

Dance Related Injuries: Knee, Thigh

Adolescent Anterior Knee Pain

1. Definition:
 - Chronic pain in front and center of knee
 - Initial onset as dull ache in area of patella
2. Causes:
 - Sudden increase in training frequency
 - Imbalance of thigh muscles that support knee
 - Poor flexibility
 - Malalignment
3. Symptoms:
 - Gradual onset of pain
 - Popping/ crackling sounds in knee when climbing stairs or standing after prolonged sitting
 - Flare-up of pain with repetitive knee flexion
4. Treatment:
 - Ice, Rest, NSAIDs
 - Physical therapy to increase strength and flexibility

Patellar Dislocation

1. Treatment:
 - Physical therapy to restore strength and range of motion to the knee and to help prevent reoccurrence

Patellar Femoral Syndrome (Chondromalacia)

1. General:
 - Most common diagnosis in outpatients presenting with knee pain
2. Definition:
 - Anterior knee pain involving patella and retinaculum that excludes other intra-articular and peripatellar pathology
3. Causes:
 - Insufficiency of vastus medialis
 - Allows external rotation of the lower leg to compensate for inadequate external rotation of hips
 - Sliding across the floor repeatedly with certain dance maneuvers
4. Symptoms:
 - Pain around or behind patella that is aggravated with jumps, excessive knee flexion (grande pli ), running, climbing stairs or sitting for prolonged periods of time
 - Iliotibial band tightness
 - Medial quadriceps muscle weakness
5. Treatment:
 - Ice
 - NSAIDs
 - Modification of training activities to decrease stress
 - Physical therapy (SOR:A)
 - Exercise therapy with quadriceps strengthening reduces pain in PFPS
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Patellar Tendonitis

1. Definition:
 - Irritation and inflammation of patellar tendon
2. Causes:
 - Overuse syndrome especially from jumping activities
3. Symptoms:
 - Chronic vague anterior knee pain over patellar tendon
 - Reproducible with resisted knee extension, jumping and flexion >90°
4. Treatment:
 - Rest, ice, NSAIDs
 - Physical therapy to improve strength, flexibility
 - Correct technique deficits

Medial Plica Syndrome

1. Definition: acute onset of medial knee pain caused by inflammation of plica (redundancy of joint synovial folds on medial aspect of knee)
2. Causes: overuse syndrome or marked increase in usual activities that require flexion
3. Symptoms:
 - Tender, mobile nodularity located at medial aspect of knee just anterior to joint line
 - Joint effusion usually not present
 - Remainder of knee examination normal
4. Treatment:
 - Rest, ice, NSAIDs
 - Physical therapy to strengthen and increase flexibility of the muscles surrounding knee joint
 - Correct technique deficits

Meniscus Tear

1. Technical Tip:
 - In dancers, meniscus tears usually occur when they perform a maneuver called "screwing home"
 - They turnout by planting the feet at desired angle of turnout and subsequently straighten knees
 - Turning out should always be done from the hips

Medial Collateral Ligament Tear

1. Treatment: complete rupture may require surgery to repair the ligament

Anterior Cruciate Ligament Tear

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Evidence Based Inquiry

1. What exercises are most effective for relieving the pain of patellofemoral syndrome?

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