

The lower limb anatomical structures are commonly injured areas of the body, resulting in significant time-loss from competitive sport. High rates of secondary injury are also of concern. This may in part be due to residual deficits in function and altered movement strategies that predispose athletes to greater risk.

Research suggests that commonly used return-to-sport tests which measure how far you can hop are not accurate enough to identify between-limb differences following long term injury. There is a need for a more comprehensive analysis and regular testing to monitor progress at important milestones during rehabilitation.

PERFORMANCE ASSESSMENT UNIT AT THE INSTITUTE OF SPORT, EXERCISE AND HEALTH (ISEH)

At the Institute of Sport, Exercise and Health (ISEH), we have developed a Performance Assessment Unit to identify physical and biomechanical deficits that will help guide rehabilitation. The aim is to improve return-to-sport rates, reduce the risk of re-injury and long-term degeneration caused by altered loading mechanics. This involves a multi-mode and multi-disciplinary approach with pathways that can include frequent monitoring from the point of injury through to return-to-sport.

THE PROCESS OF TEST-TRAINING INTEGRATION

ISEH adopt a systematic model to integrate test data collected in order to subsequently develop individualised programmes that improve function, physical performance and reduce the risk of re-injury. Each assessed component is linked to a screening test and target exercises are then selected to improve the relevant deficits which are identified. This process is outlined below.

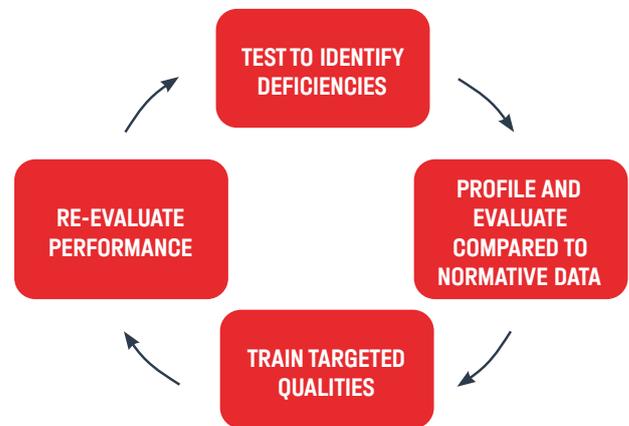


Figure 1. Test-training Integration model

WHAT ARE WE TESTING?

There are 4 components: clinical assessment, strength diagnostics, movement screening and subjective patient reported outcomes. Our multi-disciplinary assessment includes:

- Musculoskeletal screening through the quantification of joint function, range of motion and stability
- Strength profiling to determine muscle strength using an isokinetic dynamometer and explosive strength capacity using force plate diagnostics
- Movement evaluation including a series of squatting and jump-landing tests on a force plate to determine performance characteristics and potential inter-limb compensations, whereby individuals 'off-load', with a dominance towards a particular limb
- Scientifically validated questionnaires to quantify and assess the influence of psychological factors on function and readiness to return-to-sport

The standardised patient pathway includes in-built protocols for progression which are criteria-driven, and the tests selected have been deemed appropriate for each phase of rehabilitation based on clinical experience and in alignment with the existing literature. The time-points for assessment also represent clinical milestones in the patient journey.

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