

# MUSCLE STRAINS / PULLED MUSCLES

## INTRODUCTION

Most sportsmen have experienced that familiar feeling of a “pulled” muscle. The first question asked after injury is “how long am I going to be out” or “when will I be able to play again”.

The answer to these questions is not quite so straightforward. There are a number of factors contributing to the recovery process and your return to play.

In this article we will look at a few possible factors causing the injury, and what you can do to optimise your recovery time and get back to play.

## CAUSES

The causes of muscle strains can be divided into two groups: I. Intrinsic factors (Factors dependent on the athlete) and II. extrinsic factors (factors external to the athlete)

### I. Intrinsic factors include :

- **Reduced Flexibility:** Stiff muscles or muscles that are not able to stretch are at greater risk of injury
- **Previous injury:** If you return to sport too soon after a muscle injury without proper healing, the muscle is more likely to be injured again
- **Fatigue:** Overused and tired muscles have a decreased ability to change length during exercise
- **Warm-Up:** A muscle that has not been warmed up properly is less able to stretch and generate power

### II. External factors include: Footwear, temperature, faulty technique, warm up, poor/faulty equipment, humidity, fatigue, court, road or field surface

## HOW BAD IS THE TEAR / GRADING

Muscle strains and tears are graded according to how much of the muscle has been torn.

- Grade I: A small number of muscle fibres are torn. There is localised pain but no loss of strength.
- Grade II: A significant proportion of the muscles fibres are torn. There is pain when the muscle is contracted. Swelling is often present. Strength and freedom of movement may be limited by pain.
- Grade III: There is a complete tear of the whole muscle with significant pain, swelling and bruising may be present.

## INITIAL TREATMENT AFTER INJURY / WHAT YOU CAN DO

Initial treatment should follow the **PRICE** principle which is simple but very effective and will improve your initial recovery.

**P (Protect):** Avoid or stop the activity that is causing the injury.

**R (Rest):** This will ensure that the severity of the injury does not progress and worsen.

**I (Ice):** Applying ice to tender area will decrease excessive inflammation and decrease pain.

**C (Compression):** Compression refers to the external application of pressure to an injured area. Light compression is effective in decreasing excessive swelling at the tear. Crepe bandages, neoprene guards and even cling wrap can work well. The compression will also immobilise the area and prevent further damage.

**E (Elevation):** Raising the area will promote lymphatic drainage from the area and prevent excessive inflammation and swelling.

Other options to consider:

### Pain management and Anti-inflammatories:

The most recent research on the use of non-steroidal anti-inflammatory (NSAIDs) for muscle strains remains controversial. Mehallo reports in the Clinical Journal of Sports Medicine “Overall, NSAIDs may be effective at decreasing pain, improving early muscle recovery, and allowing faster return to sport after muscle strain and eccentric muscle injury. **However, their long-term effect on healing, especially with prolonged use, is unknown and may be detrimental to muscle repair and regeneration.**”

It is recommended that you consult your pharmacist or doctor before taking any medication following injury.

## TIME TO RECOVER AND RETURN TO SPORT

Recovery time is influenced by a number of different factors including:

- **Extent of the damage** – The more damage to the muscle, the longer the recovery period. Minor strains may heal in a week, with severe injuries requiring 4 to 8 weeks to recover.
- **Initial treatment** – Application of the **PRICE** principle (Point 4) will reduce the recovery time by promoting early and effective healing
- **Physiotherapy rehabilitation** – Physiotherapy promotes efficient healing of the injured muscle and reduces the risk of re-injury by restoring strength and flexibility

## WHEN TO SEEK MEDICAL INTERVENTION

- If initial home treatment does not bring about improvement in the condition in the 24 hours following the injury
- Significant swelling and bleeding in the muscle (bruising)
- Significant Pain that does not decrease with time
- Recurrent injuries

## **References**

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