

Pilates for golf related injuries

Anna Krajewska

9 April 2019

2018 Dubai

Abstract

The population of golfers is exposed to many injuries in different areas of the body, as a result of poor body alignment, lack of strength and incorrect recruitment of muscles, necessary to execute the basic moves during the game. Contrary to what it may look like, golf is a challenging sport which requires a great deal of strength, coordination and flexibility. Many players often lack those capabilities, thus oftentimes, the severity of the injuries keeps them away from golf course for extended periods or causes them to give up the game altogether. The most common golf related injuries occur in lower back, hips, upper limbs to name a few. A well-designed Pilates program addresses postural faults and imbalances, incorrect muscles recruitment, at the same time contributing to gaining overall strength, improving balance, coordination and flexibility, so vital not only in golf but any other sports.

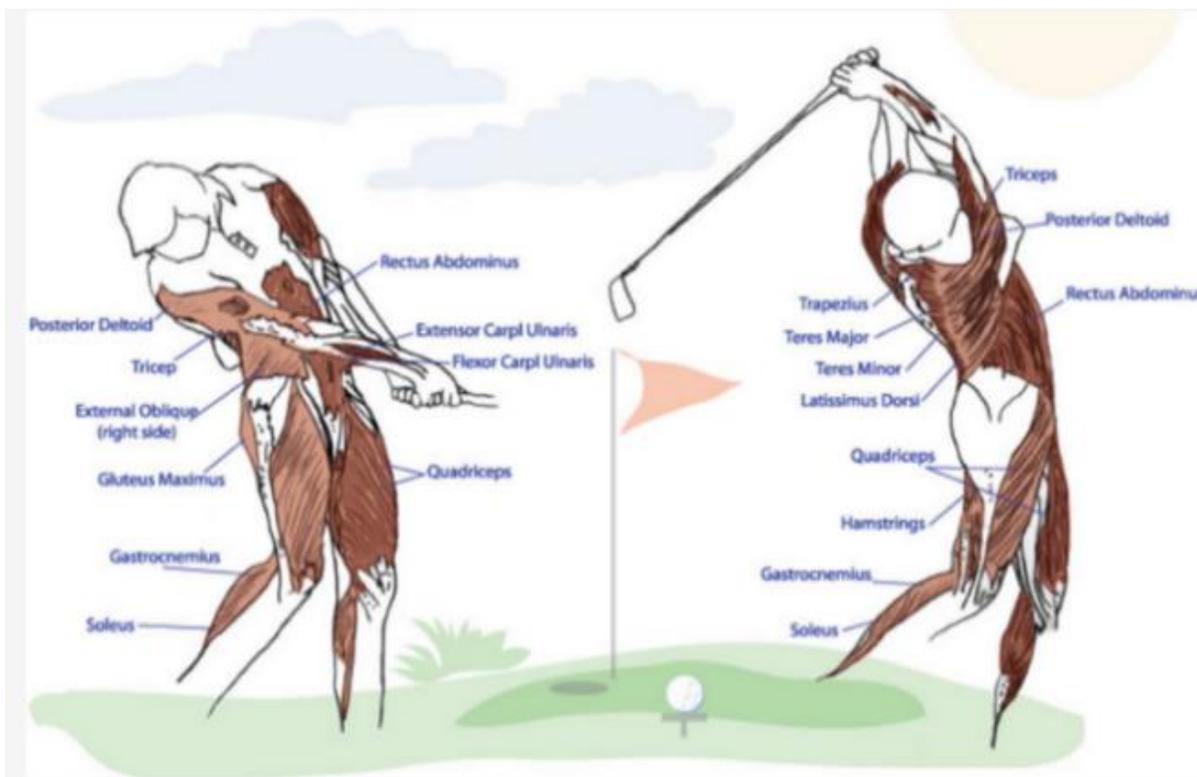
Table of contents

Abstract.....	2
Golf related injuries.....	3
Case study.....	7
Conclusion.....	12
Bibliography.....	13

Golf related injuries

Golf for many is a synonym of a relaxed, pleasurable game with minimum effort. Little do most of us realize is that this seemingly tranquil looking game is a demanding sport where its prominent move, the swing, requires a great deal of coordination, strength and flexibility. Lack of these exposes its professional players and amateurs alike, to severe injuries in the lower back, hips, lower and upper limbs among others.

The below image shows muscles used during the practice of golf. An overall conditioning program should take into account all these below muscle groups in order to improve the technique, develop strength, avoid musculoskeletal ailments which in the end will contribute to preventing injuries that can be sustained during the game as well as derived from day to day activities, such as sedentary job, incorrect movements repeated over an extended period of time as a result of habit.



Golf players spend hours striking the ball, sustaining injuries which are caused by overuse. Other injuries result from striking the ground, poor swing mechanics, twisting the torso, maintaining bent position for hours, poor alignment of feet and legs, poor weight shifting, rotational forces exerted on hips and the spine. Hence the most common golf related injuries include:

Back Pain

The rotational stresses of the swing and bent over stance sustained for several hours place a strain on lower back causing back pain.

Tendinitis in the Elbows

Tendinitis (irritation and inflammation of the tendon tissue) is the most common condition affecting the elbow. It is frequently referred to as “tennis elbow” when there is an injury to the outer tendon, and “golfer’s elbow” when there is an injury to the inner tendon. The risk of getting tendinitis increases with age and is higher in people who routinely perform activities that require repetitive movements such as hitting golf balls. In addition, these types of injuries can be aggravated by an improper swing motion.

Knee Pain

It can occur from the strain placed on a weak knee to stabilize the rotation of the hip axis at the beginning of the swing. Extreme force placed on the knee can result in torn ligaments. Arthritis sufferers may experience more knee problems because the degenerative nature of the disease, which results in a gradual wearing away of joint cartilage.

Rotator Cuff

Pain may be felt in the shoulder or upper arm at various phases of the golf swing, or following play, when extending arms overhead. Injuries to the rotator cuff can be sustained through traumatic force resulting from a poorly executed golf swing and from overuse. Golfers can develop tendinitis, bursitis,

and tears in the rotator cuff due to the repetitive motion of the golf swing.

Wrist Injuries

The repetitive motions of golf, and the high speed of the typical swing can place wrists at a high risk for injury. The most common golf-related wrist injury is tendinitis or swelling of the tendons responsible for wrist movement.

Hand and Finger Injuries

Much as with wrist injuries, the repetitive motions of golf, and the high speed of the typical swing can place the hands and fingers at high risk for injury. Repetitive blunt trauma or single severe trauma to the fingers can lead to numerous conditions such as tendinitis, broken or deformed bones.

Neck injuries

Those type of injuries are common in new golfers who are not used to twisting their bodies . After a few hours of swinging the club and hitting balls, the neck muscles may shorten in spasm and freeze the neck into a painful position.

Foot and Ankle Injuries

Throughout the golf swing, the body acts as a whip. Power starts with the feet pushing against the ground. Each foot moves differently during a golf swing. The back foot must allow for more pronation during the follow- through of the golf swing than the front foot. Injuries can occur when the golfer loses his or her footing or balance during the swing, while performing the swing with the improper swing mechanics, and when hitting a ball off an uneven surface.

Hip Injuries

The hip joint is usually very mobile and able to withstand large amounts of loading stresses, but is particularly vulnerable to injury during golf, since the swing involves a tremendous amount of pivoting

and twisting movements. During the golf swing, the hip is subjected to repeated adduction and flexion/extension forces. This requires a great deal of control throughout the gluteal muscles and the adductor muscle complex. It is these rotational forces that cause injuries such as groin strains and low back injuries.

Case study

Jonathan is 36 and is a former rugby player, who stays in shape thanks to running for an hour 4 times a week and an occasional bicycle ride. He has a very good stamina and strong lower limbs, however, needs to work on this core and arms strength. He suffers from occasional lower back pain as well as neck pain due to long sitting hours at a desk. He also has certain limitations that need to be considered such kyphotic back, an anterior tilt pelvic tilt and tight hamstrings.

The choice of exercises responds to the needs of the client in question to gain overall strength – arms, legs and abdominals, stretch back, shoulder and hip extensors, teach the habit of maintaining pelvic and shoulder stabilization, lengthen and strengthen weaker and tight muscles, reduce joints tightness and strengthen hip and arms muscles to increase joints stabilization. The program also aims to develop correct foot alignment and improve balance and postural alignment.

The program starts with developing a habit of a warm up and continues to incorporate exercises of the apparatus repertoire where muscle focus involves posterior deltoids, biceps and triceps, latissimus dorsi, rhomboids, teres major and minor, external obliques, rectus abdominis, leg adductors and quadriceps and glutes.

The choice of the apparatus incorporates Wunda Chair, Cadillac and Reformer to challenge the same muscle groups in different planes of motion with an aim to progressively gain more strength and flexibility as well as to ensure a full body, challenging workout.

Exercises included in the program are:

- Warm up on Cadillac

Roll up with a roll up bar

Spine twist supine

Mini roll ups with push through bar

Mini roll up oblique push through bar

Roll up top loaded

- Footwork on Wunda Chair

Heels parallel

Toes parallel

Toes in V position

Heels in V position

Calf raises

One leg heel

One leg toes

- Abdominals Reformer

Legs in straps

Legs in straps with rotation

- Hip work - Cadillac

Frog

Circles Up

Circles Down

Walking

Bicycles

- Spinal Articulation (after 10 sessions) on Reformer

Bottom lift

Bottom lift with extensions

- Stretches on Reformer

Standing lunge

- Full body Integration on Reformer

Up stretch 1

Up stretch 2

Long stretch

Up stretch 3

- Arm work Cadillac

Chest expansion

Hug a tree

Circles up

Circles down

Biceps

Punches

- Full body integration advanced (after 20 sessions) on Reformer

Balance control front

Balance control back prep

- Legwork on Wunda Chair

Leg press standing

Backward step down

Forward lunge

- Lateral flexion on Cadillac

Butterfly

- Back extension on Cadillac

Prone 1

Prone 2

Each block of exercises has the following objectives:

Warm up – develops focus and aligns the body, develops spinal articulation, abdominal control, stretch back extensors, prepares the body for more complex movements

Footwork – is part of a warm up, warming up major muscle groups, strengthens knee extensor, develops hip extensor control and develops trunk and pelvic stabilization. Calf Raises strengthen and stretch calves and hip extensors.

Abdominals – chosen exercises target strengthening abdominal muscles, obliques hip flexors and develop pelvic lumbar stabilization

Hip work – develops hip adductors and abductors strength, hip adductor flexibility, and pelvic lumbar stabilization

Spinal articulation – targets abdominals and hamstrings, develops spinal flexibility and hip extensor control

Stretches -target hip flexors and hamstrings and increase their flexibility as well as improve back extensor control and develop pelvic- lumbar stability

Full body integration – the choice of exercises targets abdominal muscles as well as back extensors

Arm work – addresses trunk and scapular stabilization, strengthens shoulders, increases shoulder flexibility, strengthens elbow flexors

Lateral flexion - Torso rotation exercises increase range of motion of the upper body. Exercises stabilizing pelvis to prevent the golfer rotate the body from the shoulders instead of initiating the movement from the trunk. With a stronger rotation the thorax will fire the obliques and the opposing adductors. The head and sternum will be aligned to prevent the rotation from shoulders.

Leg work – the objective is to improve alignment, develop balance, develop knee and hip extensor control, strengthen hip extensors, hip abductors and knee extensors

Back extension – the choice of exercises aims at strengthening back extensors, improve flexibility in the shoulder region, develop control of the shoulder girdle and abdominal muscles.

Conclusion

Pilates can be beneficial in many areas of our life. Being mind – body activity, it helps to not only strengthen and increase flexibility but also develop coordination and body awareness. For golf players, Pilates can be particularly important to be able to execute the basic movements correctly and prevent injuries that players may suffer as a result of incorrect muscles recruitment, lack of strength or poor alignment. Pilates movements target a variety of muscles converting it into a full body workout at the same time challenging balance, stabilization in many areas of the body and flexibility. Working on those aspects is crucial to be able to perform the swing and other movements with control and precision which in the end contributes to reducing the risk of suffering an injury that will hinder players from playing. A comprehensive Pilates program which follows block system, targeting different areas of the body, will surely help achieve the goal of the client in question, who wanted to take the game to the next level and target tightness, imbalance and lack of strength in the key areas which did not allow him to progress in the game.

Bibliography

“Pilates corrective exercises for golfers.” *ideafit.com*, 14 Sept. 2007. <https://www.ideafit.com/fitness-library/pilates-corrective-exercises-for-golfers-part-2>

“Pilates exercises for golfers.” *ideafit.com*, 2006. <https://www.ideafit.com/fitness-library/pilates-exercises-for-golfers>

“Pilates for golfers.” *Pilates-pro*, 12 Dec. 2006. <http://pilates-pro.com/pilates-pro/2006/12/12/pilates-for-golfers.html>

“10 common golf injuries.” *Golfchannel.com*, 2009. <https://www.golfchannel.com/article/golf-fitness-magazine/10-common-golf-injuries>

Isacowitz Rael, *Pilates Human Kinetics*, 2006.