HOW DO MUSCLES WORK?
Skeletal muscles in the body are the muscles that are affected by cramp and dystonia. These muscles are the mechanism that allows our body to move. The movement is created when pairs of muscles work together, one muscle in the pair will contract while the other stretches causing the desired movement. To reverse the movement the muscle that had contracted stretches while the stretched muscle contracts. Many of our body’s movements are created by groups of muscles, not just one pair, stretching and contracting together to perform the movement we require.

MUSCLE CRAMPS
A muscle cramp is a sudden and severe pain that occurs when a muscle tightens causing it to shorten. Usually, the pain associated with muscle cramp is short lived (lasts for several minutes then eases slowly) and, if repetitive, this only lasts for a few days until the muscle recovers from the cause of the cramp.

What causes muscle cramp?
Cramp has a number of causes, some of the main causes are

- Lack of movement – this can be caused by a symptom of Parkinson's akinesia, or through a lack of movement in general. Because of the lack of movement the muscles become less elastic or flexible causing cramp.
- Rest cramps – this cramp is very common especially in older adults. Rest cramps often occur during the night and can be painful and disturb sleep. The cause of rest cramps are unknown. Often this cramp is initiated by making a movement which shortens the muscle. Rest cramps in the calf muscles are common and may occur when pointing your toe while lying in bed.
- Prolonged exercise- after you have undertaken a sustained activity that your body may not be used to (for example taking up a new exercise or a big day gardening) you may suffer from cramp over the next day or two as your muscles recover from the activity.
- Dehydration or a lack of electrolytes – muscles are considered ‘electric’ tissues in the body. In order to move, muscles require sufficient amounts of certain ions. Many of these ions are carried in water. Where there are insufficient ions the muscles can’t contract properly and this can cause cramp.

WHAT PARTS OF THE BODY ARE AFFECTED?
Cramp can occur in almost any muscle in the body but is more likely to occur in the muscles of the arms and legs.

WHAT TREATMENTS ARE THERE?
Cramp can be treated by stretching and massaging the affected muscle. Applying heat or cold packs or a topical heating rub may also help to relax the muscle. Your doctor may be able to prescribe medications to relax the muscles which may also help.

There is limited evidence that physiotherapy can help with cramp, however some people do find it useful. A physiotherapist can give you exercises to improve your posture and help prevent the muscles becoming weaker or shorter. They can also give stretching exercises which may help prevent stiffness and soreness.

Ensuring you drink plenty of water and being more active may also help with muscle cramps.
Skeletal muscles in the body are the muscles that are affected by cramp and dystonia. These muscles are the mechanism that allows our body to move. The movement is created when pairs of muscles work together, one muscle in the pair will contract while the other stretches causing the desired movement.

**Dystonia**

**WHAT IS DYSTONIA?**

Dystonia is a movement disorder characterised by sustained muscle contractions and spasms. These contractions may force the body into repetitive, patterned, often twisting movements and abnormal postures. The term dystonia may be used to describe this type of movement but it may also be used to describe the medical condition.

Dystonia may affect a single body area or multiple muscle groups. Dystonia can be a condition on its own (primary dystonia), for example excessive blinking or blepharospasm and writer’s cramp. It can also be connected to other movement disorders as is the case with Parkinson’s (secondary dystonia).

**WHAT CAUSES DYSTONIA?**

Dystonia has many different causes. Damage to the central nervous system or genetics may cause dystonia. The dystonic movements that occur in Parkinson’s are often due to low levels of dopamine in the brain.

**HOW DOES DYSTONIA AFFECT PEOPLE WITH PARKINSON’S?**

Sometimes people with Parkinson’s experience foot dystonia which causes twisting and cramping of the feet. This may make the toes curl into a claw like position, the big toe may extend and the foot may turn in. This often happens in the early morning prior to the first dose of medication and is known as early morning or “off” dystonia. It is often painful and the person may have difficulty getting out of bed. Often this type of dystonia improves with levodopa.

**WHAT TREATMENTS ARE THERE?**

**Medication** – There are a number of medications including muscle relaxants that may be used to treat dystonia. For people with Parkinson’s a change to the dose or timing of levodopa medication may help. Your doctor or neurologist will advise you on this. It might be helpful if you or your carer keeps a diary to show how your dystonia relates to your Parkinson’s medications. Talk to you doctor before changing any of your medications.

Some types of dystonia, for example blepharospasm and writer’s cramp can be treated with botulinum toxin (Botox) however this is not often used to treat the dystonia that occurs in Parkinson’s. This medicine is injected into muscles and reduces the over activity of these muscles by blocking the release of acetylcholine, a neurotransmitter. Botox treatment can last for several months before the treatment needs to be repeated.