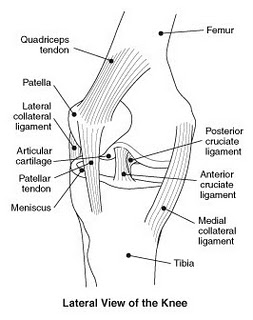
**OATS Rehab Protocol**

**Jeremy Mangion, MD**

The intent of the protocol in this package is to educate you about your surgery and the challenging rehabilitation that will follow. The primary goal of rehabilitation is to protect the reconstruction while steadily progressing towards and ultimately achieving pre-injury level of activity. The first step towards achieving this goal is to read this package before you have surgery in order to prepare yourself for the rehabilitation process.



**PERIOPERATIVE INSTRUCTIONS**

**PAIN**

It is common to experience pain in your knee after surgery. Ice, elevation, and ankle pumps will help decrease the pain.

**ELEVATION**

Keep your leg elevated with your foot above your heart a MINIMUM of 4 times a day for 20 minutes each time. You may place pillows under your calf and foot to elevate your leg. DO NOT place pillows under your knee as this will prevent your knee from straightening.

**ICE**

Ice your knee while it is being elevated. Feel free to ice your shin as well if you are having a lot of shin pain.

**BRACE**

You must wear the brace (immobilizer) at all times except for during therapy. You may loosen the brace and/or ace bandage if any discomfort or excessive pain is present. Remove the ace wrap /dressing only if instructed by your physician. .

**DRESSING**

DO NOT get the operated leg wet until your first post-op visit with your physician.

**WALKING**

Walk minimally, (for bathroom/meals) wearing the brace and using both crutches at all times.

**SCAR**

Do not massage the scar at any time. In the future, if you will be exposed to sunlight, keep the scar covered or use sunblock.

**RETURN TO WORK/SCHOOL**

Return to work or school will need to be discussed with your physician.

**REHABILITATION**

Your rehab initially is a collective effort of you, your therapist, and your physician. However, due to the current restrictions place by the managed health care system, duration of your formal physical therapy may be limited. This will be discussed when you begin physical therapy. It is our goal to progress you to a point where you are fully educated and are able to continue with your rehab independently. Your insurance company may determine the end of your physical therapy. **THE END OF FORMAL PHYSICAL THERAPY DOES NOT SIGNIFY THE END OF YOUR REHAB.** A written exercise instruction packet will be provided for you upon discharge from formal physical therapy. If you are interested, other self-pay options will be made available to you as well.

**OATS REHAB**

The following is a protocol for postoperative patients following OATS (Osteochondral Autograft/Allograft Transer System) procedures. The primary goal of this protocol is to protect the graft while steadily progressing towards and ultimately achieving pre-injury level of activity. Please note this protocol is a guideline. Patients with additional surgery (i.e. ligament reconstruction, meniscal repair) will progress at different rates. Achieving the criteria of each phase should be emphasized more than the approximate duration. If a patient should develop an increase in pain or swelling or decrease in motion at any time, activity should be decreased until problems are resolved. Please contact our office if there are any questions in regards to this protocol.

**PHASE I: IMMEDIATELY POSTOPERATIVE**

The immediate postoperative phase focuses primarily on motion, swelling reduction, and rest. The patient is expected to come to their first post-op visit with full knee extension (knee is completely straight). It is especially important the patient rest and refrain from normal activities during this phase so the patient can focus on healing and the home exercise program. The patient must continue to walk with the crutches and immobilizer until the physician or therapist advises the patient to discontinue use of them.

DURATION: approximately 0 – 6 weeks

Appointments

* Rehabilitation appointments begin within 3-5 days after surgery and meet 2 x per week

Rehabilitation Goals

* Protection of the post-surgical knee
* Restore normal knee range of motion and patellar mobility
* Eliminate effusion
* Restore leg control

Weight Bearing

* Week 1-3 = non-weight bearing
* Week 4-6 = touchdown to 50% weight bearing
* 0-6 weeks = locked extension lock splint brace

Range of Motion Exercises

* Full knee extension
  + Knee extension on a bolster
  + Prone hangs
* Passive Knee Flexion
  + Supine wall slides
  + Assisted heel slides
  + Continuous passive motion machine (if covered by insurance)
* Week 1-2 = 0-90°
* Week 3-4 = 0-110°
* Week 5-6 = 0-125°

Suggested Therapeutic Exercise

* Quadriceps sets
* Straight leg raises
* Four way leg lifts in standing with brace on for balance and hip strength
* Patellar mobilizations
* Soft tissue mobilization

Progression Criteria

* Patients may progress to Phase II if they are 6 weeks post-operative, have met the
* above stated goals, have trace to no effusion and full knee extension

**PHASE II:**

DURATION: approximately 7-12 weeks post-op

Appointments

* Rehabilitation appointments are once a week

Rehabilitation Goals

* Single leg stand control
* Normalize gait
* Good control and no pain with functional movements, including step up/down, squat, partial lunge (staying less than 60° of knee flexion and avoiding excessive weight bearing at position of the lesion)

Precautions

* Avoid post-activity swelling
* Avoid loading knee a deep flexion angles
* No impact activities until 12 weeks after surgery

Weight Bearing

* Begin progressive weight bearing as tolerated with axillary crutches and no brace

Suggested Therapeutic Exercise

* Weight shifting
* Begin pool program – gait drills and initiation of protected weight bearing strengthening exercises
* Double leg balance and proprioceptive drills
* Stationary bike
* Gait drills (start with pool)
* Protected weight bearing hip and core strengthening
* Stretching for patient specific muscle imbalances
* Quadriceps strengthening – closed chain exercises short of 60° knee flex

Progression Criteria

* Patients may progress to Phase III if they have
  + - Normal gait on level surfaces
    - Full range of motion
    - No effusion
    - Ability to carry out functional movements without unloading affected leg or pain, while demonstrating good control
    - Single leg balance greater than 15 seconds

**PHASE III:**

DURATION: approximately 3-6 months post-op

Appointments

* Rehabilitation appointments 1 time every 1-2 weeks

Rehabilitation Goals

* Good control and no pain with sport and work specific movements, including impact

Precautions

* Post-activity soreness should resolve within 24 hours
* Avoid post-activity swelling
* Avoid knee pain with strengthening

Suggested Therapeutic Exercise

* Functional leg strengthening
  + - Squats
    - Lunges – all three planes
    - Step backs
    - Retro step ups
    - Single leg leg press
* Single leg balance and proprioception progression
  + - Hip and core strengthening
    - Mini band drills
    - Physioball
* Stretching for patient specific muscle imbalances

Return to Sport/Work Criteria

* Dynamic neuromuscular control with multi-plane activities, without pain or swelling

**PHASE IV:**

Appointments

* Rehabilitation appointments 1 time every 1-2 weeks

Rehabilitation Goals

* Good control and no pain with sport and work specific movements, including impact

Precautions

* Post-activity soreness should resolve within 24 hours
* Avoid post-activity swelling
* Avoid knee pain with impact

Suggested Therapeutic Exercise

* Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other and then 1 foot to same foot
* Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities
* Sport/work specific balance and proprioceptive drills
* Hip and core strengthening
* Stretching for patient specific muscle imbalances

Return To Moderate Impact Sport Criteria (Jogging, Aerobics)

* 8 months post surgery; and
* Good dynamic neuromuscular control with multi-plane activities, without pain or swelling

Return To High Impact Sport Criteria (Basketball, Soccer)

* 10 months post surgery; and
* Good dynamic neuromuscular control with multi-plane activities, without pain or swelling