

# **BIOMECHANICAL GOLF CONDITIONING**

## **Flexibility, Golf Performance and Injury Prevention - Part 1**

Poor flexibility and muscle imbalance issues effect the mechanics of the golf swing and can have a negative influence on one or more of the following ball flight factors. Through an inability to get the body in the required position, less than optimal swing mechanics are the end result. Further golf practice will only continue to develop poor motor patterns as the body compensates in the best way it can. The only result this gives is swing inconsistency and poor golfing performance.

Ball flight factors:

- Club face alignment
- Swing plane
- Angle of attack/impact
- Club head speed
- Hitting the sweet spot
- Lateral sway

In contrast, optimal flexibility and muscle balance will help the golfer create a quality motor pattern that can be produced time and time again. Further golf practice and appropriate conditioning will have a positive effect on the above ball flight factors and therefore your golf game.

Poor flexibility and muscle balance can create any number of overuse or compensatory injuries. Some examples are outlined below.

**Levator Scapular** (Attaches to the upper 4 cervical (neck) vertebrae and the superior medial border of the scapula (shoulder blade)).

### *Performance*

- Tightness will prevent the shoulder girdle from effectively rotating around the spine and rib cage which will limit trunk and neck rotation. The result will be a limited backswing and subsequent swing plane and swing axis alterations, ultimately effecting optimal ball flight.

### *Injury Risk*

- Tightness may lead to neck compression which can result in tension headaches and overuse of the back, shoulders and elbows in an attempt to try and achieve greater club head speed.

## **Shoulder Internal and External Rotators**

### *Performance*

- Tightness in the left external shoulder rotator will impact on ball flight, from compensations through loss of swing axis with swing plane alterations.
- Limited internal rotation right and external rotation left will limit your backswing. The opposite will limit your follow-through.

### *Injury Risk*

- The above scenarios often result in overuse and injury of the back, shoulders and elbows.

## **Thoracic Extension**

### *Performance*

- Lack of thoracic extension will hamper your ability to achieve a proper backswing and follow-through. Coil will as be reduced along with power and distance. Swing arc and plane will be altered resulting in a chopping swing and hitting fat, thin and inconsistently.

### *Injury Risk*

- Lack of thoracic extension may lead to shoulder impingement problems and/or shoulder strain once the shoulder reaches 130 degrees of flexion.

## **Low Back Extension**

### *Performance*

- Lack of low back extension leads to an inability to achieve an optimal backswing and follow-through.

### *Injury Risk*

- This may lead to shoulder impingement/strain injury.

## **Conclusion**

Performance can be significantly inhibited by lack of flexibility and muscle imbalance. Conversely, improvement in a golfer's game can be equally significant if the golfer develops and maintains optimal flexibility and muscle balance.

Overuse injuries of the spine, shoulders, elbows and wrists are often created by lack of flexibility in the hamstrings, hip flexors, hips, chest, shoulders and back. Achieving optimal flexibility and muscle balance will help ensure ongoing, high

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quality, injury free golf. The next issue will cover some more examples of how flexibility can affect golf performance and injury.

To get a complementary biomechanical golf conditioning assessment call

Robert Collier **027-223-5039**

or visit [www.chekinstitute.com](http://www.chekinstitute.com) for a golf biomechanic in your area.

## **References**

Chek, Paul. (1998) Reproduced with permission. **Golf Biomechanic Certification Intensive – Course Manual** A CHEK Institute Publication. Vista, San Deigo, USA.

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