

PHASE 1

PROTECTION OF IMPLANT-GRANULATION TISSUE DEVELOPMENT AND CELL PROLIFERATION

WEEK 1-6

WEIGHT BEARING

Day 1-2

- No weight bearing for the first 48 hours
- As tolerated, a light toe-touch approach can be initiated after such period
- Moving with 2 crutches
- Soft extension brace worn continuously during the first 24 hours, and thereafter for 14 days during all movement (except during physiotherapy) and at night

Day 3 onto week 6

- Partial weight bearing: pursue the toe-touch approach with progression to 20%-40% of body weight for the first 3 weeks. Then start progressing as tolerated up to 80% of the body weight.
- Ensure correct gait pattern assisted with crutches is reinstated as soon as feasible.
- Continued use of 2 crutches. Use of single crutch might be started after week 4 if pain-free weight bearing is achieved.

Week 6 and beyond

- Weight bearing: 80-100% of body weight
- Ensure correct gait pattern
- Use of single crutch once pain-free weight bearing is achieved.

RANGE OF MOTION

Day 1

- No movement for the first 24 hours, with the use of a post op soft brace as indicated previously.
- After the first day, passive-assisted mobilisation can be initiated up to 30° of flexion.

Day 2 to 7

- Passive and passive-assisted ROM, according to tolerance, with the goal of reaching up to 110° as early as possible.
- Patellar mobilisation in all directions. If the lesion is within the femoro-patellar joint, caution with these exercises must be used.

Week 2 to 6

- Stationary cycling, without resistance, allowed once flexion reaches 110°
- Passive-assisted and active-assisted ROM of operated knee with the goal of reaching full ROM before week 4.
- Re-education using aquatic therapy strengthening, if available

From the mid part of this phase, the goal is also to reinforce the mechano-transduction signals which are responsible for modulation of biological activity within the maturing granulation tissue.

PHASE 2

TRANSITION TO NORMAL GAIT-FULL WEIGHT BEARING

WEEK 6-8

WEIGHT BEARING:

- Normal weight bearing as well as gait pattern need to be normal or near normal.
- Physical activity without impact such as walking, swimming and stationary bicycle with light to low moderate resistance is advisable, for periods of 20 minutes, 3-4 times a week

RANGE OF MOTION

- Full, active and passive ROM should be already in place at this time

PROPRIOCEPTION

- Exercises in this area might be started when total weight bearing is pain free. Examples are crossed walk on a straight line, back and forth and bipodal standing. It is nevertheless expected that if aquatic therapy is being used, such exercises have been started earlier.

PHASE 3

REMODELING PHASE EARLY STAGES

WEEK 8-14

WEIGHT BEARING:

- Normal weight bearing as well as gait pattern need to be normal or near normal.
- Physical activity without impact such as walking, swimming and stationary bicycle with light to low moderate resistance is advisable, for periods of 20 minutes, 3-4 times a week

RANGE OF MOTION

- Balance drills such as unipodal standing on flat surfaces, cross walk on straight lines back and forth and balance board.
- Aquatic exercises are strongly advised.

PHASE 4

REMODELING PHASE-MATURATION

FROM WEEK 14 ON

SPORTS & ACTIVITIES

- Fitness sessions 3 times a week recommended following the end of formal physiotherapy, preferably with a supervising trainer.
- Aquatic exercises are strongly recommended from early post op on when available and all along the rehabilitation process. This includes swimming.

JointRep™

- No impact sports (football/soccer, basketball, American football, rugby, martial arts) or sports with a high component of compressive, shear and torsional loads (tennis, squash, volleyball, and running) before 1 year post-operative unless advised by the treating surgeon.
- Moderate cycling activity on flat terrain could be initiated. After 9 months, moderate climbs could be started using low effort gear combinations.

BIBLIOGRAPHY

- Reinold M.M et al. Current Concepts in the Rehabilitation Following Articular Cartilage Repair Procedures in the Knee. J. Orthop Sports Phys Ther. 36(10):774-794, 2006.
- Wilk K.E, Macrina L.C, Reinold M.M. Rehabilitation following Microfracture of the Knee. Cartilage, 1(2):96-107, 2010.
- Edwards P.K, Ackland T, Ebert J.R. Clinical Rehabilitation guidelines for Matrix-Induced Autologous Chondrocyte Implantation in the Tibiofemoral joint. J Orthop Sports Phys Ther, 44(2):102-119, 2014.



NOTES:

A series of horizontal dotted lines for writing notes, spanning the width of the page.

NOTES:

A series of horizontal dotted lines for writing notes, spanning the width of the page.

