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QUAY Kinetics
PHYSIO & SPORTS INJURY CLINIC

DUNEDIN – NEW ZEALAND

APRIL 2017

10 Facts About Tendons

QUAY KINETICS PHYSIO

Tendons are found all over the body and while you may know a little about them, you might be surprised to learn a few of these facts.

1. Tendons can be found at the ends of muscles. Tendons are simply connective tissues that attach muscles to bone and help them move our joints when they contract.

2. Tendons come in many shapes and sizes. While the most recognizable shape is the long thin kind (such as the Achilles tendon), they can also be flat and thin or very thick, depending on the shape of the muscle and attachment of the bone. A thin flat tendon is also known by the name *aponeurosis.*

3. Tendons are able to act like elastic bands, they can stretch and bounce back into shape. Like elastic bands, if too much force is applied they can stretch or tear.

4. Unlike elastic bands, tendons are living tissue and their properties are affected by many different factors. Seemingly unrelated things such as hormonal changes, autoimmune disorders and nutrition can all affect a tendon's ability to withstand load.

5. Tendons don't only attach muscles to bone, they can attach to other structures as well such as the eyeball.

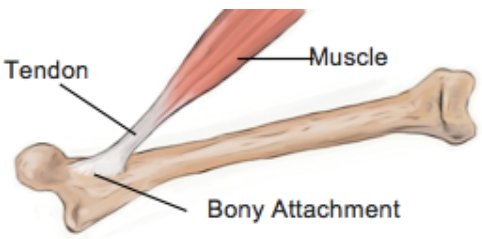
6. Tendons can tear however; more often they are injured through overuse. Healing of tendons can be quite slow as they have less blood supply than other tissues of the body, such as muscles.

7. Tendons are mostly made of organized collagen fibres. Areas of tendon degeneration have been shown to have collagen fibres that are disorganised, with this area having less strength and elasticity.

8.The Achilles tendon is the strongest tendon in the body. This connects the large calf muscles to the back of the heel to point the ankle away from the body. Most tendons are simply named for the muscle they attach to, however the Achilles has it's own name, named for the mythical Greek character who's heel was his only point of weakness.

9. The smallest tendon is located in the inner ear, attaching to the smallest muscle in the body.

10. Tendons and muscles work together to move your joints and are called a contractile unit.



Brain Teasers

1. The letters in the sentence below can be used to spell three different animals. You must use all the letters and each letter can only be used once.

'TALL ELEPHANT OR APEMAN'

2. One of the statements below is true. Which is it?

1. Only once of these statements is false.
2. Exactly two of the statements are false.
3. Only three of the statements are false
4. Exactly four of the statements are false.
5. All five of these statements are false.

PHYSIOTIP

Don't be afraid to ask any health professional to explain your condition to you more clearly. You will get the best results if you understand fully and participate in your own treatment

Focus On…

Gluteal Tendinopathy

What is Gluteal Tendinopathy?

When tendons are repeatedly placed under more tension than they can deal with, they can have a failed healing response. This can cause changes to the structure of the tendon and is known as a *tendinopathy*. When this occurs in the tendons of the gluteal muscles it is referred to as *gluteal tendinopathy.*

The gluteal muscles are three large muscles located at the back of the pelvis that provide most of the muscle bulk of buttock region. These muscles work together to keep your pelvis level when standing and are responsible for many movements of the hip. They play an important role in standing, walking and running.

The two deepest gluteal muscles, gluteus medius and gluteus minimus, attach from the center of the pelvis (the sacrum) and insert into the bony outer region of the upper thigh, called the greater trochanter via the gluteal tendons.

What causes tendons to develop tendinopathy?

Tendons, like muscles, skin and bones are living tissues and their strength and elasticity is influenced by a variety of factors, including hormones, age, how often and how much they are used. Rapid changes in activity levels or simply performing the same tasks too often can place a tendon under more stress than it can tolerate and it begins to break town.

Recently it has been shown that tendon health is also negatively affected by compressive forces, which can occur from blunt trauma or even habits such as crossing the legs, or sleeping on your side on a hard mattress.

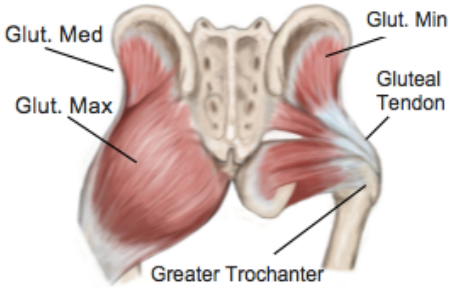
What are the symptoms of Gluteal Tendinopathy?

When gluteal tendons are affected by tendinopathy, a typical pattern of sharp pain at the outside of the hip with specific movements is present. The pain is usually worse with walking, going up and down stairs and running. The pain can become quite severe, and eventually can impact day-to-day activities.

How can physiotherapy help?

A thorough assessment is required for an accurate diagnosis and once gluteal tendinopathy is confirmed, your physiotherapist will be able to identify which factors have contributed to your condition and help to address these. It has been shown that specific loading exercises and muscular retraining can stimulate the tendon to heal and remodel the collagen fibres into a more organized pattern again. Your physiotherapist can investigate any postural habits or activities are contributing and address these as required.

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



Answers: 1. Panther, Elephant, Llama 2. The only true statement can be 4. The others are false.

Lizzy's Prawn Laksa

Laksa Paste:

1 Onion (diced)
1 Red Chilli (diced)
1 Inch Fresh Ginger (sliced)
1 Inch Tumeric
1 Tbsp Fresh Lemongrass
1 Tbsp Fish Sauce
1 tsp Shrimp Paste
1 Tbsp Brown Sugar
1 Tbsp Coriander
3 Tbsp Oil
Salt/Pepper to taste

Serve with:
1 tin Coconut Cream
2 cups Vegetable Stock
200g Vermicelli Rice Noodles
1 cup Pumpkin (diced)
6 Fresh Prawns

Serves 4

1. Preheat oven to 180 degrees Celsius, roast pumpkin pieces for 20 minutes or until cooked through, and set aside to cool. Prepare vermicelli noodles according to packet instructions, drain and set aside.
2. Place all ingredients of laksa paste into a blender and blend until smooth.
3. Sauté paste mix in a pan on high heat and slowly add coconut cream and vegetable stock. Continue to heat for five minutes.
4. Pan sear prawns on high heat in a separate pan with a small amount of olive oil. Add noodles to soup mix.
5. Divide soup mix into two bowls and place roasted pumpkin and cooked prawns on top. Garnish with coriander.

Recipe by Lizzy Carson from Vknow Winebar and Restaurant Fernhill, Queenstown, NZ.

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