Knee – Anterior Cruciate Ligament (ACL) Tear, Posterior Cruciate Ligament (PCL Tear)

Diagnosis/Condition: Sprain/strain of the cruciate ligament of the knee; Internal derangement of the knee; Old disruption of anterior cruciate ligament; Internal derangement of the knee; Old disruption of posterior cruciate ligament

Discipline: DC, ND

ICD-9 Codes: 844.2; 717.83; 717.84

ICD-10 Codes: S83.509A; M23.50

Origination Date: 11/1996

Review/Revised Date: 04/2013

Next Review Date: 04/2015

Anterior cruciate ligament (ACL) sprains may be due to contact or non-contact injuries. A blow to the side of the knee, such as may occur during a football tackle, may result in an ACL tear. Alternatively, coming to a quick stop, combined with a direction change while running, pivoting, landing from a jump, or overextending the knee joint, can cause injury to the ACL.

Some people are able to live and function normally with a torn ACL. However, most people complain that their knee is unstable and may "give out" with attempted physical activity. Although the issue is controversial, the use of knee braces during aggressive athletic activity, such as football, has not been shown to decrease the incidence of knee injuries.

In the last decade much has been learned about anterior cruciate ligament (ACL) injuries of the knee. However, much less research has been done on the posterior cruciate ligament (PCL) because it is injured far less often than the ACL. The PCL is the knee’s basic stabilizer and is almost twice as strong as the ACL. Most athletic PCL injuries occur during a fall on the flexed knee with the foot plantar flexed.

Subjective Findings and History
- Trauma to knee
- Pain
- May have noted a “pop”, giving away
- Swelling within 6 hours of trauma

Objective Findings
- Effusion (edema/hemarthrosis)
- Limited motion secondary to swelling
- Instability as evidenced by: “positive” Lachman, pivot shift, and anterior and posterior drawer tests, etc.
• Evaluate kinetic chain and spine for joint dysfunction
• MRI

Assessment
Other problems to be considered include:
• Patellar dislocation/fracture
• Knee dislocation
• Femoral, tibial, or fibular fracture
• Meniscal knee injury

The clinical impression should indicate the specific anatomical structures involved and clinically correlate with mechanism of injury, history, subjective complaints, and objective findings

Plan
Passive Care:
• NSAIDS
• Topical salicylic acid, other topical analgesic cream
• Nutritional supplementation (Vitamin C, manganese, magnesium, calcium, glucosamine sulfate, chondroitin)
• Botanical supplementation
• Topical treatments (e.g., comfrey poultice, hypericum, arnica)
• Immobilization or kinetic bracing, taping
• Foot orthotics
• Physical therapy modalities
• Passive exercises to improve range of motion
• Hydrotherapy
• Homeopathy
• Acupuncture
• Lower extremity and spinal manipulation to correct joint dysfunction
• Ultrasound

Active Care:
• Active stretching exercises
• Resistive exercises
• Training in proper mechanics of joint protection
• Functional training
• Rehabilitation
• Activities/work restrictions: Limit activity depending upon diagnosis, degree of symptoms, and type of daily activities

Length of Treatment
• 6-12 weeks depending upon severity of injury
• Continue strengthening exercises for a number of months
Referral Criteria

- Referral to an orthopedist should be considered for moderate/severe knee instability
- Referral to physical therapy if not available in your clinic
- Continued worsening
- Failure to respond to care

The Evidence


Riordan E, Frobell R, Roemer F, Hunter D. The health and structural consequences of acute knee injuries involving rupture of the anterior cruciate ligament. Rheumatic Diseases Clinics Of North America [serial online]


**Clinical Pathway Feedback**

CHP desires to keep our clinical pathways customarily updated. If you wish to provide additional input, please use the e-mail address listed below and identify which clinical pathway you are referencing. Thank you for taking the time to give us your comments.

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