POST-OPERATIVE TROCHLEA MICROFRACTURE REHABILITATION PROTOCOL Mr Mathias Nagy, Specialist Knee Surgeon Scarborough & Bridlington

Ensure patient achieves milestone prior to progression.

Return to contact sports approximately 20 weeks post-op

Return to gentle non-contact, non-competitive sports at physiotherapist's discretion but must be over 16 weeks post-op

WEEK	RANGE OF MOVEMENT	MOBILITY	TREATMENT	MILESTONE TO PROGRESS
Day of surgery	Locked hinged brace (0°) for 24 hours. Set brace at 0°-30° to be unlocked following day.	Weight-bear to comfort with ECs in locked hinged brace	 Use of ice and elevation Ensure adequate pain relief Teach passive ROM exercises to commence day following surgery Static quads SLR Circulatory exercises Teach adjustment of brace 	 No post-operative complications Independent mobility with ECs Good understanding of brace use Good understanding of home exercise programme
Week 1-4	Brace to limit ACTIVE ROM 0°-30° Full PASSIVE ROM	Progress as able to full WB with no walking aids. Brace unlocked and set at 0°- 30° for mobilising	 Continue ice and elevation Ensure adequate pain relief Hourly PROM flexn/extn exs in prone/sitting using unaffected leg for support Heel props Extension mobilisations if required Static Qs/SLRs Early VMO Gluteal strengthening Proprioception exs 	 Minimal pain Full range extension SLR with no lag
Weeks 4-6	As above	FWB with no walking aids Brace 0°-30°	 Continue cryotherapy as required Continue regular PROM exs SLRs with resistance Isometric, co-contraction quads/hams at 30° 	 No pain Minimal/no effusion SLR x 10 with no lag

POST-OPERATIVE TROCHLEA MICROFRACTURE REHABILITATION PROTOCOL Mr Mathias Nagy, Specialist Knee Surgeon Scarborough & Bridlington

Weeks 6-12	No limit to AROM	FWB, no walking aids, discard brace	 CKC quads/hams 0°- 30° VMO/Gluteal strengthening Hydrotherapy if appropriate Proprioception exs Exs bike with increasing resistance Treadmill walking Step ups/cross trainer/rower OKC hams OKC quads avoiding range at which lesion engaged Squats, lunges 	No painNo effusionNormal gait pattern
Weeks 12-16	Full AROM	FWB	Progress strength training – no limits Treadmill – commence light jogging and progress as symptoms allow Progress to early change of direction running Plyometrics	 No pain No activity related swelling Normal running pattern
Weeks 16-20			Agility/cutting/twisting Sport specific	Symptom free sports specific training
From week 20 onwards			Return to full competitive sport	 Fully fit for demands of specific sport

POST-OPERATIVE TROCHLEA MICROFRACTURE REHABILITATION PROTOCOL Mr Mathias Nagy, Specialist Knee Surgeon Scarborough & Bridlington

References:

Asik, M, Ciftci, F, Sen, C, Erdil, M, Atalar, A (2008) The Microfracture Technique for the Treatment of Full-Thickness Articular Cartilage Lesions of the Knee: Midterm Results. *Arthroscopy: The Journal of Arthroscopic and Related Surgery*, 24 (11), 1214-1220

Hurst, J, Steadman, R, O'Brien, L, Rodkey, W, Briggs, K (2010) Rehabilitation Following Microfracture for Chondral Injury in the Knee. Clin Sports Med, 29, 257-265

McGinty, G, Irrgang, J, Pezzullo, D (2000) Biomechanical Considerations for Rehabilitation of the Knee. Clinical Biomechanics, 15, 160-166

Mithoefer, K, Williams, R, Warren, R, Hollis, P, Spock, C, Jones, E, Wickiewicz, T, Marx, R (2005) The Microfracture Technique for the Treatment of Articular Cartilage Lesions in the Knee. *The Journal of Bone and Joint Surgery,* 87a (9) 1911-1920

Mithoefer, K, Williams, R, Warren, R, Wickiewicz, T, Marx, R (2006) High-Impact Athletics After Knee Articular Cartilage Repair: A Prospective Evaluation of the Microfracture Technique. *American Journal of Sports Medicine*, 34 (9), 1413-1418

Pearle, A, Warren, R, Rodeo, S (2005) Basic Science of Articular Cartilage and Osteoarthritis. Clinics in Sports Medicine, 24, 1-12

Reinold, M, Wilk, K, Macrina, L, Dugas, J, Cain, E (2006) Current Concepts in the Rehabilitation Following Articular Cartilage Repair Procedures in the Knee. *Journal of Orthopaedic & Sports Physical Therapy,* 36 (10), 774-794

Theodoropoulos, J, Dwyer, T, Whelan, D, Marks, P, Hurtig, M, Sharma, P (2012) Microfracture for Knee Chondral Defects: a Survey of Surgical Practice Among Canadian Orthopedic Surgeons. *Knee Surg Sports Traumatol*, 20, 2430-2437

Tyler, T, Lung, J (2012) Rehabilitation Following Osteochondral Injury to the Knee. Curr Rev Musculoskelet Med, 5, 72-81

Van Assche, D, Van Caspel D, Staes F, Saris, D, Bellemans J, Vanlauwe, Luyten, F (2011) Implementing one Standardised Rehabilitation Protocol Following Autologous Chondrocyte Implantation or Microfracture in the Knee Results in Comparable Physical Therapy Management. *Physiotherapy Theory and Practice*, 27(2), 125-136

Vogt, S, Angele, P, Arnold, M, Brehme, K, Cotic, M, Haasper, C, Hinterwimmer, S, Imhoff, A, Petersen, W, Salzmann, G, Steinwachs, M, Venjakob, A, Mayr, H (2013) Practice in Rehabilitation after Cartilage Therapy: an Expert Survey. *Arch Orthop Trauma Surg, 133, 311-320*