

## **Appendix 1: Detailed rehabilitation protocol after the hospital discharge Our accelerated rehabilitation program**

### Necessary conditions for hospital discharge:

- Swelling and pain control
- Full passive extension of the knee
- Active ROM 0° to 90°
- Good leg muscles control
- Full weight-bearing without postoperative brace

### Weeks 2 to 4 after surgery

- Full passive and active extension
- Minimal swelling
- Active flexion up to 120° - 130°
- Physiological gait pattern
- Prevention of muscle atrophy
- Closed kinetic-chain exercises
- Proprioception exercises

### Weeks 5 to 8 after surgery

- Full active ROM
- Open kinetic-chain exercises
- Muscle endurance exercises
- Muscle power exercises
- Isokinetic training
- Advanced proprioception exercises
- Coordination training

### Weeks 8 to 12 after surgery

- Muscle power training for all muscle groups with maximum load
- Gradual explosiveness muscular contraction training
- Outdoors cycling with maximum load
- Jogging
- 3 months after surgery isokinetic Endurance test is performed on the Biodex Pro 4 with angular velocity of 180°/s in the range of motion from 20° to 90° flexion in the knee, 25 repetitions. Based on the test results the patient is allowed to start with more complex functional activity.

## **Appendix 1: Detailed rehabilitation protocol after the hospital discharge Our accelerated rehabilitation program**

### Postoperative month 3 to 4

- Muscle power gain of all muscle groups
- Athletic training
- Jumping activities
- Sports specific training
- Avoiding forced rotational movements and uncontrolled jumps

### Postoperative month 5 to 6

- Muscle power gain of all muscle groups
- Accelerated preparation to the full loads in sports
- Sprint, shuttle run cutting maneuver, running with change in direction, running between obstacles, weights
- Sports specific training

At 6 months after surgery isokinetic Endurance and Power tests measurements, measurements with KT - 1000 arthrometer and functional tests are performed. Based on the results of measurements the evaluation is given either patients are ready for full sports activity.