

SWIMMER'S KNEE

Swimmer's knee is the term used for the painful conditions many swimmers develop as a result of their sport. It is also known as 'Breaststroker's knee' because it is most commonly developed during this stroke which stretches and puts strain on the medial collateral ligament. This is thought to be the origin of pain. It is the second most common complaint after swimmer's shoulder.

CAUSES:

- The most common cause of swimmer's knee is poor technique in inexperienced swimmers. The main problem is the performance of the 'whip-kick' movement during breaststroke.
- The breaststroke kick is a high valgus load produced during sudden flexion-extension, adduction and external rotation of the knee against the hydrodynamic environment resulting in stress to the medial compartment. Hence a strain occurs to the medial collateral ligament and compression on the lateral knee.
- Inexperienced swimmers with poor technique may put too much pressure on this ligament but swimmer's knee can also occur in experienced swimmers as a result of overuse.

SYMPTOMS:

- Most common symptom is pain in the knee which will worsen during physical exertion.
- Swelling and reduced joint mobility

PREVENTION:

- Warming up and stretching before a swimming workout can help prevent knee injuries.
- Perfect kicking and stroke techniques to avoid wide and unnecessarily forceful kicks.
- Avoid forceful pushing off the pool wall that can increase the risk for knee injury.
- Strengthening & stretching the muscles of the thigh and hip helps prevent knee injuries.

BREASTSTROKE:

- The breaststroke is one of the most complicated swim strokes to learn and requires a completely different technique than the other three swim styles.
- One of the differences between this style and the others lies in the distribution of forward propulsion. In breaststroke 70% of your propulsion comes from your legs with the rest of the power coming from your breaststroke arm pull, meaning there is more strain put on the legs and knees than in any of the other swim strokes.
- The most popular breaststroke swimming technique is the so-called whip kick motion. This technique involves bending the legs toward the thighs and thighs toward the hips at an angle of approximately 120 degrees with feet almost at the surface of the water and the knees quite close together.
- The legs play a key role throughout the entire stroke particularly the position of knees. That is why the knees are a breaststroker's weak point.

DIAGNOSIS:

- Radiographs (A-P, lateral) are generally ordered to assess for fractures. Stress radiographs are completed with valgus stress at 20 degrees of flexion and can elucidate more severe injury:
- MRI has an 86.4 % sensitivity and accuracy in identifying an MCL injury; and to identify the grades of MCL injury.
- Ultrasonography is a quick and cost effective way to assess the collateral ligaments.

TREATMENT:

RICE: The RICE protocol is effective for most sports-related injuries. RICE stands for Rest, Ice, Compression, and Elevation.

- Rest: Take a break from the activity that caused the injury. The doctor may recommend to use crutches to avoid putting weight on your leg.
- Ice: Use cold packs for 20 minutes at a time, several times a day. Do not apply ice directly to the skin.
- Compression: To prevent additional swelling and blood loss, wear an elastic compression bandage.
- Elevation: To reduce swelling put your leg up higher than your heart.
- Nonsteroidal anti-inflammatory drugs (NSAIDs): Anti-inflammatory drugs such as aspirin, ibuprofen, and naproxen help reduce pain and swelling.
- Strengthening & stretching exercises
- Ultrasound therapy

References:

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