



What's getting on your nerves?

Nerve pain and sciatic mobilisers

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If you've ever experienced strange symptoms such as burning, tingling, pins and needles or numbness, you may have had some issue involving your nervous system. Sometimes these sensations originate from the spine, whether it's the neck or the back, and are commonly referred to as a "pinched nerve", but what does that actually mean?

Nerves, unlike muscles, don't tolerate compression or stretch very well. With a muscle, if you were to hold a stretch for a prolonged time and do it repeatedly, the muscle would eventually accommodate by adding sarcomeres (cells within the muscle) to get longer. Nerves on the other hand, tend to get irritable if held on a stretch, or if they are compressed, and have a limited ability to tolerate changes in length. They do however, need to be able to slide smoothly back and forth through the tunnels in which they travel, which isn't a lot of movement, but is important nonetheless.

Picture a garden hose with water running out of the end. If the garden hose has no kinks or points of compression, the water flows through at 100% output, no problem. Now, picture someone squeezing the garden hose lightly, restricting the water flow to 50%, which still allows water to flow, but with a slower and more restricted volume. If the hose is clamped more so, then the water can only trickle out. This would be comparable to nerves within the body, as they have "axoplasmic fluid" that must be able to flow back and forth through the nerves. If the nerve is then compressed, the amount of fluid and electrical signals flowing through the nerve are going to be lessened just like with the garden hose. This is what causes changes in sensation, muscle strength, and sometimes even reflexes, depending on the severity. People will often describe that their symptoms are worse at night compared to during the day when they're busy. This is likely due to nerve compression improving at rest, which then brings on the symptoms as circulation of the fluid improves. Similar to when you've been sitting on your foot for too long and when the pressure is removed it gets a prickly sensation for a while as the circulation improves, before the sensation returns to normal.

So what causes compression of a nerve? It could come from a few sources. In the spine, an injury may cause a disc between the vertebrae to bulge out in a certain direction, which can cause compression on the nerves in the area, and affect the nerve as it runs down the arm or leg, depending on the location. In very rare cases, surgical management is needed to relieve compression off the nerve, but in most cases, this is managed conservatively with physiotherapy treatment and exercise.



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Compression can also be caused by tight muscles, scar tissue, specific postures, or joint inflammation or stiffness which may restrict the ability of the nerve to move back and forth in its tunnel. These cases are treated by releasing tension of the surrounding tissues, restoring normal movement, and teaching proper biomechanics with everyday activities to avoid reoccurrence. When the irritability has settled, specific movements to facilitate nerve mobility may also be included.

An example of how to mobilise the sciatic nerve is detailed below, which helps neural mobility by “flossing” the nerve back and forth in its tunnel. Try these only if your symptoms are mild, and if any pain occurs during or after, it may be necessary to get a further assessment. Neural irritability does not respond to ‘pushing through it’ so only take the movement to the edge of any discomfort felt, and don’t move further into it with the exercise. You should be able to turn your discomfort on and off with this exercise.

Hamstring stretch with sciatic nerve (posterior tibial nerve) flossing

- Lie on your back, and hold the back of your thigh with both hands
- Straighten your leg towards the ceiling until you just feel a stretch in the hamstring
- Pull your ankle back to flex your foot, so that your toes come towards your head, this may increase symptoms down the back of your leg. You don’t need to hold this position
- Then point your toes away from you, this should improve your symptoms, again you don not need to hold
- Repeat back and forth 8-10 times. Start with one set, once per day. If symptoms improve, you may increase the volume of reps. If this is too much, bend your knee more to take some of the pressure off.
- Nerve sliders like this tend to work better when you’re warm, so it’s advisable to have been up and about for an hour or so before trying them in the morning.