



@physicaltherapyresearch

# RAPID RESEARCH

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December 2022

## Inside This Week: Common Injuries: Incidence Rates

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- ✓ Most Common Musculoskeletal Injuries & Incidence Rates

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  - ✓ Incidence Rate of Patellofemoral Pain

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  - ✓ Re-Tear Rate After Rotator Cuff Surgery



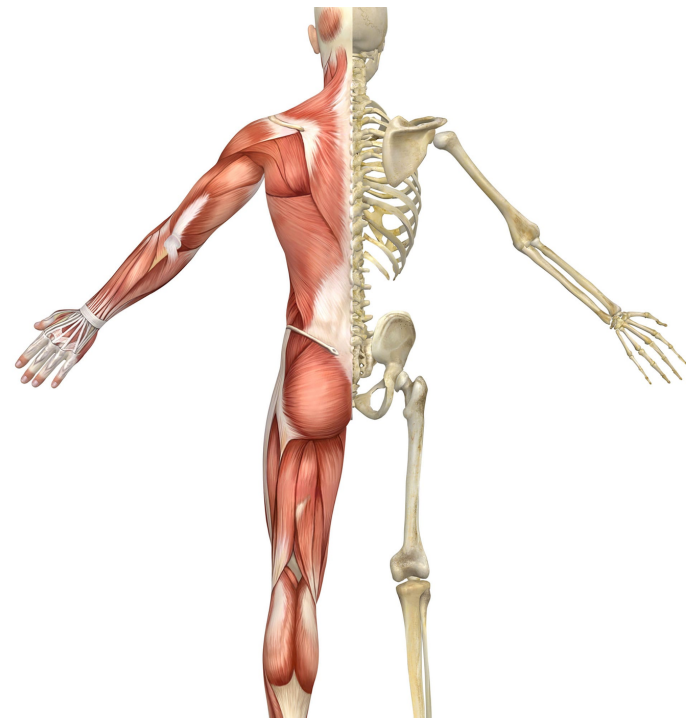
[Click for Full Text \(Ponkilainen et al. 2022\)](#)

# MOST COMMON MUSCULO-SKELETAL INJURIES & INCIDENCE RATES

JBIC 10/11 [90%]



This systematic review and meta-analysis gathered epidemiological information on selected musculoskeletal injuries to provide pooled injury-specific incidence rates.



# KEY FINDINGS

**206 articles included; 173 (84%) provided pooled incidence rates.**

Most Common Fractures [154 studies]:

Distal radius fractures (252.4 per 100,000 person-years).

Finger fractures (130.2 per 100,000 person-years).

Hip fractures (154.9 per 100,000 person-years).

Most Common Sprains & Dislocations [16 studies]:

Ankle sprains (759.0 per 100,000 person-years).

First-time patellar dislocations (49.7 per 100,000 person-years).

Most Common Ligament & Tendon Injuries [31 studies]:

**Anterior Cruciate Ligament ruptures (50.2 per 100,000 person-years).**

**Achilles ruptures (19.5 per 100,000 person-years).**

## MAIN TAKEAWAYS

Pooled incidence estimates serve as important references in assessing the global economic and social burden of musculoskeletal injuries.

Ankle sprain are one of the most common MSK injuries.

As the cost of musculoskeletal injuries is known to be massive, it would be important to understand the commonness of these injuries and to aim resources toward prevention and better treatment optimization in the future.

This study used a comprehensive search protocol involving the largest medical research databases, conducted separately for each injury type and screened by two blinded authors.

# INCIDENCE RATE OF PATELLO- FEMORAL PAIN

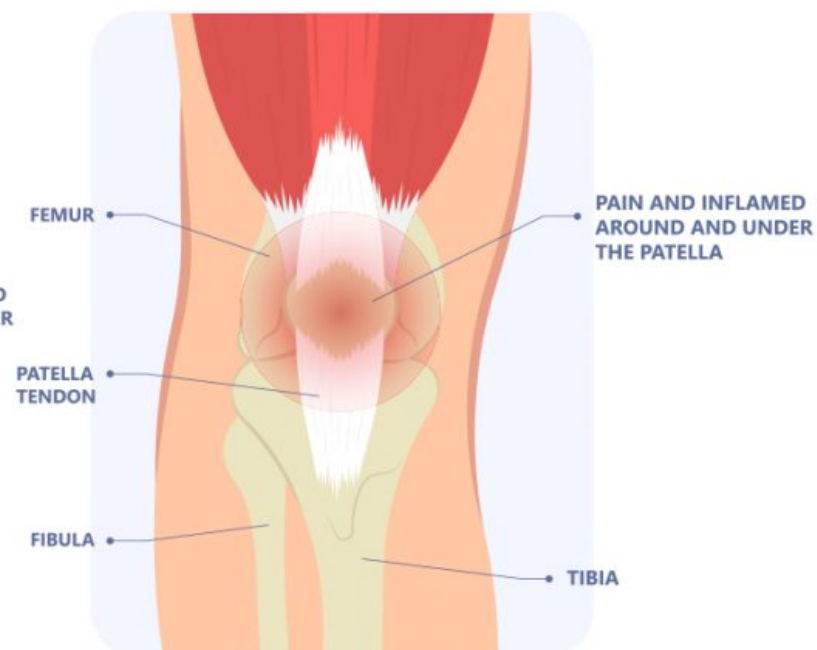
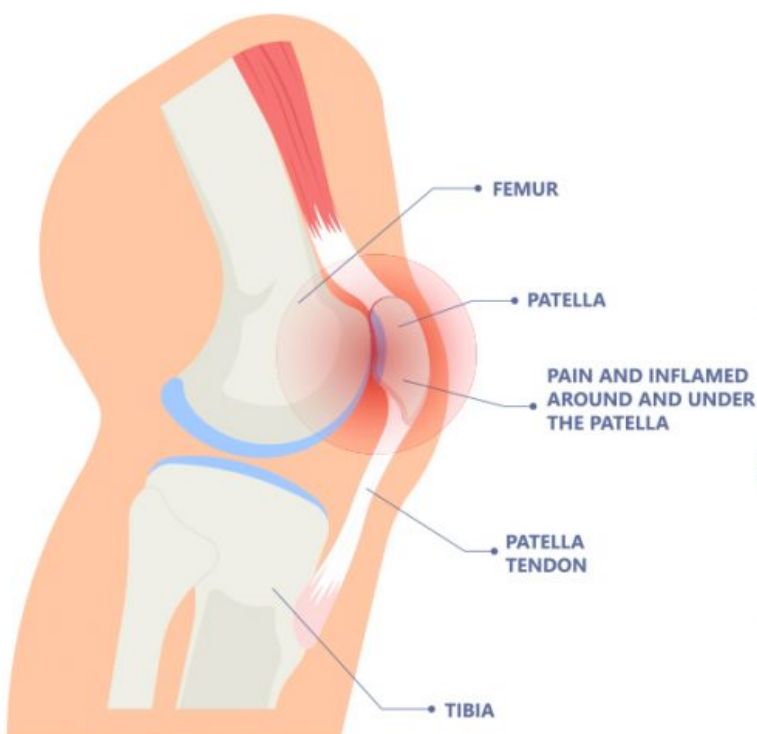
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[Click for Full Text  
\(Smith et al. 2018\)](#)

JBIC 10/11 [90%]



This systematic review synthesised epidemiological data using a contemporary case definition and clear population classifications, to gain an understanding of incidence and prevalence data for PFP.



# KEY FINDINGS

**23 studies included; 13,519 patients**

Annual Prevalence for Patellofemoral Pain:

General population [22.7%].

Adolescents [28.9%].

Adolescents amateur athletes over 1 season [5.1%–14.9%].

Incidence Rates:

Military recruits [9.7–571.4 per 1,000 person-years].

Amateur runners [1080.5 per 1,000 person-years].

Point prevalence:

Military populations [13.5%].

Adolescents [7.2%].

Female only adolescent athletes [22.7%].

## MAIN TAKEAWAYS

**PFP is a common condition, with appx. 1/10 military recruits and 1/14 adolescents suffering at any one time; and 1/5 of the general population experiencing pain within the last year.**

**There is some consistency with data showing females are twice as likely to experience PFP as males.**

**In the context of high incidence and prevalence numbers, poor long term prognosis and high disability levels, PFP should be an urgent research priority.**

# RE-TEAR RATE AFTER ROTATOR CUFF SURGERY

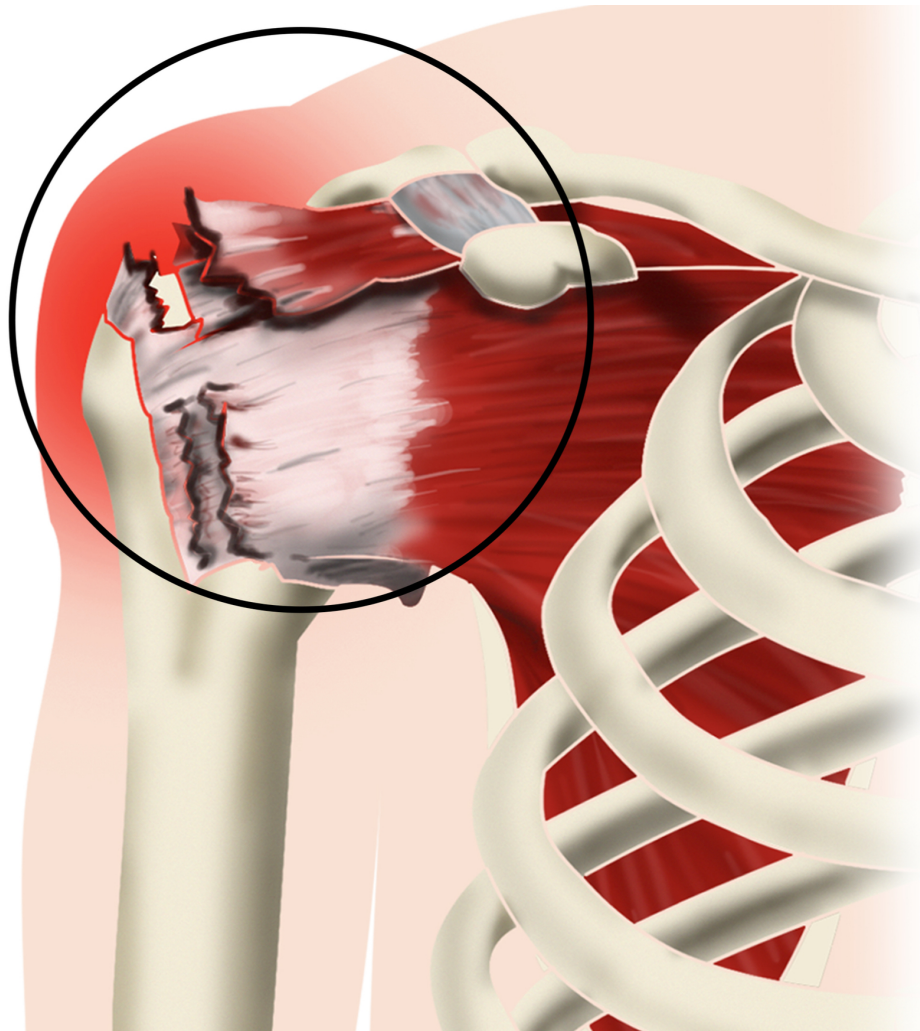
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[Click for Full Text](#)  
(Longo et al. 2021)

JBIR 10/11 [90%]



This systematic review and meta-analysis defined the incidence of RCR after surgical treatment at different time points and to identify the main factors influencing the postoperative rotator cuff (RC) healing.



## **31 articles included.**

### Rotator Cuff Re-tear After Surgery:

At 3 months follow-up [15%].

At 3–6 months follow-up [21%].

At 6–12 months follow-up [16%].

At 12–24 months follow-up [21%].

At follow-up longer than 24 months [16%].

### Main Factors Influencing RC Healing:

Patient-related (age, larger tear size, fatty infiltration)

Not patient-related (post-op rehab protocol, surgical techniques, and procedures).

# MAIN TAKEAWAYS

Re-tear rate after RC surgical repair is found to be 15% to 21% depending on the length of time to follow-up.

Advanced patients' age, larger tear size, and fatty infiltrations are factors influencing the RC healing negatively.

Future high-level clinical studies should report data on patients' condition, postoperative rehabilitation protocol, and surgical techniques in a standardized way to perform a more consistent comparison among studies, and so to provide highly relevant clinical results.

# GIVE US YOUR FEEDBACK!

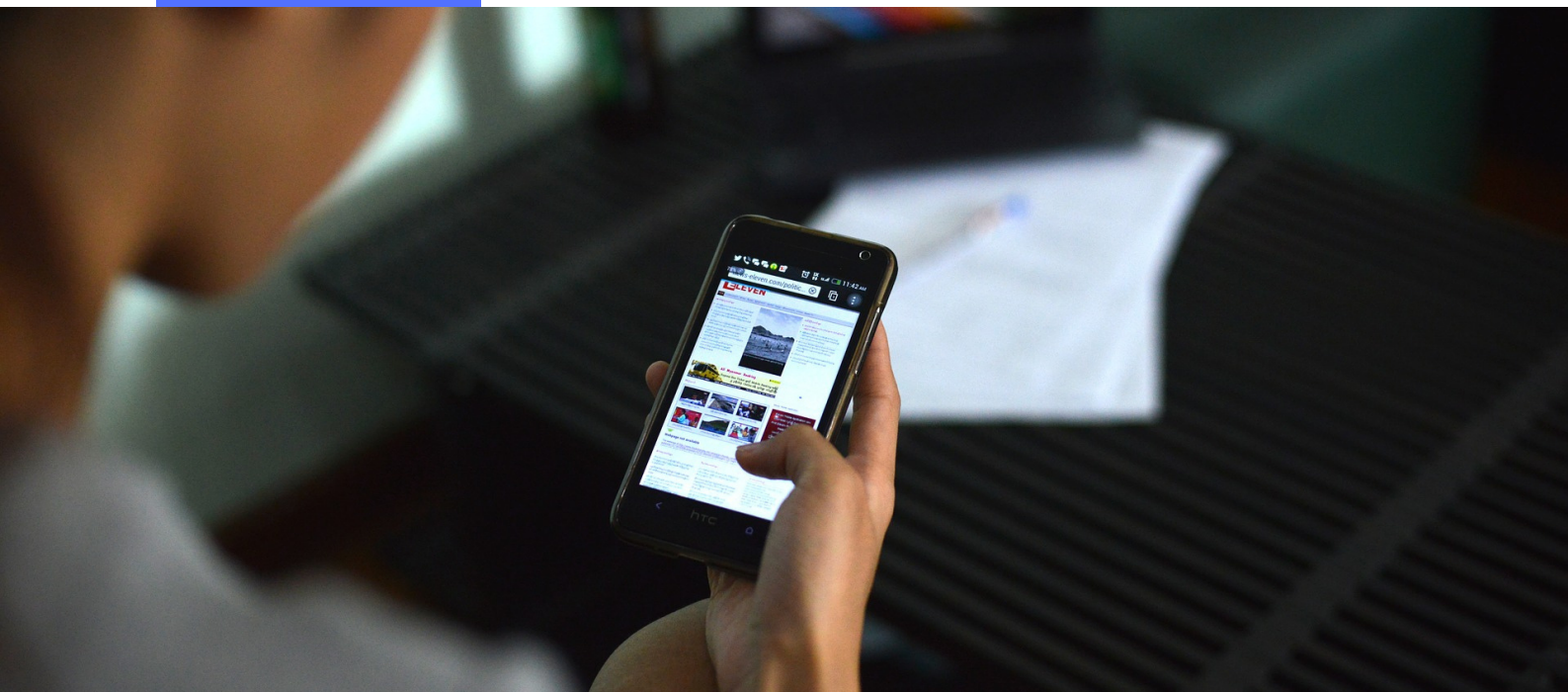
## MEMBERS

We are on a mission to make research more accessible, easier to interpret, and quicker to implement.

Help us by giving 1 minute of your time to leave feedback for us.

We would greatly appreciate any feedback you have, as it helps us continually improve!

[Leave Review](#)





## JBI CRITICAL APPRAISAL CHECKLIST FOR SYSTEMATIC REVIEWS AND RESEARCH SYNTHESSES

Author: Ponkilainen et al. Year: 2022

	Yes	No	Unclear	Not applicable
1. Is the review question clearly and explicitly stated?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Were the inclusion criteria appropriate for the review question?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Was the search strategy appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Were the sources and resources used to search for studies adequate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Were the criteria for appraising studies appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Was critical appraisal conducted by two or more reviewers independently?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Were there methods to minimize errors in data extraction?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Were the methods used to combine studies appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Was the likelihood of publication bias assessed?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
10. Were recommendations for policy and/or practice supported by the reported data?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Were the specific directives for new research appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Overall appraisal: 10/11 (90%)**

LIMITATIONS:

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Heterogeneity of the included studies, which may predispose the pooled incidence estimates to bias of at least some extent.

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Some of the injuries (such as ankle sprains and finger/toe fractures) are usually treated in primary healthcare and maybe missing from the studies conducted in larger hospitals.

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## JBI CRITICAL APPRAISAL CHECKLIST FOR SYSTEMATIC REVIEWS AND RESEARCH SYNTHESSES

Author: Smith et al. Year: 2018

	Yes	No	Unclear	Not applicable
1. Is the review question clearly and explicitly stated?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Were the inclusion criteria appropriate for the review question?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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11. Were the specific directives for new research appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Overall appraisal: 10/11 (90%)**

LIMITATIONS:

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Only 1 author screened Titles and abstracts, although 2 screens full text and quality.

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Did not search for papers published in languages other than English.

## JBI CRITICAL APPRAISAL CHECKLIST FOR SYSTEMATIC REVIEWS AND RESEARCH SYNTHESSES

Author: Longo et al. Year: 2021

	Yes	No	Unclear	Not applicable
1. Is the review question clearly and explicitly stated?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Were the inclusion criteria appropriate for the review question?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Was the search strategy appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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11. Were the specific directives for new research appropriate?	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Overall appraisal: 10/11 (90%)**

LIMITATIONS:

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No Limitations discussed

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A stratified analysis could not be performed for tear size and time point relation because of the insufficient number of studies reporting the preoperative tear size at different follow-up groups.