

Table E-1: Characteristics of Included Studies

Study	Methods	Participants	Interventions	Outcomes	Allocation concealment
Cetti et al. <sup>21</sup>	Method of randomization: not stated. Number lost to follow-up: none. Methodological quality score: 6/12. Length of follow-up: 12 months.	8 orthopaedic hospitals in Denmark. 111 patients with acute Achilles tendon ruptures. Mean age: 37/38 years (range, 21-65). Percentage male: 84/82%. Time between injury and treatment: 0.7/0.6 days (mean).	Open end-to-end repair plus equinus cast non-weight-bearing for 6 weeks (56 patients) versus cast treatment only for 8 weeks (4 weeks equinus non-weight-bearing, 4 weeks neutral weight-bearing) (55 patients); all patients given heel raise for 2 weeks and identical rehabilitation protocols.	“Minor complications” (including superficial infection, hematoma, adhesions). “Major complications” (including rerupture, extreme tendon lengthening, deep infection). In-patient stay. Time off work. Time off sports. Level of sports post-rupture. Pain, or problems with walking or wearing shoes at 12 months. Ankle movements. Calf atrophy.	B
Cetti et al. <sup>25</sup>	Method of randomization: not described, performed after skin closure. Number lost to follow-up: 1. Methodological quality score: 6/12. Length of follow-up: 12 months.	Orthopaedic hospital in Denmark. 60 patients with acute Achilles tendon ruptures. Mean age: 37 years (range, 20-60). Percentage male: 83%. Time between injury and treatment: 38 hours (mean).	Standard open repair; postoperative functional brace allowing weight-bearing (dorsal splint plus stirrup in equinus for 6 weeks, heel raise 2 weeks) (30 patients) versus cast immobilization (complete cast in equinus non-weight-bearing for 6 weeks, heel raise 2 weeks) (30 patients).	Superficial infection. Adhesion of scar. Disturbance of sensibility. Rerupture. Keloid. Time off work. Level of sports post-rupture. Pain during immobilization. Satisfaction with treatment. Ankle movements. Calf atrophy. Strength. Tendon width. Tendon elongation.	B
Kangas et al. <sup>29</sup>	Method of randomization: randomly mixed sealed envelopes. Number lost to follow-up: 1. Methodological quality score: 9/12. Length of follow-up: mean, 60 weeks (standard deviation, 6.4 weeks).	Orthopaedic hospital in Oulu, Finland. 50 patients with acute Achilles tendon ruptures. Age range, 21-55. Percentage male: 94%. Time between injury and treatment: <1 week.	Open repair augmented with gastrocnemius turndown; postoperative functional brace (dorsal splint in neutral, allowing active plantar-flexion, for 6 weeks) (25 patients) versus cast immobilization (complete cast in neutral for 6 weeks) (25 patients). Weight-bearing at 3 weeks.	Motor performance. Pain relief. Stiffness. Calf muscle weakness. Foot wear restrictions. Range of motion. Subjective result. Complications.	A
Kerkhoffs et al. <sup>26</sup>	Method of randomization: quasi-randomized, odd weeks received "wrap," even received cast. Number lost to follow-up: none. Methodological quality score: 6/12. Length of follow-up: 6.7 years (range, 5-8 years).	Orthopaedic hospital in Amsterdam, Holland. 39 patients with acute Achilles tendon ruptures. Mean age: 37/36 years (range, 22-52 years). Percentage male: 82%. Time between injury and treatment: 0.4/0.3 days (mean).	Three-tissue bundle open repair followed by cast in equinus for 1 week; semi-rigid “wrap” (for 6 weeks; partial weight-bearing for first 4 weeks; full thereafter) (16 patients) versus cast immobilization (complete cast in neutral for 6-8 weeks; weight-bearing allowed when cast removed) (23 patients).	Delayed wound-healing. Adhesion of scar. Disturbance of sensibility. Rerupture. In-patient stay. Time off sports. Patient-centered assessment (modified Rupp score). Calf atrophy.	C
Lim et al. <sup>30</sup>	Method of randomization: quasi-randomized according to whether last digit of hospital number even or odd. Number lost to follow-up: none. Methodological quality score: 4/12. Length of follow-up: 6 months.	7 orthopedic hospitals in the NE Thames and Oxford regions, UK. 66 patients with acute Achilles tendon ruptures. Mean age: 38.5 years (range, 26-53 years). Percentage male: 61%. Time between injury and treatment: not stated.	Open repair (modified Kessler core suture plus interrupted sutures) (33 patients) versus percutaneous repair (modified Ma and Griffith technique involving 6 or 8 stab incisions) (33 patients); postoperative immobilization in an above or below-the-knee cast for 10-14 weeks.	Superficial infection. Adhesion of scar. Disturbance of sensibility. Rerupture. Deep infection/necrosis. Keloid. Skin puckering. Time to perform normal activities of daily living. Level of sports post-rupture. Patient satisfaction.	C
Maffulli et al. <sup>28</sup>	Method of randomization: quasi-randomized, alternation depending on day of week. Number lost to follow-up: 4 from each group. Methodological quality score: 6/12. Length of follow-up: mean, 21 months (range, 16-26 months; standard deviation, 4.6 months).	Department of Trauma and Orthopedic Surgery, Keele University School of Medicine. 53 patients with acute Achilles tendon ruptures. Mean age: 44.7 years (range, 31-69) in group 1 and 43.8 years (range, 30-67) in group 2. Percentage male: 85%. Time between injury and treatment: within 1 week.	Open repair (single modified Kessler suture) with either no. 1 Vicryl or polydioxanone; postoperative cast in equinus (for 2 weeks) followed by functional brace (dorsal splint in neutral, allowing active plantar flexion, for 4 weeks) (26 patients) versus cast immobilization (complete cast in equinus for 2 weeks, mid-equinus for 2 weeks and neutral for 2 weeks) (27 patients). Weight-bearing was as soon as possible in Group 1 and at 4 weeks in Group 2.	Anthropometric measures. Isometric gastrocsoleus muscle strength. Ultrasound. Patient satisfaction. Activity and pain. Complications.	C

Moller et al. <sup>22</sup>	Method of randomization: blinded with identical envelopes. Number lost to follow-up: 1. Methodological quality score: 10/12. Length of follow-up: 24 months.	Orthopaedic hospitals in Sweden. 112 patients with acute Achilles tendon ruptures. Mean age: 39.1 years (standard deviation, 8.2 years). Percentage male: 86/91%. Time between injury and treatment: 0.5-3 days.	Open end-to-end repair plus functional brace for 8 weeks (59 patients) versus cast treatment only for 8 weeks (4 weeks equinus, 4 weeks neutral) (53 patients). All patients given heel raise for 4-8 weeks and identical rehabilitation protocols; full weight-bearing allowed at 8 weeks.	“Minor complications” (including superficial infection, disturbance of sensibility, adhesions). Rerupture. Extreme tendon lengthening. Deep-vein thrombosis. In-patient stay. Time off work. Level of sports post-rupture. Visual analog scores for quality of life, result of treatment. Functional scores. Strength.	A
Mortensen et al. <sup>27</sup>	Method of randomization: computer-generated random numbers. Number lost to follow-up: none. Methodological quality score: 7/12. Length of follow-up: median, 16 months.	Odense University Hospital in Denmark. 71 patients with acute Achilles tendon ruptures. Median age: 39/35 years (range, 20-73 years). Percentage male: 72%. Time between injury and treatment: <35 hours.	Standard open repair; postoperative functional brace (dorsal splint in equinus for 2 weeks, Don-Joy brace in 30° flexion 2 weeks, and Don-Joy brace in neutral, full weight-bearing 2 weeks) (36 patients) versus cast immobilization (complete cast in equinus for 6 weeks, neutral cast full weight-bearing at 2 weeks) (35 patients).	Superficial infection. Adhesion of scar. Disturbance of sensibility. Rerupture. Deep infection. Deep-vein thrombosis. Time off work. Time off sports. Time to pre-injury level of sports. Number who reached pre-injury level of sports. Satisfaction at final follow-up. Ankle movements. Calf atrophy. Strength. Radiographic separation of markers in tendon.	B
Nistor <sup>23</sup>	Method of randomization: admissions alternated between 2 hospitals; in one, treatment was operative, and, in the other, it was nonoperative. Number lost to follow-up: 5. Methodological quality score: 4/12. Length of follow-up: 1-5 years (mean, 2.5 years).	2 orthopaedic hospitals in Sweden. 105 patients with Achilles tendon ruptures; up to 3 weeks from injury. Mean age: 41 years (range, 21-77 years). Percentage male: 91%. Time between injury and treatment: all within 3 weeks.	Open end-to-end repair plus cast for 6-9 weeks (45 patients) versus cast treatment only for 8 weeks (4 weeks equinus, 4 weeks semi-equinus) and heel raise for 4 weeks (60 patients).	Adhesion of scar. Disturbance of sensibility. Rerupture. Deep infection. In-patient stay. Time off work. Level of sports post-rupture. Ankle movements/stiffness. Calf atrophy.	C
Petersen et al. <sup>32</sup>	Method of randomization: sealed envelopes. Number lost to follow-up: 8. Methodological quality score: 7/12. Length of follow-up: 12 months.	An orthopaedic hospital in Denmark. 50 patients with acute Achilles tendon ruptures. Mean age: 42 years. Percentage male: 70%. Time between injury and treatment: not stated (although late diagnosed ruptures were excluded).	Traditional cast (29 patients) versus Cam-walker (21 patients).	Patient satisfaction. Rerupture rate. Subjective functional assessment. Atrophy. Range of motion. Power.	A
Saleh et al. <sup>31</sup>	Method of randomization: not stated. Number lost to follow-up: none. Methodological quality score: 6/12. Length of follow-up: 12 months.	Orthopaedic hospitals in Sheffield, UK. 40 patients with acute Achilles tendon ruptures (presenting within 48 hours after injury). Mean age: 39/41 years (range, 19-71 years). Percentage male: 78%. Time between injury and treatment: <48 hours.	Nonoperative treatment: cast immobilization alone (above-the-knee cast in equinus 4 weeks, below-the-knee cast in semi-equinus 4 weeks, below-the-knee cast in neutral 2 weeks; weight-bearing allowed after 8 weeks) (20 patients) versus cast and functional brace (below-the-knee cast in equinus 2 weeks, below-the-knee cast in semi-equinus 1 week, “Sheffield splint” (ankle-foot orthosis) in 15° plantar flexion for 6-8 weeks; weight-bearing allowed after 3 weeks) (20 patients).	Rerupture. Time before walking comfortably. Ankle movements. Power of plantar flexion at follow-up.	C
Schroeder et al. <sup>24</sup>	Method of randomization: not stated. Number lost to follow-up: not stated. Methodological quality score: 3/12. Length of follow-up: 8 months (range, 6-12 months).	Orthopaedic hospitals in Germany. 43 patients with acute Achilles tendon ruptures. Mean age: 44/38/38 years. Percentage male: not stated. Time between injury and treatment: not stated.	Open repair (single or double Kessler suture) (13 patients) versus percutaneous repair (modified Ma and Griffith) (15 patients) versus nonoperative treatment (15 patients); postoperatively, all patients were immobilized in a special boot with a 3-cm heel raise for 4 weeks followed by gradual reduction in heel size over the following 4 weeks.	Infection. Rerupture. Deep-vein thrombosis. Clinical rating according to activity level (not validated). Ultrasound.	C