

An Anterior Cruciate Ligament Injury Prevention Framework: Incorporating the Recent Evidence

Injuries to the Anterior Cruciate Ligament (ACL) sustained during sports participation are a concern for players, coaches, parents and sports medicine practitioners. Injury prevention exercise programs to prevent ACL injuries have been developed with varying success. This paper aimed to provide a framework for the prevention on non-contact ACL injuries.

The framework for non-contact ACL injury prevention outlined within this paper uses the “Translating Research into Injury Prevention Practice” (TRIPP) model from Finch (2006).

TRIPP stage	Non-contact ACL injury
Injury surveillance	Majority occur during sidestepping and single leg landing tasks
Aetiology	Flexion, valgus, and internal rotation of the knee during sidestepping and single-leg landing with the knee near full extension is the likely mechanism of noncontact ACL injuries.
Development of countermeasure	Countermeasures should aim to (1) to reduce the magnitude of externally applied flexion, valgus, and internal rotation knee moments (2) to increase muscular support against these aforementioned joint moments; and (3) to increase knee flexion angle and the neuromuscular control of the hip during the WA phase of sidestepping and single-leg landing; although the extent of (3) is still to be defined (Stage 3).
Training intervention in ideal situation	Plyometric, balance and resistance training have been effective in laboratory setting
Training intervention in “real world” situation	Evaluation of effectiveness of training program using a randomised controlled trial design.
Adoption/Maintenance	Injury surveillance within the specific sport over time to determine if there a longitudinal reduction in non-contact ACL injury.

How this research can be of use:

- This paper provides a framework that can be used to guide ACL injury prevention research in sport.
- Historically, research focused on the prevention of ACL injuries has evaluated program effectiveness in a laboratory situation without considerations of real world implementation barriers.

Published source:

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