ANATOMY & PHYSIOTHERAPY
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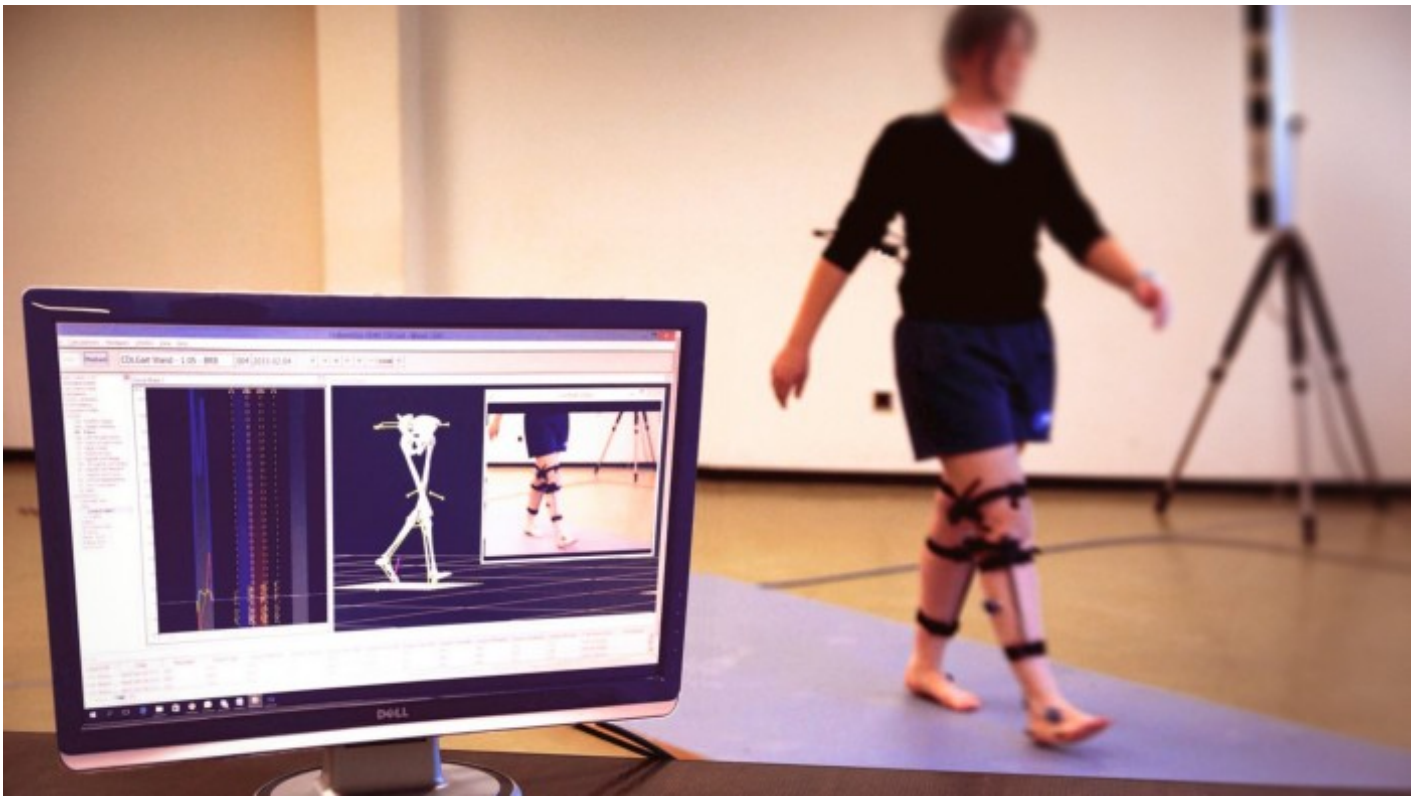

Musculoskeletal

Movement variability in injured and uninjured populations

Are differences in lower limb movement variability associated with injury?

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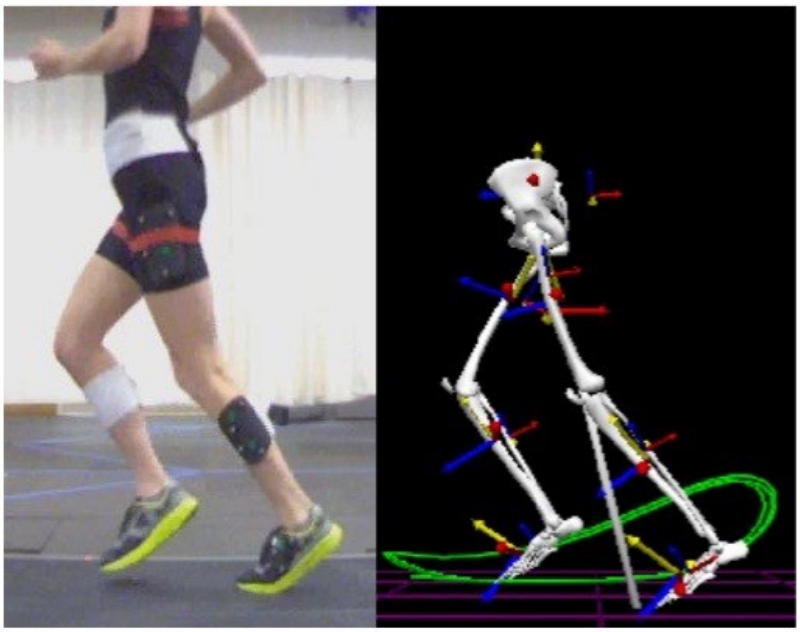
The authors of this review found a trend for injured populations to display greater lower limb movement variability during dynamic tasks (e.g., running, walking, hopping) when compared with uninjured controls.

This suggests there may be an association between the degree of movement variability and injury. However, high-quality prospective studies are still needed to establish if these changes precede injury or are caused by it.



There have been 2 opposing views concerning the influence of movement variability in injury. On one hand, some authors postulate that reduced variability imposes repetitive load in the same musculoskeletal structures, predisposing them to injury.

On the other hand, a different train of thought suggests that excessive variability may be associated with injury as it represents abnormalities in motor control. The latter perspective has been supported by several studies on different lower limb injuries.

This review included 22 studies about the influence of movement variability on different lower limb injuries. Study quality and risk of bias were assessed through the modified Downs and Black's checklist.

Although these findings were not consistent across all injury types, there was a trend for increased lower limb movement variability in injured populations.

The authors identified specific methodological factors that may help improve the detection of between-group differences in movement variability. Further prospective studies are needed to establish if differences in movement variability precede or follow injury.