

Dundee team hit winner on tennis elbow

Mark Macaskill

TENNIS elbow, the painful injury that serves up misery for many a player, is a symptom of modern, tightly strung racquets that inflict unprecedented stress on muscles and tendons in the arm, according to new research by Scottish scientists.

Some of the world's top tennis players — such as Serena Williams, the ladies' world No 1 — are said to prefer tightly wound strings as they believe they provide greater control.

One downside is that they sacrifice power and speed but researchers at Dundee University have found they also increase the risk of damaging tendons in the elbow, particularly during backhand strokes that place greater stress on the wrist and forearm. It is generally thought that low string tension, which enables the racquet to absorb more energy when it connects with the ball, places less stress on the arm but the Dundee research is the first to scientifically examine the effects of string tension.

"We demonstrate for the first time that lower string tensions would reduce load on the elbow," said Professor Rami Abboud, a co-author of the study.

The finding has prompted calls for leading racquet manufacturers such as Babolat and Head, which provides racquets to Andy Murray, to reduce string tensions.

It is believed the move could reduce the incidence of tennis elbow, which is estimated to affect up to 50% of players during their lifetime. Amateur players — who are more likely than professionals to have bad technique — are prone to the condition, which can make it painful to lift, grip, shake hands or open a door. In extreme cases, sufferers are

forced to stop playing tennis and can be off work for prolonged periods.

The tension of a racquet is measured in pounds (lb) and indicates the amount of pressure applied to the string when pulled by a stringing machine. Low tension is typically considered to be in the region of 40-50lb while high tension is about 55lb and above. Some top-ranked players are said to use string tensions of more than 70lb.

Abboud said racquets are typically strung between 55lb and 77lb, far tighter than in the 1920s when the average tension was 44lb.

Abboud's research suggests that tennis elbow — lateral epicondylitis — has



Williams: feeling the tension

probably grown in recent decades with advancements in racquet design.

The results of the study have been published in the scientific journal *Shoulder & Elbow*.

Abboud added: "There are a number of factors, which we are currently exploring, that can place strain on the elbow and contribute to lateral epicondylitis but our findings suggest that racquet tension is a significant one. In tennis players with a predilection for developing tennis elbow, reducing the racquet tension should be considered to help reduce the risk of injury."