

## **GOLF SKILL: THE EFFECTIVE ACQUISITION AND APPLICATION OF BIOMECHANICS**

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Q Golf primarily works with elite development players and tour players, within which there are an increasing number of injuries occurring. Case study examples will be provided for: Technology used to capture swing mechanics and measure club delivery and ball flight information; Data from 3D analysis and ball flight measures and the relationships between these parameters; How this information is utilized and interpreted to establish technical priorities; Practical application of this information and how it is communicated to players and their coaches; Use of biofeedback training to help players establish what their focus needs to be during the swing and accelerate skill learning; Victorian Institute of Sport player – Improvements in swing dynamics.

**KEY WORDS:** golf flight measures, swing dynamics.

Q Golf primarily works with elite development players and tour players, within which there are an increasing number of injuries occurring. Part of the issue is that junior players are specializing within the sport at an earlier age, with the associated repetition of hitting many balls leading to overuse injuries and muscle imbalances. Coupled with this, as equipment fitting procedures and equipment have evolved, less emphasis is being placed on developing correct technique as clubs are matched to individual swing compensations.

As such, coaching intervention at the right stage within the player's program is vital not only for their long term development but also for injury prevention and longevity within the game. The earlier we can educate players and help them understand how they need to manage their bodies and improve technique the better – it leads to greater compliance and adherence to training programs.

Through analysis, the key aspects of technical performance, technical and physical correlates, and cause and effect relationships are established and the implications they may have for subsequent coaching input and training programs to assist players. Postural awareness, flexibility exercises, biofeedback, and golf specific exercise drills are introduced to complement a player's coaching program to aid technical development and the learning of "feels" associated with swing changes. Through such programs, learning is optimized, together with improved body awareness and an understanding of why certain drills or exercises are most appropriate to achieve desired movement patterns.

Within a practical session, the following will be presented and discussed together with case study examples:

1. The technology used to capture swing mechanics and measure club delivery and ball flight information.
2. Data from 3D analysis and ball flight measures and the relationships between these parameters.
3. How this information is utilized and interpreted to establish technical priorities.
4. Practical application of this information and how it is communicated to players and their coaches.
5. Use of biofeedback training to help players establish what their focus needs to be during the swing and accelerate skill learning.
6. Case study: Victorian Institute of Sport player – Improvements in swing dynamics.