# The Injury

## **The Problem**

## **The Solution**

#### **Lead Shoulder**

- Keeping left arm too tight to the chest and straight during backswing and impact overloads the joint with impact forces causing labral (cartilage) tears
- In backswing and follow through rotation from shoulders causes impingement and damage to AC (acromioclavicular) joint
- Rotator cuff muscle strain or tear when overloading them to power the swing

- Keep arms loose and relaxed slightly forward/away from body
- Rotation comes from thoracic spine (upper body) NOT from shoulders
- Turn more with upper body, swing less with arms. Arms should 'follow' upper body rotation, not lead the rotation
- Improve upper spine (thoracic) mobility and shoulder joint flexibility through exercise
- Power from the body, not the shoulder or arm muscles

### Lead Knee

- As you shift weight forward onto your left knee for swing through, all torque (rotational forces) and compression forces focused on inside of left knee
- Golfers often square the foot and lock knees – this increases shear forces on the knee, causing ligament strain and meniscus (cartilage) damage
- The knee should shift in front of the hip very early on in the downswing
- Avoid having hips slide past the knee towards the target as this increases knee stress
- Focus on hips and pelvis rotating rather than sliding
- Line of left thigh should be vertical or leaning away from target on downswing
- Maintain a soft squat at the knees approximately 25° flexed
- Angle the left foot 20 or 30° outwards towards the target at address to promote hip rotation rather than sliding off loading the knee

### **Lower Back**

- Power swing focuses on rotation of pelvis through swing
- Torque (rotational force) created through the pelvis and lumbar spine can overload and strain muscles, ligaments and tendons of lower back
- Control and conditioning of lower back critical for injury prevention
- Shearing effect can damage vertebral discs
- Avoid 'popping' after impact, arching your back overloads your spine
- Power swing requires separation between rotation of the pelvis and trunk – greater separation means greater speed - this requires immense core strength and control to avoid injury
- Back strengthening exercises for core, pelvis, hamstring and glute muscles are crucial, as well as hip mobility exercises
- At address, hinge at the pelvis DON'T flex (slump) the lower back, this will increase load on your back
- Hips and spine must extend (straighten) together during the follow through
- Reduce injury risk by turning in unison the hips and shoulders turn together on backswing and follow through – you sacrifice power but may save your back!





