

Golf Injury Prevention

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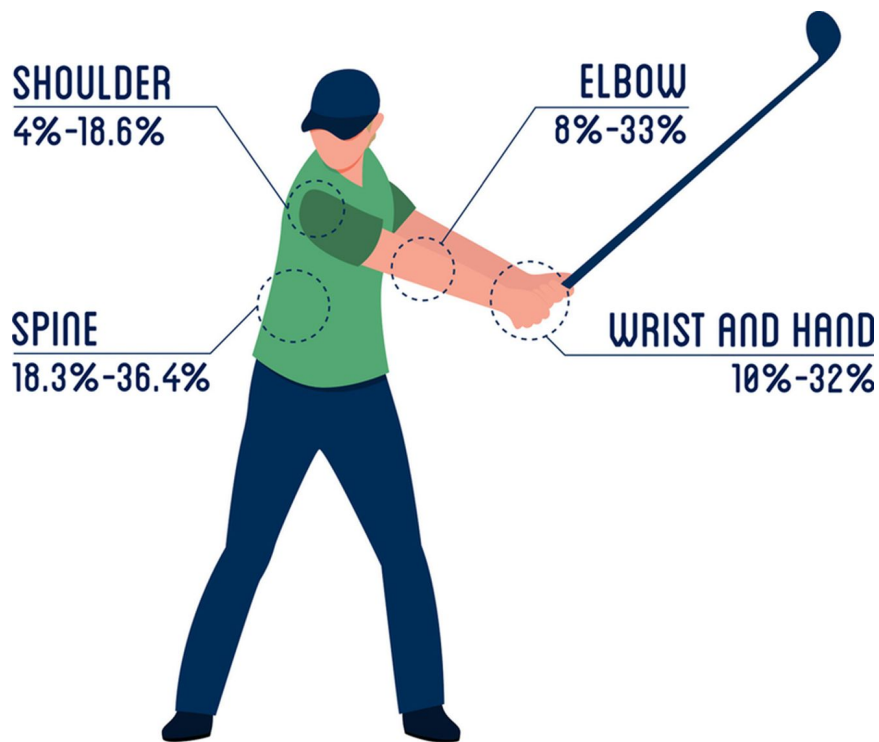
Introduction

- Statistics
 - Common injuries
 - Benefits
 - Injury prevention
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Prevalence

A research published in the British Journal of Sports Medicine found that up to 40.9% of amateur golfers get injured while playing golf each year (American Academy of Orthopaedic Surgeons, 2022). Injuries sustained by professional players are commonly associated with the repetitive nature and high tissue stress caused by extended activity. However, many injuries sustained by amateur golfers are the result of poor swing mechanics. Therefore, understanding the golf swing is critical when attempting to prevent injuries in the amateur community (McHardy & Pollard, 2010).

Sites of injury



CAUSES

1. Poor technique
2. Overuse
3. Lack of flexibility

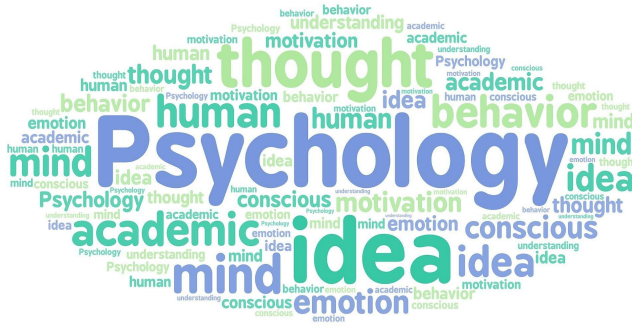
The National Health Service (NHS) Long Term Plan

- 10 year plan, published in 2019.
- One of the main focus is to treat and prevent ill health
- A focus on preventing illness and promoting healthier lifestyles, including measures to tackle obesity. This includes initiatives such as offering personalised health checks and supporting people to make healthier choices.
- Integration of primary care with community and social care.

Common Injuries

- Back Pain
- Medial Epicondylitis
- Lateral Epicondylitis
- Subacromial Bursitis
- Shoulder Instability/Subluxation
- Medial Knee Pain
- Hip Flexor Injury
- Sacroiliac Joint Pain
- Neck Pain
- Plantar Fasciitis
- Achilles Tendonitis





Biopsychosocial Benefits



Biological

- Golfers live an average of five years longer than non-golfers.
- Golf can help to prevent and treat 40 main chronic illnesses (R&A, n.d.).
- Research indicates that playing golf may enhance proprioception, balance, muscular endurance and function, especially in older adults.
- Golfers cover 4–8 miles and take between 11,245 to 16,667 steps during an 18 hole golf game (Murray et al, 2017).



Psychological

- Reduced anxiety, depression and loneliness. 95.4% felt happy and reduced loneliness.
- Playing golf can release endorphins, which improve mood and psychological well-being.
- Improved self-esteem and felt more confident.
- Players make around 27 decisions, which stimulate the mind and provide mental exercise (Golf in Society, 2024).

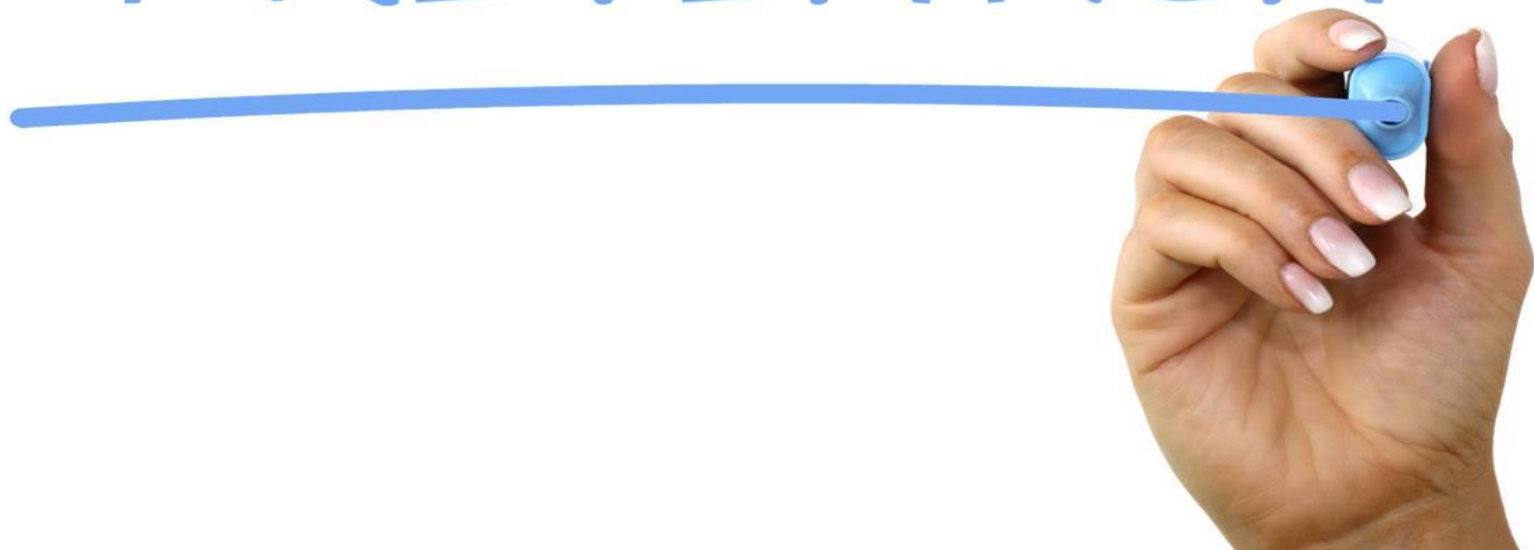


Social



- On average 33 Social Interactions per session.
- Improved quality of life.
- Improved relationships with family, friends and carers.
- Fun and enjoyment.
- Support for carers.
- Beneficial for older adults with cognitive decline such as Dementia and Parkinson's Disease (Golf in Society, 2024).

INJURY PREVENTION



Interventions

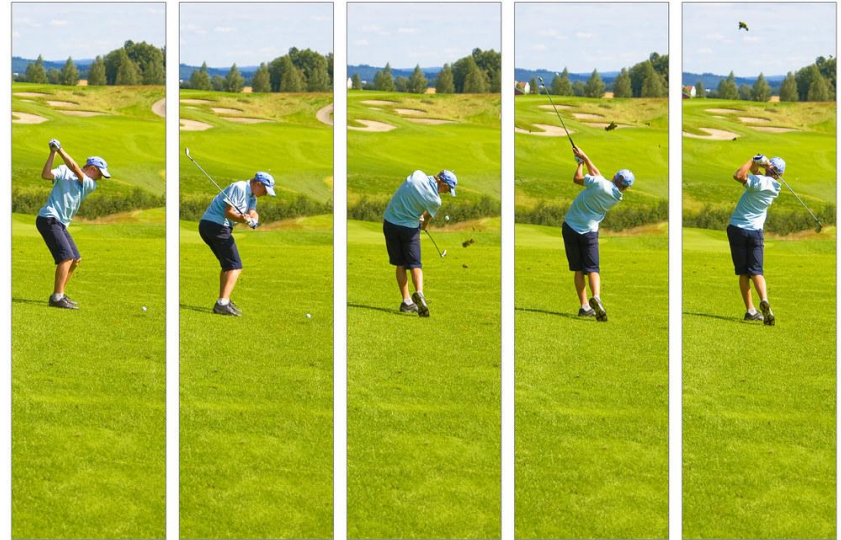
- Analysis of Swing Mechanics
- Flexibility and Strength
- Kinesiology Taping
- Footwear
- Manual Therapy
- Personalised Assessment
- Golf Specific Training



Golf Swing Mechanism

Four phases

1. Set up/Address
2. Backswing
3. Downswing
4. Follow – through



(Meira & Brumitt, 2010)

Set up/ Address

1. Your arms should be relaxed and straight.
2. Feet should be shoulder width apart.
3. Hold the club at waist level.
4. The right hand should be lower than the left on the shaft of the club.
5. Bend slightly from your hips with your back straight, until the club touches the grass.
6. Flex your knees with a slight bend (20-25), putting weight on the balls of your feet.
7. Right shoulder slightly lower than the left shoulder and aligned with right foot.



Backswing

1. Hands and arms start moving the club away from the ball, wrists hinge.
2. Body rotates away from the target, shoulders turn, left shoulder moves downwards.
3. Hips also rotate slightly to facilitate upper body coil.
4. Weight shifts onto inside of right foot (for right-handed golfers).
5. Body coils, shoulders turn approximately 90 degrees, hips turn slightly less.
6. Left arm extended, club parallel to ground, pointing behind you.
7. Maintain good posture, balance, keep head relatively still, and spine angle consistent.



Downswing

1. Hands and arms initiate the movement towards the ball, club starts descending.
2. Body begins rotation towards the target, shoulders move back towards the ball.
3. Hips shift weight onto the left side (for right-handed golfers), leading the movement.
4. Legs start to straighten slightly as energy is transferred from the ground.
5. Club moves rapidly towards the ball with increasing speed and acceleration.
6. Maintain control and coordination throughout the motion.
7. Ensure proper sequencing of movements for power and accuracy.



Follow-through

1. After striking the ball, continue the motion of the club and body.
2. Rotate your body fully towards the target, allowing the club to swing freely.
3. Extend your arms towards the target, with the club finishing high over your shoulder.
4. Maintain balance and control as you complete the swing.
5. Allow your weight to shift onto your front foot as you finish the swing.
6. Keep your head down and eyes on the spot where the ball was.
7. A smooth and balanced follow-through is essential for accuracy and consistency.



Full Body Warm Up (Dynamic Stretches) / Cool Down (Static Stretches)

Warm Up

1. Neck Rolls (Clockwise and Anticlockwise)
2. Arm Circles (Clockwise and Anticlockwise)
3. Arm Swings
4. Torso Twist (Rotation)
5. Hip Circles (Clockwise and Anticlockwise)
6. Standing Knee Tucks
7. Leg Swings (Flexion, Extension, Adduction and Abduction)
8. Ankle Movement (Clockwise, Anticlockwise, Plantarflexion and Dorsiflexion)
9. Wrist Movement (Clockwise, Anticlockwise, Flexion and Extension)



Cool Down

Hold each movement of the stretches for at least 15 to 30 seconds and don't force the movement (IT SHOULDN'T BE PAINFUL)

1. Neck Stretch (flexion, extension and lateral flexion)
2. Shoulder Stretches (Internal Rotation, External Rotation, Adduction and Abduction)
3. Forearm Stretches (Wrist Flexion / Prayer Push and Wrist Extension / Reverse Prayer Push)
4. Spinal Stretches (Decompression and Cat and Cow)
5. Hip Stretches (Lunges pushing forwards, Side Lunges pushing sideways)
6. Standing Hamstring Stretch
7. Standing Quadricep Stretch

Stretching

Stretching is an essential component of injury prevention as it helps improve flexibility, range of motion, and muscle function.

Longer duration dynamic stretching has been shown to improve overall strength, power, and athletic performance (Ehlert & Wilson, 2019).



What are American College of Sports Medicine's Guidelines (ACSM) for Stretching and Flexibility?

The latest ACSM stretching and flexibility guidelines include:

Frequency:

Equal to or greater than 2-3 times per week.

Daily stretching is most effective.

Intensity:

Stretch to the point of feeling tightness or slight discomfort.

Time:

Holding a static stretch for 10-30s is recommended for most adults.

In older individuals, holding a stretch for 30-60s may confer greater benefit toward flexibility.

Type:

A series of flexibility exercises for each of the major muscle-tendon units is recommended.

[\(ACSM blog, 2021\)](#)

Flexibility and Muscle Activation (Dynamic Movement)

- Golfers should perform daily stretching of the hip flexors and internal rotation of the hip
- They may also find it useful to stretch for trunk rotation and basic overall shoulder flexibility as well, given that these areas are also integral to the swing
- Dynamic stretching is recommended before an event instead of static stretching during warm-up - **static stretching may harm performance (Gergley, 2009).**



Fletcher et al., findings:

- Free-weights and plyometrics can be more effective than machine weights in golf players
- Especially in improving clubhead speed and driving distance

Strengthening (with resistance bands for progression)

- Side Planks
- Bird Dog
- Shoulder Abduction + External Rotation
- Shoulder Adduction + Internal Rotation
- Wrist Flexion and Extension

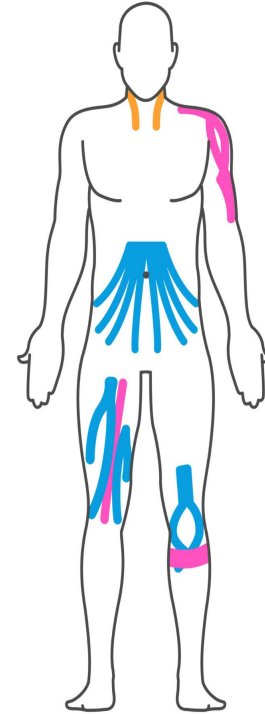


Kinesiology Taping (KT)

KT can help treat acute and chronic sports injuries, avoid musculoskeletal problems, and enhance performance (Pyšný et al., 2015).



KINESIO TAPING

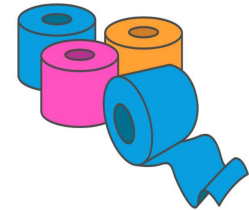


REDUCES:

- pain
- swelling
- scar tissue
- muscle activity

IMPROVES:

- healing
- posture
- nerve receptors
- muscle contraction



KT in Practice

- For people with persistent low back pain, kinesio taping in addition to physical therapy produced superior therapeutic results in terms of pain relief and improvement of impairment than did physical therapy alone (Sun & Luo, 2021).
- Following a 3 week Kinesio Taping intervention, stroke patients with hemiplegic shoulder pain showed reduced shoulder discomfort (Huang et al, 2017).
- Following the application of KT on the lateral epicondyle, there was a considerable improvement in all measures of pain (Dilek et al, 2016).
- Research by Lee et al (2016) found elderly individuals with degenerative knee arthritis who used KT for 4 weeks reported reduced pain, stiffness, improved knee joint function and enhanced range of motion.

Footwear

- **Ensure your shoes are not too flexible or too soft** - Well-cushioned midsole and a supportive outsole can help reduce the risk of ankle sprains and other lower limb injuries by providing stability during your swing and while walking on uneven terrain.
- **Waterproof** - waterproof golf shoes can prevent wet feet which can increase the risk of blisters, fungal infections, and other foot ailments.
- **Arch support** - consider golf shoes with adequate arch support to help maintain proper foot alignment and reduce the risk of overuse injuries such as plantar fasciitis or tendonitis.
- **Breathable** - Golf shoes that are made from breathable materials that allow air circulation to keep your feet cool and dry during play. This can help prevent blisters and fungal infections caused by moisture buildup.
- **Grip** - golf shoes with excellent grip and traction prevent slips and falls, particularly on wet or slippery surfaces. Look for shoes with spikes or cleats that provide traction without damaging the golf course.



Manual Therapy



Joint mobilisation techniques can be beneficial for injury prevention by improving joint flexibility, reducing muscle tension, and enhancing overall joint function.

- Joint oscillations involve rhythmic, repetitive movements applied to a joint to improve mobility and decrease stiffness. These gentle oscillations can help improve joint lubrication and reduce adhesions, promoting optimal joint function and preventing injuries.
- Accessory joint mobilisation techniques target specific joint structures, such as ligaments, capsules, and synovial tissue, to restore normal joint mechanics and improve joint function. By addressing joint restrictions and imbalances, accessory joint mobilisation techniques can help prevent injuries related to joint instability or dysfunction.

Equipments

Overloading of golf bags can contribute to discomfort, strain, or injury, particularly to the back, shoulders, and knees.



Golf Bag



Golf Trolley

Golf Specific Training

Golf-Specific Exercise Routine

- Trunk Rotations
- Side Bending
- Resisted Swings

Frequency

- 3 to 4 times per week

Significant Improvement in:

- Clubhead Speed
- Ball Speed
- Carry Distance
- Total Distance

Personalised Assessment

Purpose of a Personalised Assessment:

- To conduct an evaluation
- Important to get accurate diagnosis if there is a problem

An assessment consist of:

- Range of Motion
- Strength Quality
- Pain tolerance

Methods Used:

- Hands-on Assessment
- Special Tests
- Manual Muscle Testing
- Might need to refer a Radiographer for X-Rays or MRI scans



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