

Evidence for biomechanics and motor learning research improving golf performance

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The aim of this review was to determine how the findings of biomechanics and motor control/learning research may be used to improve golf performance. To be eligible, the biomechanics and motor learning studies had to use direct (ball displacement and shot accuracy) or indirect (clubhead velocity and clubface angle) golf performance outcome measures.

Biomechanical studies suggested that reducing the radius path of the hands during the downswing, increasing wrist torque and/or range of motion, delaying wrist motion to late in the downswing, increasing downswing amplitude, improving sequential acceleration of body parts, improving weight transfer, and utilising X-factor stretch and physical conditioning programmes can improve clubhead velocity. Motor learning studies suggested that golf performance improved more when golfers focused on swing outcome or clubhead movement rather than specific body movements.

A distributed practice approach involving multiple sessions per week of blocked, errorless practice may be best for improving putting accuracy of novice golfers, although variable practice may be better for skilled golfers. Video, verbal, or a combination of video and verbal feedback can increase mid-short iron distance in novice to mid-handicap (hcp) golfers. Coaches should not only continue to critique swing technique but also consider how the focus, structure, and types of feedback for practice may alter learning for different groups of golfers.