

## TEACHING OPTIMAL SWING MECHANICS

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An optimal golf swing technique has been proposed that produces a powerful and accurate stroke while minimising the stress on the shoulders and back. However, the teaching of this technique requires specialist knowledge and training to deal with players of different abilities - from the social player to the professional. Teaching methods have been developed that differ considerably from those normally recommended in conventional golf instruction.

**KEY WORDS:** golf, biomechanics, teaching, training methods.

**INTRODUCTION:** Golf Solutions International, a scientific golf company, is headed by a golf professional with many years of playing and teaching experience, and a formally qualified sports biomechanist. Our intention was to discover the mechanical principles of the golf swing, so that a golf ball can be hit in the simplest and most efficient way. Through scientific studies, field-testing, observations, and personal experimentation, an optimal golf technique has been proposed. Further research is leading to the development of effective coaching principles that may have a major impact on improving the technique of golfers. Many of these methods are unique, and we believe they will constitute the teaching framework in the future of golf instruction. The major faults of amateur players are incorrect grip, left wrist break down, out-to-in club head path, incorrect backswing plane and path, insufficient power, and lack of tempo and timing.

Only two of the training devices are briefly described here:

**GRIP PLACEMENT TRAINER:** Many pages of golf instruction have been dedicated to the grip. The two most common grips are the overlapping (Vardon) or interlocking. There is no mechanical reason why either grip should be preferred, and players often find that the less common ten-finger baseball grip be used effectively, particularly if they use larger handles. What does matter is that the hands are placed on the handle so that the club head can be returned powerfully and squarely to the ball at impact. The grip placement trainer is attached to the handle of the club, and forces the correct positioning of the hands for the three types of grips throughout the swing. It is essential the right hand hold the handle towards the fingers.

**SWING FEEDBACK MONITORING DEVICE:** Performing the mechanical motion alone is often not sufficient to develop an effective golf swing. Segmental sequencing is an indicator of an efficient golf swing (Fujimoto-Kanatani, 1995), and therefore a definite sense of rhythm and tempo is present in all elite golfers. A variety of devices are currently being tested for their effectiveness in this regard, including stiff cord trainers, wobble-shafts, and articulated shafts with planar constraints to match the frequency of an efficient golf swing.

**CONCLUSION:** There is much to learn in the teaching and training of golf, as there is any other sport. However, the optimised golf swing has the advantage over a traditional golf swing in that it is mechanically easier to perform. Also, the training methods are developed according to the scientific principles of motor learning and performance (Schmidt, 1991). The essence of the training methods is to provide continual feedback through the use of scientifically designed training aids, and the presence of a Golf Solutions International coach.

### REFERENCES:

- Fujimoto-Kanatani, K. (1995). Determining the Essential Elements of Golf Swings Used by Elite Golfers. Unpublished PhD Dissertation, Oregon State University.  
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