



MCI (P) 047/06/2023

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News and Updates

Streamlining Spine Care

NNI has joined forces with Changi General Hospital (CGH) to set up the CGH-NNI Spine Centre.

Started in 2021 and officially opened in Feb 2024, the centre combines the expertise of orthopaedic surgeons, neurosurgeons, specialist nurses and physiotherapists to manage spine conditions.

Providing integrated care in one location enables multi-disciplinary care and cuts waiting times for patients.



Journey to Wellness Parkinson Disease (PD) Public Forum

Date: 20 April 2024
Time: 10.00am to 12.30pm
Venue: Kreta Ayer Community Club
28 Kreta Ayer Road,
Singapore 088995

Talks in English and Chinese



Scan QR code for topics and registration

Parkinson Disease (PD) Course for Patients and Caregivers

The **Knowing more about Parkinson's disease** online course provides an overview of PD, its symptoms and care management tips to help people living with PD and their caregivers.

Available in English and Chinese, the course costs just \$10 with unlimited access for 3 months!



Scan here for more information



NeusLink is Going Green!

This is our last print issue of NeusLink — future issues will be sent via email only. Scan the QR code to join our NNI mailing list to receive e-NeusLink and updates on NNI events.



Collaborating to Advance Care

NNI has signed four Memoranda of Understanding (MOU) with institutions and partners to drive neuroscience education, research and healthcare.

The MOU with **Lee Kong Chian School of Medicine**, signed in July 2023, will see more joint research projects and translation of basic science discoveries to clinical practice, while the sharing of facilities across campuses will foster collaborations between staff and students.



Neuromodulation technology acts directly on nerves to treat neurological conditions and manage symptoms, for example deep brain stimulation to control tremors caused by Parkinson's disease. In September 2023, NNI signed a five-year MOU with **Medtronic** to drive advancements in this evolving field, such as using neuromodulation to help people with severe spinal cord injuries move and use their arms and legs again.

The community plays a key role in supporting people with neurological conditions and NNI signed an MOU with **MINDS** in November 2023 to train their staff how to manage clients with mild epilepsy. This will empower MINDS staff to administer first aid when their clients have seizures, thereby reducing seizure-related visits to Emergency Departments.



NNI formalised longstanding ties with Thailand's oldest and largest teaching hospital, **Siriraj Hospital** with the signing of an MOU in August 2023. This paves the way for the two institutions to share best practices and collaborate on neurointervention research and education.



Scan the QR code to find out more



MYO-WHAT?

Myositis!



Myositis (my-oh-sy-tis) is a group of rare and potentially serious conditions that affect the muscles. Assoc Prof Josiah Chai, Head and Senior Consultant, Neurology, NNI@TTSH, explains more about myositis and why accurate diagnosis is so important.



**Assoc Prof
Josiah Chai**

Muscle ache affects most people at some point in their lives. It is often a side-effect of over-exercise and viral infections such as influenza, and gets better on its own. But muscle weakness can be a symptom of something much more serious.

Myositis is a group of rare conditions caused by the immune system not functioning properly. This results in inflammation and breakdown of muscles and eventually tissue death.

“When we first see patients with myositis, they often complain that their muscles have become gradually weaker, for example, they are no longer able to stand up from a chair easily, climb stairs or lift their arms above their head. However, pain is not always present,” explains Assoc Prof Chai.

Conditions that fall under the myositis umbrella are rare, with NNI seeing around one new case per month.

Rare disease that causes weak and aching muscles



Body aches are often a sign of over-used muscles, but in Mr Xu's case they were symptoms of something more serious – a rare disease that caused his body's immune system to attack his muscles.

When Mr Xu, 68, had back ache in 2018 that lasted for six months, he put it down to feeling tired from work, but then he also started to feel weak and was unable to raise his arm.

Unsure what was causing his ailments, he tried traditional Chinese medicine and saw many doctors but nothing seemed to help. Eventually, he was referred to NNI@TTSH, where he was hospitalised, during which time his condition worsened and he became unable to move.

After a physical exam, blood test and muscle biopsy, the doctor suspected Mr Xu's problems were due to a muscle disease. A blood test and electromyography (EMG) suggested myositis and a muscle biopsy and antibody tests confirmed he had Necrotizing Autoimmune Myopathy (NAM). This is a rare autoimmune condition where the body's immune

system attacks its own healthy muscle tissue causing muscle weakness. His neurologist started him on appropriate medications to suppress his immune system. Mr Xu's condition stabilised and he started to regain his strength.

Today his medications have been reduced to just a maintenance dose to manage his NAM and he is back to normal.

These days, he helps out at his wife's food stall, washing the dishes while she cooks. He also makes it a point to take a one to two-hour walk every morning. "Exercise is very important as it helps strengthen my muscles," said Mr Xu. "I still have difficulty putting on trousers and sometimes have shoulder aches. Other than these, my condition is quite stable and life goes on normally for me."

Types of myositis

There are several different types of myositis, of which two are more common in Singapore: Necrotizing Autoimmune Myopathy (NAM) and dermatomyositis. These two conditions have several similarities, but also important differences:

NAM & DERMATOMYOSITIS

- Cause is unknown.
- Affects men and women of all ages but is more common in middle age and can occasionally affect children.

Symptoms of both conditions:

- Muscle inflammation and breakdown causing weakness that gets worse over time.
- Affects muscles in upper arms, shoulders and thighs on both sides of the body.
- Swallowing and breathing difficulties in severe cases.

NAM ONLY

- Most common type of myositis seen at NNI.
- 2 in 3 myositis cases at NNI.
- Only affects muscles (see left).

DERMATOMYOSITIS ONLY

- 1 in 3 myositis cases seen at NNI
- Affects muscles (see left) and skin.
- Red rash on skin and redness near fingernails sometimes seen.

Polymyositis and Inclusion Body Myositis are other forms of myositis which also present with muscle weakness, but these are very rare among Asians, with NNI seeing one case or less per year.

Testing

Correct diagnosis of the condition and sub-type is essential as the prognosis, treatment and complications may differ. This can take several steps and include tests conducted by NNI's Neurodiagnostic Laboratory and Neuromuscular Laboratory:

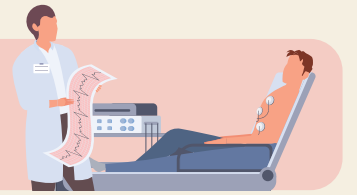
1. Medical History

The neurologist will take a thorough medical history to understand the patient's symptoms, when they started and other health conditions the patient may have. This can help identify other causes of muscle inflammation (see side-bar).



4. Electromyography (EMG)

This test measures how muscles respond to nerve stimulation and also records muscle activities using a needle electrode.



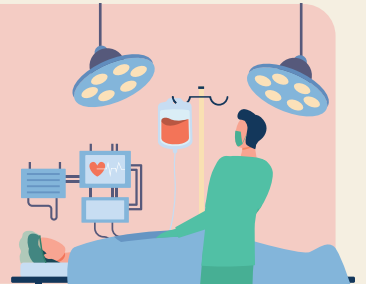
2. Physical Examination

This allows the specialist to check the degree of muscle weakness, which muscles are affected, and spot other signs and symptoms such as rashes and skin changes.



5. Muscle Biopsy

A surgeon takes a sample of the muscle from the weak upper arms or thigh. This is processed by staff in the Neuromuscular Laboratory and prepared into slides for the Neuromuscular neurologist to examine under the microscope to look for evidence of muscle inflammation and muscle cell death.



3. Blood Test

A high level of creatine kinase in the blood is a sign of muscle damage.



If myositis is suspected, further tests will be done to confirm the diagnosis.

6. Antibody Testing

There are different sub-types of dermatomyositis and NAM. Knowing which one a patient has is essential for delivering precise targeted treatment and care. This is done by checking for the presence of specific antibodies in the patients' blood.



Certain antibodies that are present in subtypes of dermatomyositis have a very high association with nose and throat cancer (nasopharyngeal cancer). If found, the patient is referred to an Ear Nose and Throat (ENT) specialist for cancer screening and reviewed regularly for a couple of years in case cancer occurs at a later date. Another subtype of dermatomyositis is linked to a serious lung condition.

My work helps doctors be more precise in their diagnosis which translates to better care for patients. This gives me a sense of personal fulfilment and satisfaction.

Karine Tay,
Medical Laboratory Scientist,
Neuromuscular Laboratory, NNI



▶ Karine Tay conducting antibody tests to identify dermatomyositis sub-types

Treatment

When patients present with severe weakness, they are warded and given a course of intravenous steroids or immunoglobulin to reduce the muscle inflammation and damage.

Once the patient's condition is stabilised, they will need long-term medication such as oral corticosteroids and steroid-sparing agents, to suppress the immune system and prevent flare ups.

Patients also require physiotherapy to repair and build up new muscle tissue.

Preparing muscle biopsies for studying under the microscope takes skill and precision. The samples need to be frozen quickly to preserve the cells and enzymes, cut into micron thin sections, placed on glass slides and enzyme histochemical stains conducted, so the neurologist can view and interpret them under the microscope.

Angelia Koe,
Senior Medical Laboratory Scientist,
Neuromuscular Laboratory, NNI



▲ Angelia Koe fresh-freezing a muscle biopsy at -150°C to preserve the tissue

Other causes of muscle inflammation



Over-exercise

Sore muscles are common 12 to 48 hours after strenuous exercise. It is due to microtears in the muscles caused by the exercise which triggers inflammation, helping to repair the muscle tissue and making it stronger. This pain usually resolves on its own after a few days but stretching and heat such as a warm shower can help ease aching muscles.



Viral infections

Muscle pain and weakness are common side-effects of viral infections such as influenza and tuberculosis. The symptoms usually get better within two weeks of recovery from the illness.



Toxins

Drugs and long-term heavy alcohol use can prevent the body from converting protein into muscle and repairing damaged muscles. This causes muscles to breakdown causing pain and weakness.



Auto-immune conditions

e.g. Systemic Lupus Erythematosus (SLE), rheumatoid arthritis and scleroderma. These autoimmune conditions cause the immune system to attack tissues around the body, including the muscles, joints, blood vessels and organs (e.g. heart, lungs and kidneys). Muscle inflammation and pain are two of several symptoms patients may face, depending on which part of the body is affected.

What is causing my hands to shake?



Dr Li Weishan

Are shaky hands normal or something to worry about? Dr Li Weishan, Consultant, Neurology, NNI, explains the common causes of hand tremors, how to manage them and when to seek medical treatment.

If you see your hands start to shake, thoughts of Parkinson's disease may spring to mind, but often this is not the case.

"Hand tremors are common in healthy people and often go away without medical treatment. However, in some cases, tremors can affect a person's quality of life or be a sign of something more serious," says Dr Li Weishan.

Tremors — uncontrollable shaking or trembling — usually affect the hands but can also occur in the arms, legs, head, and vocal cords.

Tremors can be split into two groups: those that are classed as 'normal' and those caused by medical conditions.

'Normal' Tremor (Physiological Tremor)

Hold your arms out in front of your body and you might see very slight movements in your fingers and hands. This type of tremor happens to everyone, but the trembling may be so fine that it goes unnoticed. These 'normal' tremors can be triggered or made worse by:

- Taking caffeine
- Low blood sugar levels
- Lack of sleep
- Severe exhaustion
- Anxiety
- Certain medications



Treatment

The best way to reduce these tremors is to identify and remove triggers, such as:



Drinking less coffee, tea and caffeine-enriched energy drinks



Getting enough sleep



Eating regular meals to prevent low blood sugar



Reducing stress

If tremors continue to cause inconvenience despite removing triggers, see your family doctor for a check-up. Your doctor can check if your tremors could be caused by prescription medicines and, tweak the dose or change to another medication if necessary, or refer you to a specialist if they suspect it could be caused by a medical condition.

Tremor Caused by Medical Conditions (Pathological Tremor)

Shaking hands are a common symptom of two medical conditions: **Essential Tremor** and **Parkinson's Disease**. These conditions affect movement and are more common in the elderly, however there are key differences between their symptoms and management.

Essential Tremor

Essential tremor is uncontrollable shaking that usually affects the hands but can also happen in other parts of the body. It occurs when the person is using the body part, such as shaking hands when using a spoon or holding a glass of water, or a shaky voice when speaking.

Cause

The cause of essential tremor is not known. About half of the cases are related to a genetic mutation which is why those with a parent or sibling with the condition are at higher risk, especially when tremors start in people aged below 65 years old.

Treatment



Avoiding triggers such as caffeine, stress and anxiety



Getting enough sleep



Reviewing and adjusting medication for other conditions that may worsen the tremor



Physiotherapy and occupational therapy to strengthen muscles and learn ways to get dressed, eat and do other daily tasks despite the tremor

If the tremors continue to affect the person's quality of life, medication may be recommended or surgery (deep brain stimulation) in severe cases.

Parkinson's Disease

Parkinson's disease (PD) is a condition which results in brain changes that get worse over time. Tremors in the hands, arms or legs are a common symptom in PD and happen when the hand or leg is resting. They often occur with three other movement difficulties: slowness, stiffness and/or poor balance. However, PD also causes other health problems including depression, constipation, loss of smell and sleep problems.

Cause

PD occurs when the brain does not produce enough of a chemical called dopamine. Dopamine acts as a messenger, sending instructions from the brain to control movement.

Treatment

There is currently no cure for PD and it gets worse over time, however, treatment is available to control the symptoms and help people with PD live well. PD affects people differently, so treatment is tailored for each person's symptoms and may include:

- Medication to control tremors and other symptoms – this will change over time as the condition progresses
- When medications are no longer able to control symptoms well, deep brain stimulation surgery may be advised
- Exercises to maintain strength and movement
- Advice on planning daily activities around PD symptoms to improve quality of life
- Installation of grab bars and other safety equipment at home to reduce the risk of falls
- Voice training to make speech louder and clearer

Essential Tremor

Occurs when the body part is **performing tasks**, e.g. writing, putting a key in the lock, holding a cup

Usually affects **both hands** but the tremor may be more obvious in one hand

Unlikely to cause problems with balance

Rarely causes other health problems

VS



Parkinson's Disease

Occurs when the body part is **at rest**, e.g. hand is resting on the person's lap

Usually affects **one side** of the body in the early stages

Balance is often affected

Other common PD symptoms include stiffness and slow movement



Understanding PITUITARY TUMOURS



Dr Thomas Tan Choo Heng

Pituitary tumours are mostly not cancerous, but they can cause vision loss and hormone imbalances that lead to other complications. Dr Thomas Tan Choo Heng, Head and Consultant, Neurosurgery, NNI@SKH explains more about pituitary tumours, the different types and how they are treated.

The pituitary gland is a pea-sized hormonal gland that sits at the base of the brain, just behind the nose. Its main role is to produce and release hormones that control essential functions throughout the body, including reproduction and how the body uses energy (metabolism).

A pituitary tumour is an abnormal growth in the pituitary gland. An estimated 200 to 300 new cases of pituitary tumours are diagnosed in Singapore every year.

“Pituitary tumours are usually not cancerous so they do not spread to other parts of the body. However, they can cause hormone imbalances and vision problems depending on the size and location of the tumour,” says Dr Tan.

Types of Pituitary Tumours

There are two main types of pituitary tumours based on whether the tumours secrete excess hormones.

Non-Functioning Pituitary Tumours

These tumours do not secrete excess hormones and are the most common type of pituitary tumour.

A small tumour usually does not cause any symptoms and goes undetected. However, it is possible for a tumour to grow, which may cause headaches and affect vision if the tumour compresses the optic nerves.

The optic nerves send messages between the eyes and the brain. The two optic nerves meet above the pituitary gland and a tumour can press on this nerve junction causing blurred vision and loss of peripheral vision (side vision) in both eyes. This can potentially result in blindness if left untreated.

Functioning Pituitary Tumours

These tumours secrete excess hormones which cause different symptoms or conditions depending on the type of hormone being released.

Prolactinoma

Prolactinoma tumours are the most common type of functioning pituitary tumour. They cause excess production of prolactin hormone which affects men and women in different ways.

Symptoms include:

Men: Erectile dysfunction, enlarged breasts
Women: Irregular menstruation, milky discharge from breasts

Acromegaly

This condition is caused by pituitary tumours that cause excess production of growth hormone. This is the second most common type of functioning pituitary tumour. If it occurs in children and teenagers before they finish growing, it can result in gigantism. In adults, symptoms include:

- Large feet and hands
- Change of facial features with enlarged nose, tongue and prominent jaw causing the person to look different from several years ago
- Deep voice
- Thick skin

Patients with acromegaly are at higher risk of heart problems, colon cancer and carpal tunnel syndrome (numbness in hands).

Cushing's Disease

The pituitary gland produces a hormone called cortisol which regulates the body's response to stress. Functioning pituitary tumours that secrete excess cortisol can cause Cushing's disease which gets worse over time if not treated.

Symptoms include:

- Weight gain
- Osteoporosis
- Muscle wasting
- High blood pressure
- Reduced immunity
- Abdominal stretch marks
- Bruising easily

Cushing's disease can be treated by surgery to remove the tumour or controlled by medication if surgery is not possible.

Pituitary Tumour Red Flags

- Go to the nearest **Emergency Department** if you have sudden vision problems, especially loss of peripheral vision or blurred vision.
- See your **family doctor** if you have unexplained tiredness or headaches that get worse and do not improve with painkillers.

In rare cases, bleeding can occur inside pituitary tumours causing acute headaches, visual deterioration and lethargy due to a lack of cortisol hormone.

Rarer growths or tumours such as Rathke's cysts, meningiomas and craniopharyngiomas can sometimes be mistaken for pituitary tumours as they also occur around the pituitary region. MRI scans may determine the type of growth, however in some cases this can only be confirmed after it has been removed.

Treating Pituitary Tumours

Non-Functioning Tumours

Patients with smaller non-functioning tumours which show no signs of growth or optic nerve compression do not require treatment – they are monitored with MRI scans of the pituitary gland. However, if a tumour is growing and presses on the optic nerve, it can be removed through minimally invasive surgery (see below).

Functioning Tumours

Patients with functioning tumours can be treated with minimally invasive surgery and/or medication depending on which hormone the tumour is producing.

Surgery to Remove Pituitary Tumours

Due to the pituitary gland's position at the base of the brain, minimally invasive surgery is used to remove the tumour. This operation requires a team approach: Ear, Nose and Throat (ENT) surgeons pass an endoscope – a thin tube with a lens and camera – up to the top of the nose where they create access to the pituitary gland. The neurosurgeon will then pass instruments up the nose to remove

the pituitary tumour, guided by images from the camera.

Patients who undergo this operation usually spend four to seven days in hospital for monitoring, due to the possibility of rare complications, such as bleeding, hormonal imbalances and leaking of cerebral spinal fluid which surrounds the brain. Once discharged, patients require follow-up with a multidisciplinary team of specialists from:



ENT

To ensure healing inside the nose



ENDOCRINOLOGY

To assess the need for hormonal medication



OPHTHALMOLOGY

To monitor vision improvements and changes



NEUROSURGERY

To check for tumour recurrence

8 Top Tips for New Caregivers

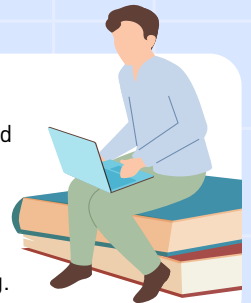
When a loved one is diagnosed with dementia, Parkinson's disease or other neurological conditions, a family member often steps up to be their main caregiver. Eveline Silva, Senior Principal Psychologist, Psychologist, NNI, and Levinia Lim, Genetic Counsellor, Psychology, NNI, share 8 tips to help caregivers adapt to their new role.

The person's 'core' is still inside but it can be masked by the condition. Sharing positive memories and doing activities together such as looking at old photos and listening to their favourite music helps to acknowledge the person within the disease and strengthens the bond with the caregiver,

Levinia Lim,
Genetic Counsellor,
Psychology, NNI

Tip 1 – Build up your knowledge

Reading up on your loved one's condition and how it changes over time will help you understand their needs and plan ahead for road bumps. Visit the NNI website and ask your healthcare team for information about the condition. The caregiving journey requires practical and coping skills which need to be learnt – check out caregiver training courses and funding availability at www.aic.sg/caregiving.



Tip 2 – Acknowledge the condition

Head injuries, dementia and other neurological conditions cause physical changes in the brain that can affect the way a person thinks and acts, such as unusual behaviours, being unable to find the right words and lack of interest/motivation. When facing such issues, try to remember it is the condition causing your loved one to act this way and not them deliberately trying to frustrate or hurt you.



Tip 3 – See the person, not the condition

Caregivers can sometimes feel their loved one is no longer the same person because of changes to their behaviour and personality, but this is not the case.

While full-time caregiving can be stressful, it can also be deeply rewarding, offering you an opportunity to prioritise your loved one and spend quality time together without the distractions of work.



Tip 4 – Reassure your loved one they are not alone

"Who will take care of me?" is a common fear of people living with dementia, Parkinson's disease and other conditions that get worse over time. Reassuring them that they are not alone in their journey can reduce their anxiety and help them to be more receptive to conversations surrounding care plans and boundaries (see Tip 5).

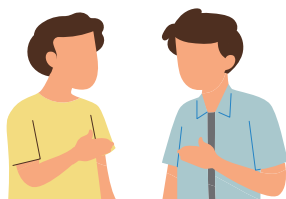


Tip 5 – Discuss comfort levels and boundaries

Talking with your loved one about the support they need at different stages of their illness and who could provide this care can ease feelings of burden and guilt for both you and your loved one.

Some people are uncomfortable with family members helping them with personal care such as toileting and likewise, caregivers may not be keen to do such activities. Therefore, an acceptable solution for both parties needs to be found.

There are many ways to care, and if finances allow, a paid caregiver could provide personal care, allowing family members to have some respite and self-care.



Tip 6 – Prioritise, prioritise, prioritise!

Agreeing to be your loved one's main caregiver is a major commitment on your time and energy, so prioritise other activities that are important to you and reduce or let go of those that are not.

Caregiving is physically and emotionally demanding, so make self-care one of your priorities. Weave your needs around your loved one's routine, such as scheduling time-out for yourself when they are napping or attending a daycare centre.

If you like to attend exercise classes, bring your loved one with you if it is possible – staying in their line of sight will provide reassurance for both and will also provide a change of scenery from home.



Tip 7 – Ask for help!

It takes a network of support to care for someone living with a complex medical condition. Asking family members to look after your loved one while you take time-out to exercise or meet friends can create opportunities for them to bond and help share the responsibility of caregiving.

Ask your healthcare team for advice and consider joining a support group which can provide much needed support and understanding.

At support groups, experienced caregivers often have a wealth of knowledge on ways to plan routines, activities and available resources, such as training, respite care and funding.



Tip 8 – Be wary of caregiver guilt and burnout

It is natural to want to provide the best care for your loved one, but setting unrealistic expectations of being an 'ideal caregiver' and dismissing your own needs is a recipe for caregiver guilt and burnout.

If you are caring for someone with dementia, check how well you are coping by completing the Dementia Caregivers Checklist under Memory Care on SingHealth's Health Buddy application (scan QR code for more details).

The checklist will assess your well-being as a caregiver and provide tips on how to care for your loved one.



Read pages 16 and 17 to learn how caregivers put these tips into practise.

Caregivers Unite!



▲ Mrs Seet enjoys painting on canvas tote bags.

Two caregivers and winners of the SingHealth Inspirational Patients & Caregivers Awards 2023 share their journeys and how they support their loved ones.

Ms Belinda Seet & Ms Babara Seet — Inspirational Caregiver, Partner-In-Care Award winner

Ms Belinda Seet and Ms Babara Seet have been caring for their mother, Mrs Katherine Seet, since she was diagnosed with Alzheimer's disease 11 years ago. At the time, they were also looking after their father who had cancer and depression. Juggling both parents' needs with their careers was a challenge, so with her sister's support, Belinda left her job as an early childhood educator to become the main caregiver for both parents.

Caregiver Tips by Ms Belinda Seet

1 Always make the choice to be happy

When you make a choice to be happy in your caregiving journey, ideas and strategies will automatically appear to make your journey happier and more meaningful.

2 Involve your loved ones in activities you enjoy

I plan social gatherings with friends at home and my mother joins in. My friends enjoy her keen sense of humour, and the social interactions are beneficial for her cognitive health — a win-win situation for all! I also enjoy arts and crafts, and my mother and I do activities together such as stencil painting so I can spend more quality time with her.

3 Open up to friends and family

I am thankful to have the support of my whole "kampung" after sharing my mother's condition with them. My friends and extended family members have helped by sharing tips and words of encouragement which keep me rooted during challenging moments.

4 Focus on their strengths

It is hard to see my mother gradually lose her abilities, however, I focus on what she can do rather than what she cannot. This simple mindset change has helped me come to terms with the changes in her and helps me live a happier life with my mother. She teaches knitting at Dementia Singapore on Mondays, which boosts her confidence and fills me with pride.

5 Make meals more appetising

We were worried when my mother lost interest in food and refused to eat, so Babara and I played mini games and challenges with her which she enjoyed. We also adjusted the menu to suit her preference of soups, processing her foods to a soupy consistency and adding blended ingredients into congees to make it more appetising and nutritious for her. Small, frequent meals also help increase her food intake, while desserts and sweets as special treats cheer her up.

“ We both live with my mother's life philosophy of *que sera sera*, which means whatever will be, will be. Therefore, we just want to make sure that she is living comfortably and that she is happy. ”

Ms Belinda Seet

Mdm Jessie Toh — Inspirational Caregiver Award

When Mdm Jessie Toh noticed her husband Pui Kee dragged his feet while walking, she sent him for a medical check-up. He was diagnosed with Parkinson's disease (PD) in 2006 and Jessie has been his main caregiver since. Despite the progressive nature of PD, Jessie remains optimistic, focusing on the small gains in life with her family.

Caregiver Tips by Mdm Jessie Toh

1 Make time for self-care

I always make time for exercise to train my muscles and keep myself fit, as this gives me the strength to care for my husband. Apart from these regular exercise routines, I also enjoy dancing and conduct dance fitness classes for seniors to give back to the society.

2 Be open to learning new skills

No-one is born with the skills to be a caregiver, so I attended workshops and programmes by NNI and community partners, to gain medical knowledge and skills to better understand and manage Pui Kee's symptoms. Learning new skills, PD exercise routines and good practices to share with my husband helps me to deal with my emotions. I also share my experience and knowledge with other caregivers to help them through challenging moments and initiated the Youthful Parkinson Circle to support patients diagnosed with PD before the age of 50.

3 Accept and come to terms with your loved one's diagnosis

I struggled to accept my husband's diagnosis in the beginning and although it was difficult, it is an inevitable phase that caregivers must overcome. As caregivers, we have to proactively support our loved ones, and this requires determination, courage and patience. Do not be afraid to seek professional help if needed.

4 Adjust daily activities to suit declining functions

Before the diagnosis, our family was always out of the home, visiting loved ones, travelling, going for soccer training, and singing karaoke. Now we have adapted our lifestyle to accommodate my husband's decreased mobility due to PD. We enjoy quality family time at home, such as playing boardgames, card games and doing simple arts and crafts. I also bring him to parks for walks and the day care centre to participate in activities.



In sickness and in health, this is the vow we made in our marriage, and I am committed to be there for him all the way.

Ms Jessie Toh



Scan the QR code for details of support groups for neurological conditions.

RECOGNISING EXCELLENCE IN EDUCATION

▶ Assoc Prof Nigel Tan receiving the award from Mr Ong Ye Kung, Minister for Health



Congratulations to Associate Professor Nigel Tan Choon Kiat, Senior Consultant, Neurology, NNI, Group Director Education (Undergraduate), SingHealth and Associate Dean, MD Programme, Duke-NUS Medical School on receiving the National Outstanding Clinician Educator Award at the National Medical Excellence Awards 2023!

Assoc Prof Nigel Tan's teaching style can be summed up in two words: 'infectious enthusiasm.' This is a ringing endorsement of his skills and commitment as a clinician educator, especially since neurology is often considered an arcane and complex topic among residents and medical students.

A natural teacher, Assoc Prof Tan's interest in medical education started as a neurology registrar, helping junior colleagues make sense of neurology. Now he teaches medical students from all three medical schools, and residents from SingHealth and National Healthcare Group in the wards and clinics.

“Being a clinician educator allows me to marry the two halves of my personality, the education part as well as the clinician part.”

Assoc Prof Nigel Tan

“One of the nicest things about being a clinician educator is the ability to see people improve through teaching. The immediate effect is seeing your learners and faculty develop which in turn transforms patient care and improves the lives of our patients,” says Assoc Prof Tan.

A respected clinician and epilepsy neurologist who continues to care for patients living with epilepsy and other neurological conditions, Assoc Prof Tan has a special interest in epilepsy genetics, a highly complex field that baffles many neurologists around the world.

To improve understanding and patient care, Assoc Prof Tan co-leads the Genetic Literacy Taskforce of the International League Against Epilepsy (ILAE), the global organisation for epilepsy neurologists. He conceptualised the ILAE Genetic Literacy Series, aimed at educating fellow neurologists about epilepsy genetics, using evidence-based techniques to enhance learning. By coordinating content and writing with international teams of authors, his efforts have led to nine publications in the series. These have been well-received, with international readership and global impact.



Scan the QR code to discover more about Assoc Prof Tan's journey and who inspired him to pursue medical education.



Celebrating Our AWARD-WINNING NURSES

**Congratulations to Ng Suan Gek,
Nurse Clinician — Advanced Practice Nurse (APN), NNI,
recipient of the MOH Nurses' Merit Award 2023**

As a student nurse, Suan Gek enjoyed interacting with patients, seeing them recover and go back home. She qualified in 2000 and did inpatient nursing on neurology wards and intensive care before joining NNI in 2013. In 2016, an opportunity came up to manage patients with traumatic brain injuries and Suan Gek stepped up to take on this new challenge.

Suan Gek works closely with members of the Post Concussion Team to help patients manage their symptoms and reduce the impact on their work and daily lives. A keen advocate and educator, Suan Gek also gives talks to the community to raise awareness and shares her knowledge with junior nurses.



"Patients with traumatic brain injuries can recover well physically and look 'normal' but they often face invisible challenges such as slowed thought processes, poor concentration, headaches and giddiness, which can last for weeks to months," explains Suan Gek.

**Scan the QR code
to read more
about Suan Gek's
achievements
and 'can-do'
attitude!**



NNI Nurses Scoop Four SingHealth Nursing Awards 2023!

Wee Foundation Nurses' Day Awards 2023

(Nursing Practice Excellence —
Registered Nurse and Enrolled Nurse)



Leo Siyan
Senior Staff Nurse — APN

Wee Foundation Nursing Scholarship



Siti Rohaida Binte Rahmat
Assistant Nurse Clinician
— APN

Empathy in Action Award



Siti Nuraini Binte Mawi
Senior Enrolled Nurse

Best Team Award for Nursing Excellence — ESTHER Nursing Team



Fu Liqing
Nurse Clinician



Tan Il Fan
Senior Nurse
Clinician — APN



**Tanya Marie
Choong**
Senior Staff Nurse



Yu Chen
Assistant Nurse
Clinician

Serving the Nation through healthcare

Congratulations to Our National Day Awards 2023 Recipients!

Fourteen NNI staff were recognised for their commitment and contribution to Singapore's public healthcare system, including four Public Administration Medal (Bronze) recipients:



Assoc Prof Kevin Tan
Director, Education
Senior Consultant,
Neurology, NNI



Assoc Prof Seow Wan Tew
Chief Risk Officer, Chief
Medical Informatics Officer,
Senior Consultant,
Neurosurgery, NNI



Prof Louis Tan
Director, Research
Senior Consultant,
Neurology, NNI



Assoc Prof Sitoh Yih Yian
Senior Consultant,
Neuroradiology



Scan the QR code to read more about how they have shaped neuroscience care in Singapore and other NNI recipients of National Day Awards 2023.

Honouring Our Healthcare Heroes

The National Awards (COVID-19) recognise individuals and teams who made outstanding contributions to Singapore's fight during the COVID-19 pandemic.

NNI was honoured to receive the President's Certificate of Commendation (COVID-19). Our staff were also recognised for their hard work during the outbreak.



▲ From left: Assoc Prof Kevin Tan, Belinda Sia, Caroline Loy, Prof Ng Wai Hoe, then designate GCEO, SingHealth, Prof Lo Yew Long, Dr Vincent Ng

Public Administration Medal (Bronze) (COVID-19)

Belinda Sia Wai Yen
Chief Human Resource Officer, NNI
Chief Human Resource Officer
(Employee Health & Wellbeing), SingHealth

Caroline Loy Sai Lan
Chief Financial Officer

Dr Christopher Seet Ying Hao
Chairman, Infection Control Committee
Consultant, Neurology

Dr Goh Jia Jun
Deputy Head, Ambulatory Services (NSOC)
Principal Resident, Neurosurgery

Assoc Prof Kevin Tan
Education Director
Senior Consultant Neurology

Dr Koh Yeow Hoay
Head and Senior Consultant, Neurology,
NNI@CGH

Prof Lo Yew Long
Deputy Chief Executive Officer (Medical
Affairs and Quality Management), NNI
Group Director, Research Integrity,
Compliance & Ethics, SingHealth

Dr Ng Wai May
Deputy Director (Nursing)

Dr Vincent Ng Yew Poh
Head, Ambulatory Services
Senior Consultant, Neurosurgery

Commendation Medal (COVID-19)

21 NNI Staff

COVID-19 Resilience Medal

431 NNI Staff

All designations are as at the time of the award

Award-winning Research at NNI

Three NNI clinicians received the SingHealth Publish! Award 2023 for quality research articles which were published in internationally acclaimed scientific or medical journals.

Their research ranged from studying neurological side-effects following COVID-19 reimmunisation to predicting the survival of patients with certain brain tumours and how white matter in the brain changes with Alzheimer's disease.



Dr Jack Lo Yu Tung
Senior Resident
Neurosurgery



Dr Jasmine Koh Shimin
Consultant
Neurology



Dr Sumeet Kumar
Senior Consultant
Neuroradiology



Scan the QR code
to read more about
their research.



GOOD NEWS for

Tea and Coffee Lovers!

Research by NNI shows that caffeine can significantly lower the risk of Parkinson's disease (PD) in Asians who are genetically at higher risk of PD.

Four cups of freshly brewed coffee or two cups of kopi, which is higher in caffeine, can reduce the risk of PD by four to eight times in people with Asian gene variants linked to the condition. In fact, tea and coffee drinkers who carry the PD gene lower their risk of the condition to below that of non-caffeine drinkers who do not carry the gene.

"Caffeine is known to have a potential protective effect against PD and other neurodegenerative conditions, but we have shown that it can significantly

cut the risk of PD and level the playing field for Asians who are genetically at higher risk of PD and are currently symptom-free," says the study's Principal Investigator, Professor Tan Eng King, Deputy Chief Executive Officer (Academic Affairs) and Senior Consultant, Neurology, NNI.

The findings are a positive step forward in the fight to prevent PD, especially in Singapore where the Asian gene variants are common. Just remember to keep your caffeine intake within normal limits!



Scan the QR code to
learn more.

Will you help find a cure?

您是否愿意帮忙寻找治疗方案?

Researchers are trying to find new treatments for dementia, Parkinson disease, schizophrenia and other heart-breaking and disabling brain conditions.

But they face a major challenge: the brain cannot be studied safely in fine detail while the person is alive.

That is why we have pledged to donate our brains for medical research when we pass on.

Brain donation allows researchers to examine healthy and diseased brain tissue in depth, so they can unlock the mysteries of the brain, find better treatments and help Singaporeans live longer and healthier lives.

科学研究团队正在努力地为失智症、帕金森氏症、精神分裂症以及其他的脑神经系统疾病寻找新的治疗方案。

但是他们却面临巨大的挑战：他们无法安全地对活人大脑进行精细的研究。

因此我们承诺，在我们过世后将捐出大脑用于科学研究。

捐出的大脑将有助于科学研究团队深入检验健康和病变的大脑组织，解开大脑的奥秘，从而寻找更好的治疗方案，让国人活得更长寿、更健康。

Will you join us and help find a cure?

Ms Michelle Siew Teok See and Mr Chin Kim Sen
Husband and wife since 1978
Registered brain donors since Nov 2019



您愿意加入我们，一同寻找治疗方案吗?

箫玉丝女士与陈金星先生
二人于1978年结为夫妻
在2019年11月登记注册为大脑捐赠者

To learn more about registering as a brain donor and the difference your gift can make, contact Brain Bank Singapore:

要了解更多有关如何登记成为大脑捐赠者的详情，以及您的捐赠将如何造福后代，请联系脑库新加坡：

Email 电邮
Tel 电话
Website 网站

brainbanksingapore@ntu.edu.sg

6592 6952 Mon-Fri, 9am - 6pm | 周一至周五, 上午9点至下午6点

www.brainbanksingapore.org



Scan QR code for more details
扫描QR码，以获知更多详情



NTU IRB Ref. No.
2018-11-026

Joint partners

LEE KONG CHIAN
SCHOOL OF MEDICINE



National
Neuroscience Institute
SingHealth



Adding years of healthy life



Yang Loo Lin
School of Medicine



Transform Lives Today!

尽一份力，改变他人的生活！

**Dementia. Stroke. Parkinson's disease . Brain tumour.
失智症。中风。帕金森症。脑肿瘤。**

“The NNI Fund has helped to ease my financial stress by providing for some of the recurring expenses required for my condition. This is one less thing to worry about in my everyday life.”

Wen Lique

Lique was diagnosed with spinal muscular atrophy at the age of one. This is a lifelong condition that causes muscles to weaken, affecting more parts of the body over time. In 2015, muscles controlling Lique's arms and breathing started to get weaker; he began using a motorised wheelchair to move around and ventilator to help him breathe.

To make a gift to NNI Fund to improve the lives of our patients by supporting patient care, research or education programmes, please contact NNI Corporate Development Office at CorpDev@nni.com.sg

“幸好有国立脑神经医学院保健基金为我提供援助，帮助我应付控制病情所需的部分长期开销，这有助减轻我的经济压力，让我每天能少为一件事心烦。”

温礼铨

礼铨在他一岁那年被诊断出患有脊髓性肌肉萎缩症。这是一种终生病况，肌肉会随着年龄的增长逐渐退化，进而影响更多身体部位。2015年，礼铨控制手臂和呼吸的肌肉开始衰退变弱，他不得不使用电动轮椅代步，另外还必须用呼吸器帮助他呼吸。

感谢您对国立脑神经医学院保健基金的支持。如果您想为改善病患护理、研究或教育方案尽一份力，请电邮至 CorpDev@nni.com.sg 联系企业发展部办事处。

These conditions change people's lives forever. Some patients lose control of their body functions. Others suffer memory loss. Eventually, many lose both. To date, there is still no cure for many neurological diseases. With your help, we can create a better tomorrow for people living with brain, spine, muscle and nerve conditions.

NNI Fund supports NNI in transforming the lives of persons with neurological conditions by:

- Helping patients to receive the medical care they need
- Improving patient care
- Advancing neuroscience research
- Nurturing the next generation of neuroscience leaders

这些疾病会永久改变患者的一生。有的患者从此失去控制身体功能的能力，有些则可能丧失记忆。令人遗憾的是，不少患者最终会失去两者。到目前为止，许多神经系统疾病仍然没有治愈的方法。有了您的捐赠，我们希望能为患者们创造一个更美好的未来。

国立脑神经医学院保健基金通过以下方式，支持国立脑神经医学院改变神经系统疾病患者的生活：

- 资助病患让他们获得所需的医疗服务
- 改善病患护理
- 推进神经科学研究
- 培养新一代神经科学领袖

肌肉……什么？ 肌肉发炎！

肌肉发炎或称肌炎（myositis），是一组罕见且可能出现严重症状的肌肉疾病。国立脑神经医学院（陈笃生医院）神经内科主任兼高级顾问医生蔡煜晖副教授将在本文内进一步说明肌炎，以及准确诊断肌炎的重要性。



蔡煜晖副教授

肌肉酸痛会在大多数人的某个人生阶段中出现。它一般是运动过量的副作用或病毒感染（如流感）的症状，能够随时间自行痊愈。不过，肌肉无力却有可能是某些更严重疾病的症状。

肌炎是一组由人体免疫系统无法正常运作而引起的罕见病症，可造成肌肉发炎、分解，并最终导致肌肉组织坏死。

蔡煜晖副教授解释道：“当肌炎患者第一次前来问诊时，他们时常会抱怨自己的肌肉已逐渐变得无力，例如，他们无法轻易地从椅子上起身、爬楼梯或高举双手。不过，疼痛感则不一定会出现。”

属于肌炎类的病症比较罕见，国立脑神经医学院平均每月会处理一起新病例。

肌炎类型

肌炎分很多种，其中有两种在新加坡比较常见：免疫介导坏死性肌病（NAM）和皮肌炎。这两种病症有许多相似处，但也存在关键的差别：

免疫介导坏死性肌病（NAM）与皮肌炎

- 导因未知。
- 可影响任何年龄层的男性及女性，但多发于中年，并偶尔影响孩童。

两种病症的共同症状：

- 肌肉发炎和分解，从而导致肌肉无力症状。随着时间的推移变得更为严重。
- 影响身体两侧的上臂、肩膀和大腿。
- 严重情况下，会出现吞咽和呼吸困难。

仅免疫介导坏死性肌病（NAM）

- 国立脑神经医学院最常见的肌炎类型。
- 国立脑神经医学院内每三起肌炎病例中的两起。
- 只影响肌肉（参阅左侧说明）

仅皮肌炎

- 国立脑神经医学院内每三起肌炎病例中的一起。
- 影响肌肉（参阅左侧说明）以及皮肤
- 偶尔出现皮肤红疹和指甲周围发红。

多发性肌炎 (Polymyositis) 和包涵体肌炎 (Inclusion Body Myositis) 属于其他类型的肌炎，症状也包括肌肉无力，但这些肌炎较少见于亚洲人。国立脑神经医学院每年平均每年会处理一起或以下的病例。

诊断

正确诊断肌炎和其亚型十分重要，因为不同亚型的预后、治疗和并发症都有所不同。其诊断方式分几个步骤：

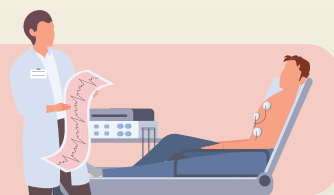
一. 病史

神经内科医生会详细地询问患者的病史以了解患者的症状、初次发病和其他可能存在的健康问题。如此一来，医生将能确定是否存在肌肉无力的其他导因，如病毒感染、运动过量或中毒。



四. 肌电图 (EMG)

这项检测用以测量肌肉在神经刺激下的反应程度，并通过针形电极来记录肌肉活动。



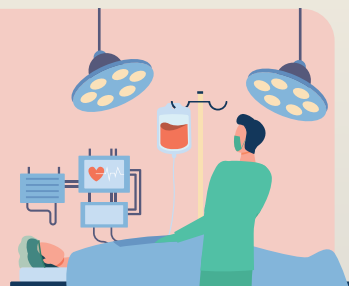
二. 体检

通过体检，专科医生将能检查肌肉无力的程度、受影响的肌肉，并确定是否出现如皮疹或皮肤病变等症状。



五. 肌肉活检

外科医生会从肌肉无力的上臂或大腿处采取肌肉样本。然后，样本会经由神经肌肉实验室人员的处理，放入样本盘中以便研究神经肌肉疾病的神经科专家在显微镜下检验，寻找肌肉发炎和肌肉细胞坏死的证据。



三. 体检

血液内如果存在大量的肌酸激酶，即表示出现肌肉损伤。



如果怀疑出现肌炎，则需要进一步的检测以确认诊断。

六. 抗体检测

皮肌炎和免疫介导坏死性肌病（NAM）有着不同亚型。找出患者病症属于哪个亚型对于提供准确、针对性的治疗和护理十分关键。为此，则需要检查患者血液中是否存在特定抗体。



一些皮肌炎亚型的特定抗体与鼻咽癌（鼻咽癌）之间存在很高的关联性。一旦发现这些抗体，患者就会经转介至耳鼻喉科医生进行癌症筛查，并需接受几年的定期复诊，以确定往后几年没有出现癌症。皮肌炎的另一亚型则与严重的肺部疾病相关。

治疗

当患者出现严重的肌肉无力时，他们就需要住院接受类固醇静脉注射或免疫球蛋白疗程以降低肌肉发炎和损坏的程度。一旦患者的情况稳定，他们就需要接受长期药物治疗，如口服皮质类固醇和类固醇节约剂来抑制免疫系统，防止复发。患者还需接受物理治疗来修复和增强新的肌肉组织。



为什么我的双手在颤抖？



李伟山医生

手颤是正常现象，还是另有隐情？国立脑神经医学院脑神经内科顾问医生李伟山将通过本文讲解手颤的常见导因、应对方法，以及什么时候应该就医治疗。

当我们的双手开始不自觉颤抖时，我们可能第一时间会想到的是帕金森症，但好在这往往只是虚惊一场。

对此，李伟山医生表示：“一般人出现手颤是很正常的，并且通常不需要任何治疗就能痊愈。不过，在一些情况里，震颤（颤抖）可能会影响人们的生活品质，或甚至暗示着更严重的状况。”

震颤一即不受控制的颤抖或抖动，一般除了会影响双手之外，也有可能作用在人们双腿、头部和声带。

震颤一般可分为两种，即“正常”的现象，以及疾病所导致的。

“正常”震颤（生理性震颤）

当向前抬起双手时，我们可能会注意到其双手和手指都出现细微的颤抖。所有人都会经历这类震颤，不过有时震动的程度会过于细微，不受注意。导致或加剧这些“正常”震颤迹象的因素可以是：

- 摄取咖啡因
- 低血糖
- 缺少睡眠
- 严重疲劳
- 焦虑
- 特定药物



治疗方法

减少这类震颤的最佳方法就是识别和消除相关诱因，如：



减少饮用咖啡、茶或富含咖啡因的能量饮料



定时吃饭，预防低血糖



获得充足睡眠



降低压力

如果在消除相关诱因后，震颤迹象仍持续出现，造成生活不便，不妨向家庭医生要求进行身体检查。医生将能检查震颤迹象是否由处方药物所导致的，并可以在必要时更改药物剂量，或更换药物，还可以在怀疑震颤是由其他医疗状况所引起时，向专科医生进行引介。

由医疗状况引起的震颤（病理性震颤）

手抖是两种医疗状况的常见症状：

原发性震颤和帕金森症。这两种状况都会影响人们的行动能力，常见于乐龄患者。不过，这两者之间的症状和应对方法都存在显著的不同。

原发性震颤

原发性震颤是一种不受控制的颤抖，一般会影响双手，但也有可能会影响其他身体部位。这种震颤会在人们使用特定身体部位时出现，如在握着汤匙或一杯水时，双手出现颤抖；或在说话时，声音出现颤抖。

状况导因

原发性震颤的导因不明。将近一般的这类状况都与基因突变有关，因此父母或手足（尤其是年龄在65岁以下者）出现震颤的人士将有更高的患病风险。

治疗方法



避开诱因，如咖啡因、压力和焦虑



获得充足睡眠



评估和调整为其他病情而开具的，可能会让震颤加剧的药物



通过物理治疗和职能治疗来强化肌肉，学习如何在震颤之余，穿衣、饮食和进行日常活动

如果震颤持续影响生活品质，则在严重情况下，患者可能需要接受药物或手术（深部脑刺激术）治疗。

帕金森症

帕金森症（PD）是一种随着时间的推进而导致脑部出现负面变化的状况。双手、手臂或双腿出现震颤是帕金森症的常见症状，一般在手脚放松时出现。帕金森症一般也伴有其他三种行动困难的状况：行动缓慢、僵硬和 / 或平衡不良。此外，帕金森症还会导致出现其他健康状况，包括抑郁症、便秘、嗅觉失灵和睡眠问题。

状况导因

当人们的大脑产生太少多巴胺（一种化学物质）时，便会引起帕金森症。多巴胺具有传递信息的作用，能将大脑的指示传递出去，控制身体的行动。

治疗方法

目前，帕金森症并没有确切的治愈方法，并会随着时间的推进而恶化。不过，帕金森症患者能够接受相关治疗来控制症状，提高生活品质。帕金森症的影响会视患者而定，因此所有治疗方法将根据患者的症状而定制，其中可包括：

- 用以控制震颤和其他症状的药物—随着病情的进展，药物也会随着改变
- 当患者的症状已经无法通过药物进行妥善控制时，医生便可能会推荐深部脑刺激术
- 用以维持体力和行动能力的运动
- 围绕帕金森症而规划日常活动，以改善生活品质的建议
- 在家中安装扶手和其他安全装置以降低跌倒的风险
- 让口齿发声更清晰有力的发声培训

原发性震颤

当使用特定身体部位**进行某项活动**时出现，如写字、将锁匙插入锁头内、握住杯子时

一般影响**双手**，但其中一只手的震颤迹象可能会更明显

不太可能导致平衡问题

罕见情况下才会导致出现其他健康问题

VS



帕金森症（PD）

当特定身体部位**放松**时出现，如双手放松置于腿上时

在初期时，一般影响身体的一**侧**

一般影响平衡

其他常见的帕金森症症状包括僵硬、行动缓慢



认识 垂体瘤



陈子恒医生

一般来说，垂体瘤虽然不会引起癌症，却可能导致失明和荷尔蒙失衡，并造成其他并发症。国立脑神经医学院（盛港综合医院）脑神经外科主任兼顾问医生陈子恒将在本文内详细介绍垂体瘤、垂体瘤种类和诊治方式。

垂体（pituitary gland）是一个豌豆大小的荷尔蒙腺体，位于大脑底部、鼻子后端。脑下垂体的主要功能是制造和释放荷尔蒙，以便控制人体各项主要功能，包括繁殖功能和人体精力的使用（新陈代谢）。

垂体瘤（pituitary tumour）是一种在脑下垂体处的异常生长。每年，新加坡会出现大约200至300起垂体瘤新确诊病例。

陈医生表示：“垂体瘤一般是良性肿瘤，因此不会扩散到身体的其他部位。不过，垂体瘤会因为肿瘤的大小和位置而导致荷尔蒙失调和视力问题。

垂体瘤种类

视肿瘤是否分泌过多荷尔蒙而定，垂体瘤可分为两种主要类型。

无功能性垂体瘤

这类肿瘤不会分泌过多荷尔蒙，是最常见的垂体瘤类型。

体积较小的肿瘤不会引起任何症状，常常令人无法察觉。然而，肿瘤体积是有可能变大的。当肿瘤挤压到视觉神经时，便会造成头疼并影响视力。

视觉神经负责在眼睛和大脑之间传递讯息。两条视觉神经线会在脑下垂体以上的位置交叉。当肿瘤挤压到交叉点时，就会造成双眼视力模糊和周边视野（侧视）丧失。如果未及时医治，便可能会造成失明。

功能性垂体瘤

这类肿瘤会分泌过多荷尔蒙；视荷尔蒙的类型而定，即可引发不同的症状或状况。

催乳素瘤

催乳素瘤是最常见的功能性垂体瘤，能导致催乳素（一种荷尔蒙）过度分泌，从各方面对男女患者带来影响。

其症状包括：

男性：勃起功能障碍、男性乳房发育症（增大）

女性：月经失调、胸部出现乳白色分泌物

肢端肥大症

这种状况是由导致生长激素过度分泌的垂体瘤所引起的，是第二常见的功能性垂体瘤。当这个状况出现在还未完全发育的孩童或青少年身上时，便会引发巨人症。

出现在成人身上时，其症状包括：

- 手脚粗大
- 面部器官变化，如鼻子、舌头肥大和下颌突出，导致患者前后数年的样貌变得不一样
- 声音低沉
- 皮肤增厚

肢端肥大症患者在患上心脏问题、大肠癌和腕管综合征（手部麻痹）方面存在更高的风险。

库欣综合征

脑下垂体会产生一种名为皮质醇的荷尔蒙，用以调节人体的应激反应。当功能性垂体瘤引致皮质醇过度分泌时，便会造成库欣综合征。如果未能及时医治，这个状况会随着时间的推进而恶化。

其症状包括：

- 体重增加
 - 骨质疏松
 - 肌肉萎缩
 - 高血压
 - 免疫力下降
 - 腹部出现扩张纹
 - 容易淤青
- 库欣综合征能通过手术治疗的方式将肿瘤切除治愈，或在无法进行手术治疗的情况下，通过药物进行控制。

垂体瘤征兆

- 如果突然出现视力问题，尤其是丧失周边视野或视力模糊时，请前往最近的**急诊室**就医。
- 若出现原因不明的疲倦感或头疼症状加剧，并在服用止痛药也无法改善时，前往**家庭医生**就诊。

在罕见的情况下，垂体瘤内可能会出血，导致缺少皮质醇分泌，从而引起急性头痛、视力衰退和疲惫无力感。

有时，较罕见的增生或肿瘤如拉特克囊肿（Rathke's cysts）、脑膜瘤和颅咽管瘤会因为生长在脑下垂体区域而被误认为垂体瘤。通过核磁共振成像扫描（MRI），增生的类型可能会获得确定，但在一些情况中，肿瘤增生的具体类型可能得在切除后才能确定。

治疗垂体瘤

无功能性垂体瘤

如果没有出现肿瘤增长或视觉神经被挤压的现象，患有体积较小的无功能性垂体瘤的患者便无需治疗，而是需要通过 MRI 扫描来观察垂体。然而，如果肿瘤出现增长或挤压到视觉神经，则可通过微创手术方式进行切除（参阅以下内容）。

功能性垂体瘤

视肿瘤影响分泌的荷尔蒙而定，功能性垂体瘤患者可通过微创手术和/或药物方式进行治疗。

垂体瘤切除手术

由于垂体位于大脑底部，微创手术会是最佳的肿瘤切除方法。这项手术需要通过团队合作来完成：耳鼻喉科外科医生会负责将内窥镜（一根载有镜片和摄像头的细管）穿过鼻部顶端到达脑下垂体处。然后，脑神经科外科医生会将手术工具伸入鼻部，借助摄像头画面来切除垂体瘤。

此手术存在罕见并发症（如出血、荷尔蒙失衡和大脑周围的脑脊液外漏）的风险，因此接受这项手术的患者一般需要留院观察四到七天。出院后，患者也需要与如下跨学科团队专家进行复诊：



耳鼻喉科

确保鼻部康复良好



内分泌科

评估是否需要施用荷尔蒙药物



眼科

观察视觉功能的改善和变化



脑神经科

检查肿瘤复发情况

看护者们 一同前进!



林女士非常喜欢在帆布包上色。

本文中，新保集团2023年度激励人心病患与看护奖的两位得奖者将与我们分享她们的看护经历并为其他看护者提供一些小贴士。

薛碧霞女士和薛碧华女士 - 激励人心护理伙伴奖得主

自从母亲林玉桥女士在十一年前确诊失智症后，薛碧霞女士和薛碧华女士便肩负起看护者的责任。同一时间，她们也需要照护患有癌症及抑郁症的父亲。在面对照护父母和应对工作的双重挑战下，碧霞在妹妹的支持下毅然放弃了幼儿教师的工作，转为全职照护父母。

薛碧霞女士的看护小贴士

一 始终选择乐观面对

当选择以积极乐观的态度面对看护旅程后，就会自然地想出不同的护理主意和策略，让整个过程变得更加开心和有意义。

二 让亲人参与自己喜欢的活动

我会邀请朋友到家里相聚，而我的母亲也会参与其中。我的朋友们都很喜欢母亲的幽默感，而且这些社交互动对于母亲的认知健康也很有帮助——这可以说是双赢的情况。我也很喜欢制作手工艺品，所以我会和母亲一起做模板画等活动，与母亲一起度过优质的时光。

三 对亲友敞开心怀

我很感激我身后的“全村人”在我与他们分享我母亲的情况后，给予我的鼓励。我的朋友和家庭成员与我分享了各种贴士和鼓励，让我在艰难时刻能够继续前进。

四 专注在患者的强项

目睹母亲的生活功能逐渐退化是很困难的，不过我会把注意力放在她能胜任的事情，而不是只看到她做不到的事。这个简单的思维转变让我更容易接受母亲身上的变化，使我与母亲能更快乐地生活。碧霞表示：“每逢星期一，母亲会到新加坡失智症机构（Dementia Singapore）教人如何针织。这增强了她的自信，也让我感到很骄傲。”

五 让餐食变得更加色香味俱全

当母亲对食物失去兴趣，不愿意吃饭时，我们都感到很担心。然后，我和妹妹就会和母亲玩一些她很喜欢的小游戏和挑战活动。我们也调整了菜单，换成她喜欢的汤品，把食物的稠度调成类似汤一样，再将磨好的食物加入粥里，让食物变得更加好吃、有营养。少量多餐的做法有助于增加母亲的食物摄入量，而将甜品和甜食作为特别奖励的做法也能让母亲的心情变得愉快。

“母亲的生活哲理—*que sera sera*（顺其自然），就是我们两人的生活方式。所以，我们只希望母亲能够舒适地生活并且感到开心。”

薛碧霞女士

杜洁愉女士 — 激励人心看护奖

有一天，当杜洁愉女士注意到丈夫黎培基先生走路时会拖着脚后，她便建议丈夫接受身体检查。2006年，黎先生确诊了帕金森症，而杜女士自此便成为了他的主要看护。尽管帕金森症会逐渐恶化，但杜女士仍然保持乐观，并把注意力放在生活中与家人的各种小成就。

杜洁愉女士的看护小贴士

一 腾出自我照顾 (self-care) 的时间

我总会腾出一些时间来锻炼肌肉，保持健康，这也能让我有力气照顾我的丈夫。除了定期锻炼外，我也喜欢跳舞，所以我为乐龄人士开办了舞蹈健身课来回馈社会。

二 对学习新技能保持开放态度

没有人天生就会看护技能的，所以我会参加国立脑神经医学院 (NNI) 和社区伙伴组织开办的讲座和课程来增加医药知识和技能，来更好地了解和控制丈夫的症状。学习新技能、适合帕金森症的运动和良好实践，并与丈夫分享，是帮助我管理情绪的好方法。我也会与其他看护分享个人经验和知识，帮助他们度过艰难时刻。我还发起了 Youthful Parkinson Circle (译青年帕金森症互助) 来支持年龄在50岁以下的帕金森症确诊患者。

三 接受亲人的确诊病情

刚开始时，我挣扎了很久才接受丈夫的确诊病情。虽然要接受是很困难的事情，但这也是所有看护者无法避免且必须经历的阶段。身为看护者，我们需要时刻积极支持我们的亲人，而这需要决心、勇气和耐心。如有需要，请务必寻求专业帮助。

四 调整日常活动以配合下降的生活功能

确诊前，我们一家总是会出门造访亲友、旅行、参加足球训练和唱卡拉OK。现在，我们调整了生活方式来配合因帕金森症而导致行动不便的丈夫。我们很享受在家里的家庭时光，如玩桌上游戏、卡牌游戏，以及制作简单的手工艺品。我也会带丈夫到公园散步和前往日间护理中心参加活动。



不论疾病或健康—这是我们
结婚时的宣言，而我也下定决心
全程和他共同进退。

杜洁愉女士



扫描二维码了解神经系统疾病
支援小组的信息。

Bringing neuroscience care closer to you

NNI specialists are based at seven hospitals across Singapore, making it easier for you and your loved ones to seek treatment for conditions of the brain, spine, nerves and muscles.

Find out more about NNI at our website and Facebook page.



Connect with us  nni.sg  nni.sg  National Neuroscience Institute

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