Rebound® Cartilage

Supports successful rehabilitation following meniscal repair



Inadequate management of meniscal defects in younger patients can lead to knee osteoarthritis. Therefore surgical repair of the injured meniscus and consequent rehabilitation is key to avert early onset of knee osteoarthritis. Considering the increased frequency and evolution of meniscal repairs, there is a huge variability of rehabilitation protocols and consensus for the rehabilitation following meniscal repair is still lacking.[1,2,3,4] Therefore Össur conducted an expert consensus meeting to discuss key components of rehabilitation following surgical repair of meniscal tears with global key opinion leaders. In preparation of a 1.5 day face to face meeting, current rehab protocols of the experts were gathered via a standardized questionnaire. Based on these findings, the experts discussed the different protocols and reached a consensus on the rehabilitation following surgical repair of bucket handle tear, lateral/ medial root tear and a radial tear with repair of a young, healthy a 28-year-old male (normal BMI, athletic type, non-smoker, normal sports activities) who injured his knee while playing soccer two months ago. The recommendations address key components of rehabilitation such as weight-bearing, range of motion (ROM), bracing and physical therapy.

REBOUND CARTILAGE BRACE - RECOMMENDED BY GLOBAL EXPERTS

As bracing, either for immobilization, ROM restriction or unloading of the repaired femoro-tibial compartment is often indicated - Össur has developed innovative functional knee braces to support rehabilitation of patients with knee injuries - beside the immobilizing and ROM restriction braces (Formfit Knee Immobilizer® and the intuitive Rebound Post-Op knee brace), the Rebound Cartilage brace can play an important role within rehabilitation of meniscal tears due to its dynamic and adjustable unloading.

Key Opinion leader panel: Siti Hawa Tahir (MY), Sherwin Ho, Andrew Geeslin, Patrick Kane, Shane Whalen, Scott Faucett (USA), Jihad Abouali, Alan Getgood, Christopher Haydon (CA), Peter D'Alessandro, Ross Radic (AU), Heribert Keller, Wolf Petersen (GER), Pete Gallagher, Ionis Pengas (UK)

REHABILITATION FOLLOWING REPAIR OF A BUCKET HANDLE MENISCAL TEAR

Bucket handle meniscal tear

	PHASE I WEEK 0-2	PHASE II WEEK 3-6	PHASE III WEEK 7-12	PHASE IV WEEK 13 - 26	RETURN TO SPORT > WEEK 26
WB	It's ok to WBAT (amount of WB depends on stability of repair and patient) use crutches	It's ok to WBAT (amount of WB and crutch use depends on stability of repair and patient)	FWB - out of crutches – out of brace Gait normalisation	FWB	
Brace	While WB: Brace locked in full ext. While NWB 0-0-90	Brace at surgeon's recommendation 0-0-90	No brace	No brace	
ROM	Physio / supine: 0-90 (80% consensus)	Supine: 0-90 Physio: progress > 90 (no load)	Full ROM as tolerated – no deep squatting> 90°	Full ROM as tolerated	
Physio therapy	Isometric quadriceps Passive & active ROM excerise to 90° Patella mobilisation Cryotherapy **Don't do:** deep squad	Isometric quadriceps Passive & active ROM excerise to 90° Patella mobilisation, closed kinetic chain exerc. Cryotherapy **Don't do:** deep squat	Phase II + consider open kinetic chain, easy balance exerc.	Progressive strength training, Treadmill, speed walking, progress to running > week 16 complex balance training No contact sports before week 26	Plyometric training, jump exercises, sport-specific training Criteria- based: (No effusion, free ROM, passive stability, > 90% symmetry index, one leg jump test)
Other	Consider DVT prophylaxis	Consider DVT prophylaxis	Consider DVT prophylaxis		

NWB. Non-weight bearing; WB. Weight bearing; WBAT. Weight bearing as tolerated; FWB. Full weight bearing; ROM. Range of motion; DVT. Deep Vein Thrombosis

The Data:

1. Spang et al. (2018) Rehabilitation following meniscal repair: a systematic review. BMJ Open Sport Exerc Med. 2018 Apr 9;4(1):e000212 **2.** Perkins et al. (2018)Similar failure rate in immediate post-operative weight bearing versus protected weight bearing following meniscal repair on peripheral, vertical meniscal tears. Knee Surg Sports Traumatol Arthrosc. 2018 Aug;26(8):2245-2250 **3.** O'Donell et al. (2017) Rehabilitation after isolated meniscal repair: a systematic review Am J Sports Med. 2017 Jun ;45(7):1687-1697

Expert Consensus - Meniscal Tears

REHABILITATION FOLLOWING REPAIR OF A RADIAL MENISCAL TEAR

	PHASE I WEEK 0-2	PHASE II WEEK 3-6	PHASE III WEEK 7-12	PHASE IV WEEK 13 - 26	PHASE V > WEEK 26
WB	Flat foot touch down WB	Flat foot touch down WB	WBAT	FWB	
Brace	ROM restriction brace, Consider unloader	ROM restriction brace, Consider Unloader	Unloader®	Unloader®	Unloader optional during activities
ROM	Activate motion 0-90 with caution	0-90 with caution	Progress to full ROM as tolerated (painfree) No loaded squats > 70°	Progress to full ROM as tolerated (painfree) No loaded squats > 70°	Free ROM
Physio-therapy	Passive & active ROM Isometric quadriceps excerise to 90° Patella mobilisation Cryotherapy **Don't do:** deep squat	Isometric quadriceps Passive & active ROM excerise to 90° Patella mobilisation, Cryotherapy **Don't do:** deep squat	Phase II + consider closed & open kinetic chain Gait normalisation Weaning of crutches	Progressive strength training, Treadmill, speed walking, progress to running > week 16 Easy balance training	Plyometric training, jump exercises, sport-specific training Criteria- based: [No effusion, free ROM, passive stability, > 90% symmetry index, one leg jump test]
Other	Consider DVT prophylaxis	Consider DVT prophylaxis	Consider DVT prophylaxis		
Protocol is also valid in case of HTO + refixation					

WB. Weight bearing; WBAT. Weight bearing as tolerated; FWB. Full weight bearing; ROM. Range of motion; DVT. Deep Vein Thrombosis; HTO. High tibial osteotomy

REHABILITATION FOLLOWING REPAIR OF LATERAL-/ MEDIAL MENISCAL ROOT TEAR WITH FIXATION

	PHASE I WEEK 0-2	PHASE II WEEK 3-6	PHASE III WEEK 7-12	PHASE IV WEEK 13 - 26	PHASE V > WEEK 26
WB	Flat foot touch down WB	Flat foot touch down WB	WBAT	FWB	
Brace	ROM restriction brace, Consider Unloader	ROM restriction brace, Consider Unloader	Unloader	Unloader	Unloader optional during activities
ROM	Activate motion 0-90 with caution	0-90 with caution	Progress to full ROM as tolerated (painfree) No loaded squats > 70°	Progress to full ROM as tolerated (pain free) No loaded squats > 70°	Free ROM
Physio-therapy	Passive & active ROM Isometric quadriceps excerise to 90° Patella mobilisation Cryotherapy **Don't do:** deep squat	Isometric quadriceps Passive & active ROM excerise to 90° Patella mobilisation, Cryotherapy **Don't do:** deep squat	Phase II + consider closed & open kinetic chain Gait normalisation Weaning of crutches	Progressive strength training, Treadmill, speed walking, progress to running > week 16 Easy balance training	Plyometric training, jump exercises, sport-specific training Criteria- based: [No effusion, free ROM, passive stability, > 90% symmetry index, one leg jump test]
Other	Consider DVT prophylaxis	Consider DVT prophylaxis	Consider DVT prophylaxis		
Protocol is also valid in case of HTO + refixation					

WB. Weight bearing; WBAT. Weight bearing as tolerated; FWB. Full weight bearing; ROM. Range of motion; DVT. Deep Vein Thrombosis; HTO. High tibial osteotomy



Formfit® Knee immobilizer



Rebound® Post-Op Knee



Rebound® Cartilage