm)	15(48%)	16(52%)
<b>SWELLING</b>	20(65%)	11(35%)
Measured with a caliper at the point of maximum tenderness and expressed as the difference in millimeters between the symptomatic and nonsymptomatic sides	9(29%)	22(71%)
Measuring the thinnest diameter of the tendon with calipers and comparing it with the other side if symptoms are unilateral]	11(35%)	20(65%)
Assessing the presence of tendon swelling and categorizing in pronounced, moderate and none.	12(39%)	19(61%)
Calf diameter. Measuring maximum calf muscle circumference and calculating maximum calf diameter.	16(52%)	15(48%)
Interview and subjective evaluation. Performing an interview and subjective evaluation about the symptoms of the Achilles tendon, ability to walk and run, and current physical activity. (not further specified)	17(55%)	14(45%)

Gastrocnemius peak amplitude. Using electromyography (EMG) to measure the peak amplitude (V) of the gastrocnemius muscle.	3(10%)	28(90%)
Gastrocnemius Muscle Length. (Not further specified)	2(6%)	29(94%)
Location of pain Identifying the site of maximum pain	24(77%)	7(23%)
“Clinical parameters” Measuring the intensity of clinical parameters (redness, warmth, swelling, tenderness of palpation, crepitus on motion, accumulation of tissue fluid), evaluated on a 5-point ordinal scale (0, none; 1, slight; 2, moderate; 3, severe; 4, extreme).	18(58%)	13(42%)
“Current pain”. Asking the current pain on a 100 mm visual analogue scale	21(68%)	10(32%)
“Clinical examination” Determining the presence of palpable tenderness and nodules in the Achilles tendons and their insertional areas. Intensity and the exact site of the tenderness are recorded.	21(68%)	10(32%)
“Physical examination”. A physical assessment is done, including measuring active ankle dorsiflexion and plantarflexion range of motion with a goniometer. An assessment of dynamic function is done by comparing the ability to complete a single-leg heel raise between the involved and uninvolved lower extremities.	18(58%)	13(42%)

"Intensity of clinical parameters". Redness, warmth, swelling, tenderness on palpation, crepitus on motion, accumulation of tissue fluid), evaluated as presence/absence	19(61%)	12(39%)
Use of co-interventions Asking the use of co-interventions (rescue medication, other treatments and footwear changes) to relieve pain at the Achilles tendon.	25(81%)	6(19%)
"Adherence". A weekly online questionnaires to evaluate adherence to exercise treatment. Evaluates the percentage of performed exercises (compared with the amount of prescribed exercises)	23(74%)	8(26%)
"Drug compliance". The amount of drug use is calculated by comparing doses recorded in patients diaries with the prescribed amount, and expressed as a percentage.	16(52%)	15(48%)

**Legend.** Green: > 70 agreement for the outcome measurement instrument to be truthful and feasible, Amber: between 30-70% agreement, Red: >70 agreement for the outcome measurement instrument not to be truthful and feasible