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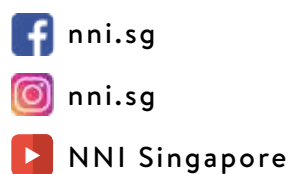
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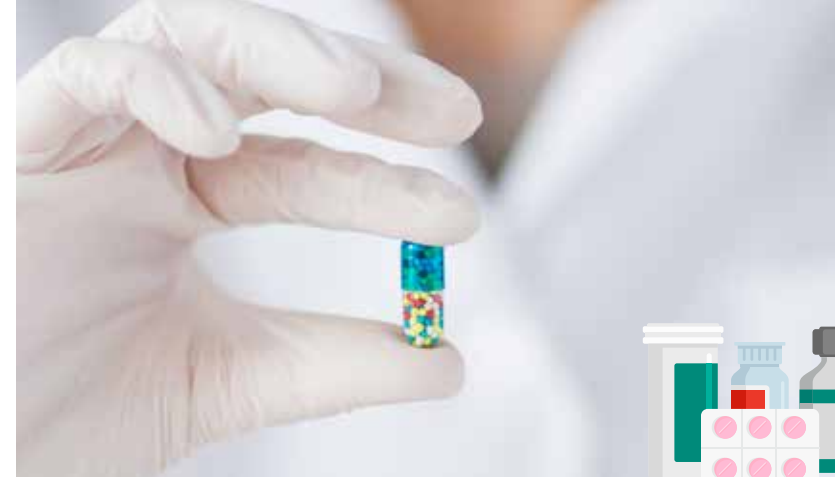


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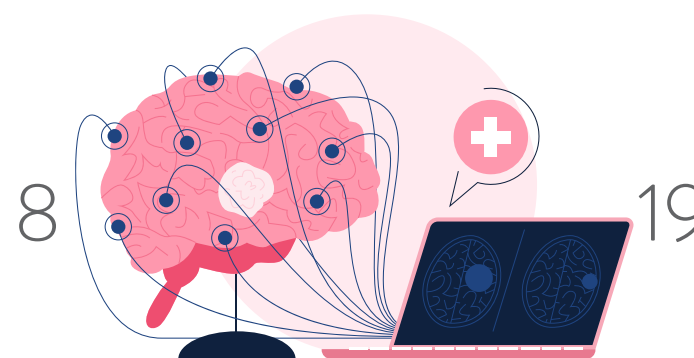
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Advancing holistic Parkinson disease care

Healthcare professionals and researchers from around the world gathered online for the 9th Singapore International Parkinson Disease (PD) and Movement Disorders Symposium, held from 6–8 May 2021. Speaking at the opening ceremony, Associate Professor Kenneth Mak, Director of Medical Services, Ministry of Health, recognised the advances made in PD, and highlighted the need for meaningful and effective health services. As an example, he cited NNI's Integrated Community Health Programme, where specialist nurses conduct home visits for selected patients with PD and other neurodegenerative conditions who have poor mobility and social support.



Photo: SingHealth Group Communications

Zooming in on dementia

From learning early signs of dementia to where to seek support, these were just some of the practical topics discussed at Dementia Awareness Day 2021. More than 370 people logged in to the public forum on 17 April. If you were not able to make it, or want to refresh your memory, scan the QR code to read consultant neurologist Dr Ng Kok Pin's '10 warning signs of early dementia' on Health Xchange.



Help loved ones manage your care

The **My Legacy** website helps you explore, store and share your end-of-life plans so that you can protect what matters most to you and let your loved ones know your wishes. Established by several government agencies, it includes a Singpass-secured vault, where important documents — such as wills, lasting power of attorney, and advance care plans — can be stored securely. For more information, visit: www.mylegacy.gov.sg

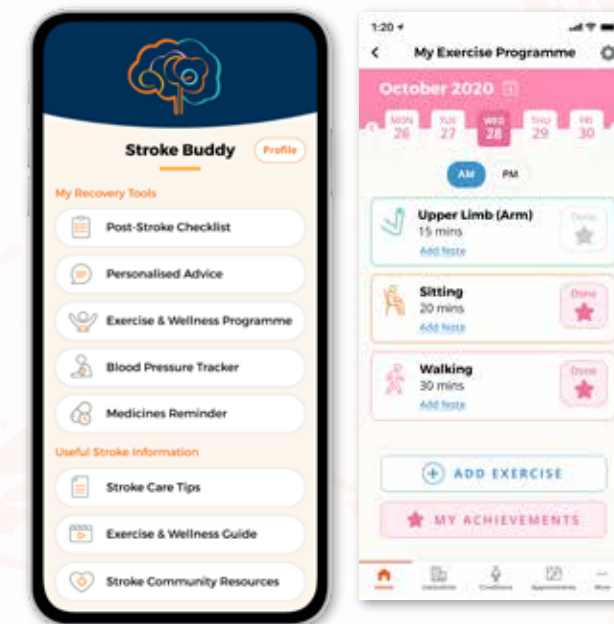


One-stop app to boost stroke recovery

Stroke survivors and their caregivers can now access personalised support through their phones. The **Stroke Buddy** mobile app provides advice, exercise videos, medication reminders, and much more to help stroke survivors regain their independence. Stroke Buddy was launched in March 2021 at the 18th Singapore International Stroke Conference, and has received the thumbs up from users!



Stroke Buddy is part of SingHealth's **Health Buddy** app. Scan the QR code for more information.



“

There is so much to think about after a stroke; it can be overwhelming, especially when survivors and caregivers search for information on the internet.

Stroke Buddy is very helpful because it houses all the information and resources in one place and helps filter it, sending relevant information to the user based on their profile.

— Ms Tan Poh Choo
stroke survivor and Vice-President,
Singapore National Stroke Association

”

Save the date!

NNI's annual public forum on Parkinson disease will be held on 2 October 2021. More details will be available in August at www.nni.com.sg



What to do when someone is having a seizure

Seizures are more common than you may realise, with nearly one in 10 people experiencing one within their lifetime. Dr Sheila D/O Srinivasan, Senior Consultant, Department of Neurology, NNI, shares more about seizures and epilepsy.

Watching a seizure can be frightening, but they rarely cause permanent damage to the brain. A seizure, or fit, happens when there is a sudden, uncontrolled burst of electrical activity in the brain. This causes temporary changes to body movements, sensations, thoughts, and emotions. People who have had two or more seizures may be diagnosed with epilepsy. Epilepsy can start at any age.

There are many different types of seizures. The most common and recognisable are tonic-clonic seizures, where the person may suddenly lose consciousness before the body starts jerking and shaking rapidly. “The person is not aware of what is happening or able to control the seizure. Once it ends, they may feel extremely tired and experience muscle aches for several days,” explains Dr Sheila D/O Srinivasan, Senior Consultant, Department of Neurology, NNI.

For a large proportion of patients, their seizures have no cause. In some patients, seizures can occur because of damage to nerve cells in the brain that leads to electrical disturbances. This can happen after a head injury, brain tumour, ischaemic or haemorrhagic stroke (which stops blood flow to the brain), poisoning, and infections.

Among some people with epilepsy, the risk of a seizure recurring can increase with certain external factors, such as lack of sleep, stress, infections, flashing lights, loud noises, and alcohol consumption. So treatment for epilepsy includes identifying and avoiding triggers, as well as taking regular medication.

Medication is not a cure; it can only help to control seizures. In some cases, surgery may be needed to remove the part of the brain where the seizures begin. However, surgery is not suitable for everyone, and doctors will tailor the treatment plan according to the patient’s needs.

“The person is not aware of what is happening or able to control the seizure. Once it ends, they may feel extremely tired and experience muscle aches for several days.”

— Dr Sheila D/O Srinivasan



Muscles stiffen during a seizure, causing jerking body movements.



Dos and Don'ts during a seizure

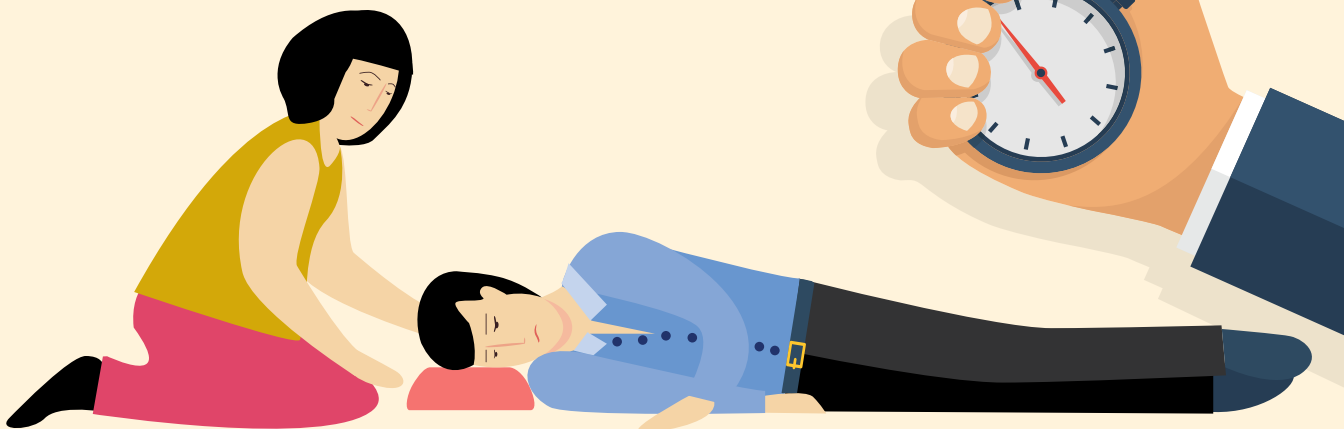
Peng Xuejuan, Nurse Clinician, NNI, explains what you can do to help someone who is having a seizure:

DO:

- ✓ Stay calm.
- ✓ Time the seizure.
- ✓ Place something soft under the person's head and loosen any tight neckwear.
- ✓ Remove any sharp or hard object that may be nearby.
- ✓ Turn the person on his/her left side (recovery position*) when the seizure is over.
- ✓ Stay with the person for at least 15–20 minutes after the seizure to ensure his/her breathing has normalised and he/she has regained consciousness.

DON'T:

- ✗ Place any object in the person's mouth.
- ✗ Restrain the person.
- ✗ Move the person unless he/she is in danger (e.g. in the middle of the road).



Call an ambulance if:

- ⌚ The seizure lasts longer than usual for that person.
- ⌚ The seizure lasts longer than five minutes and you are unsure how long seizures usually last for that person.
- ⌚ There are repeated seizures and the person remains unconscious.
- ⌚ It is the person's first seizure.
- ⌚ An injury occurs during seizure or the seizure occurs in water.
- ⌚ The person is pregnant.
- ⌚ The person has difficulty breathing after the seizure.

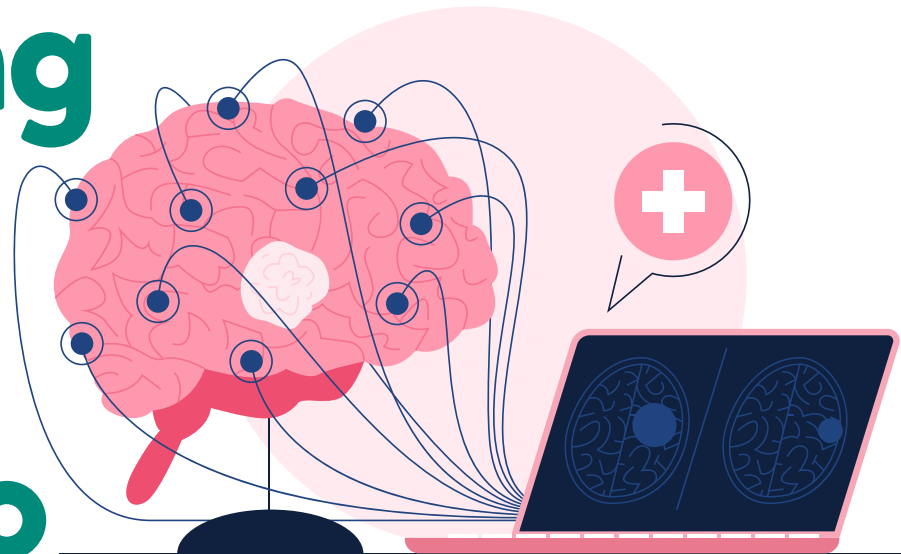
*Learn how to place someone in the recovery position here:



To find out more about epilepsy, scan the QR code here:



Capturing brain activity on the go



New service introduced to record brain activity and seizures in patients' homes.

Knowing what happens during a seizure is key for accurate diagnosis and treatment of epilepsy. An electroencephalogram (EEG) is a test that tracks and records any unusual activity in the brain that can occur in people with epilepsy. Small sensors (electrodes) are attached to the person's scalp to pick up the electrical activity in the brain, and identify where in the brain seizures occur.

A routine EEG lasts 20 to 40 minutes. Occasionally, an extended EEG recording may be needed. Previously, the person had to be warded for several days to carry out extended EEG monitoring, but in 2020, NNI launched the ambulatory EEG (AEEG) service so patients can now have the option of being monitored at home.

The portable device is made up of an EEG recorder and video camera, which allow patients to go about their normal routine while being monitored for 24 to 72 hours. If patients experience a seizure or other symptoms during the monitoring period, they



Dr Tan Yee-Leng

or their caregivers push an event button and/or talk through a microphone, and describe what they experience or see.

"Patients' attacks often do not occur in an unfamiliar hospital environment. Therefore, it may be more useful and convenient for EEG monitoring to take place at home, where patients can continue with their usual activities, and enjoy a less disturbed night's sleep. AEEG is most useful for patients who experience frequent events," explained Dr Tan Yee-Leng, Deputy Head of Ambulatory Services (Neurodiagnostic Laboratory), and Senior Consultant, Department of Neurology, NNI.

For Ms Lily Tan*, 48, being warded to monitor her seizures was not an option. A head injury sustained in her teenage years has impaired her short-term memory, movement, and sense of danger. "We are glad that we could use the AEEG as Lily could not stay overnight in the hospital alone," shared Lily's elder sister. "Lily would not have been able to remember why she was there and might have removed the EEG sensors, disrupting the readings."

*name has been changed to protect the patient's privacy

“We are glad that we could use the AEEG as Lily could not stay overnight in the hospital alone. She would not have been able to remember why she was there and might have removed the EEG sensors, disrupting the readings.”

— Lily's elder sister



Chang Chao-Li

Curious about the AEEG? Chang Chao-Li, Senior Neuro Electrophysiologist, Neurodiagnostic Laboratory (NDL), shares what patients can do to ensure a successful test.

- Stay indoors whenever possible and avoid exposure to heat.
- Position the video camera so that it stays focused on you as much as possible.
- Press the 'Event' button on the recorder if you experience any symptoms or events and/or talk through the microphone to describe your symptoms, and note down as many details as possible on the Event Log. If you are unable to do so, ask your family members to note down what they have observed during the events.
- Turn the camera away or cover it with a cloth when you need privacy; e.g., when getting dressed or using the bathroom, but turn it back again as soon as possible to reduce the chance of missing capturing a seizure.

- Avoid activities that cause you to perspire or get the device wet (e.g., swimming).
- Shower as usual, but do not wet your hair.
- Avoid touching the electrodes or head wrap, and do not unplug the EEG electrodes from the recorder.
- If any of the electrodes move or come loose, call the NDL during office hours at 6357 7070 for assistance.

For more information about the AEEG, speak to your neurologist.

When leaving the clinic or going out in public, the head wrap can be hidden under a hoodie, scarf or hat, and the rest of the devices can be carried in a bag



Ouch, I hit my head!

A bang to the head can leave no mark, but still cause serious damage to the brain. Dr Lim Jia Xu, Senior Resident, Neurosurgery, NNI, shares warning signs to look out for and why the elderly is at higher risk of complications.

A blow to the head can change your life in an instant. Traumatic brain injury (TBI), or head injury, is common, particularly in young adults and the elderly, but the causes differ. Young adults usually suffer a TBI from a road traffic accident or a fall from height, and it is one of the leading causes of death and disability in this group. However, in older people, falls are the top cause of head injuries.

Elderly patients often suffer from age-related diseases and take medications that can affect their vision, muscular strength, coordination, and thinking. This makes them prone to falls during normal daily activities, such as toileting, showering, or even when getting out of bed.

“But my grandmother seemed okay...”

A minor head injury can have serious consequences in the elderly because the brain shrinks as we age. This creates

“If elderly loved ones hit their head, watch them carefully and call 995 if they show any signs of head injury, such as headaches, excessive sleepiness, walking difficulties, weakness of the limbs, or seizures.”

— Dr Lim Jia Xu

more space inside the skull for the brain to move when the head is hit. With more movement, there is an increased risk of damage to blood vessels, causing blood to gradually pool under the skull, a condition known as chronic subdural haematoma.

This ‘delayed’ bleeding from a mild TBI can occur weeks to months after the head injury and may require surgery.

A head injury can happen at any time — know the signs of brain injury and when to seek medical help!



What to do after a head injury

Go to the nearest Emergency Department (ED) if the person is at high risk of brain injury:

- ▶ Elderly (over 65 years old)
- ▶ Takes blood thinner medication; e.g., aspirin, clopidogrel, warfarin, rivaroxaban
- ▶ Injury is caused by a road traffic accident, fall from height, or assault
- ▶ Has signs of serious brain injury:
 - Drowsiness, recurrent vomiting episodes
 - Numbness or weakness in the limbs, or difficulty walking or talking
 - Change in behaviour
 - Open wounds that are bleeding
 - Blood or fluid coming out of the nose or ears

Tell the doctor/nurse:

- ▶ How the injury happened and what time it took place
- ▶ Should the person display the following signs:
 - Headache with nausea or vomiting
 - Memory loss
 - Loss of consciousness and the duration of the episode
 - Signs of a seizure; e.g., uprolling of eyes, or jerking of the arms and legs
 - Any medical conditions or recent operations

If discharged from the ED:

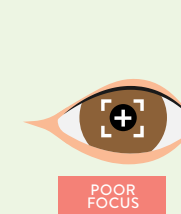
- ▶ For 24 hours after the injury:
 - The person should not be left alone, drink alcohol, or take medications that cause sleepiness
 - Monitor the person regularly for signs of brain injury as above
- ▶ For the next days to weeks:
 - Continue to watch out and check for subtle changes in alertness and behaviour, or any new weakness / difficulty walking; if seen, bring the person to the nearest ED



From minor head bumps to fatal injuries

Head injuries can be classified as mild, moderate or severe.

Mild TBI can cause headaches, nausea, giddiness, poor focus, and irritability. This is sometimes known as post-concussion syndrome, and it usually lasts a few days. In rare cases, it may persist between six and 12 months — these require specialist review.



Moderate or severe TBI needs close monitoring in a Neuroscience Intensive Care or High Dependency Unit so that any deterioration can be detected early. Brain surgery may be needed. Despite advances in care, death rates remain significant, especially among the elderly. Survivors often require months of rehabilitation to give them the best chance of recovery.

Carotid arteries: Why are they so important?

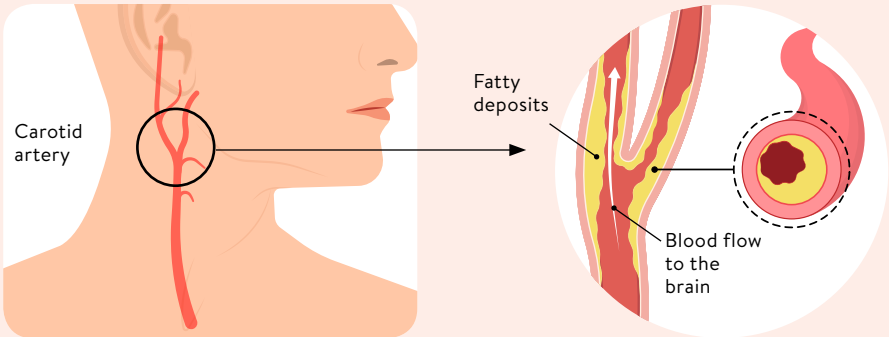
Narrowed arteries in the neck reduce blood supply to the brain and can potentially cause stroke. Dr Carol Tham, Consultant, Neurology, NNI, explains why this occurs and how it can be detected.



Dr Carol Tham
Consultant,
Neurology,
NNI

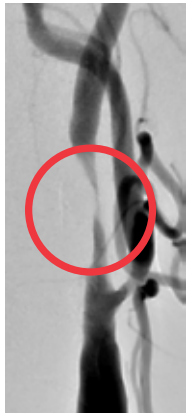
The brain needs a constant blood supply so it can receive oxygen and nutrients. There are two major blood vessels on either side of the neck, known as the carotid arteries, which play a very important role in this.

Certain risk factors, such as high blood pressure, diabetes, high cholesterol levels, and smoking can cause fatty deposits (plaque) to be laid down along the inner walls of these arteries. Over time, the inside of the arteries narrow, causing a reduction in blood flow to the brain. This can lead to strokes if the carotid artery becomes fully blocked, or if a piece of the fatty deposit breaks off

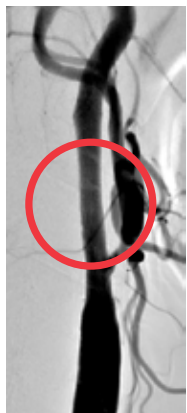


and blocks a smaller artery in the brain. An ultrasound scan of the carotid arteries can assess how well the blood flows, detect fatty deposits, and measure how much the arteries have narrowed. Doctors use this information

when advising patients on the best course of treatment, which can range from healthy lifestyle changes and medication to open surgery or angioplasty and stenting.



Severe narrowing of the carotid artery caused by fatty deposits



Blood flow has improved after angioplasty and stenting



(Left to right) Dr Wickly Lee, Senior Consultant, Neuroradiology, and Co-Director, Endovascular Centre, NNI, performing carotid stenting with Dr Kee Tze Phei and Dr Julian Han.

Unblocking narrowed carotid arteries

Healthy lifestyle changes and medications are the first line of treatment to prevent further build-up of fatty deposits in the carotid arteries. If the narrowing continues to get worse or cause symptoms, a procedure may be needed to open up the arteries to restore blood flow to the brain, and prevent stroke.

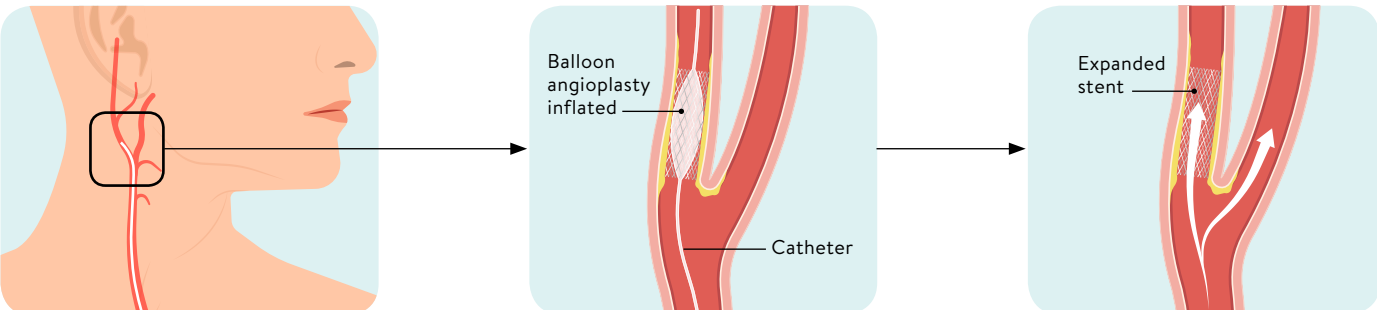
There are two ways this can be done:



Dr Julian Han
Consultant,
Neurosurgery, NNI

Dr Kee Tze Phei
Associate Consultant,
Neuroradiology, NNI

1 Angioplasty and stenting

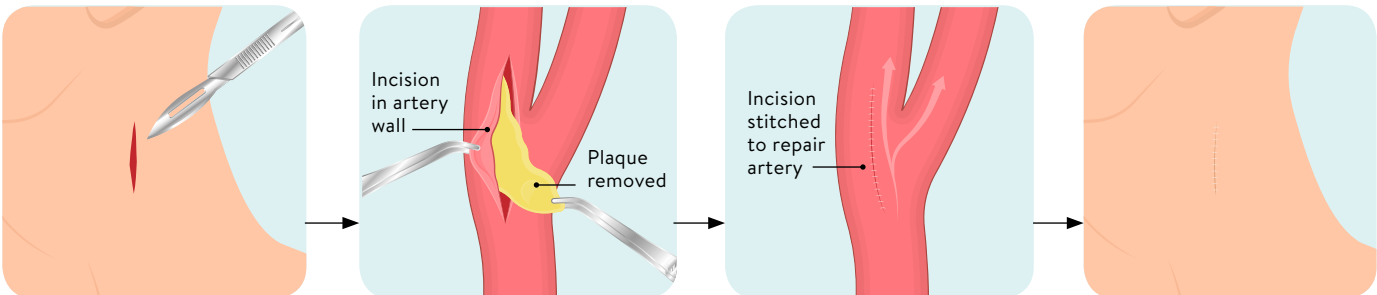


▲ A fine tube (catheter) is inserted into an artery in the groin and passed through the blood vessels to the carotid artery

▲ A tiny balloon on the tip of the catheter is inflated, opening up the narrowed portion

▲ A small mesh tube (stent) is placed in the artery to keep it open and reduce the chance of it blocking up again

2 Open surgery (carotid endarterectomy)



▲ An incision is made on the neck to access the carotid artery

▲ The artery wall is opened and fatty deposits are removed

▲ The artery wall is repaired with tiny stitches; normal blood flow is restored

▲ The incision on the neck is closed with stitches

All procedures have benefits and risks. The specialist will share these when discussing potential treatment options with patients and advise on the best approach based on factors such as the severity of the blockage, its anatomical details, and other health conditions the patient may have.

Why take part in clinical research?

Clinical research volunteers play a vital role in helping doctors and researchers find better ways to treat and manage neuroscience-related diseases. Associate Professor Nagaendran Kandiah, Senior Consultant, Neurology, and Director, Clinical Trials and Research Unit, NNI, explains what it involves and the benefits of taking part.



Clinical research is a medical study that involves people. It covers a wide range of areas and there are opportunities for everyone to take part, from young adults to seniors!

There are two main types of clinical research:

- **Trials of new drugs and medical devices** to check for effectiveness and safety. Research volunteers need to have the condition the drug or device is designed to treat.
- **Collecting data to better understand a condition**; e.g., risk factors, early signs, and how the condition progresses over time. These studies often need volunteers with and without the condition to compare the differences.

Taking part in clinical research has several benefits:

Close monitoring

Patients who volunteer in clinical research often require more frequent appointments and investigations, such as scans and memory tests, to monitor their condition. During a drug trial, all volunteers will be followed up closely by research staff for any side effects.

Early detection of conditions

In some clinical research studies, research volunteers can choose to be informed if abnormal results are detected during investigations. This allows them to seek treatment even before symptoms appear, which can result in better outcomes.

Access to promising new medications

Taking part in a drug trial allows research volunteers to gain early access to potential new treatments before the drug is officially approved for use by regulatory agencies. The cost of trial drugs is also covered by the study.

Help find a cure

Every clinical research study aims to improve our understanding of the body and conditions, bringing us one step closer to finding better treatments and a cure for patients today and for the future.



Soo See Ann
Research Associate
NNI

For details of ongoing research studies at NNI, scan the QR code:



Tips to consider before joining

Here are four things you should do or think about before signing up for a clinical research project.

1 Talk to your doctor

Potential new drugs and treatments often target the early to mid-stages of conditions, such as young-onset dementia, or symptoms that are not well controlled with existing drugs, such as those of chronic migraine. Talk to your doctor to see if you are suitable to join a research study of interest.



2 Check what the study involves

Clinical research studies may vary in terms of the number of visits and types of investigations. To be sure what the study involves, speak to the study's clinical research coordinator. You can also check if the investigations are optional or compulsory, and if the visits can be scheduled on the same day as your specialist outpatient appointments, if any.

3 Beware of treatment options

There are no guarantees that the new drug will benefit you; in certain studies, you may not be given the actual drug! Most drug trials are double-blinded placebo studies, which means neither the researchers nor you will know who is receiving the actual drug or the placebo (inactive drug). Not knowing who receives the actual drug allows researchers to study the effectiveness of the new drug without bias.



4 Find out if the drug trial has an open-label extension study

After the blinded phase of the drug trial has been completed, you may be invited to take part in an open-label extension study (OLES). All participants in the OLES receive the actual drug, even if you had received the placebo intervention earlier. During the OLES, researchers can gather more information on the effectiveness of the drug.

Together is better

Receiving a diagnosis of Parkinson disease (PD) can be tough, and life afterwards comes with a new set of challenges. NNI's PD team organises monthly support group meetings, providing patients and caregivers a platform to share their experiences and encourage one another in their PD journey.

Madam Moo, 61, did not expect the sense of loneliness that came when she was diagnosed with Parkinson disease (PD) at just 46 years old. Symptoms such as tremors, muscle stiffness, and trouble balancing made it difficult for her to attend social events and family gatherings. "This made me very sad, and I felt so isolated from my loved ones," she recounted.

PD is a neurodegenerative condition that affects movement, and can also cause other health problems, such as fatigue and depression. Medication can help manage symptoms, but there is no cure and the condition worsens over time.

Forging new friendships

Many people with Parkinson, like Mdm Moo, experience loneliness, which affects their quality of life and possibly even their PD symptoms.

The NNI PD Support Group was formed 17 years ago to create a space where patients and caregivers can offer support to one another. "Being part of the group creates a shared sense of identity among our PD warriors, and helps them know that they have a community they can journey with," explained Senior Staff Nurse Chua Shu Ting, the PD Support Group Team Lead.

Learning to cope

The Support Group also helps members to manage their PD, with talks from doctors, nurses and allied health professionals.

Popular topics include:

- Dance therapy to improve coordination
- Music therapy, which includes singing and helps with voice training
- Deep brain stimulation (DBS), a type of surgery that can help relieve PD symptoms



Mdm Moo began playing the piano at 24 years old. Now, it helps with her PD symptoms as it keeps her fingers flexible and brings her joy.

Paying it forward

Mdm Moo was initially fearful when her doctor advised her to undergo DBS. However, after attending the support group sessions during which other patients shared their experiences, she decided to go for it in 2017.

"I'm so glad I did it — it's like I've been given a new life," said Mdm Moo, whose tremors have reduced so much that she can walk properly again. Now an active advocate for DBS, she often shares her story at the support group meetings. This has encouraged other patients to be more open to DBS. Mdm Moo received the Singapore Health Inspirational Patient and Partner-In-Care Award earlier this year.

Joining the support group

Physical meetings are no longer possible due to COVID-19 restrictions. Support group meetings are now held over Zoom. English and Mandarin sessions are held on alternate months. If you would like to join the NNI PD Support Group, please contact 6330 6363.



The PD team at NNI @ Tan Tock Seng Hospital Campus.

Congratulations to the PD Support Group Team for being awarded the Inspirational Patient Support Group award under the Singapore Health Inspirational Patient & Caregiver Awards 2021.

“

It is reassuring to see patients and caregivers bonding. A few patients would even go with each other to their clinic appointments, or meet for tea.

I truly admire our PD warriors' fighting spirit, and how supportive their caregivers are. I hope to see more patient-led sessions, as these will encourage other patients to share their own experiences as well.

I look forward to the day when we can all meet in person again!

— Chua Shu Ting



Chua Shu Ting
Senior Staff Nurse
NNI

”

Here to help you

Strong social support can help you and your loved ones live better with brain, nerve, spine and muscle conditions. Scan the QR code for a list of support groups you can join:



Learn more about PD

Scan the QR code here for more information about PD and other movement disorders:



Research boost for deadly brain cancer

A team of researchers from NNI, National University of Singapore (NUS), and Duke-NUS Medical School (Duke-NUS) has received a \$9.88 million grant under the Open Fund-Large Collaborative Grant, which is supported by the National Research Foundation Singapore and administered by the National Medical Research Council.



Glioblastoma (GBM) is a brutal form of brain cancer because it spreads quickly and is difficult to treat. Common symptoms include severe headaches, seizures, personality changes, and confusion, which can be distressing for patients and their family members.

There are many different subtypes of GBM tumours — they can look identical under the microscope, but each responds differently to the same treatment.

“Even with treatment, tumours nearly always recur. This generous funding gives us an opportunity to address the challenges posed by this aggressive tumour, opening up the possibility of better diagnostics and treatment avenues,” explained the project’s Principal Investigator, Associate Professor Ang Beng Ti, Head and Senior Consultant, Department of Neurosurgery, NNI @ Singapore General Hospital (SGH) Campus.

NNI sees close to 100 new cases of glioblastoma every year. Although it is rare, the precision medicine technologies and processes the team are developing have the potential to be adapted for the diagnosis and management of other forms of cancer.

The multi-institution collaboration focuses on four key themes:

1 Creating accurate tumour models for research and drug testing

Patients’ tumours are stored at Glioport, a brain tumour tissue bank, after surgery for in-depth studies exploring drug targets and stratification.

Principal Investigators: A/Prof Ang Beng Ti & Adj A/Prof Carol Tang

2 Accelerating molecular subtyping and drug discovery with artificial intelligence (AI)

Use data mining to identify genes linked to GBM, and prioritise drugs/targets with the highest potential to reduce chance of recurrence and improve survival outcome.

Principal Investigators: Prof Patrick Tan & Adj A/Prof Carol Tang

3 Bringing precision medicine into clinical practice

Development of blood tests to identify tumour subtypes for better treatment, monitoring and patient stratification in drug trials.

Principal Investigator: Asst Prof Shao Huilin

4 Global adaptive drug trials for better outcomes

Drug trials are expected to start in late 2022, with participants selected by tumour subtypes to identify potential responders.

Principal Investigators: A/Prof Ang Beng Ti & Dr Lin Xuling



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Department
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Institute for Health
Innovation &
Technology, NUS



Scan the QR code to read more about the team’s research.

Passing on the spirit of excellence and innovation

Heartiest congratulations to Professor Tan Eng King, Deputy Medical Director (Academic Affairs), Research Director, Senior Consultant, Department of Neurology, who received the Distinguished Senior Clinician Award and SingHealth 30-Year Long Service Award in March this year!

Hard work, perseverance, integrity and passion — these are the core values that have shaped Professor Tan Eng King's three decades of service as a clinician in the public sector.

As a specialist in Parkinson disease (PD) and movement disorders, Prof Tan established the Movement Disorders subspecialty programme at Singapore General Hospital (SGH) in 2000 to cater to the growing needs of people with PD. He helped initiate the Deep Brain Stimulation (DBS) surgery subsidy programme with the Ministry of Health in Singapore, and his work in PD has contributed to local and international guidelines to improve care.

Prof Tan is also a keen educator, nurturing young residents and shaping clinician scientist residency programmes.

"Like the generation before me, we try to create opportunities and better training for our younger colleagues so that they can deliver an even better standard of integrated care in the future. When we are able to leave the scene one day without being missed, then we know we have succeeded."

Another passion of Prof Tan's is research. As chair of the National Neuroscience and Sensory Disorders Taskforce, he led a team of experts to develop Singapore's roadmap for biomedical neuroscience research, which has been endorsed by the Government. In the past decade, he has secured more than \$70 million of peer-reviewed funding for NNI as the lead principal investigator.

In spite of his many commitments, Prof Tan continues to make time to serve the community. He contributed

for several years as an executive member of the Parkinson Society Singapore (PSS), and has also served as a volunteer doctor in Ling Kwang Home, a nursing home for senior citizens.

"Many of us remain in the government sector because we want to serve patients in the heartlands and, at the same time, impart knowledge to our younger generation. I feel very honoured and humbled receiving these awards."



“
When we are able
to leave the scene
one day without
being missed,
then we know we
have succeeded.

— Prof Tan Eng King

”



Prof Tan (right) working in the Movement Disorders Neuroscience Lab, shortly after it opened in 2000.

Teaming up to transform stroke care

A team of NNI and Singapore General Hospital (SGH) healthcare professionals leading the Stroke Interprofessional Education (STRIPE) Programme has received the Programme Excellence Award under the AMEI Golden Apple Awards 2020. The programme brings together various disciplines to improve stroke care through interprofessional education and collaboration.

Stroke care involves many professionals across various disciplines. This starts in the emergency department, through the hospital admission, during the stroke recovery phase, and in the life after a stroke. The Stroke Interprofessional Education (STRIPE) programme was designed in 2017 to provide learning opportunities and develop resources for healthcare professionals, patients, caregivers and communities.

“STRIPE is truly a team effort, and has been so rewarding for all of us involved in it. Through interprofessional education platforms, STRIPE is able to engage healthcare professionals involved in stroke care, promote networking and conversations, and strengthen partnerships, with the aim of raising the standard of stroke care,” said Associate Professor Deidre Anne De Silva, Head and Senior Consultant, NNI @ SGH Campus and STRIPE co-lead.

Congratulations to Nurse Clinician-Advanced Practice Nurse Tan Il Fan, who also received the Outstanding Young Educator Award.

Il Fan specialised in neuroscience nursing in 2008, and subsequently focused on stroke care. Since 2012, she has served as teacher and lecturer across nursing schools and healthcare institutions in Singapore. Her passion for Interprofessional Education (IPE) led her to set up several programmes to improve collaboration and communication between healthcare professionals caring for stroke patients.



Members of the STRIPE team, from left: Fu Liqing, Nurse Clinician, NNI; Dr Ng Wai May, Deputy Director and Advanced Practice Nurse, Nursing; A/Prof Deidre Anne De Silva, Head and Senior Consultant, NNI @ SGH Campus and STRIPE co-lead; Tan Il Fan, Nurse Clinician-Advanced Practice Nurse, NNI and STRIPE co-lead; Dr Kinjal Doshi, Principal Clinical Psychologist, SGH; Dr Shamala Thilarajah, Principal Physiotherapist, SGH.



Honouring our SingHealth heroes

This year's Singapore Health Quality Service Awards is themed 'Celebration of Unity', in honour of those who have contributed significantly in the fight against COVID-19. NNI is proud to have 18 winners under the 'Hero' category.

Corporate Communications

Eddy Jamal
Assistant Manager

Human Resources

Colleen Wong
Executive

Neurodiagnostic Laboratory

Jennifer Baisa Canceran
Senior Healthcare Assistant

Neurology

Dr Gosavi Tushar Divakar
Senior Consultant

Dr Prasad Kalpana
Senior Consultant

Dr Jasmine Koh
Consultant

Dr Ng Kok Pin
Consultant

Neuroradiology
Chua Wei Lin
Radiographer

Peh Ping Ping
Associate Executive

Neurosurgery

Dr Justin Ker
Associate Consultant

Dr Benjamin Huang
Resident Physician

Dr Cheong Tien Meng
Senior Resident

Dr Damian Lee
Senior Resident

Dr Thevandiran
S/O Kanavathy
Medical Officer

Operations

Desmond Khoo
Deputy Director

Tay Lee Lian
Manager

Research

Dr Ivy Ho
Principal Investigator

Nicole Chia
Senior Clinical
Research Coordinator

Playing your way to MRI safety

The magnet inside a Magnetic Resonance Imaging (MRI) machine is so strong, it can cause metal objects to fly across a room. MR safety education is crucial in all radiology departments to prevent accidents, so an NNI team has developed a virtual game to make learning more engaging. Titled 'MRI Safety in Healthcare', staff role-play as avatars and learn through mini-games and simulated dangerous scenarios that are impossible to re-enact in the real world.

The game, which supplements face-to-face training, has now been adapted and rolled out at radiology departments at Singapore General Hospital, KK Women's and Children's Hospital, and Sengkang General Hospital.

Led by senior executive Cheng Qianhui, the team included Neuroradiology colleagues Oh Hui Ping, Principal Radiographer; Dr Joanna Pearly Ti, Consultant; Dr Yu Wai-Yung, Senior Consultant; and A/Prof Sitoh Yih Yian, Deputy Medical Director (Medical Affairs & Quality Management), Head of Department, and Senior Consultant.

For their innovation, the team received the Free Communications for Young Scholar Award Runner-Up in the Asia Pacific Medical Education Conference 2021, and the Special Mention Award in the Medical Education Grand Innovation Challenge 2019/20.



A screenshot from the virtual game of a simulated accident scenario.

“Education plays an important role in ensuring the safety of patients and staff. This virtual game familiarises the learner on the MR-safe equipment and zones, and what to do should an MR accident occur.”

— Cheng Qianhui



Going the extra mile to make a difference

The NNI Fund helps our patients to survive and thrive. Some of our staff donors share what motivates them to give.

“

Seeing my Head of Department give to the NNI Fund monthly inspired me to do the same. Though it is not a huge sum of money, a little goes a long way. As a nurse, I see many patients who struggle with life-changing conditions, and I would like to help in any way possible. It is always more blessed to give than to receive!

— Quek Yi Ping, Senior Staff Nurse, Nursing



“

The process of setting up monthly giving was so easy and fuss-free that now I will not have to worry about forgetting to make my contribution. It is a blessing to be able to give. I hope more will come forward to help make life better for our patients. For those who are considering giving — don't think, just do!

— Amy Chew, Assistant Nurse Clinician, Nursing



Change someone's life today with a gift to the NNI Fund

- Support patients in financial need battling diseases such as dementia, stroke, Parkinson disease, and brain tumour
- Improve treatments using innovative equipment, care models, and treatment methods
- Accelerate research discoveries to improve and transform care
- Nurture future leaders in neuroscience

All qualifying donations received from now till **31 December 2021** are entitled to 250% tax deduction if NRIC is provided and conditions are met.



“

In the laboratory, I process tissues to help in diagnosing patients with neuromuscular conditions. When I found out about the staff giving programme, I thought, 'Why not?' I am happy to play a small part, knowing that the funds will be put into good use for our patients. It is heartening to know I can help our patients in different ways.

— Angelia Koe,
Medical Laboratory Scientist,
Neuromuscular Laboratory



Scan the QR code to find out more about the NNI Fund's work and how to donate.



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



National Neuroscience Institute
SingHealth



Yong Loo Lin School of Medicine

若有人癫痫发作该怎么办？

癫痫发作比你想象中更常见，大约每10个人当中就有一人在有生之年会有一次癫痫发作的经历。国立脑神经医学院神经内科高级顾问医生希拉·斯里尼瓦桑（Sheila D/O Srinivasan）给大家讲解如何应对癫痫发作和癫痫。

看 着他人癫痫发作可能令人感觉害怕，但这样的情况一般不会的大脑造成永久性损害。当大脑中神经元无法控制突发性异常发电，就会出现癫痫发作。这导致身体动作、感觉、思想和情绪暂时变化。有过两次或以上癫痫发作的人可能被诊断为患有癫痫。癫痫可以在任何年龄发病。

癫痫发作分许多不同类型，最常见和容易辨识的是强直-阵挛性发作。患者可能突然失去意识，接着身体开始快速抽搐和摇晃。国立脑神经医学院神经内科高级顾问医生希拉·斯里尼瓦桑指出：“通常患者完全不知道发生什么事，也无法控制癫痫发作。癫痫发作后，他们可能会感到非常疲惫，连续几天内感觉肌肉酸痛。”

对大部分患者来说，癫痫发作是没有原因的。一些患者可能是因为大脑神经细胞受损，导致脑电波受到干扰而癫痫发作。这可能在头部受伤、脑肿瘤、缺血性或出血性中风(血块导致直接向大脑供血的动脉阻)、中毒和感染之后发生。

一些外在因素如睡眠不足、压力、受感染、闪光、巨响和饮酒也可能提高患者癫痫复发的风险，所以癫痫疗程也包括识别和避开可能引发癫痫发作的原因，以及定期服药。

“通常患者完全不知道发生什么事，也无法控制癫痫发作。癫痫发作后，他们可能会感到非常疲惫，连续几天内感觉肌肉酸痛。”

— 希拉·斯里尼瓦桑医生



”

癫痫发作时，肌肉会变得僵硬，导致身体抽搐。



彭雪娟
国立脑神经医学院
专科护士

癫痫发作时该做和不该做的事情

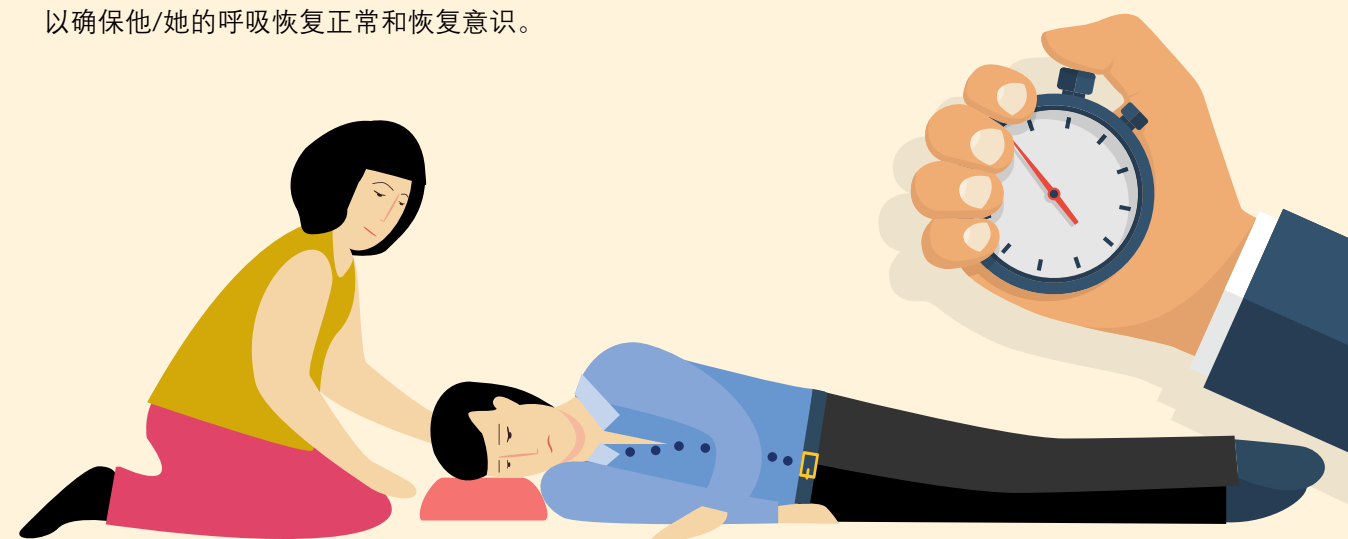
国立脑神经医学院专科护士彭雪娟教你如何帮助癫痫发作的患者。

该做的事：

- ✓ 保持冷静。
- ✓ 计算癫痫发作的时长。
- ✓ 在患者的头下放置柔软的物品，以及为他/她松开任何缠绕颈部的衣物。
- ✓ 移开附近任何尖锐或硬物。
- ✓ 癫痫发作后将患者转向左侧（复苏体位*）。
- ✓ 癫痫发作后，陪在患者身边至少15至20分钟，以确保他/她的呼吸恢复正常和恢复意识。

不该做的事：

- ✗ 将任何物体放在患者的嘴里。
- ✗ 束缚患者。
- ✗ 移动患者，除非他/她处于危险处（例如躺在道路上）。



若发生以下情况下，请立即叫救护车：

- ① 癫痫发作时间比患者平时发作更久。
- ① 癫痫发作时间超过5分钟，而你又不确定患者癫痫发作通常持续多久。
- ① 癫痫反复发作，而且患者一直处于失去意识的状态。
- ① 这是患者第一次癫痫发作。
- ① 患者在癫痫发作时受伤或身处水中。
- ① 患者是孕妇。
- ① 癫痫发作后，患者出现呼吸困难的问题。

* 学习如何帮人置于复苏体位(信息以英文显示)：



想了解更多有关癫痫的信息，请扫描下列QR码(信息以英文显示)：



啊，我撞伤头了！

头部撞伤时或许不留痕迹，但可能已对大脑造成严重伤害。国立脑神经医学院脑神经外科高级住院医师林家煦分享撞伤头后需注意的警示信号，以及说明为何老年人头部受创后出现并发症的风险更高。

头部受创可以瞬间改变你的一生。创伤性脑损伤(TBI)或俗称头部损伤相当常见，尤其容易发生在年轻人和老年人身上，但这两个群体受伤的原因却往往大相径庭。年轻人通常是因为交通事故或从高处跌下以致出现创伤性脑损伤，而这也是造成年轻人死亡或残疾的主要原因之一。另一方面，老年人则大多因为跌倒导致头部受伤。

老年人往往患有年长者常见的疾病，并服用可能影响其视力、肌肉力量、协调和思考能力的药物，这使得他们在进行日常活动如上厕所、洗澡，甚至下床时容易跌倒。

“可是我的祖母看起来没事……”

老年人即使只受到轻微的头部损伤也可能造成严重的后果，这是因为随着年龄的增长，人的大脑会缩小，头颅内会出现更大的空间，当头部受到撞击时，大脑更易移动。要是大脑经常

“

如果年长亲人撞伤了头，请仔细观察他们的一举一动，如果他们出现任何头部受创的迹象，如头痛、过度困倦、行走困难、四肢无力或癫痫发作，请立即拨打995。

— 林家煦医生

”

移动，血管受损的风险也会相应加，导致颅骨下逐渐积血，这种情况被称为慢性硬脑膜下血肿。

这种因轻度创伤性脑损伤引起的“延迟”出血状况有时会在头部受创后

的数个星期至数月内发生，可能需要进行手术。

头部受伤可能在任何时候发生，学习辨识脑部受创的迹象以及何时需寻求医疗援助！



头部受创后应如何处理

如果当事人属于脑部受伤的高风险群，请立即到邻近的急诊部就诊：

- ▶ 老年人(65岁以上)
- ▶ 服用血液稀释剂药物；例如：阿司匹林(aspirin)、氯吡格雷(clopidogrel)、华法林(warfarin)、利伐沙班(rivaroxaban)
- ▶ 因交通事故、从高处坠落或遭攻击造成的头部损伤
- ▶ 出现严重脑损伤的迹象：
 - 嗜睡、反复呕吐
 - 四肢麻木或无力，或者是行走和说话有困难
 - 行为有所改变
 - 伤口出血
 - 鼻子或耳朵出血或流出液体

通知医生/护士：

- ▶ 在什么情况下头部受创、什么时候发生
- ▶ 头部受创者是否出现以下症状：
 - 头痛并伴有恶心或呕吐症状
 - 丧失记忆
 - 事发时失去意识
 - 癫痫发作的迹象；例如，眼睛上翻，或手脚抽搐
 - 任何医疗状况或最近刚动手术

从急诊部出院后：

- ▶ 在受伤后的24小时内：
 - 不应让伤者独处、饮酒或服用引起困倦的药物
 - 定时监测患者是否有上述脑损伤的迹象
- ▶ 在接下来的几天到几个星期内：
 - 继续注意查看伤者的警觉性和行为有没有出现细微的变化，或新出现虚弱/行走困难的状况；若发现这些症状，建议将伤者带到邻近的急诊部就诊



从轻微头部撞伤到致命的伤害

头部受伤可分为轻度、中度和重度。

轻度创伤性脑损伤可引起头痛、恶心、晕眩、注意力不集中和暴躁等症状。这有时被称为脑震荡后综合症，通常会持续几天。在极少数情况下，它可能持续6至12个月——这些都需要专家进一步检查。



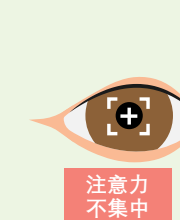
头痛



恶心



晕眩



注意力不集中

中度或重度创伤性休克需要在脑神经科学加护病房或重症护理病房进行密切监测，以便及早发现任何病情恶化的情况。伤者可能需要进行脑部手术。尽管这方面的护理已经取得很大的进展，但是死亡率仍然很高不下，特别是老年伤者。幸存者往往需要几个月的复健治疗，才有机会康复。

为何要参加临床研究?

参与临床研究的志愿者扮演了重要角色，他们可帮助医生和研究人员寻找更好的方法治疗和管理神经科相关疾病。国立脑神经医学院神经内科高级顾问医生兼临床试验和研究部主任纳根德兰·坎迪亚(Nagaendran Kandiah)副教授为大家讲解展开临床试验的目的，以及参加临床试验可为人们带来的好处。

临床研究是一种涉及人类的医学研究。它的涵盖范围广泛，每一个人无论男女老少都有机会参与!

临床研究主要分两大类型:

- **对新药和医疗设备进行试验**，以检查药物或设备的有效性和安全性。参与临床试验的志愿者必须是该药物或设备所要治疗疾病的患者。
- **收集临床数据以更好地了解某种疾病**，如患病风险因素、早期征兆和病情的发展进程。这些研究通常需要患有该病况以及没有患病的志愿者参与，以便进行对比。

参加临床研究有几个好处:

密切监测

志愿参加临床研究的病人通常需要更频繁复诊和做检查，如扫描和进行记忆测试，以监测他们的病情。在接受药物试验期间，研究人员会密切跟进所有志愿者的情况，以确保志愿者没有出现任何副作用。

及早检测出病况

在一些临床研究中，参与试验的志愿者可以选择被告知他们的检查结果异常。这样一来，他们便可在症状出现之前就寻求治疗，治疗结果可能更好。



获得有望带来全新或更好疗效的新药

参加药物试验的志愿者可以在药物被监管机构正式批准使用之前，获得这种有望带来全新或更好疗效的新药。试验药物的费用也由研究机构承担。

协助寻找治疗方法

每一项临床研究都旨在提高我们对人体和病情的了解，让我们能够进一步为眼前以及未来的病人找到更好的治疗方法，甚至是治愈的方法。



苏施恩
国立脑神经医学院
研究助理

欲了解更多有关国立脑神经医学院正在进行的有关的信息，请扫描下方二维码(信息以英文显示):



参与临床研究之前需考虑的事项

你在报名临床研究项目之前应做或考虑的四大要项。

1 与你的医生讨论

有望带来更好疗效的新药和疗程通常主要针对早期和中期病情，例如年轻发病的失智症或是现有药物不能很好控制的症状，如慢性偏头痛等症状。请与你的医生讨论，看你是否适合参加你感兴趣的研究。



2 仔细了解研究内容

不同临床研究所需要的受试次数和检验类型都有所不同。要确定研究涉及使用怎么样的疗程以及需要做怎么样的检验，请向该研究的临床研究协调员了解详情。你也可以查询检验属于选择性的还是强制性，以及是否可以安排在你到专科门诊诊所复诊的同一天受试。

3 正确了解试验所提供的治疗方案

没人能保证新药会对你有好处；在一些研究中，你可能不会使用试验中的药物！大多数药物试验属于双盲安慰剂研究，这意味着研究人员和身为志愿者的你都不知道谁在服用试验中药物或安慰剂(非活性药物)。只有当研究人员不知道谁使用试验中的药物，他们才能够在没有偏见的情况下研究新药的有效性。



4 了解该药物试验是否有开放标签的扩展研究

在药物试验的双盲阶段结束后，你可能被邀请参加开放标签扩展研究。所有参加开放标签扩展研究的人都将可使用试验中的药物，即使你之前接受的是安慰剂。在开放标签扩展研究期间，研究人员可以收集更多关于药物有效性的信息。

应对帕金森氏症的路上，你并不孤单

要帕金森氏症（PD）患者接受自己患病的诊断并不容易，因为患者接下来的生活将出现全新的挑战。国立脑神经医学院的帕金森氏症团队每个月举办一次支持小组会议，为患者和看护者提供一个分享经验和相互鼓励的平台，让他们这段与疾病共处的人生路走起来较不孤单。

61岁的巫女士万万没想到，她在46岁时被诊断患有帕金森氏症（PD）后，会陷入如此强烈的孤独感。

由于她不时会出现震颤、肌肉僵硬和平衡困难等症状，因此巫女士很难参加社交活动和家庭聚会。她表示：“这让我感到非常难过，感觉我与亲人被隔离开来。”

帕金森氏症是一种神经退行性疾病，不仅会影响患者的行动能力，也可能引发其他健康问题，如疲劳和抑郁症。药物治疗可以帮助控制症状，但是帕金森氏症无法治愈，而且病情会逐步恶化。

建立新的友谊

像巫女士一样，许多帕金森氏症患者都感觉很孤独，而这也影响了他们的生活质量，甚至可能对他们的病况造成负面影响。

17年前成立的国立脑神经医学院帕金森氏症支持小组旨在为患者和看护者创造一个舒适自在的空间，让他们可以互相扶持，给彼此加油打气。帕金森氏症支持小组组长蔡淑婷高级注册护士指出：“加入小组让我们的帕金森氏症战士建立起一种身份认同，也能让他们知道，他们能够以彼此为伴，一起面对接下来与帕金森氏症共处的人生旅程。”

学习如何应对

支持小组还定期主办讲座，邀请医生、护士和综合护理人员指导会员如何应对帕金森氏症的症状。



巫女士24岁就开始弹钢琴。现在，这有助于缓解她的帕金森氏病的症状，让她的手指保持灵活并带给她快乐。

热门讲题包括：

- 舞蹈治疗，以改善肢体协调
- 音乐疗法，包括唱歌和帮助嗓音训练
- 深度脑刺激（Deep Brain Stimulation），一种可以帮助缓解帕金森氏症症状的手术

把善意传递下去

当初医生建议巫女士做深度脑刺激手术时，她感到很害怕不安。后来，她参加了支持小组的活动，听了其他患者的经验分享之后，她在2017年决定接受深度脑刺激手术。

“我很高兴动了这个手术。我就像是重获新生。”巫女士说，手术后她的震颤减少了，可以重新正常行走。如今，巫女士是深度脑刺激手术的积极倡导者，她也经常在支持小组活动上分享她的经历。不少其他病人也因为她的经验分享而更愿意接受深度脑刺激手术。巫女士今年获颁2021年新加坡保健服务集团颁发的激励人心病人奖和护理伙伴奖。

加入支持小组

鉴于当前的冠病疫情安全管理措施，支持小组无法举办实体会议，所以改而通过Zoom举行会议。支持小组的英语和华语会议每月交替举行。如果你想加入国立脑神经医学院帕金森氏症支持小组，请拨电6330 6363 报名。



国立脑神经医学院驻陈笃生医院，帕金森氏症团队。

恭贺帕金森氏症支持小组获得2021年新加坡保健服务集团颁发的支持小组奖，属于“年度激励人心病患与看护奖”之一。

“

看到病患和看护者互相帮忙，令人感到很欣慰。有几名病患甚至会陪伴彼此前去复诊，或者相约见面喝茶。

我真的很敬佩帕金森氏症战士积极对抗疾病的精神，还有他们的看护者给予他们的关爱和支持。我希望看到更多由患者带头发起的活动，因为这将鼓励其他患者站出来分享他们自己的经验。

我期待我们很快能再次面对面相聚！

— 高级注册护士淑婷



”

为你提供援助

坚实的社区支援可以帮助你更好地应对大脑、神经、脊柱和肌肉疾病。扫描下列QR码，查看有哪些适合你参加的支持小组（信息以英文显示）：



了解更多有关帕金森氏病的信息

请扫描下列QR码，了解更多关于帕金森氏病和其他运动障碍的信息（信息以英文显示）：



Bringing care closer to you

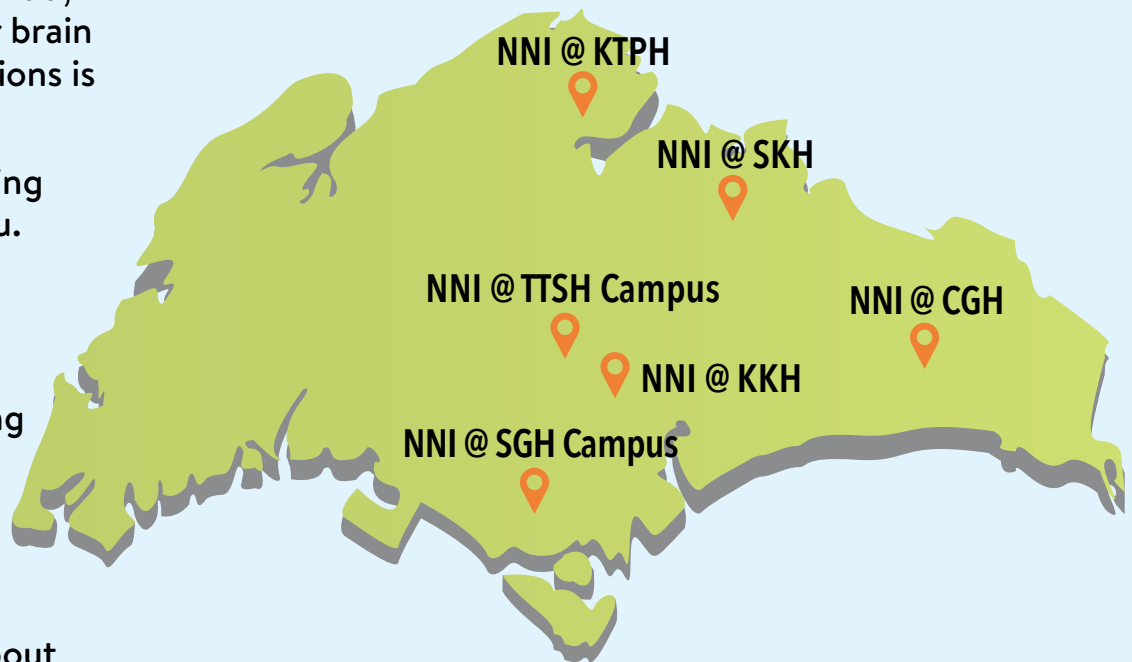
Living with dementia, stroke, and other brain and nerve conditions is challenging.

That's why we bring care closer to you.

NNI specialists are based at six hospitals across Singapore, making it easier for you and your loved ones to receive treatment.

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

 www.nni.com.sg  [nni.sg](https://www.facebook.com/nni.sg)



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