

## Appendix 1: Physical Therapy for Patellar Tendinopathy

Authors	Type of Study	Treatment (by group)	Number of Subjects (total/study group)	Results	Authors' Conclusion	Grade of recommendation
Jonsson and Alfredson <sup>37</sup>	Prospective randomized trial	1. Painful eccentric exercise program 2. Painful concentric exercise program (both done on decline board)	15 (19 tendons/10 tendons)	At 12-week follow-up, VAS was significantly improved in the eccentric exercise group	Eccentric exercise training on a decline board seems to reduce pain in jumper's knee	B
Young et al <sup>91</sup>	RCT	1. Traditional eccentric exercise protocol 2. Eccentric exercise protocol with decline board	17/8	At 12 weeks and 12 months, both groups improved. At 12 months, the decline group had a higher likelihood of an increase in VISA scores	Both exercise protocols improved pain and sporting function in volleyball players over 12 months. This study indicates that the decline squat protocol offers greater clinical gains during a rehabilitation program	A
Bahr et al <sup>6</sup>	RCT	1. Primary surgery 2. Eccentric training on a decline board	35 (40 tendons/20 tendons)	At 12 months, both groups improved in VISA score; however, there was no significant difference between groups	No advantage was demonstrated for surgical treatment compared with eccentric strength training. Eccentric training should be tried for 12 weeks before surgery	A

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Visnes et al <sup>84</sup>	RCT	1. Eccentric training protocol with decline board 2. No extra training	29/13	At 12 weeks, no statistical difference between the groups	There was no effect on knee function from a 12-week program with eccentric training among a group of volleyball players with PT who continued to train and compete during the treatment period	A
Frohm et al <sup>26</sup>	RCT	1. Bilateral eccentric squat training program 2. Eccentric training protocol on decline board	20/10	At 12 weeks, no statistical difference between groups	In patients with PT, two-legged eccentric overload training was as safe as the present standard daily eccentric 1-legged rehabilitation training regimen using a decline board	A

PT, patellar tendinopathy; RCT, randomized controlled trial; VAS, visual analog scale; VISA, Victorian Institute of Sport Assessment.

Appendix 2. Summary of Surgical Studies for Patellar Tendinopathy

Authors	Type of Study	Treatment	Number of Subjects (total/study group)	Results	Authors' Conclusion	Grade of recommendations
Popp et al <sup>65</sup>	Retrospective review	Open debridement of affected tissue	11	At average 2.1 years: 7 excellent, 3 good, 1 poor	In select patients, excellent results can be achieved with surgical treatment	D
Griffiths and Selesnick <sup>31</sup>	Retrospective review	Open debridement of affected tissue	7	At average 4.2 years: 6 excellent, 1 fair	Recommend surgical intervention in patients who fail conservative treatment	D
Ferretti et al <sup>18</sup>	Retrospective review	Open debridement of affected tissue/drilling inferior pole of patella	33	At average 8 years: 23 excellent, 5 good, 1 fair, 4 poor	The outcome of surgery is satisfactory but less predictable in volleyball players	D
Shelbourne et al <sup>77</sup>	Case series	Open debridement of affected tissue with multiple longitudinal cuts in the tendon	22	At average of 8.1 months, 14/16 patients returned to same sport at prior level of intensity	Surgical debridement and tendon stimulation along with aggressive rehabilitation was found to be effective in returning athletes back to their level of competition	D

Authors	Type of Study	Treatment	Number of Subjects (total/study group)	Results	Authors' Conclusion	Grade of recommendations
Lorbach et al <sup>49</sup>	Case series	Arthroscopic resection of inferior pole of patella	20	At 2 years: 18/20 excellent to good	Arthroscopic resection of the inferior pole of the patella produces satisfactory clinical results in function and pain reduction	D
Pascarella et al <sup>62</sup>	Case series	Arthroscopic debridement of affected tissue and inferior pole patella resection	73/27 athletes	At 1 and 3 years, IKDC, Lysholm and VISA-P scores improved significantly; 19 athletes returned to previous level of play	Arthroscopic surgery for PT in cases refractory to nonoperative management provides significant improvement maintained at least 3 years.	D
Santander et al <sup>73</sup>	Retrospective review	Arthroscopic debridement of affected tissue	23	At average 58 months, 19/23 returned to previous level of play	Arthroscopic surgery is comparable to open techniques and a high percentage of athletes returned to their previous activity level.	D

Authors	Type of Study	Treatment	Number of Subjects (total/study group)	Results	Authors' Conclusion	Grade of recommendations
Maier et al <sup>53</sup>	Case series	Arthroscopic debridement of synovium and fat pad	30	At average of 4.4 years, all pain and functional scores improved; 23/30 returned to previous level of play	Arthroscopic debridement of the synovium and fat pad produced excellent to good results in a majority of cases in patients with refractory PT.	D

IKDC, International Knee Documentation Committee; PT, patellar tendinopathy; VISA, Victorian Institute of Sport Assessment.