**Mr Rob Gilbert**

**REHABILITATION PROTOCOL FOLLOWING TROCHLEA MICROFRACTURE**

**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**

**Any problems during rehabilitation please contact Mr Gilbert**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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 0º-30º  Full **PASSIVE** ROM | Progress as able to full WB with no walking aids.  Brace unlocked and set at 0º- 30º 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 30º * CKC quads/hams 0º- 30º * VMO/Gluteal strengthening * Hydrotherapy if appropriate * Proprioception exs | * No pain * Minimal/no effusion * SLR x 10 with no lag |
| Weeks 6-12 | No limit to AROM | FWB, no walking aids, discard brace | * 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 pain * No effusion * Normal 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 |

**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*