Parkinson’s and Tremor

A tremor is an involuntary, rhythmical movement that affects one or more parts of the body. It may affect the hands, head, legs, body and/or voice. Tremor is the most common visible sign of Parkinson’s. It is also one of the symptoms most often associated with Parkinson’s.

DOES EVERYONE WITH PARKINSON’S DEVELOP A TREMOR?
No. Approximately 70% of people with Parkinson’s will develop a tremor, and not all tremors are a symptom of Parkinson’s.

WHAT CAUSES TREMOR IN PARKINSON’S?
Parkinson’s is caused by the degeneration of a group of nerves in an area of the brain called the substantia nigra, which is located in the base of the brain. These nerves produce the chemical dopamine which is a neurotransmitter – a chemical that is released by the nerve cells to send messages to other nerve cells. This degeneration of the dopamine system produces a loss of inhibition of certain brain structures. This causes parts of the nervous system to fire rhythmically causing a tremor.

ARE ALL TREMORS THE SAME?
There are two main types of tremor that affect people with Parkinson’s.

- Resting tremor – this occurs when your body is relaxed and the affected part is not doing anything. Often this tremor has some distinct characteristics, commonly called ‘pill rolling’ as people seem to be rolling a small sphere between their thumb and index finger.
- Action tremor – this tremor happens when you are making a movement, like drinking from a cup or holding something. This tremor is usually more intrusive as it interrupts intended function.

People with Parkinson’s may be affected by both of these tremors though resting tremor is more common.

HOW DOES TREMOR AFFECT PEOPLE WITH PARKINSON’S?
A tremor is sometimes the first symptom of Parkinson’s. Usually it starts in the fingers of one hand and in time can spread up the arm and even extend to other parts of the body as the condition progresses. Occasionally, Parkinson’s tremor might start elsewhere, like the foot, and then spread from the leg to the arm on the same side.

In some cases, tremor can spread to involve other parts of the body including the lips, tongue, jaw or trunk of the body. Tremor of the head is very uncommon. Some people with Parkinson’s experience an ‘internal tremor’ where there is a feeling of a tremor within the body but there are no visible signs of this to other people.

WILL ANYTHING MAKE MY TREMOR WORSE?
Emotions such as stress, anxiety, anger or fear can cause tremor in all people and can worsen tremor in a person with Parkinson’s. However, this is temporary and will settle down as the heightened emotion subsides.

Tremor can also be caused or worsened by some medications including some used to treat mental health conditions, anti-nausea and anti-dizziness medications. There are also some anti-asthma drugs, and the anti-epileptic sodium valproate which can heighten tremor. It is always good to discuss new medications with your doctor to see if that particular medicine can cause or worsen tremor. Never stop taking medication without first consulting your doctor.

IS THERE ANY TREATMENT FOR TREMOR?
Although there is no cure for tremor, there are ways it can be managed.

Self help
As anxiety or stress can make tremor worse, it is important to find ways to relax. Exercise can also help to improve your sense of wellbeing. Activities like yoga and complementary therapies like acupuncture, reflexology, music and art therapy may also help you relax.

Some people with a mild hand tremor find that squeezing or rolling a ball, pen or similar object can help supress the tremor.

Medication
Tremor can sometimes be suppressed by medication. Levodopa (Madopar, Sinemet, or Sindopa) can reduce or stop tremor quite effectively in some people. However, not everyone’s tremor responds to levodopa even if in the same person the other ‘cardinal features’ like rigidity and slowness of movement, respond well to the drug. Current thinking is that this may be because tremor, unlike other symptoms of Parkinson’s like rigidity and slowness of movement, is not a direct effect of a lack of dopamine.

Dopamine agonist medications like ropinirole, lisuride and pramipexole also have anti-tremor effects when used alone or in combination with levodopa. People taking these drugs need to be aware that sometimes a side effect of these drugs is impulse control disorder. Please refer to our booklet The Drug Treatment of Parkinson’s for more information.
There are also some anti-cholinergic medications such as orphenadrine and benztropine (used to treat motion sickness and REM sleep disorder) that can have a role to play in tremor management, for those who are unable to take dopaminergic drugs. These medications can cause or aggravate memory problems in some people.

Beta-blocking drugs can also reduce tremor in some cases. People may use them in small doses to control their tremor where they feel it may be worsened by a situation where they may be nervous (e.g. before a big meeting or social occasion). You will need to consult your doctor to see if this is a suitable treatment for you.

As with all medications and other treatments, advice should always be sought from your doctor or specialist to ensure that you are taking the right medication for you. No two people with Parkinson’s are the same and no two treatments will be exactly the same.

**Deep brain stimulation**

Deep brain stimulation involves implanting small electrodes within the brain. A implanted pulse generator is inserted surgically under the skin on the person’s chest. This then passes small electric currents through the electrodes in the brain. This surgery is not suitable for everybody but for those who have it, there is usually improvement in their tremors.

**Essential Tremor**

People often confuse Parkinson’s with Essential Tremor. In some cases, people who are diagnosed with Essential Tremor are later found to actually have Parkinson’s, and vice-versa.

Essential Tremor is an action tremor that occurs when the affected body part is moving.

Essential Tremor can happen at any age but is most common after age 40. There is a family history of Essential Tremor in about 50% of those affected. In familial Essential Tremor children of a parent with Essential Tremor have a 50% chance of inheriting the condition.

**Sources:** Parkinson’s UK, EPDA, The Parkinson’s Disease Foundation

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**The Richter Series**

Wellington artist Pippa Carvell, was diagnosed with Parkinson’s when she was 25. This work is part of Pippa’s “Richter Series” of line drawings, which records, like a seismograph, her Parkinson’s symptoms of tremor and freezing. The series is also a permanent record of Pippa’s determination to make choices and decisions and take back some control over her life.

Pippa starts each drawing by grasping an Indian ink pen in her right hand. She then uses her left hand to pull the right one across the page. The process is repeated, line after line. Freezes and pauses are recorded as nodes of bleeding ink. Massive concentration is required and sometimes the whole exercise becomes transcendent and meditative. The work reflects her emotions. Tremors recorded in a line may become amplified in succeeding ones if stress levels are high. If Pippa’s medication is working its magic and she relaxes enough to lose herself in her work, the seismic landscape she creates gradually flattens out.

In 2011, Pippa exhibited her work in London.

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