



@physicaltherapyresearch

# RAPID RESEARCH

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April 2021

## Inside This Week: Injury Healing Time Frames

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- ✓ Calf Muscle Tears and Return to Play Times

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  - ✓ When to Run after ACL Surgery

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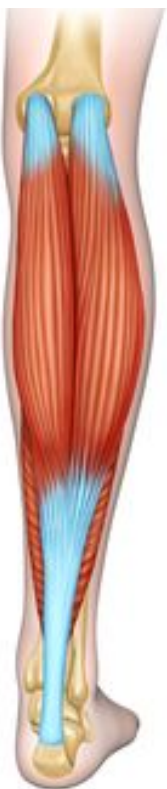
  - ✓ Return to Play After a Lateral Ligament Ankle Sprain



# CALF MUSCLE TEARS & RETURN TO PLAY TIMES

This research assessed the integrity of the calf muscle connective tissue in patients with acute calf muscle injury. A grading system was proposed and correlated with return to play time.

**Grade 0**  
Just swelling



**Grade I**  
Mild Stretch



**Grade II**  
Moderate Tear



**Grade III**  
Severe Tear



# KEY FINDINGS

100 patients with clinical suspicion and MRI confirmation of calf muscle injury were evaluated.

Tears were graded 0–3 depending on the degree of muscle and connective tissue injury.

In 100 patients, 114 injuries were detected.

Connective tissue involvement was observed in 63 out of 100 patients.

18 patients had Grade 3 Tears (Full Failure).

## **Mean time to return to play:**

**Grade 0: 8 days**

**Grade 1: 17 days**

**Grade 2: 25 days**

**Grade 3: 48 days**

# MAIN TAKEAWAYS

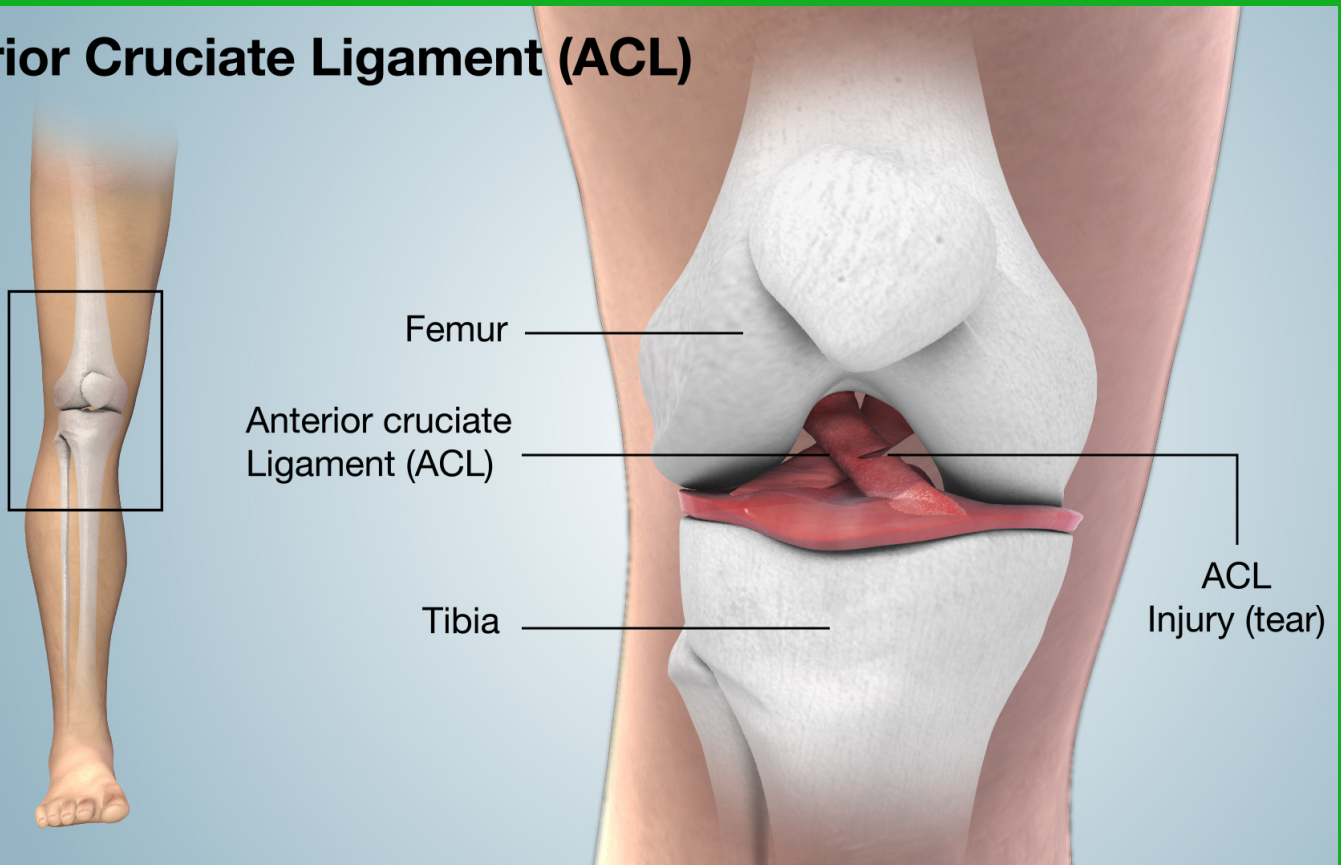
**The integrity of the connective tissue can be used to estimate and guide the time to return to play in calf muscle tears.**

**Most mild to moderate calf muscle injuries can safely return to play in 17-25 days.**

# WHEN TO RUN AFTER ACL SURGERY?

This research determined whether quad strength to body weight ratio (QS/BW) is a significant indicator for initiating jogging after ACL reconstruction.

## Anterior Cruciate Ligament (ACL)



# KEY FINDINGS

Association between **QS/BW and successful jogging** after surgery was investigated by **multivariate logistic regression analysis**.

44 **(53.0%) successfully jogged**.

39 **(47.0%) unsuccessfully jogged**.

QS/BW was independently associated with initiating jogging 3 months after surgery.

The cut-off value of **QS/BW for successful jogging was 1.45 Nm/kg (TORQUE)**:

Sensitivity = 88.6%.

Specificity = 87.2%.

All of the patients who initiated jogging with QS/BW of  $> 1.45$  Nm/kg at 3 months returned to sports **without recurrence or contralateral injury by 10 months after surgery**.

# MAIN TAKEAWAYS

**QS/BW is a significant indicator for safely initiating jogging 3 months after ACL reconstruction.**

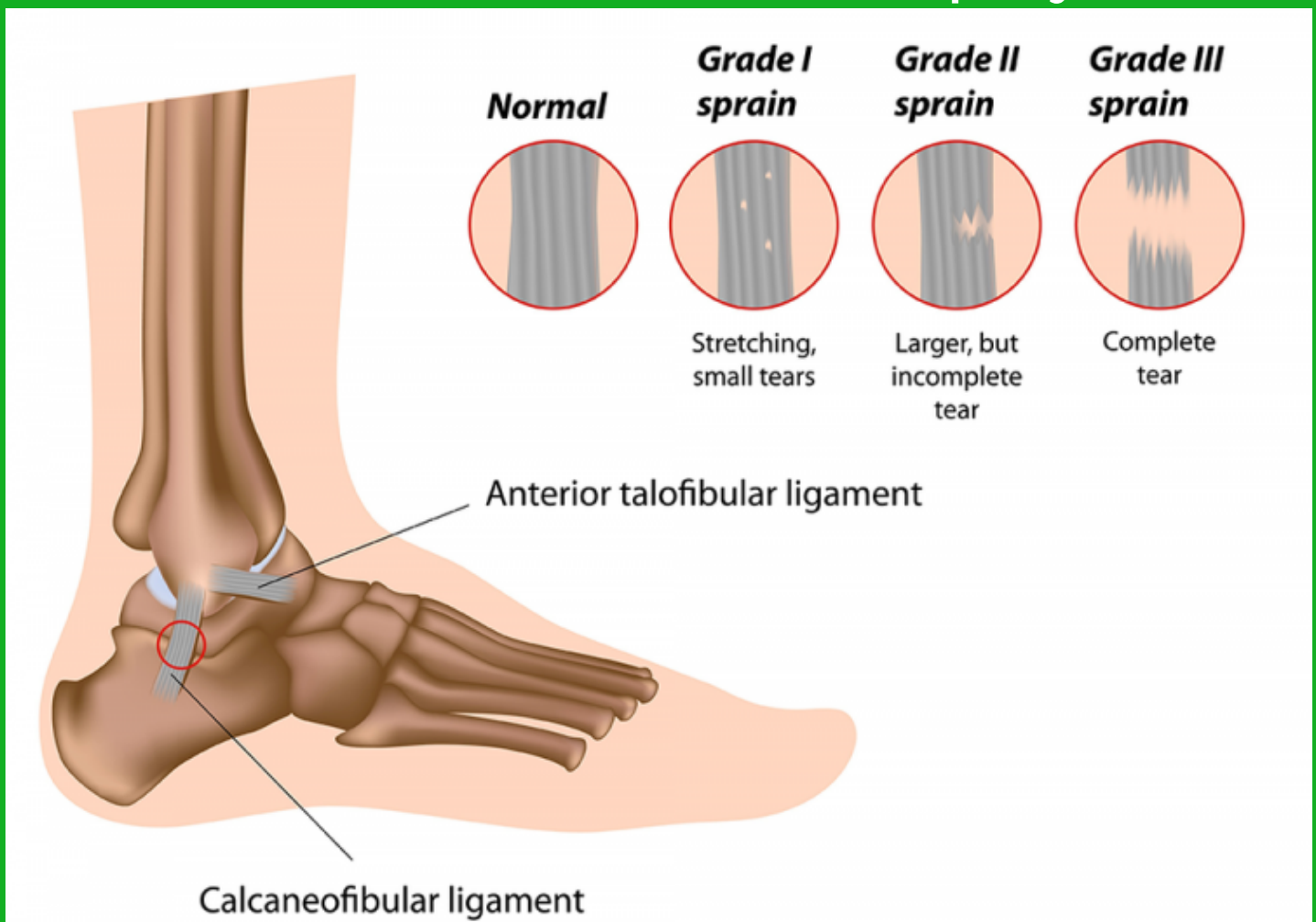
**The cut-off value of QS/BW for initiating jogging was 1.45 Nm/kg (Torque).**

**Test Quad Strength to Body Weight ratio before starting to jog after ACL surgery.**



# RETURN TO PLAY AFTER A LATERAL LIGAMENT ANKLE SPRAIN

This study described the current evidence on the most common sports-related ankle injuries with a specific focus towards return to play.



# KEY FINDINGS

The time needed to RTS in lateral ligamentous ankle sprains depends on several factors, including the severity of the injury, the ability of the athlete, and the rehabilitation available.

Bony fractures, cartilage defects, and syndesmotic lesions are frequently seen in association with the more severe type of ankle sprains.

The reported Return to Sport Timeframe (RTS) has been **between 7 and 15 ± 19 days**.

There was no documentation on the gradation of the injuries were included in this research.

A case series of professional athletes who underwent surgical ligament repair reported a median RTS of:

**77 days for isolated lateral ligamentous injuries.**

**105 days for those with concomitant injuries.**

# MAIN TAKEAWAYS

Delayed examination (4–5 days) gives better results than an exam within 48 h.

The majority of acute lateral ligament injuries of the ankle can be treated conservatively with an adequate rehabilitation protocol.

Surgical treatment can be considered in high-level athletes with acute grade III injuries.

Return to Sport criteria should include functional performance tests (e.g. 90% score)

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