

 ASPETAR

 Qatar Orthopaedic and Sports Medicine Hospital

 مستشفى أسبتر الرياضي وأورثوبدي قطر

Breaststroker's Knee

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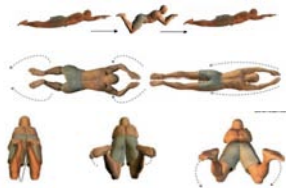
Swimming Injuries

- Swimming is often perceived as the safest sport to participate in as there is very little chance of injury. This belief is unfounded; **injury is a real risk in swimming**. Muscular injuries can often occur amongst swimmers due to the **repetitive nature of swimming** strokes. Most at risk form injuries are the knees and shoulders, injuries commonly known as '**Swimmers Shoulder**' and '**Breaststroke Knee**'. The shoulders and knees can be placed under a lot of stress, especially in long and regular training sessions.
- The cause of injury usually occurs when a lot of time is spent in the pool with the athlete swimming with **poor technique**. This can cause the knees and shoulders to be placed under extra and unnecessary stress, potentially leading to tears in the muscles.




Breaststroke

- Breaststroke is the slowest of the four official styles in **competitive swimming**.
- The kick is sometimes referred to as a "**frog kick**"
- However, when done correctly it is more of a "whip kick" due to the whip-like motion that moves starting at the core down through the legs.



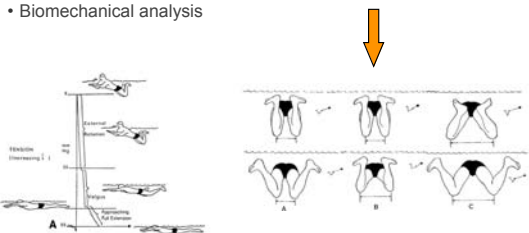
Breaststroker's Knee

- In 1974, Kennedy and Hawkins conducted a survey on the incidence of **injuries** to various parts of the musculoskeletal system of **swimmers**, and noticed that a high percentage of breaststroke swimmers complained of pain in the **medial knee**. (Kennedy, J. Hawkins, R. Breaststroker's knee. Physician and Sportsmedicine. 1974;2:33-38.)
- The condition is primarily seen in breaststrokers because of the **whip kick**. Much of the speed in the breaststroke comes from the whip kick. Kennedy and Hawkins's initial paper reported that the condition was caused by **weakness** in the **medial collateral ligament**, resulting from repeated **stretching** during breaststroke swimming. In their opinion, the stretching of the **ligament** was caused by the extension part of the "whip kick," accompanied by an **excessive valgus stress** on the **knee** joint and the **outward rotation** of the **leg** in the final phase of the stroke.



Breaststroke


- Biomechanical analysis



Vitzoly, P. Breaststroker's knee. An analysis of epidemiological and biomechanical factors. American Journal of Sports Medicine. 1987; 15:53-71.

Treatment

- "Breaststroke kick is a highly abnormal movement that can induce in essentially normal knees. Coaches and athletes should be aware of this and take appropriate measures such as **stroke modification** and **breaststroke-free training** periods to reduce injury risk"
- Some authors have suggested breaststrokers take at least two months off per year to allow the medial collateral **ligament** to **heal**.



Thank You

