

# Are Platelet-Rich Plasma Injections Effective in the Management of Lower Limb Tendinopathies? A Systematic Review

Ms. Katelyn Bailey, Ms. Cara Donnelly, Mr. Declan O'Sullivan, Dr. Joseph McVeigh, Ms. Niamh Coveney

## INTRODUCTION

- ✓ Tendinopathies present as challenging conditions for clinicians due to their complex presentation and pathoetiology.
- ✓ Platelet-rich plasma (PRP) injections may improve tendon regeneration via the release of growth factor into the degenerative tendon<sup>(1)</sup>.
- ✓ Clinical efficacy of PRP is inconclusive<sup>(2)</sup>.

## AIM

1. To examine the efficacy of PRP injections as an adjunct to exercise-based rehabilitation in lower limb tendinopathies
2. To examine and compare intervention protocols and intervention reporting.

## METHODS

1. Protocol pre-registered at: PROSPERO (ID: CRD42021251907)
2. Following the PRISMA guidelines MEDLINE (PUBMED), CINAHL (EBSCO), EMBASE, Cochrane CENTRAL Register of Controlled Trials and Scopus were searched from January 2005-October 2020.

<b>P</b>	Patients were ≥ 18 years with a clinical/radiographical diagnosis of lower limb tendinopathy for ≥ 8 weeks
<b>I</b>	Any form of PRP injection + rehabilitation program.
<b>C</b>	Placebo injection (i.e., saline) Same rehabilitation program in both the intervention group and control group.
<b>O</b>	Victorian Institute of Sports Assessment-Achilles/Patella (VISA-A/P)

## Currently insufficient evidence to support the use of PRP intervention for lower-limb tendinopathies

	PRP	Control
Mean sample size	19.3	19.7
Mean age	43.5	43.9
Male: Female (%)	72 : 28	63 : 35
VISA-A/P score (Baseline)	45.9	45.8
VISA-A/P score (mean change after 12 weeks)	+ 14.1	+ 13.3

Table 1; Summary of baseline and primary outcome results.

## Poor reporting of study protocols reduces applicability and reproducibility of evidence

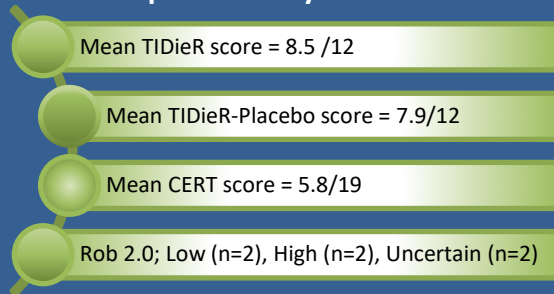
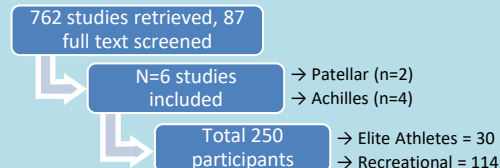


Figure 1; Summary results for the Template for Intervention Description and Replication (TIDieR), the Consensus on Exercise Reporting Template (CERT) and the Cochrane Risk of Bias tool.

## RESULTS



## DISCUSSION

Significant heterogeneity in treatment effects were evident.

MCID ranged from 10-20 points.

What defines a "non-competitive recreational athlete / a competitive recreational person" or and a "competitive elite athlete" ?

VISA questionnaires - Is it time for an update?

Poor reporting of exercise programs & PRP protocols.

Significant biological differences in PRP preparation & injection protocols were observed.

## FUTURE STUDIES

Should aim to establish an optimal PRP injection protocol with pilot studies across multiple clinical sites before implementing a rigorous RCT study.

## REFERENCES

1. Fitzpatrick J, Bulsara M, Zheng MH. The Effectiveness of Platelet-Rich Plasma in the Treatment of Tendinopathy: A Meta-analysis of Randomized Controlled Clinical Trials. The American Journal of Sports Medicine 2016;45:226–33.
2. Moraes VV, Lenza M, Tamaoki MJ, Faloppa F, Bellotti JC. Platelet-rich therapies for musculoskeletal soft tissue injuries. Cochrane Database of Systematic Reviews 2014