

Rotorua Photo by Amy Dibley. Send your photos to [physiodirectreception@outlook.co.nz](mailto:physiodirectreception@outlook.co.nz)

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## How Smoking Can Affect Tissue Healing

PHYSIO DIRECT

**It is a well-accepted fact that smoking is bad for our health, however the effects of smoking are often far more complex than we realise. Healthcare professionals often suggest ceasing smoking prior to surgery or following an injury as it can significantly impact how long our body takes to heal.**

First, it is important to understand how healing occurs. Skin, muscle, bone and other organs in our bodies are made up of multiple layers of tissue, all of which have different roles and require varying amounts of blood supply. Tissue is comprised of millions of tiny cells, which join together to form one layer. Layers of tissue form organs, such as skin.

Injury disrupts multiple layers of tissues, which subsequently stimulates the healing response - a complex process in which new cells are created to repair injured tissues.

In order for the healing process to be effective, blood supply to the injured area must be rich. Blood vessels must be healthy and able to constrict or open as needed. Blood is important because it delivers the essential nutrient needed for healing to occur: oxygen. Oxygen has the capacity to allow injured tissue to thrive and heal. Lack of oxygen has the opposite effect.

The toxins introduced into the body while smoking even one cigarette are enough to cause blood vessels to constrict for up to a few hours, which limits blood flow to the injured tissues. Smoking large quantities of cigarettes every day deprives the body's cells of essential oxygen by chronically reducing blood flow.

As cells thrive off oxygen, just as we thrive off food, they weaken and begin to die when oxygen is not present. This limits the cells' ability to function optimally, and reduces their ability to create new cells to repair the injured tissues. Without the development of new cells, tissues cannot bridge the gap between healthy tissues in an area of injury. This leaves the injured tissues exposed for longer than they should be, leading to an increased risk of developing infection.

The time it takes for an injury to fully recover in a smoker versus a non-smoker is usually longer. The integrity and strength of the tissue that is able to form to heal the injury also tends to be weaker. This means that the injury is more prone to becoming re-injured, or even not heal at all.

**If you have any questions regarding smoking and injury healing, or if you are interested in quitting smoking, please contact your physician.**



## 5-Minute Workout Challenge

Finding time to hit the gym can be tough, but every little bit of exercise is worth the effort. Can you challenge yourself to perform 5 minutes of exercise per day this month? Try these simple exercises in a circuit three times!

- 15 squats
- 12 alternating lunges
- 8 kneeling pushups
- 20 second plank on forearms

### Work This Out

A knight wanted to visit a princess. He was told to arrive at 5pm on the dot.

If he travelled at 15km per hour, he would arrive an hour too early. If he travelled at 10km per hour, he would arrive an hour too late. He did some calculations and managed to arrive exactly on time.

- 1) What time did he leave?
- 2) What distance did he travel?
- 3) At what speed did he travel?

## PhysioTip

The body is always capable of change: you can make improvements, no matter how old you are.

Your physio can help you pick the best exercises to reach your goals!

Focus On...

## Tennis Elbow (Lateral Epicondylitis)

### What is Tennis Elbow?

Tennis elbow refers to pain in the muscular area at the outer portion of the elbow that develops from sudden increased use or overuse of the elbow. These muscles control the tendons in the back of the forearm and hand. They are responsible for straightening the fingers and pulling the hand backwards into a "stop" position.

The term 'tennis elbow' is used because it commonly occurs in people who play tennis or other racket sports. Other people who are frequently affected include manual labourers that regularly using hand-held tools, however this condition can affect just about anyone in the general population.

While tennis elbow was originally thought to be inflammation of the muscles or tendons, current research suggests that it is more likely to be due to the breakdown of the tissues in the area as a result of increased stress or tension in the muscles.

### What are the signs and symptoms of Tennis Elbow?

Tennis elbow can come on either suddenly, or develop gradually over time.

The pain may begin with activity and quickly go away following activity in the early stages. As it progresses, it may be painful before and after activity, but ease while in use.

Other symptoms can include pain overnight, stiffness in the elbow or forearm, and progression of pain through the forearm. Occasionally pins and needles and numbness might occur.

A common complaint among tennis elbow sufferers is pain while gripping an object or making a fist. This is because during these activities, the affected muscles are working. Because of this, grip strength may gradually weaken over time to a point where gripping objects becomes an impossible task. This can limit normal daily activities such as writing or driving.

### How can Physio help?

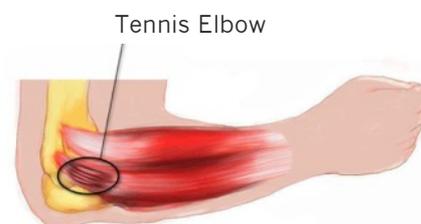
Your physio will assess the affected muscle group to determine the extent of the condition. You will experience muscle stretching and strength testing, and likely a grip strength test. Your arm's sensation and overall joint range of movement in the wrist, elbow and shoulder will be assessed as well.

Following assessment, you will be treated with multiple modalities including massage, ultrasound, muscle strengthening and stretching, and joint range of movement exercises.

A fact that some people find surprising is that posture can also play a role in the treatment of this condition. Depending on the cause of your tennis elbow, your physio may suggest a change in the setup of your desk, workplace, or grip technique of your racket or hand-held tool.

It is normal for tennis elbow to take a few weeks or even months to heal. If conservative management is not having a good effect, your physio can help you speak to your doctor about other management techniques. As tennis elbow is a progressive condition that generally does not resolve on its own, it is recommended to seek treatment sooner rather than later, as recovery is much faster when started early.

**None of the information in this newsletter is a replacement for proper medical advice. Always see a medical professional for assessment of your individual condition.**



1. 12pm

2. 12km per hour

3. 60km



### Ingredients

4 vine-ripened tomatoes.

300g fresh buffalo mozzarella

¼ cup of fresh basil leaves

1 whole avocado

1 cup of baby spinach leaves

2 tbsp balsamic and olive oil dressing

## Caprese Salad with Avocado

1. Mix baby spinach leaves, basil, chopped tomatoes and crumbled mozzarella in a salad bowl.
2. Drizzle with olive oil dressing. Mix gently.
3. Garnish and serve straight away.

**Serves two.**

### Optional Extras:

- Thinly slice mango into cubes, add to base salad.
- Add pomegranate seeds and blueberries to salad.
- Squeeze lime juice over salad instead of balsamic vinegar.

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## DID YOU KNOW...

The lines and markings on our knees are all different... they may be as unique as irises and fingerprints!