



# ACL RECONSTRUCTION

## Overview

This is a protocol that provides you with general information and guidelines for the initial stage and progression of rehabilitation according to the listed timeframes. Specific changes may be made by the care team as appropriate given each patient's operative findings.

## Questions

If you have any concerns or questions after your surgery, please call us. Contact us via phone: **763.302.2231**. You may need to leave a message and we will get back to you as quickly as we can.

## Address

### Maple Grove

9825 Hospital Drive, Suite 104

Maple Grove, MN 55369

### Plymouth

2855 Campus Drive Suite 660

Plymouth, MN 55441

### Robbinsdale

3366 Oakdale Ave. N Suite 103

Robbinsdale, MN 55422



## Immediate Post-operative

You will receive a sheet of discharge instructions at the time of surgery. This will include specific information about your activity restrictions and care at home. Other information to know:

- You may use your knee immobilizer as needed for comfort until thigh function has returned and can do straight leg raises.
- Expect a small amount of drainage from your incisions up to 5-7 days after surgery.
- Begin simple leg exercises the day after surgery. Instruction sheet given at discharge.
- Unless otherwise directed, put full weight on your leg after surgery. However, crutches are usually necessary until you feel comfortable enough to put your full body weight on your knee and your thigh function has returned.
- Narcotic pain medications should be taken regularly the first several days, then as needed. You may switch to acetaminophen or ibuprofen as soon as you can.



## More information

### DVT prophylaxis

- DVT risk factors: smoking, obesity, pregnancy, oral contraceptive use, prolonged sitting and surgery
- To reduce this risk we recommend taking 325 mg Aspirin daily, if 18 yrs or older.
- Self care measures include: stop smoking, avoid sitting for long periods, and WALK.
- Signs of a blood clot include: Shortness of breath, chest pain/pressure, leg pain, swelling, warmth and redness

### Pain medications

- We do NOT refill medications after 2:00 pm Fridays, or over the weekends. Call in advance.

### Driving

- You will be allowed to drive once you are off narcotic medications, and you have enough leg strength. This generally occurs within a month of surgery.

## Post-op Appointment

### *First post op visit (7-10 days)*

Your first post-op appointment is about 7-10 days from surgery. You will see the PA to review your surgery and have the sutures removed. Please bring your operative pictures with you to this appointment to enhance your understanding of your surgery. We will order an X-ray and refill medications as needed. You will be able to shower and get your incisions wet at this point.

\*\*Subsequent appointments will be scheduled every 4 weeks.

### *What to expect after surgery*

- Swelling and bruising are very typical from knee to foot.
- Ambulation and stairs will be difficult for the first several weeks. This will become easier as your thigh muscle become stronger.
- Knee immobilizer should be worn for the first week or until thigh function returns.
- Pain medications will be needed for the first 1-4 weeks. Switch to ibuprofen or acetaminophen (if not contraindicated) as soon as possible.
- Ice and Elevation are important to reduce swelling
- Physical therapy is generally initiated one week after surgery
- Most patients return to work within a few weeks of surgery, unless your job is physically demanding, in which case patients may be kept out of work for at least 4-6 week.
- Research has shown when patients return to sports before 9 months there is an increased risk of re-injury and re-rupture of the ACL graft. This is why a thoughtful discussion is made with our patients wanting to return to competitive sports prior to the 9 month mark.



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# Physical Therapy

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These exercises should be started the day after surgery. These will be all the required exercises until you are seen by your physical therapist in the office. It is important to begin working on range of motion right after surgery as this will help in your overall recovery.

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## HOME EXERCISES

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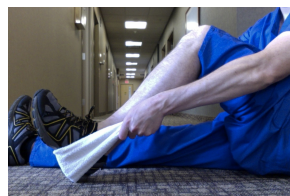
### *ANKLE PUMPS*

3 sets of 15, at least 6 times per day  
MOVE YOUR FOOT UP AND DOWN



### *HEAL SLIDES*

3 sets of 10, 6 times per day  
FLEX YOUR HIP AND KNEE. RETURN TO STRAIGHT POSITION.



### *KNEE FLEXION STRETCH*

3 sets of 10, 6 times per day  
PLACE TOWEL UNDER HEAL. PULL KNEE TOWARDS CHEST. HOLD FLEXED KNEE FOR 15-20 SECONDS. RETURN TO STRAIGHT POSITION.



### *KNEE EXTENSION*

3 sets of 10, 6 times per day  
PLACE TOWEL ROLL OR PILLOW UNDER KNEE. LIFT FOOT OFF FLOOR.



### *QUADRICEPS SETS*

3 sets of 10, 6 times per day  
PLACE TOWEL ROLL OR PILLOW UNDER HEAL. TIGHTEN THIGH MUSCLE AND HOLD FOR 5 SECONDS.



### *LEG LIFTS*

3 sets of 10, 6 times per day  
RAISE LEG OFF THE FLOOR 6 INCHES, KEEPING THE KNEE STRAIGHT.

ICE MACHINES

**GAME READY**



**CRYOCUFF**



**POLAR ICE**



BENEFITS

- Portable ice machines
- Reduces pain and swelling
- Gives constant cold therapy

PRICE

- Call for prices

CONTACT

Jeff Olmscheid

Ottobock Medical

Phone: 612-839-1472

**\*\*Patients are not required to purchase any other these devices. They are only offered as a supplemental modality to help with pain control. Patients may use ice packs from home or any other cold therapy device available to them. Dr. Arthur does not have any affiliation to these medical equipment companies. ICE MACHINES**



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# REHAB PROGRESSION

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## **PHASE I: Weeks 1-3 (RANGE OF MOTION [ROM])**

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### CLINIC VISIT

- 7-10 days after surgery

### WEIGHT BEARING (WB)

- Weight bear as tolerated (WBAT) with knee immobilizer and crutches immediately following surgery.
- Full WB with knee immobilizer and crutches.
- Full WB without knee immobilizer using crutches, working on heel-toe stride when ambulating.
- Full WB without crutches. Continue to work on normal gait—heel-toe lift off. DO NOT LIMP. Do not walk on toes or with bent knee. Establishing a normal gait early is important.

### ROM

- Flexion as tolerated
- Regain/Maintain full knee extension
- ROM goal at end of 3 weeks is 120 degrees to full ROM with full extension.
- May use ice, kodiak ice machine, cryocuff, game ready during this phase to address swelling.

### STRENGTHENING

- Initiate strength program to include quad sets along with Progressive Resistance Exercises (PREs)
- PREs: 3-way straight leg raises, prone knee flexion

### MODALITIES

- Ice post exercise regimen

### PROGRESSION CRITERIA

- Gain and maintain full extension (do not force hyperextension)
- Minimum flexion to 100 degrees
- Decrease swelling
- Progress toward independent walking
- Initiate strength program

## **PHASE II: Weeks 3-6 (Strength)**

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### CLINIC VISIT

- 1 month post-op

### WEIGHT BEARING (WB)

- Full WB without crutches
- Smooth gait pattern without limping
- Can begin backwards walking on treadmill once Full WB without knee immobilizer

### ROM

- Continue Phase I exercises as needed
- Continue flexion as tolerated
- Attain/maintain full extension

### STRENGTHENING

- Closed chain kinetic exercises
- Begin functional strengthening exercises
- Proceed with Active ROM exercises

### CONDITIONING

- 3x/week for 20 minutes

### PROGRESSION CRITERIA

- ROM: full extension with flexion to 130 degrees (or full flexion)
- Confident, smooth gait
- Begin functional strengthening

## **PHASE III: Weeks 6-12 (Power)**

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### CLINIC VISIT

- As needed

### ROM

- Full ROM to flexion and extension. Continue ROM exercises in Phase I and II as needed. Discontinue ROM exercises when ROM is equal to both knees



## **PHASE III: Weeks 6-12 (Power) Continued**

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### STRENGTHENING

- Continue previous exercises as needed and add advanced closed chain activities as function allows.

### CONDITIONING

- 3x/week for 20 minutes on an exercise bike, with normal pedaling motion
- Initiate elliptical training as early as 8 weeks if adequate strength is present.

### MODALITIES

- Ice post exercise regimen (up to 30 mins)
- Proprioception: progress from level planes, incline and mini tramp surfaces

### FUNCTIONAL TESTING

- May initiate landing progression
- Unsupported landing on two legs: 10-12 weeks
- Unsupported landing on one leg: 12-14 weeks

### PROGRESSION CRITERIA

- Attain full ROM
- Advance functional strengthening
- Walk up and down stairs consecutively using both legs easily
- Must be able to land with flexed knee and no valgus deviation at the knees

## **PHASE IV: Weeks 12+ (Agility)**

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### CLINIC VISIT

- 3 month and 6 month post op visits

### ROM/STRENGTHENING

\*\*Exercise daily to maintain ROM and advance strength and function to return to regular activities

ROM: Daily

STRENGTH: 3x/week

### RUNNING: WEEK 12 (AUTOGRAFTS), WEEK 16+ (ALLOGRAFTS, REVISIONS)

Running program: Start basic running program at 12 weeks (no swelling present. Leg strength and ROM full). Emphasis will be on normal running gait with full knee extension.

FUNCTIONAL TRAINING: 4+ MONTHS: Start only after Phase III complete. Must pass each stage prior to poreceeding to the next stage.

STAGE 1:

(Start with both feet and progress to operative leg. Unsupported linear)

- Unsupported hopping in a box pattern
- Diagonal hopping
- Straight line hopping (4 hops forward, then backward)
- Zigzag hopping

STAGE 2:

- Hopping and running
- Landings
- jump off 2" height forward, backward, and both left/right
- Weight evenly distributed
- Resisted jogging-elastic band at waist
- Jog backwards, then forwards
- Progress to forward shuffles, carioca

STAGE 3:

- Progress to running agility program (3x/week)

FUNCTIONAL TESTING: 4+ MONTHS

Outcomes testing: Single leg hop to determine function. Patient should have completed Stage 1 of functional training. Perform between 12-16 weeks after surgery. This must be completed prior to progressing the patient to functional training and sport specific training.

MODALITIES

- ICE (up to 30 mins after exercise)

PROGRESSION CRITERIA

- Advance agility and power training
- Achieve normal activities on uneven surfaces