Why do I feel numb?

AGE WELL
By Dr LEE MOON KEEN

There are many reasons why some parts of the body may sometimes feel numb.

CLINICAL anecdote #1:
Miss DJE noticed a sensation of “pins and needles” in the right hand upon waking. It was worse at night and she would be awakened at around 2am to 4am with the unpleasant sensation. In the normal course of her work, Miss DJE works on the computer eight hours per day, and had recently just returned to work after a course of radiation treatment for cancer of the breast. She was understandably worried about spread of the tumour.

In daily life, the majority of altered sensations are due to temporary compression of a nerve which runs near the surface. For example, this can occur when you sleep in an awkward position.

Clinical anecdote #2:
Mr GM is a New Zealander who has been working in Malaysia for three years. One day, he experienced a sensation “like having slept on the right arm” upon waking. His arm felt weak, and he experienced difficulty carrying medium-sized objects, such as a jug. There was a “pins and needles” sensation in the hand, which was somewhat relieved by shaking it about.

He works on the computer about two hours daily and could not recall any injury to the arm. Over the next few years, he experienced intermittent episodes of pain in the neck, forearm, or shoulder.

When he sought medical opinion on a visit back home, there was mention of the possibility of multiple sclerosis, a potentially serious neurological disease.

What do sensory symptoms signify?

The sensory system of the body consists of an estimated one million sensors located on the skin, the largest organ in the body. It has a massive surface area which extends over one to two square meters (depending on body size, of course). These sensors work seamlessly in the most intelligent way to keep us informed of every object or event that impacts on the exterior of the body. The sensory system must alert us of the feel and texture of an object, and after mental processing of this information (whether conscious nor not), push it information into the background, so that we can carry on with our normal activity.

The sensory system works so well that we are not even aware of its function except as an alert in the form of a new signal, such as a change in temperature or pressure. In fact, a sensory perception might not
surface to your conscious awareness unless it is a sharp cold splash
down your back from a leaky air-conditioner!

Carpal tunnel syndrome is the commonest form of repetitive strain injury and
may affect virtually anyone working with their hands for prolonged periods of
time on keyboards, during manual labour, or in sports. – AFP

On the other hand, our sensory system might generate a persistently
altered sensation, usually in the form of numbness and tingling.
Alternatively, the affected body part may have lost sensation – which
manifests as a feeling of numbness. Most of us would have experience of
this from the anaesthetic injection given by the dentist. This loss of feeling
is perceived as a discomfort and often gives rise to a health concern.

Many people are aware that this feeling has something to do with the
nerves. In everyday life, the majority of altered sensations are due to
temporary compression of a nerve which runs near the surface.

Numbness and tingling are abnormal sensations that can occur anywhere
in the body, but are often felt in the fingers, hands, feet, arms, or legs.

**Transient numbness**

You might wake up feeling numb and tingly over the arm or foot. This is
the result of overnight pressure on any nerve which passes close to the
skin surface. Pressure or stretch are the most common causes of
numbness. The major nerves at risk are the ulnar in the arm and the
lateral popliteal in the leg (they curve around the elbow and knee
respectively).

The uncomfortable feeling may last for anything from five to 20 minutes.
Longer periods of compression occur during prolonged sitting or standing,
for example long distance travel or work at the computer. This set of
symptoms often leads to worry about nerve diseases. Avoiding such
sustained pressure is all that is needed.

Another cause of numbness which can be difficult to recognise is
hyperventilation, or rapid breathing, in response to psychological stress or
anxiety. Typically, it is felt around the lips and mouth and appears
intermittently. The sensation is reproduced by deliberately over-breathing.
Once confirmed, what is needed is reassurance and attention to the
underlying issue.

Other instances of numbness may be prolonged or recurrent. Before you
leap to the conclusion that it may be due to stroke, here are some more
likely causes.

**Pressure palsies**

Prolonged pressure or stretch exerted on a nerve over a few hours or
longer causes nerve palsy. In a typical scenario, after long distance
travel, especially in a cramped position, someone discovers that the foot
feels numb and cannot be elevated. This is termed foot drop.

Alternatively, after falling asleep on the sofa, the hand cannot be raised
due to wrist drop. These pressure palsies will recover over a variable
period from a few hours to weeks.

Other conditions which cause numbness include:

*Carpal tunnel syndrome*
Nerve injury may not be obvious if it is mild and repetitive. The median nerve is prone to injury at the wrist through repeated motions of the wrist, resulting in carpal tunnel syndrome (CTS). This is the commonest form of repetitive strain injury and may affect virtually anyone working with their hands for prolonged periods of time on keyboards, manual labour, or sports. CTS is thus an occupational hazard for people who do housework or spend long hours at the computer keyboard, as well as artisans, musicians, and sportsmen.

**Hereditary neuropathy with liability to pressure palsies**

An inherited condition called hereditary neuropathy with liability to pressure palsies (HNPP) causes the nerves to be unusually prone to injury, such as even relatively minor pressure, stretch, or repetitive use. It is due to a genetic defect in the genes which control repair of myelin protein. This is a component of the tubular sheath which protects the nerves and enhances signal transmission.

The majority of alterations occur in chromosome No. 17. Those affected are advised to take particular care to avoid such injury, as repeated instances can cause irreparable damage to the affected portions of the nerves. CTS is a typical form of pressure neuropathy in HNPP. Other nerves can be similarly affected, resulting in episodes of weakness and numbness in the arm or leg.

**Injury to the spine**

The nerves can be injured in the spine. Neck injury may cause numbness in the arm or hand, while a back injury may affect the leg. Common conditions are disc prolapse and degenerative conditions of the bones and joints.

**Circulatory conditions**

Artery blockage in a limb will result in loss of feeling in the area of supply and change in colour and temperature of the affected part. Obstruction may be caused by artery narrowing (atherosclerotic plaque) or a stray blood clot from the heart (embolism). Numbness and change in colour and texture of the skin are a feature of narrowing of the small blood vessels (microcirculation). It is most commonly seen in diabetic patients, and referred to as the “diabetic foot”.

**Nerve disorders**

Nerve damage from neuropathy causes numbness which starts in the feet and later affects the hands in a “glove and stocking” distribution. There are several types of neuropathy, ranging from mild to severe.

Neuropathies can be inherited, with different clinical patterns seen, depending on the genetic changes to nerve components. Diagnosis is aided by studying the inheritance pattern among family members.

A commonly encountered form is Charcot-Marie-Tooth disease, which has a dominant form of inheritance – that is, there is a one in two chance of passing it to a child. Other inherited neuropathies include metabolic disturbances, which can be treated. Hence it is important to identify affected people.

Other forms of nerve diseases are acquired from a variety of external causes, such as diabetes, infection, disorders of immunity, and cancer, just to name a few. Finally, a rather “pure” form of nerve damage occurs in chronic inflammatory demyelinating polyneuropathy (CIDP).

**Other causes of numbness**

Less commonly, numbness may be due to a cause located in the brain, such as the conditions below:

- Transient ischaemic attack (TIA) - a “mini-stroke”
- Multiple sclerosis
- Neurologic migraine

All these conditions require consultation with your doctor. Investigations may involve a combination of blood tests, imaging scans and nerve studies. Treatment will depend on the cause of nerve disorder. In general,
medications and physiotherapy provide considerable relief.

Conclusion

If you are troubled by numbness and tingling, reassurance is only a medical checkup away. It may reveal that it is due to a minor problem after all. Miss DJE was treated for carpal tunnel syndrome while Mr GM was found to have hereditary neuropathy with liability to pressure palsies and counselled accordingly.

This article is contributed by The Star Health & Ageing Panel, which comprises a group of panellists who are not just opinion leaders in their respective fields of medical expertise, but have wide experience in medical health education for the public. The members of the panel include: Datuk Prof Dr Tan Hui Meng, consultant urologist; Dr Yap Piang Kian, consultant endocrinologist; Datuk Dr Azhari Rosman, consultant cardiologist; A/Prof Dr Philip Pol, consultant geriatrician; Dr Hew Fen Lee, consultant endocrinologist; Prof Dr Low Wah Yun, psychologist; Datuk Dr Nor Ashikin Mokhtar, consultant obstetrician and gynaecologist; Dr Lee Moon Keen, consultant neurologist; Dr Ting Hoon Chin, consultant dermatologist; Prof Khoo Ee Ming, primary care physician; Dr Ng Soo Chin, consultant haematologist. For more information, e-mail starhealth@thestar.com.my. The Star Health & Ageing Advisory Panel provides this information for educational and communication purposes only and it should not be construed as personal medical advice. Information published in this article is not intended to replace, supplant or augment a consultation with a health professional regarding the reader's own medical care. The Star Health & Ageing Advisory Panel disclaims any and all liability for injury or other damages that could result from use of the information obtained from this article.

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