Wolff Clinic
(since 1992)

Cycling

Cycling is a very good form of cardiovascular exercise, helping you to lose weight, improve fitness and maximise your health. World Health Organisation (WHO) statistics suggest that inactivity contributes to 23% of all cardiovascular disease, 17% of colon cancer, 15% of type 2 diabetes, 13% of stroke and 11% of breast cancer. Government medical advisors now recommend 30 minutes of moderate physical activity five days a week.

Common cycling injuries

Muscle and tendon strains can occur with very heavy training or with inadequate warm up, particularly the hamstrings, thigh and calf muscles.

Overuse injuries occur from gradually over-stressing joints, tendons, muscles and ligaments, and can be just as painful. Knee pain is the most common symptom, due to poor tracking of the knee-cap and excessive compression of the cartilage layer underneath (patellofemoral pain syndrome), or irritation to the local muscle tendons, ligaments or bursae (fluid filled sacs that reduce friction between bones, tendons and muscles). Other areas also at risk are the hips (iliotibial band syndrome and trochanteric bursitis) and the achilles (tendonitis).

Common factors influencing the risk of overuse injuries are poorly designed training programmes, incorrectly fitted bike, muscle strength imbalances, joint misalignment and leg-length difference.

The back is also susceptible to injury. The low back can be strained if the rider is in a very extreme position. The neck and shoulders are also at risk with the neck often in an extended position for long periods of time

How can I avoid injury?

A good pedalling technique is important to reduce risk of injury. The legs function like pistons, pumping up and down over the pedals. Pedals should be the same width as the hips so that as the leg is pushed down, there is a low valgus angulation (outward bend) at the knee, measured by the ‘Q-angle’. There is no research that has specifically described an optimal Q-angle for endurance cycling or for the avoidance of bike related injury. However, an excessive Q-angle has been associated with increased risk of athletic injuries. A normal male value ranges from 8-10º and a female value is slightly greater at 13-18º.

To further reduce likelihood of injuries the bike should be correctly fitted to your body. Frame size is determined by evaluating the distance from the rider's crotch and the top tube of the frame. This distance should be lower for road bikes (2.5-5cm) than off-road bikes (7.5-15cm).

Seat height and position is very important. Optimal height can be determined by multiplying your inside leg measurement by 0.885. This figure is then used to set the correct distance from the top of the saddle to the centre of the bottom bracket (the spindle to which the pedal cranks are attached). The seat position can then be adjusted forwards or backwards so that when hanging a plumb line from the front of the knee it will bisect the axle of the forward pedal when positioned at 3 o'clock and 9 o'clock. The saddle is then made level to maximise comfort.

Handlebar position determines the reach of the torso and upper body. The optimal position occurs when the tip of the elbow to the end of the longest finger matches the distance from the tip of the saddle to the centre of the handlebars. Adjustments can be made up and down or forward and backwards to avoid overstretching and placing increased stress on the low back and hamstrings.

It is also useful to get a functional movement screen from your chiropractor. An imbalance in muscle strength and flexibility is common in modern society and these problems can put increased stress on the body, and are particularly noticeable during exercise.

Pain is a warning sign! If you feel pain during or after cycling, don't ignore it! Call your chiropractor for advice.

Chiropractic Safe and Effective

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