

PROTOCOL FOR THE MANAGEMENT OF ACUTE INJURIES TO THE KNEE

INTRODUCTION

The majority of knee injuries result from trauma to the joint as a result of direct, torsional or angulatory forces. These injuries vary in severity from simple ligamentous sprains to complex pathologies that involve ligamentous disruption, meniscal damage, and associated fractures.

This Protocol is designed to guide the practitioner in the appropriate management of these injuries and to establish a logical sequence for the diagnostic evaluation and treatment of the more complex pathology.

In general, knee injuries should be referred for orthopedic consultation and/or treatment under the following circumstances:

1. Failure of a presumed knee sprain to show progressive resolution and response to appropriate conservative treatment in a period of three (3) weeks.
2. Radiographic evidence of an associated fracture.
3. The initial physical presence of a tense effusion or the development of recurrent effusions.
4. An acutely locked or dislocated knee.
5. Clinical evidence of gross ligamentous instability.
6. A presumed diagnosis of a meniscal injury.
7. Evidence of infection.

ACUTE KNEE SPRAINS – MILD VS. MAJOR

I. MILD KNEE SPRAINS

These are common injuries usually resulting from the application of a torsional or angulatory force to the knee and are characterized by pain, swelling, localized tenderness, increased discomfort on weight bearing, negative x-rays, and no clinical evidence of instability.

A. APPROPRIATE DIAGNOSTIC TESTS

- 1) Plain x-rays
- 2) MRI of knee by Orthopedic Specialist, Rheumatologist, Physiatrist, or Occupational Medicine Physician
- 3) Bone Scan
- 4) CT Scan of knee
- 5) Arthrogram of knee (if MRI contraindicated)

B. OUTPATIENT/NON-OPERATIVE TREATMENT

- 1) Medications to include short-term analgesics and/or non-steroidal anti-inflammatory drugs
- 2) Application of ice, compression dressings, and temporary partial restriction of weight bearing
- 3) Physical modalities and/or rehabilitative procedures (up to six (6) weeks)
- 4) Surgical treatment and inpatient treatment are generally not indicated for this level of injury.

C. DURATION OF TREATMENT

Should not exceed three (3) weeks by primary care physician; six (6) weeks by specialist

D. ANTICIPATED RESULTS

Resolution of symptoms and resumption of normal activities

II. MAJOR KNEE SPRAINS

Cases with positive clinical evidence of instability

A. APPROPRIATE DIAGNOSTIC TESTS

- Physiatrist
- 1) Plain x-rays
 - 2) MRI of knee by Orthopedic Specialist, Rheumatologist, or
 - 3) Bone Scan
 - 4) CT Scan of knee
 - 5) Arthrogram of knee (if MRI is contraindicated)

B. OUTPATIENT/NON-OPERATIVE TREATMENT

Includes bracing and physical therapy up to six (6) weeks

C. ANTICIPATED RESULTS

- 1) Variable permanent limitation of activities
- 2) Surgical treatment is frequently indicated and may require inpatient hospital stay.

III. MENISCAL INJURIES

The mechanism of injury is similar to that for knee sprains, but symptoms of pain and swelling fail to resolve in the anticipated period of time, and the symptoms frequently include a sensation of “catching or giving away” of the joint. A history of locking of the joint may be elicited.

Clinical findings may include joint space tenderness, a mild effusion, restricted range of motion, or a positive McMurray’s sign.

A. DIAGNOSTIC STUDIES

- 1) Plain x-rays
- 2) Arthrocentesis
- 3) MRI
- 4) Arthrogram, especially when an MRI is contraindicated
- 5) Bone Scan (when MRI is contraindicated)
- 6) Diagnostic Arthroscopy

B. TREATMENT

1) OUTPATIENT/NON-OPERATIVE TREATMENT

- a) Short-term use of non-steroidal anti-inflammatory drugs in conjunction with an arthrocentesis/intra-articular steroid injection and short-term immobilization with a period of limited weight bearing
- b) Physical modalities and/or rehabilitative procedures not to exceed six (6) weeks post-op unless concomitant ligamentous/bony pathology is noted.

2) OUTPATIENT/OPERATIVE TREATMENT

a) Options include arthroscopic meniscectomy and/or arthroscopic meniscal repair.

- b) Physical Therapy/Rehabilitation

3) INPATIENT/NON-OPERATIVE TREATMENT

Admission for non-operative treatment is not indicated.

4) INPATIENT/OPERATIVE TREATMENT

The reason for admission for surgical treatment may include the presence of associated medical conditions, a concomitant knee injury such as a fracture of the tibial plateau, or a major ligamentous disruption, neurovascular compromise, or the presence of other bodily injuries which require inpatient treatment/observation.

- a) Treatment options include:
 - 1) Arthroscopic meniscectomy or meniscal repair
 - 2) Open arthrotomy for meniscectomy or meniscal repair
- b) Physical modalities and/or rehabilitative procedures

C) DURATION OF TREATMENT

Duration of treatment generally may vary up to three (3) months or to a point of maximum medical improvement. The patient's age and pre-existence of arthritic changes within the joint influence the duration of treatment.

D) ANTICIPATED RESULTS

- 1) Improved knee function with minimal residual symptoms
- 2) Possible predisposition to the development of traumatic arthritis of the knee

PROTOCOL HISTORY:

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