

Giới thiệu một chương trình VLTL sau mổ tái tạo DCCT tại Hoa Kỳ

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Nội dung

- Hướng dẫn sau mổ
- Phiếu chỉ định VLTL của BS phẫu thuật
- Protocol

ACL Postoperative Instructions

DIET

- Resume regular diet as tolerated.

MEDICATION

Percocet Tylenol #3

- Take 1-2 tablets every 4-6 hours as needed for pain.
- If Toradol is prescribed: This is a non-narcotic medication that should be taken for 3-4 days, every 6 hours. It generally is not prescribed for patients over 50 years of age or for those patients who have a sensitive stomach.
- You may receive a prescription for Phenergan suppository. It is for nausea. Fill the prescription **ONLY IF** you have severe nausea.

Percocet

ACTIVITY

- Minimize activity the day of surgery.
- Elevate the knee above the waist on pillows while reclining.
- Ice may initially be difficult to apply because of the thick dressings. Apply ice to the knee 3 times per day for 20 minutes for up to 1 week.
- If cryo-cuff is applied under dressing you may use constantly at a comfortable temperature between 55-65 degrees.
- **DO NOT USE HEAT**
- Exercise the calf by pumping the foot 5 minutes 3 times a day and straight leg raising 10-15 minutes 3 times a day.
- **DO NOT** use exercise equipment unless otherwise instructed.
- Place a rolled towel beneath the ankle of your operative leg for 20-30 minutes 3 times per day for the first week to encourage full extension.

CRUTCHES

- Walk with crutches partial weight bearing as tolerated for days *is brace below in 0° off*
- Walk with crutches, partial to full weight bearing as tolerated 24-72 hours, then discontinue the use of crutches. Bend knee as tolerated.
- Use crutches. **DO NOT** bear weight on the operated leg until next office visit.

Hướng dẫn sau mổ

- Đi nặng, chịu sức nặng một phần theo khả năng, trong nẹp khóa 0 độ
- Có 3 loại WB:
 - WB as tolerated in ... days
 - WB as tolerated 24-72 hours
 - Non WB

Hướng dẫn sau mổ

CPM

Hand call
Janice @ 215 762 9128
if CPM not received
by Monday 1/10.

- You will receive You will not receive
- This device is **NOT** used in all cases. Determination is made at the time of surgery.
 - The day after surgery, the representative of the CPM company will contact you regarding the delivery of your CPM machine. The CPM is to be used 4-6 hours per day. It is initially to be set at 10-30 degrees and increased 5 to 10 degrees per day as tolerated.

SHOWERING

- You may shower 2-3 days after surgery. **DO NOT** immerse the knee under water and **DO NOT RUB** the incision. Place new Band-Aids over sutures after showering.
- You may **NOT** shower or get dressings wet until after next office visit.

DRESSING CARE

- Standard Dressing**
- Keep the dressing dry initially.
 - You can expect some light bloody wound seepage through the bandage. **DO NOT BE ALARMED**. Fluid seepage is normal after arthroscopy. If the dressings does get soaked, contact your physician.
 - Remove all dressings 48-72 hours after surgery and apply a Band-Aid over each incision to cover the suture. You may remove the ace and rewrap it.
 - **DO NOT REMOVE SUTURES**
- Non-Standard Dressings**
- Brace/Splint Other _____
- You have a brace/splint applied instead of a standard dressing because you had a:
- ACL Reconstruction Other _____
- Keep brace/splint on until next visit.
 - **DO NOT GET BRACE/SPLINT WET**

- CPM: Continuous Passive Motion
- CPM chỉ là một lựa chọn kèm theo
- Dùng CPM 4-6 giờ trong ngày

Hướng dẫn sau mổ

ARTHROSCOPIC FINDINGS

- Torn meniscus
- Torn ligaments *ACL*
- Worn joint surface (cartilage)
- Joint lining irritation (synovitis)
- Loose bodies
- Arthritis: Mild Moderate Advanced
- Other _____

PROCEDURE

- Partial meniscus excision
- Joint surface smoothing
- Removal of joint lining (synovectomy)
- Meniscus repair
- Removal of loose body
- ACL Reconstruction
- Other _____

FOLLOW UP

- Call your doctor's office on the next business day to make a return appointment for 7-10 days after surgery.
- Any questions or problems please call your doctor's office or *2663* Hahnemann University Hospital at 215-762-7000. *47762 8148*
- **Notify your doctor of any fever over 101.5 degrees, excessive bloody wound seepage, severe midcalf tenderness, or numbness in the leg.**
- Specific Instructions: _____

- Các dấu hiệu khi thám sát nội soi:
 - Rách sụn chêm
 - Đứt dây chằng
 - Hư mặt khớp
 - Viêm bao hoạt dịch
 - Sụn khớp
 - Viêm khớp
 - ...

Kimberly Accardi, MD NPI # 1306038880
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NAME: _____ DATE: 12-9-14
 DIAGNOSIS: (+) ACL reconstruction Bone Patella Bone autograft
 WEIGHT BEARING STATUS: _____

PRECAUTIONS/COMMENTS: Please see Rehab Protocol
TREATMENT PLAN

EVALUATE & TREAT PT OT CONTINUE THERAPY

<p><u>Modalities</u></p> <input checked="" type="checkbox"/> Hot Pack/Cold Pack <input checked="" type="checkbox"/> Ultrasound <input checked="" type="checkbox"/> Iontophoresis <input checked="" type="checkbox"/> Electrical Stim/TENS <input type="checkbox"/> Traction: Pelvic/Cervical <input type="checkbox"/> Paraffin	<p><u>Therapeutic Exercises</u></p> <input checked="" type="checkbox"/> Active Range of Motion <input checked="" type="checkbox"/> Active Assisted Range of Motion <input checked="" type="checkbox"/> Strengthening Exercises <input type="checkbox"/> Isometric Only <input checked="" type="checkbox"/> Gait Training <input type="checkbox"/> Agility Training <input type="checkbox"/> Balance Training
<p><u>Programs</u></p> <input type="checkbox"/> Spine Rehabilitation <input type="checkbox"/> Functional Capacity Evaluation <input type="checkbox"/> Work Hardening <input type="checkbox"/> Home Exercise Program <input type="checkbox"/> Hand Therapy <input type="checkbox"/> Core Strengthening <input checked="" type="checkbox"/> Other <u>Per post op ACL protocol (see attached)</u>	<p><u>Manual Therapy</u></p> <input checked="" type="checkbox"/> Myofascial Release <input checked="" type="checkbox"/> Joint Mobilization <input checked="" type="checkbox"/> Proprioceptive Techniques <input checked="" type="checkbox"/> Desensitization Techniques <input checked="" type="checkbox"/> Passive Range of Motion <input checked="" type="checkbox"/> Soft Tissue Mobilization <input checked="" type="checkbox"/> Scar Massage <input checked="" type="checkbox"/> Edema Control

Treatment Frequency: 3x/week 2x/week 1x/week Daily
 Treatment Duration: 6Wks. 4Wks. 3Wks. 2Wks. 1Wk.
 Therapist Discretion

Goals: Increase ROM Increase Strength Improve Function
 Increase Mobility Decrease Pain Decrease Swelling
 Normalize Gait Improve Posture (Other)

Physician's Signature: _____

Please call with any questions and send reports to the address below.
 216-220 North Broad St. 2nd Floor Feinstein Philadelphia, PA 19102
 Phone: 215-762-2663 Fax: 215-762-4447

Giấy giới thiệu VLTL

- Phẫu thuật viên gửi chương trình tập kèm theo
- Không cần tập mỗi ngày
- Thời gian theo dõi tùy thuộc vào KTV (therapist discretion)



ACL PROTOCOL

GOALS:

- 1) Protect Graft
- 2) Restore Normal Patellar Mobility
- 3) Restore Normal Range of Motion
- 4) Restore Normal Muscular Tone
- 5) Restore Normal Muscular Strength
- 6) Restore Normal Balance
- 7) Return To Full Activity

Pre-Op:

- 1) Patient is familiarized with surgical procedures
- 2) Patient is familiarized with rehabilitation
- 3) Patient is taught and performs:
 - A) Leg Carry
 - B) Crutch Walking
 - C) Quad Sets
 - D) Straight Leg Raises
 - E) Heel Slides
 - F) Ankle Pumps

Post-Op:

General Instructions:

- 1) A.) The range of motion brace should be progressed as instructed by MD
B.) Keep brace locked while walking and at night;
Unlock to perform range of motion

- 2) Weight bearing as tolerated should begin at (___wks/immediately) and progress to full weight bearing at ___wks.

Chương trình tập kèm theo

- Chương trình trước mổ
- Sau mổ phải mang nẹp khóa 0 độ khi đi và khi ngủ
- Thời gian bắt đầu chịu sức nặng thay đổi tùy trường hợp

Week 1: Early Protection Phase

- 1) Use of CPM machine if elected to rent ~ 6-8 hrs. per day
- 2) Use of polar care on an as needed basis
- 3) Weight-bearing as instructed by MD
- 4) Brace range of motion as instructed by MD
- 5) Home Exercises: Quad sets, SLR, R.O.M. (heel slides, prone hangs), ankle pumps

Week 1-4: Intermediate Protection Phase

Range of Motion

- 1) Patellar mobilization all glides
- 2) Range of motion, passive from 0 – to tolerance
- 3) Range of motion, heel slide 0 – to tolerance
- 4) Bicycle for range of motion, no resistance

Quadriceps Tone & Strengthening

- 1) Electric stimulation to quadriceps. Leg must be at least at 10° or <, otherwise stimulated at 45°. 12 seconds on/8 seconds off for 10-15 minutes. 10 lb. counterweight over proximal tibia.
- 2) Biofeedback assisted quadriceps sets. 5 second hold – 2 sets of 10 on table – 2 sets of 10 standing if partial weight bearing.
- 3) Mini-Squat 0-45° – 3 sets of 20 – Hips flexed with shoulders kept over the knees – Add hand weights as tolerated.

4) Basketball slide begun when FWB – start in the position similar to a mini-squat. Slowly shuffle 10-15 ft. to the right, then change direction and slowly shuffle back to the left. Perform this activity 3x's for 1 minute.

5) Stairmaster – Level 3-4. Slow controlled steps beginning at week two for patellar tendon grafts, week 4 for hamstring grafts. Begin with 2 minutes and progress as tolerated.

6) NO OPEN CHAINED QUADRICEPS EXERCISES.

Hip, Hamstring & Calf Strengthening

1) Hip Group

**Hold extension and abduction with medial meniscus repairs until 4 weeks post-op.
**Hold extension and abduction with lateral meniscus repairs until 4 weeks post-op.

A) Four way leg raises (hip flexion, extension, abduction, and adduction) – Add weight proximal to knee as patient tolerates.

B) Multi-Hip machine as tolerated keep knee flexed to 90° with flexion movement. D/C cuff weights when performing multi-hip.

2) Hamstrings

A) Theraband Exercises – 2 sets of 10 seated and 2 sets of 10 standing.

B) Isotonics with cuff weights, standing using table for support. Increase weight as tolerated.

3) Calf Group

A) Seated heel raises with weight on thigh

B) Theraband dorsiflexion and plantarflexion

C) Standing heel raises using table for support and balance as soon as partial weight bearing.

Week 4-8 Late Protection Phase

Tuần 1-4: bảo vệ sớm

- Lấy lại trương lực cơ tứ đầu đùi:
 - Kích thích điện ở tư thế gối 10 độ hay 45 độ, 12 giây bật/8 giây tắt, 10-15 phút, 10 pound, tạ gần gối
 - Gồng cơ có phản hồi sinh học
 - Khuyết gối 0-45 độ
 - KHÔNG TẬP BÀI CHUỖI MỞ

Range of Motion

- 1) Patellar mobilization – all glides
- 2) Range of motion. Passive ROM 0°-full ROM.
- 3) Bicycle, slowly lowering RPM's to 80-90 up to 20 minutes

Quad Tone and Strengthening

- 1) E-Stim to quadriceps
 - A) Isometric quad setting to full EXTENSION with 10 pound counterweight, 12 seconds on/8 seconds off – 10 minutes.
- 2) Continue with biofeedback assisted quad sets until normal quad tone, VMO sequencing achieved.
- 3) Continue with mini-squat 0°-45° adding hand weights as tolerated. Progress to a unilateral mini-squat using table for support.
- 4) Leg press 60°-0° in bilateral stance. Start with approximately half of patient's body weight and progress as tolerated.
- 5) Step-Ups starting with 2" step and progressing to 6" step.

Hip, Hamstring and Calf Strengthening

1) Hip Groups

- A) Continue with multichip A/O 4-way leg raises – Progress weight as tolerated.

2) Hamstrings: 3-ways

- A) D/C isofoics with cuff weights. Continue with theraband exercises progressing resistance as tolerated.
- B) Isotonics on N/K table (in seated position) – 2 sets of 10 reps.

- C) Hamstring bench exercise. Perform concentric exercise 2 sets of 10 and eccentric exercise 2 sets of 10 adding 10 pounds for eccentric exercise.

3) Calf Groups

- A) D/C seated heel raises and theraband exercises.
- B) Continue with standing heel raises. Add hand weights as tolerated.

Balance and Proprioceptive Exercises

- A) B.A.P.S. and/or K.A.T. performing bilateral exercises.
- B) P.N.F. for hamstrings in open and closed chains.

Tuần 4-8: bảo vệ muện

- KTĐ cơ tứ đầu ở tư thế gối duỗi 0 độ
- Bước bực bắt đầu cao 2" (5cm), sau đó 6" (15cm)

Week 8-16 Functional Rehabilitation Phase

Range of Motion

- 1) D/C patellar mobilization when R.O.M. is full, all glides normal, and lateral tilt is positive.
- 2) Continue with range of motion until full ROM is achieved.

Aerobic/Endurance Exercises

- 1) Continue bike lowering resistance to 60 R.P.M.'s
- 2) Continue with stairmaster increasing time to 20-30 minutes.
- 3) Nordic Trac starting at 8-10 minutes. Minimal resistance. Progress time to 15 minutes and increase resistance as tolerated.
- 4) Treadmill – walk at 8 weeks post-op, jog at 12 weeks or when instructed by M.D..

Quad Strengthening and Exercises

- 1) D/C E-Stim, Biofeedback when quad tone and VMO sequencing equal to uninvolved side.
- 2) Continue with mini-squats and leg press, bilateral and unilateral, progressing weight as tolerated.
- 3) Continue with step-ups adding hand weights to contralateral side to increase resistance.

Continue with Hip, Hamstring, Calf, Proprioceptive exercise, increasing weight and/or intensity as tolerated.

Week 16-36 Return To Activity

- 1) Continue with all exercises.
- 2) Isokinetic strength test and KT 2000 test as prescribed by M.D.
- 3) Implement running program as per M.D.
 - A) Adequate KT 2000 test
 - B) Isokinetic Strength: *70% VU Ratio
*Q/BW Ratio <20% WNL
*H/Q Ratio- WNL
- 4) Implement agility program as per M.D.
 - A) Adequate KT 2000 test
 - B) Isokinetic Strength: *80% I/U Ratio
*Q/BW Ratio <10% WNL
*H/Q Ratio – WNL
- 5) Return to activity as per M.D.
 - A) Adequate KT 2000 test
 - B) Isokinetic Strength: *85% I/U Ratio
*Q/BW Ratio – WNL
*H/Q Ratio - WNL

Tuần 8-16: tập luyện chức năng

- Đi thăm lặn lúc 8 tuần
- Đi bộ nhanh lúc 12 tuần
- Ngưng KTĐ và PHSH khi trương lực cơ tứ đầu và cơ rộng trong băng bên lành
- Tiêu chuẩn:
 - Chương trình chạy
 - Chương trình linh hoạt
 - Trở lại hoạt động

Tóm tắt

- Ngay sau mổ phải dùng nẹp khóa gối 0 độ, mức độ chịu sức nặng thay đổi tùy theo chỉ định BS phẫu thuật
- Trong 2 tháng đầu, cơ tứ đầu đùi cần phục hồi trương lực (tone)
- Không tập cơ tứ đầu đùi bằng bài tập góc mở trong 4 tuần đầu đối với mảnh ghép gân bánh chè. Sau đó không thấy đề cập
- Luôn lượng giá để xem đủ chuẩn áp dụng bài tập mới