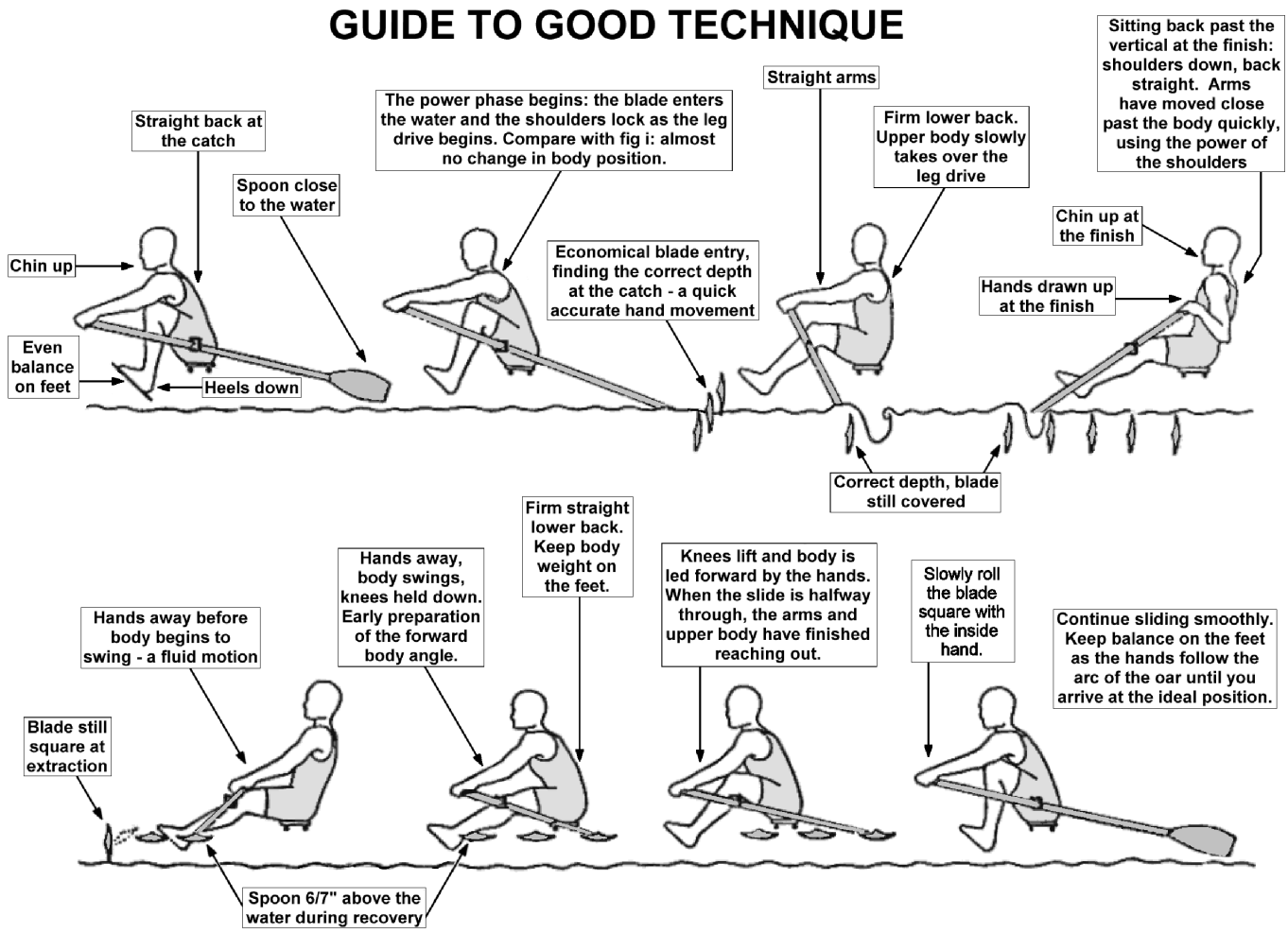
The Basics

Rowing is a great form of exercise for the whole body. Injury can occur when poor posture and technique are used and safety is not followed.



Technique

Posture: Sit tall in the seat with the core engaged (pull the belly button toward the spine). Feet secured vertically in the foot holds. Knees should have a slight bend when in extension. Hands should be positioned in an over hand fashion with thumbs wrapped around the oar. Always keep the head up and eyes forward. It is important to maintain good posture with a strong core to reduce instances of injury.

THE STROKE

The Catch: Legs compressed and fully bent, elbows are extended with a soft bend, the back has a slight curve to aid reaching forward, and core is tight. The blade enters the water vertically in a smooth and relaxed motion

The Drive: The rower pushes against the oar handles and applies pressure with the legs and back muscles to propel the boat (shell) forward. Slowly uncoil the upper body, push and extend the legs keeping the knees in a straight line. The body leans back keeping a tight core and pulling the oar handle toward the chest to push the water forward

The Finish: Maintaining the pressure and position from the drive, the rower "feathers" the oar and changes the position from vertical to horizontal by turning the handle. The oar remains out of the water to begin the recovery phase.

The Recovery: The hands move away from the body to the starting position. The body follows the hands and the seat slides forward behind the knees. Maintaining a strong core and posture. Rotate the oar to position the blades vertically to enter the water.

Anatomy and Injuries

WRIST/FOREARM

Extensor Tenosynovitis of the wrist is common with rowing due to the repetitive nature of the sport. Excessive stress is placed on the wrist extensor tendons leading to micro tears and inflammation. Keeping hands warm and in a good position during rowing will help eliminate inflammation and pain.

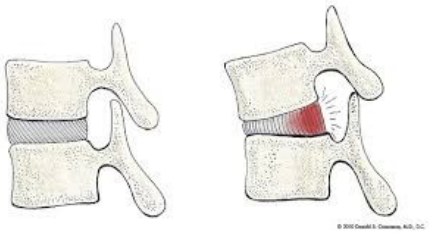
Tendinitis of the elbow is also common due to the repetitive motion created during stroking. It is important to maintain a slight bend in the elbows to reduce increased stress on the muscles and ligaments.

RIB CAGE

The ribcage is a common source of overuse injury especially with heavy training. Stress fractures account for 10% of rowing injuries. Know your limits and do not over train.

LUMBAR SPINE

Due to the repetitive nature of the stroke, the spine is put into flexion leaving it more susceptible to ligament sprain, muscle strain and disc disorders. Core stability is important to maintain good technique and reduce injury.



KNEE

Repetitive bending and straightening of the knee during the rowing progression can create pain in the knee cap especially if muscle imbalances and poor technique exist. The knees should bend and straighten in a straight path to eliminate excessive stress on the muscles and tendons.

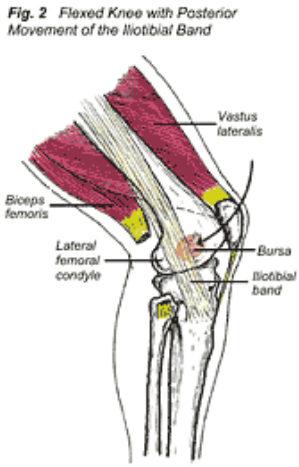


Fig. 2 Flexed Knee with Posterior Movement of the Iliotibial Band

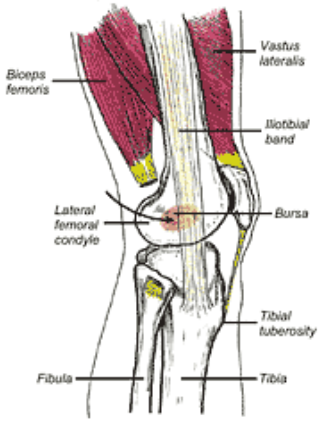


Fig. 3 Extended Knee with Anterior Movement of the Iliotibial Band

The Iliotibial Band (IT Band) is another source of pain due to its location on the outside of the knee. Excessive friction associated with muscle imbalances in strength and flexibility can create pain and inflammation on the outside of the knee. Maintaining muscle flexibility and good rowing technique can reduce the friction.

Treating and Injury: PRICE

As soon as possible after an injury:

P*rotect* the area that is injured from further harm.
R*est* the injured area to reduce inflammation and promote healing.
I*ce* the injured area. 15-20 minutes of icing can decrease inflammation and swelling.
Do not place directly on skin. Repeat 2-3 times a day for 24-48 hours.
C*ompression*: If necessary wrap the area with compression bandages to reduce swelling.
Do not wrap too tightly
E*levation*: Elevate the injured area above the level of the heart to minimize swelling.

*If there is obvious deformity, intense pain, swelling, or bruising, consult a medical professional.

After 48-72 hours and swelling has reduced it is safe to use heat for discomfort and begin gentle stretching and strengthening.

Prevention

- Follow safety guidelines and wear your life vest!
- Dress for the weather/water temperature!
- Maintain joint flexibility!
- Warm up and stretch before kayaking, cool down and stretch after kayaking.
- Use good and safe techniques for rowing and lifting!
- Know your limits and don't overdo it!

RESOURCES

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