



MCI (P) 060/06/2022

## Ruptured Brain Aneurysms: The Rocky Road to Recovery

## 脑动脉瘤破裂： 坎坷的康复之路



10 Lost for words

12 Life overturned  
by Young Onset  
Dementia

28 无言以对

30 颠覆的生活  
早发性失智症

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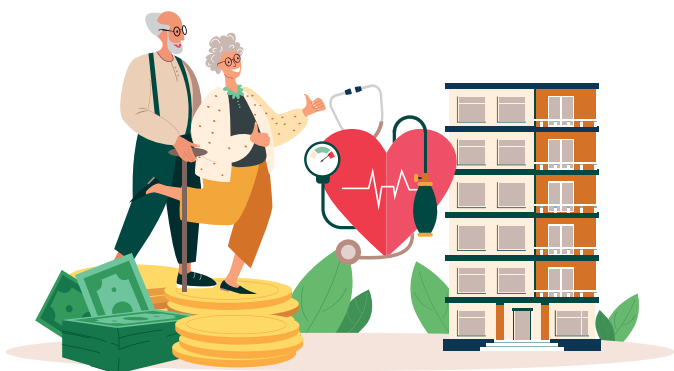
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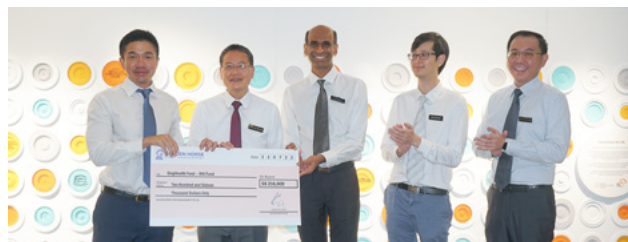
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# News and Updates



## One-stop caregiving support portal

The SupportGoWhere portal has a new “Care Services Recommender” feature which is jointly developed by the Agency for Integrated Care (AIC) and Government Technology Agency of Singapore (GovTech). Caregivers can meet their caregiving needs with the schemes, services, tips and resources for their caregiving journey!

Scan the QR code to check out the Care Services Recommender.



## Save the date! Head Injury and Falls Prevention Talk

**Date:** Thu 13 April, 2023  
**Time:** 4.00pm to 5.30pm  
**Venue:** Bedok Library, [Heartbeat@Bedok](mailto:Heartbeat@Bedok)

Join Dr Jai Rao, Senior Consultant, Neurosurgery and Ng Suan Gek, Nurse Clinician - Advanced Practice Nurse, Neuroscience Nursing, as they explain how hitting your head can harm your brain and what you should do if a loved one falls and hits their head.

Register via the National Library Board's website:  
<https://www.nlb.gov.sg/main/whats-on>



## Join our NNI e-mailing list

Be the first to know about NNI's events!  
Scan the QR code to register to receive email updates from NNI.



Better Minds  
Better Lives  
Better Tomorrow



# BRAIN AWARENESS 2023



#### DATE & TIME

**20** MAY, SAT  
10am to 8pm

**21** MAY, SUN  
10am to 6pm

#### VENUE

**Heartbeat  
@Bedok**

*What can I do to prevent dementia?*

*What are the signs of stroke?*

*How can I live well with Parkinson disease?*

**Get answers** to these questions and learn more about brain, nerve, spine and muscle conditions at National Neuroscience Institute's community outreach event!

### Event Highlights



Health Talks



Stage  
Performances



Health  
Exhibition



Fun Interactive  
Booths



Free  
Goodie Bag

#### SUPPORTING PARTNERS





## Ruptured Brain Aneurysms:

# The Rocky Road to Recovery



**A ruptured brain aneurysm is a life-threatening emergency. Patients who survive the immediate danger often face a challenging but important recovery journey. Our NNI healthcare team explains more.**

In a group of 100 people, around two to three will be living with a brain aneurysm – a bulge or ballooning in the wall of an artery in the brain. Most people are unaware they have one

because the aneurysm is small and causes no problem. But around 1 in 300 aneurysms burst, causing people to change rapidly from seemingly healthy to critically ill.

**“About one in three people who suffer from a ruptured aneurysm die before they reach hospital, because the bleeding in the brain can be extensive. In other cases, a clot forms around the ruptured brain aneurysm which temporarily stops the bleeding. This creates a window of opportunity for emergency treatment.”**



**Dr Vincent Ng**

Dr Vincent Ng,  
Senior Consultant, Neurosurgery, NNI.

A sudden severe headache, often described as 'the worst headache of your life' is the most common symptom of a burst aneurysm and a signal to go straight to the Emergency Department.

### On Arrival at A&E

If a ruptured aneurysm is suspected, a Computed Tomography (CT) head scan is done to check for an aneurysm, as well as bleeding and fluid build-up in the brain. The brain ventricle, a structure located in the middle of the brain, produces a clear liquid called cerebrospinal fluid (CSF) which normally flows over and within the brain to protect and nourish it.

The majority of brain aneurysms occur on arteries on the base of the brain. Blood from the rupture can spread and clot in the space between the brain and the skull (known as subarachnoid space – hence subarachnoid hemorrhage),

covering areas of brain tissue and preventing CSF from circulating.

"As the fluid builds up, brain pressure increases. This can damage the brain. So our first priority is to identify fluid obstruction and to drain it by inserting a tube known as an external ventricular

drain (EVD) into the brain ventricle," says Dr Ng.

### Within 24-48 Hours

Once the EVD is in place (if needed), the patient is monitored closely in the Intensive Care Unit and attention focuses on treating the aneurysm.

**The blood clot only stops the aneurysm bleeding temporarily so the aneurysm needs to be treated to prevent it from rupturing again. There are two main ways this can be done: via endovascular therapy or surgery. The team will determine which is best for the patient based on where the aneurysm is located in the brain, its size and appearance, if the patient has pre-existing illnesses and other factors.**

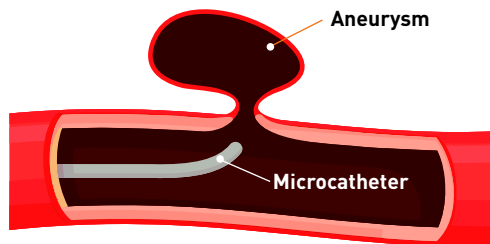
Dr Saravana Kumar Swaminathan,  
Consultant, Interventional Neuroradiologist, NNI.



Dr Saravana Kumar

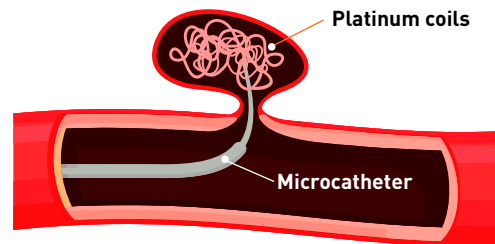
## Treatment for ruptured aneurysms - Endovascular Therapy

1



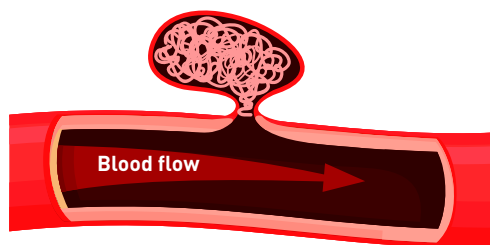
A fine tube (microcatheter) is inserted into an artery in the groin or wrist and passed through the blood vessels to the aneurysm.

2



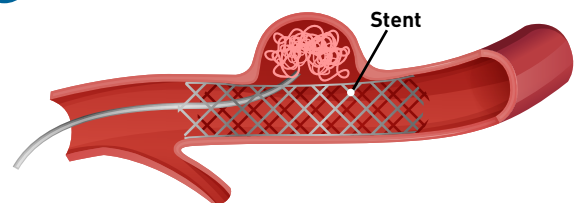
Very thin, flexible platinum coils are passed through the microcatheter into the aneurysm pouch.

3



The coils fill the pouch preventing blood from entering and allowing the artery wall to heal.

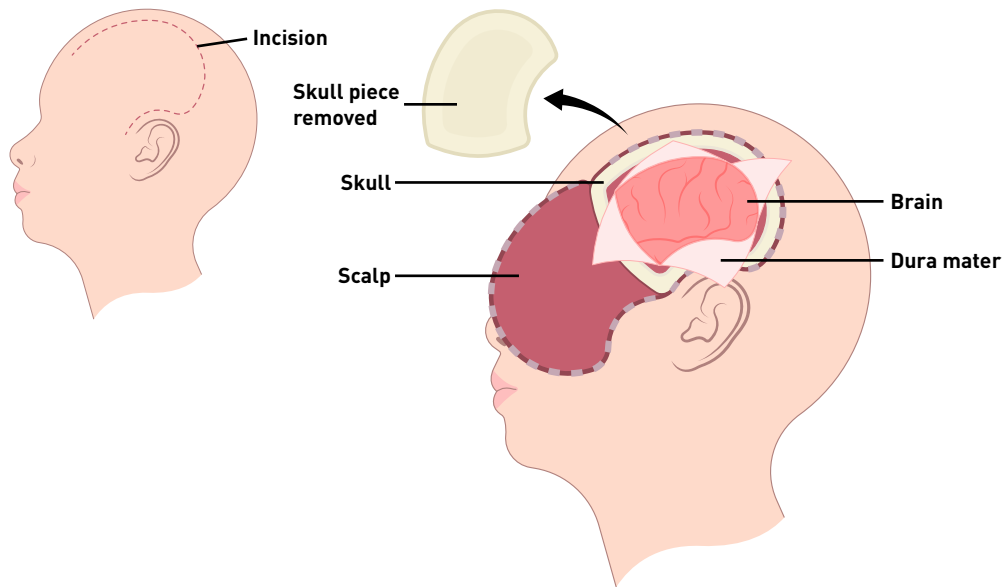
4



If the neck of the aneurysm is too wide, a stent may be needed to divert blood flow away from the aneurysm and to reconstruct the artery wall.

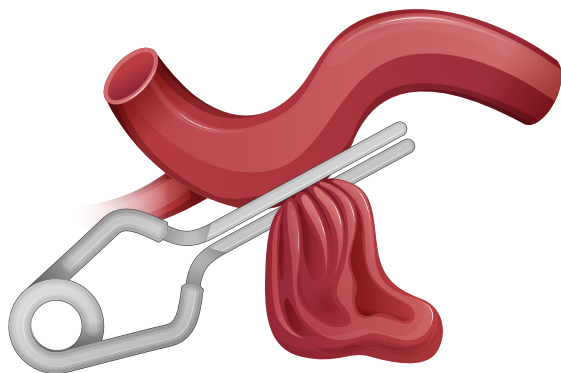
If the aneurysm is not suitable for endovascular therapy, surgery is required:

1



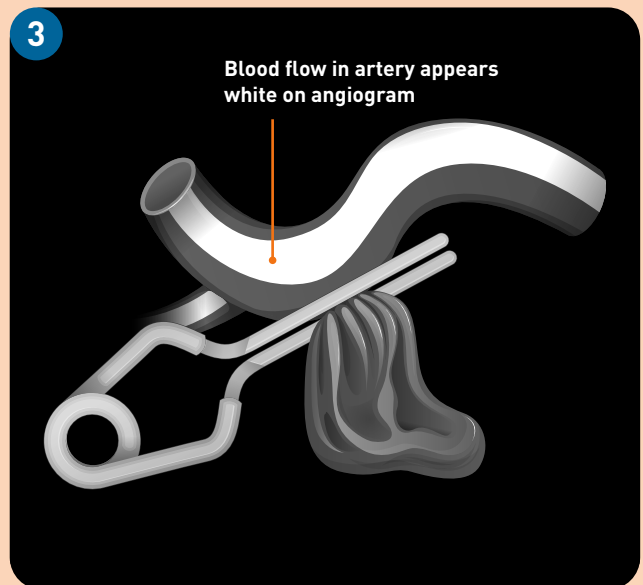
An opening is made in the skull to access the brain and the aneurysm is separated from the surrounding clot and brain tissue. The delicate procedure is done under a microscope.

2



If necessary, blood flow to the aneurysm will be stopped temporarily before a permanent titanium clip is placed across the aneurysm neck to seal it off.

3

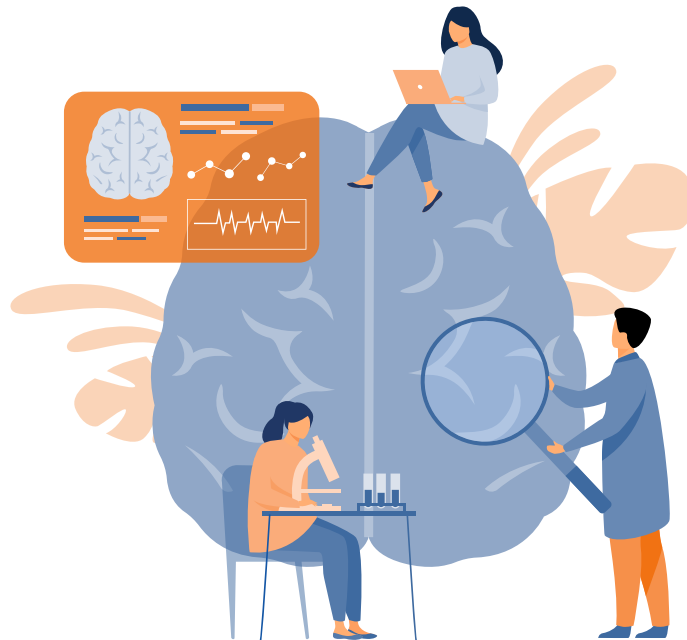


An angiogram (blood vessel x-ray) is performed under the microscope to confirm good blood flow.



## 4 – 14 Days After Rupture

The patient continues to be monitored in ICU and undergoes daily ultrasound scans of blood vessels in the brain to detect a possible serious complication known as vasospasm. This occurs when blood from the initial bleed (subarachnoid haemorrhage) triggers an inflammatory process and releases substances that cause the arteries to tighten and narrow. When there is significant narrowing, it restricts blood flow to the brain, and deprives the brain of oxygen and glucose resulting in brain injury.



**Vasospasm typically occurs in about 50-70% of patients after aneurysm rupture. About half of those affected will have clinical signs and symptoms within 4 to 14 days. Daily ultrasound scans are done on the temples of the patient's head (near the ears) to detect changes in the speed of blood flow. There is no radiation and it is very safe. In general, the more the blood vessel narrows, the greater the severity of vasospasm, causing faster blood flow but lower volume.**

Phua Ziqun,  
Principal Sonographer,  
Neurodiagnostic Laboratory.



Phua Ziqun

## Treatment for Vasospasm

Medication to prevent vasospasm is given in the ICU for 21 days. If significant vasospasm is detected, additional treatment is started to increase the blood pressure to improve blood flow in the brain, but for some patients, this is still not sufficient to treat the vasospasm.

“In such cases, medication will be injected directly into the blood vessels close to the vasospasm to ‘relax’ the tightened walls which increases blood flow. The medication is given via a fine tube that is inserted into an artery in the patient’s groin or wrist and passed through the blood vessels to the affected part of the brain,” explain Dr Saravana Kumar.

## Removal of the EVD

When the patient has stabilised, the team will assess if the EVD is no longer needed for draining excess brain fluid.

“In 80% of cases, the EVD can be removed successfully, but in about 20% of cases, the brain fluid circulation and absorption remain poor if the EVD is removed. In such cases, a permanent brain shunt is inserted to divert the brain fluid to the abdomen where it is absorbed,” says Dr Ng.

## 2 weeks to 2 months

Once the risk of vasospasm has passed and the permanent shunt is inserted

(if necessary), the focus switches to rehabilitation. This is an important stretch of a patient’s recovery journey and is coordinated by rehabilitation specialists. It can include treatment with a physiotherapist, occupational therapist, speech therapist, dietitian and/or psychologist, depending on the patient’s needs.

It starts with three weeks in the acute hospital followed by a further 6 to 8 weeks of inpatient rehabilitation, then the patient will return home.

## Continuing recovery at home

Once discharged, the patient will continue to do rehabilitation at home and in the community for as long as needed. The patient also needs to attend review appointments in Specialist Outpatient Clinics with the neurosurgeon, interventional neuroradiologist and specialist nurses until the patient can be referred to their family doctor or polyclinic for long term follow-up.



Scan QR code to hear Dr Saravana’s interview with CNA938 about brain aneurysms.

# Lost for words



Iris Lee Jin

**About one in three stroke survivors have difficulty speaking and communicating. Iris Lee Jin, Speech Therapist, SingHealth Community Hospitals, shares more about this common problem and how to support people living with this condition.**

Stroke survivors can face problems with walking, muscle stiffness and swallowing, but one of the most frustrating complications can be difficulties using language to speak and communicate. The medical term for this is aphasia and the most common cause is stroke, but it can also affect people with traumatic brain injuries or brain tumours.

Aphasia can affect a person's ability to speak, read, write and understand conversations but it does not affect their intelligence.

"People with aphasia also have their thoughts and ideas that they would like to share in conversations, but they may be limited by their abilities to express themselves or to understand information. Conversation partners can employ strategies to create a supportive communication environment to engage people with aphasia in conversations. Speech therapy can also help people with aphasia regain some skills," says Iris.

## More than loss of speech

Aphasia can affect stroke survivors in one or more ways. These include difficulties with:



Understanding what people are saying, e.g. following conversations or instructions



Reading words, e.g. what is written in a text message or letter



Expressing themselves, e.g. finding the words to describe what they want



Writing, e.g. spelling words and crafting written sentences which makes sending text messages challenging

If you or a family member is experiencing any of these problems after a stroke or when living with other neurological conditions, tell your healthcare team who will refer you to a speech therapist if required.

# How does speech therapy help?

A speech therapist will assess the patient's specific area of difficulty before customising a rehabilitation plan to address their needs.

In general, speech therapy comprises three aims:



1

## Treat the impairment

The speech therapist will treat the impairment through activities such as asking the patient to match spoken or written words to pictures. The patient may also be asked to think and collate words from a given category (e.g. colours, foods) as well as to form simple sentences using a selected verb.

2

## Equip patients with other ways to communicate

The therapist will teach patients ways to work around their difficulty to get their message across.

These can include the use of communication books and boards, alphabet boards and/or strategies to help people describe what they want to say when they cannot think of the right word.

3

## Caregiver training

Teaching family members and caregivers ways to support communication for people with aphasia (conversational partner training). See below for tips.

# Communication strategies for caregivers

Small actions by caregivers can facilitate communication with the person who has aphasia.

## Tips for communicating with someone who has aphasia

- 1 Get their attention before speaking to them and maintain eye-contact.
- 2 Remove distractions in the environment such as music or background noises.
- 3 Speak slowly and use shorter sentences with simple, everyday words. Avoid sarcasm and complex humour.
- 4 Discuss only one idea at a time. Avoid overstimulating the patient with different topics and give them enough time to respond.
- 5 Speak to stroke survivors with the same level of respect as before. Do not treat them like a child – talk normally with your usual tone of voice.
- 6 Support speech with gestures, tone of voice, facial expression and pictures if necessary.

## Tips to help persons with aphasia communicate

- 1 Encourage them to express themselves through a combination of words, gestures, writing or drawing if they have trouble getting their message across.
- 2 Practice makes perfect. Create opportunities for them to practise having conversations. This helps prevent stroke survivors from becoming withdrawn, which is common after stroke.
- 3 Attempt to identify the general topic that they are talking about first before trying to understand the details: e.g. identify that they are talking about food then proceed to understand details such as food preferences.
- 4 Ask Yes/No questions to clarify their points.
- 5 Do not pretend to understand if you do not. This can demoralise the stroke survivor. Instead, encourage them to try again later.
- 6 Allow rest periods between attempts to prevent burn out.
- 7 Be empathetic to their loss. Do not leave them out from conversations just because they are unable to share their thoughts readily with you.



Communication book with images tailored to the person with aphasia



Andi's positive mindset has helped him accept this unexpected turn in his career and his family has also had to adapt.

### A strong and supportive wife

Previously, Andi made all the important decisions but he has handed this over to Norizyati and their son.

"In the past, I used to depend on him for every single thing. Now, I have to take over that role," said the home-maker of over 10 years.

As his main caregiver, Norizyati has learnt what to do when Andi has aggressive meltdowns, which have included punching the wall in anger – she responds with patience, giving him time and space to cool down. She also helped him overcome a stammer, encouraging him to keep talking and to ignore any judgement from others. He is now stammer-free and the couple often spend hours chatting together.

### Finding a new hobby

Dementia has also affected Andi's movement, a hallmark of Lewy body dementia. His walking is slower now and he uses a walking stick, resulting in him being unable to do things he used to love like hiking, boating, fishing and travelling overseas. To compensate, Andi has found a new interest: toy cars. "I enjoy technical work and since now I cannot do aircraft work, I've started to build my own toy cars as a way to maintain my skills," he smiled.



# Life Overturned by Young Onset Dementia

After many years of marriage, secondary school sweethearts **Andi Bin Ahemad and Norizyati Binte Sidek, both 50, are still the starry-eyed lovers they were in their youth. But there is one big difference now – Andi has dementia.**

Andi and Norizyati have always enjoyed going on breakfast dates at their nearby coffee shop. But a couple of years ago, Norizyati realised that something was wrong when Andi paid for their breakfast twice. Later that night, he kept repeating that he wanted to eat.

Andi had also noticed a series of odd events such as making simple mistakes at work, not being able to find the right words in a conversation and getting frustrated easily.

After seeing different doctors and going through multiple tests, Andi was diagnosed with young onset Lewy body

dementia at just 48 years old. This type of dementia is caused by abnormal deposits of protein on the brain.

### Working with dementia

Andi used to be an aerospace engineer but the dementia made it difficult to cope with the demands of his job, which required him to climb up and down the aircraft to assess various parts of the plane.

Thankfully, Andi's company was very understanding. "They changed my position so that I now do safer and easier tasks, like packing of aircraft components."



Scan the QR code to watch Andi and Norizyati's love story.



**Esther Chua**

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**Difficult behaviour and personality changes are common challenges faced by people with Young Onset Dementia (YOD) and their caregivers. Nurse Clinician – Advanced Practice Nurse Esther Chua, Department of Nursing, NNI, shares her top tips on preventing and managing ‘meltdowns’.**

---

Losing the ability to think clearly, remember and plan can be particularly frustrating for people diagnosed with dementia in their 40s and 50s, especially if they are at the peak of their career. Difficult behaviour and personality changes are more marked in people with YOD and happen faster than the

elderly who have dementia. These can include changes and behaviours such as explosive moods, becoming irritable or depressed and removing clothes in public. Previously soft-spoken people may also start making insulting comments and become highly demanding.

Such difficult behaviour is also known as meltdowns. Anti-psychotic and mood medication may help to reduce the frequency of meltdowns, but they can still occur when triggered. Preventing these situations and knowing what to do can help caregivers cope better.

### Caregiver tips to prevent meltdowns:

- 1 Recognise and accept your loved one's limitations.
- 2 Know your loved one's triggers such as tiredness, boredom, excess noise, hunger, thirst, needing to use the toilet.
- 3 Help your loved one identify new hobbies they may find interesting and provide the resources they need. Focus on their interests and what they can accomplish rather than what they are unable to do.
- 4 Plan for success and avoid triggers where possible, for example:
  - Go to the coffee shop during off-peak times when it is not busy and there are no queues, especially if hunger is a known trigger.
  - Sit at a table in a quiet corner to prevent over-stimulation.
  - Stay alert for triggers.
  - Do not over-stay and head home before or at the first signs of tiredness or restless behaviour.



### If a meltdown occurs:

- 1 Stay as calm as possible and be prepared to 'ride out the storm'.
- 2 Do not raise your voice or try to reason with your loved one as they have no control over their thought processes during a meltdown and may not remember it afterwards.
- 3 Remove items that may cause harm to them or others.
- 4 Try to identify what has triggered the meltdown.
- 5 If you are out and on-lookers make comments or try to get involved, calmly explain that your loved one has a medical condition and ask for space and privacy to manage the situation.
- 6 After the meltdown has peaked, distract your loved one and take them away from the situation/trigger – take them home if you are outside.



# Making your wishes known



Dr Goh Jia Jun

Dr Goh Jia Jun, Principal Resident Physician, Neurosurgery, NNI, explains what a Lasting Power of Attorney is and why it is so important.

Which family member or friend would you trust to manage your finances and make decisions for you, should you lack the mental capacity to do so?

This is an important question for people to consider if they have recently been diagnosed with early stage dementia, Parkinson's disease or a brain tumour. However, even fit and healthy adults should make time to think this through and take steps to protect their choices.

**Accidents that result in traumatic brain injury are sudden events that can happen to anyone at any age, including young adults in the prime of their lives. Such injuries can affect a person's ability to make decisions, resulting in them having to rely on others to be their proxy decision maker,**

says Dr Goh Jia Jun, Principal Resident Physician, Neurosurgery, NNI.

Appointing a Lasting Power of Attorney (LPA) is the only way to ensure your choice of an alternate decision-maker is respected, but it must be done while you have the mental capacity to make decisions.



An LPA is a legal document that names who can make decisions on your behalf, should you lose the mental capacity to manage your own affairs. Your nominated person or persons are known as “donees” and will be responsible for handling one or both of these matters for you:



### Personal welfare, including:

- Your medical care
- Where you live and with whom
- Practical daily choices, e.g. what you eat and wear
- Your social activities



### Property and affairs, including your:

- Bank accounts
- CPF accounts
- Income and dividends
- Home e.g. buying, selling, renting, home loan

The donee is not given your property and assets, however they can use them to act in your best interests. For example, they can access your bank accounts and use your money to pay for your medical bills or hire a helper to take care of you. So, it is important to nominate someone you trust to be your donee!

# How to choose and appoint a *donee*?



A donee is usually a family member, such as a husband, wife, child, parent, sibling or a close friend.



You can have more than one donee, however he or she must be at least 21 years old and should be someone:

- You trust to act in your best interest
- Knows your values and preferences
- Is not a bankrupt (for property and money matters)



An LPA Certificate Issuer must witness and certify an application. Professionals eligible to be certificate issuers are:

- Registered Psychiatrists
- Accredited medical practitioners
- Practising lawyers (Singapore solicitors qualified to practice Singapore law in a Singapore law practice)



Assoc Prof Adeline Ng

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**Failing to do a Lasting Power of Attorney before you lose the mental capacity to make decisions can potentially cause delays in decision making about your care and create an administrative nightmare for family members. Assoc Prof Adeline Ng, Senior Consultant, Neurology and Dementia Program lead explains.**

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A diagnosis of dementia, Parkinson's disease or other life-changing neurological conditions can be hard to accept. Practical considerations such as making an LPA are often put on the back burner as patients and caregivers focus on other care matters thinking they have sufficient time to wait. Unfortunately, it is common for families to miss the window of opportunity to do so, as by the time they get around to it, the person no longer has the mental capacity to sign an LPA.

When this happens, family members need to apply to the Courts for a Deputy Order, which states who can make care decisions on behalf of the person for their medical care and manage their financial affairs, otherwise known as a court-appointed deputy. This legal document is required, even if all family members agree on whom it should be.

"The Deputy Order is needed before the appointed family member can access their loved one's bank account or sell property held in their name to pay for a helper, medical bills or other daily costs related to their loved one's needs. This can take time, slow down care decisions and the family has to use their own

resources to manage their loved one's needs until all the paperwork is settled," says Assoc Prof Adeline Ng.

Delays and costs such as legal fees escalate when family members cannot agree on a Deputy and the appointment is made by the Courts.

A judge or magistrate will consider evidence to determine which family member or close friend is best placed to act in the best interest of the person who lacks mental capacity, for example, who is involved in their daily care, accompanies them to medical appointments and other personal factors that potentially could impair someone's ability to carry out the responsibilities of a Deputy.

"Sadly, such legal battles can tear families apart and possibly result in the Court appointing a Deputy who might not have been the person's preference. That is why it is so important for people who have recently been diagnosed with a neurological condition to discuss their wishes with family members and to prioritise making an LPA," advises Assoc Prof Ng.




# Call for Research Volunteers!



Clinical trial volunteers are essential in helping to advance our understanding of the brain and improving treatments so your loved ones can enjoy better brain health in the future.


Would you be willing to take part in research studies that are currently in progress?

### Cognitive effects of COVID-19




NNI is studying the **long-term impact of COVID-19 on memory and brain function**, plus the resilience and recovery of patients with COVID-19 infection. If you are over 21 years old and had **COVID-19 within the last 12 months**, contact us to find out if you are eligible to take part in this study.

### Headache and Migraine Survey




**Do you suffer from headaches or migraines?** If your answer is “yes”, we want to hear from you! NNI is conducting an **anonymous 10-minute survey** on headaches and migraine to understand how these conditions affect the lives of people in Singapore.

### Gut Microbiome

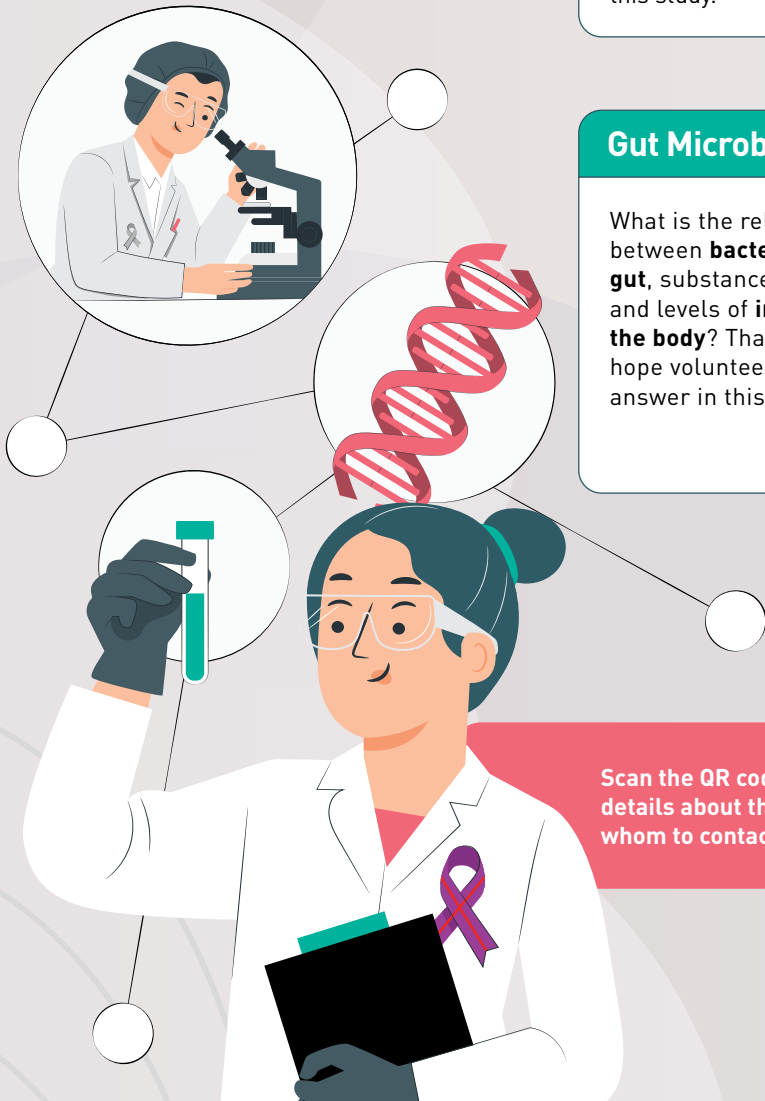


What is the relationship between **bacteria living in the gut**, substances they produce and levels of **inflammation in the body**? That is a question we hope volunteers will help us answer in this research study!

### Neptune Study



**Are you living with Parkinson's disease (PD)** and open to trying tech gadgets to help improve your symptoms? NNI is studying if **wrist-sensors and mobile applications** can help improve tremors, freezing, unsteady walking and other PD-related motor symptoms.



Scan the QR code on the right to discover more details about these research studies, including whom to contact to sign up.



# Recognising Excellence in Academic Medicine



Meet Ms Cheng Qianhui, the first healthcare administrator to win the SingHealth Golden Apple Award in the Individual category.

Qianhui has made her mark in education less than three years after switching from a career as a research coordinator to an administrator supporting NNI and SingHealth's educational activities. During this time, she chanced upon an opportunity to create serious games for training and identified Magnetic

Resonance (MR) safety as an area that could benefit from this mode of training.

### What sparked your interest in serious games?

I have always loved playing games and attended various workshops on different aspects of technology enhanced learning. There was a sharing on a serious game for mental health and storyboarding workshop that sparked the inspiration for introducing serious gaming for MR safety.

### How did you come up with this idea?

The magnetic force of MR machines is very strong, so MR safety training is crucial for all staff who work or enter the Neuroradiology department. While observing MR safety training, I found some of the technical jargon used made it hard to understand. Hence, I thought using serious games would be an immersive way for staff to enter a virtual environment and learn MR safety concepts. It would also make it possible to show MR accident scenarios that would be hard to enact in real life. The game has since been scaled up to three other hospital radiology departments.

### What advice do you have for healthcare administrators who are interested in education?

Do not be afraid to identify gaps, voice your opinions or solutions and think about how you may be able to value add in your area of work and beyond.

### What are your hopes for healthcare training?

The future of healthcare training should include professionals from different backgrounds, learning and collaborating with one another. Learning does not always have to be of higher fidelity (i.e. serious games) but definitely, innovative ways of learning can be created for learners to increase autonomy and motivation, as long as learning outcomes are met.



Scan to read more about the MR safety game.

## Advancing Brain Cancer Care with Precision Medicine

A research team from the National Neuroscience Institute, Duke-NUS Medical School and National University of Singapore received 2nd prize in the SingHealth Duke-NUS Research Team Award 2022 for its work on a particularly lethal form of cancer.

Glioblastoma is a type of brain tumour that is difficult to treat because it cannot

be fully removed and can change to a different subtype when it grows back.

Knowing the tumour's subtype is important as some subtypes do not respond to existing treatments. Currently, the only option is to remove the tumour to check, but this requires brain surgery and different subtypes can still look the same under the microscope.

The Neuro-Oncology Research Program has been focusing on finding more accurate, less invasive ways to subtype tumours. The award-winning research identified gene signatures that can stratify glioblastoma patients into different subtypes. This brings the program one step closer to developing a blood test for accurate tumour subtyping to enable targeted therapy for patients.

# Challenging Norms for *Better Care*

Neuroscience clinicians have received awards to better understand neurological conditions in Asians and to challenge presumptions with the end goal of improving care.



**Clinical Assoc Prof Adeline Ng**  
Senior Consultant, Neurology  
Recipient of the Clinician Scientist  
Award – Investigator  
National Medical Research Council

“Abnormal genetic sequences called repeat expansions cause neurological diseases. My team is studying the prevalence of such repeat expansions in a gene called NOTCH2NLC and their role in causing neurological disorders in Asian patients.

This research will contribute to our understanding of unexplained neurodegenerative cases seen in the Asian population.”



**Dr Lim Jia Xu**  
Senior Resident, Neurosurgery,  
SingHealth Publish! Award 2022  
Recipient

“In strokes affecting a significant region of the middle cerebral artery, swelling from damaged brain tissue could cause neurological deterioration from the pressure it exerts on the remaining unaffected brain.

Decompressive craniectomy (DC) is a surgical procedure that aims to reduce this by removing a sizeable portion of the skull. Traditional neurosurgical wisdom does not recommend this procedure in strokes involving the internal carotid artery (ICA) due to a presumed poorer prognosis.

This multicentre retrospective review of 154 cases found that both groups of patients who underwent DC had comparable survival and functional outcomes, suggesting that in a selected population, ICA strokes were not a contraindication as previously thought.”

## Team Members



**Assoc Prof Ang Beng Ti,**  
Head and Senior Consultant,  
Dept of Neurosurgery, NNI @ SGH Campus



**Adj Assoc Prof Carol Tang,**  
Principal Investigator (I),  
Neuro-Oncology Research Programme,  
NNI



**Prof Patrick Tan,**  
Cancer and Stem Cell Biology,  
Duke-NUS



**Assoc Prof Shao Huilin,**  
Presidential Young Professor,  
Biomedical Engineering, and Institute  
for Health Innovation & Technology, NUS

# Patient advocate in Singapore and overseas

▼

**Congratulations to Quek Yi Ping, Assistant Nurse Clinician, NNI, on receiving the Nurses' Merit Award 2022 for her achievement in nursing.**

As a child, Quek Yi Ping witnessed the good care rendered to her grandmother by a ward nurse, and this inspired her to be a nurse.

Today, Yi Ping has been a nurse for more than 10 years and assists in various procedures for both critical and non-critical patients. She recounts, "Being a nurse gives me a chance to make an impact on someone's life, hopefully always a positive one. This keeps me grounded and motivated in my nursing journey."

In 2021, Yi Ping took a leap of faith and transferred from Neuroradiology to Neurology Nursing. Her main role is to ensure a smooth transition of stroke patients across care settings and their return to the community.

Yi Ping continues to provide support to the patients and their

family as they transition back to the community. She follows up on complications that can occur after a stroke such as spasticity and low mood and is glad to be able to be a part of patients' stroke recovery journey.

However, Yi Ping's commitment to serving patients extends beyond Singapore's shores. In October 2022 she spent two weeks volunteering with an international Christian non-governmental organisation, helping Yazidi refugees in Kurdistan. During the medical mission, she assisted in cataract operations, helped with eye screening and also conducted home visits. This was her first opportunity to put her nursing knowledge and skills to good use overseas since the pandemic – before Covid-19 struck, Yi Ping served on a medical mission trip in Myanmar.

So how does Yi Ping feel about receiving the Nurses' Merit Award?

"There are many more nurses out there who go above and beyond their duty, I am just fortunate to receive the award and for the supportive team I work with. I will continue to do my best and strive to be a better nurse," says Yi Ping.



# Serving Our Nation with *Pride*

Eight NNI staff were recognised with National Day Awards 2022 for their service and commitment to public healthcare.

## Commendation Medal

**Tan Jau Tsair**, Assistant Director, Neuroradiology (NRD)

## Efficiency Medal

**Catherine Tay**, Executive Secretary, Executive Office  
**Cyilia Kan**, Principal Radiographer, NRD  
**Jason Lau**, Principal Radiographer, NRD  
**Lee Kah Keow**, Senior Nurse Clinician-Advanced Practice Nurse, Nursing  
**Linda Lim**, Senior Nurse Clinician-Advanced Practice Nurse, Nursing

## Long Service Medal

**Ho Thye Sin**, Principal Radiographer, NRD  
**Li Wei**, Senior Nurse Clinician-Advanced Practice Nurse, Nursing

# Celebrating Healthcare's Brightest *Stars*

Congratulations to all NNI recipients of the Singapore Health Quality Service Awards 2023.

## Star Award

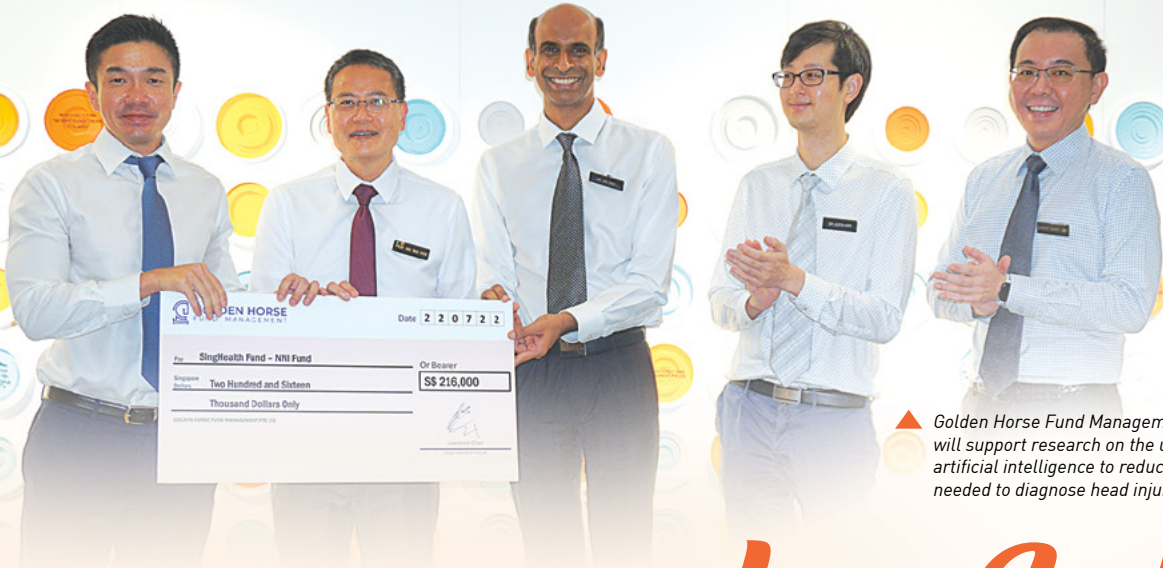
**Elena Chai Fui Chih**, Senior Patient Service Associate, Neuroscience Specialist Outpatient Clinic (NSOC)  
**Dr Ling Ji Min**, Consultant, Neurosurgery  
**Tay Lian Bee**, Senior Neuro Electrophysiologist, Neurodiagnostic Laboratory (NDL)

## Gold Award

**Fauziah Bte Amat**, Patient Service Associate, NSOC  
**Lim Jia Yuen**, Neuro Electrophysiologist  
**Michelle Li Mingrui**, Senior Neuro Electrophysiologist, NDL  
**Assoc Prof Ng Kok Pin**, Senior Consultant, Neurology  
**Normala Bte Mohd Ghaus**, Senior Patient Service Associate, NSOC  
**Tan Eyok Yian**, Neuro Technologist, NDL  
**Dr Tan Yee-Leng**, Senior Consultant, Neurology  
**Kathleen Yip Oi Leng**, Senior Secretary, Executive Office

## Silver Award

**Sherlynn Ang Pei Ling**, Neuro Electrophysiologist, NDL  
**Chang Chao Li**, Senior Neuro Electrophysiologist, NDL  
**Dr Peter Hwang Ying Khai**, Senior Consultant, Neurosurgery  
**Dr Vincent Ng Yew Poh**, Senior Consultant, Neurosurgery  
**Nurul 'Ain Bte Nordin**, Associate Executive, Nursing  
**Dr Kalpana Prasad**, Senior Consultant, Neurology  
**Ivy Yip Lai Lim**, Neuro Electrophysiologist, NDL



▲ Golden Horse Fund Management's gift will support research on the use of artificial intelligence to reduce the time needed to diagnose head injuries.

# Connections *for Life*

**NNI's first donor stewardship event celebrated our partnership with donors and supporters, as well as our shared commitment to improving patients' lives.**

Financial donations, gifts-in-kind and referrals to new partners are some of the many ways that individuals, organisations and staff support NNI Fund to advance care for people living with brain, spine, nerve and muscle conditions.

In appreciation of their generosity and to recognise the difference they make, the inaugural "Connections for Life" NNI Fund Awards ceremony was held on 22nd July 2022 at NNI.

31 donors, partners and supporters attended the event and received the **NNI Fund's Enablers like U Relieve Our patients' challenges (NEURO) Awards**. Introduced at the event, the awards recognise individuals and corporates, who have supported NNI Fund through donations, gifts-in-kind and referrals to new partners.

▶ Mr William Ngo, a beneficiary of the NNI Fund.



▲ "Connections for Life" Donor Wall

Among the guests was NNI Fund beneficiary William Ngo, who shared with guests the challenges he faces living with muscular dystrophy and his deep appreciation for the support he receives from the NNI Fund, which helps to cover his medical expenses, including a new electric wheelchair.



The back-drop for the awards ceremony was the new "**Connections for Life**" donor wall. This is an artistic expression of synapses – where nerve impulses are transmitted from one neuron to another to send messages around the body – and the precision-cut circle designs reflect the uniqueness of our donors. Just as synapses are essential for good health, so too is the partnership between NNI and each of our donors in advancing neuroscience care for our patients.

NNI Fund was set up to raise much needed funds to help transform the lives of patients who suffer from dementia, stroke, Parkinson's disease, muscular dystrophy or other neurological diseases. Some lose control of their bodies, affecting their ability to walk, talk or swallow. Others live with the heartache and challenges caused by memory loss and dementia.

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



▲ 公众与国立脑神经医学院保健基金大使丹尼 (Denni) 在 Connections for Life 捐赠墙前自拍留念。

# 生生不息的联系

国立脑神经医学院在首场捐助者活动上，庆祝我们与基金捐助者和支持者建立起的伙伴关系，以及纪念我们致力改善患者生活的共同目标。

这些年来，社会大众、企业机构和国立脑神经医学院的同事们通过捐款、捐赠物资，以及为我们牵线联系新合作伙伴等各种方式，全力支持国立脑神经医学院保健基金，从不同方面协助我们改善大脑、脊柱、神经和肌肉疾病患者的治疗和护理。

为了感谢他们倾力相助以及肯定他们所作出的贡献，首届“Connections for Life (生生不息的联系)”国立脑神经医学院保健基金颁奖礼于2022年7月22日，在本院设在陈笃生医院院区的大堂内举行。国立脑神经医学院的首31名捐助者、合作伙伴和支持者出席了这场活动，获得了NEURO奖项。这个奖项的全名为NNI Fund's Enablers like U Relieve Our patients' challenges (NEURO) Awards，意即“像您这样的国立脑神经医学院保健基金赋能者，帮助我们的患者克服挑战”。这个首次

▶ 吴偉廉先生用口琴演奏一首曲目。



▲ “生生不息的联系”捐赠墙

在活动中推出的奖项，旨在感谢和肯定那些支持我们的伙伴们。

来宾当中包括国立脑神经医学院保健基金受益人吴偉廉先生。他在现场与来宾分享了患有肌肉萎缩症所面对的各种生活挑战，同时也对基金给予他的援助深表感谢。基金除



了帮他支付医疗费，还为他购置一台全新的电动轮椅。

这场活动的背景是一道新设置的“Connections for Life (生生不息的联系)”捐赠墙。墙上明丽的圆盘象征了人们神经系统中的突触 (synapses)。突触是神经元细胞传递信息中不可或缺。就如突触一样，每一名捐赠者的支持对我们来说都是非常重要的。我们期许与每个人建立长久伙伴关系，以推进病人的神经科护理。

成立国立脑神经医学院保健基金皆在筹集资金，以帮助改善患有痴呆症、中风、帕金森病、肌肉萎缩症或其他神经系统疾病患者的生活。有些患者因病情失去了自理能力导致行走、说话或吞咽都受到影响。有些则生活在记忆丧失和痴呆症所带来的痛苦及挑战中。

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](mailto:CorpDev@nni.com.sg) 联系企业发展部办事处的 锺慧意。

脑动脉瘤破裂：

# 坎坷的康复之路

脑动脉瘤破裂是一种危及生命的紧急情况。好不容易渡过危险期的病患，一般须踏上一段充满挑战但又极其重要的康复之路。国立脑神经医学院医疗团队将为您详尽说明此病况的症状和治疗方法。

每100个人当中，大约有两到三个人会有脑动脉瘤。这是一种脑动脉壁上隆起或膨胀的病况。大多数患者都不知道他们有动脉瘤，因为动脉

瘤体积很小，而且通常不会造成任何健康问题。但是每300人当中就有一人的动脉瘤会破裂，导致原本看似健康的一个人，突然出现危急病况。

大约有三分之一动脉瘤破裂的患者在送达医院之前就已经死亡。原因则是因为大脑大量出血所导致的。不过也有一些患者因为破裂的脑动脉瘤周围形成血块，而达到暂时止血的效果。这为我们提供契机为患者进行抢救。

黄友富医生，  
国立脑神经医学院脑神经外科高级顾问



黄友富医生



突发剧烈头痛是脑动脉破裂的主要症状。这种头痛通常被患者形容为“一辈子经历过最严重的头痛”，这也是提醒患者要直接到急诊部就诊的一个重要信号。

## 到达医院急诊部时

如果怀疑有动脉瘤破裂的情况，就必须进行电脑断层扫描 (CT)，以检查是否有动脉瘤、脑出血和脑内液体积聚的情况。脑室是位于大脑中间的一个结构，会产生人脑脊髓液 (cerebrospinal fluid, 简称CSF) 的透明液体，通常在大脑上方和内部流动，以保护和滋养大脑。

大多数脑动脉瘤都出现在大脑底部的动脉上。动脉瘤破裂后溢出的血液可能在大脑和颅骨之间的空间（称为蛛

网膜下腔，因此这种病况蛛网膜下腔出血）扩散和凝结，覆盖脑组织的区域，妨碍人脑脊髓液循环。

黄医生指出：“随着液体累积，脑压增加，大脑可能遭到损害。因此，我们的首要任务是确认哪个部位出现液体阻塞，然后在脑室中插入一脑室

外引流导管 (external ventricular drain, 简称EVD) 将液体排出。

## 24至48小时内

若需要插入脑室外引流导管，病患将在加护病房受到密切监测，下来的注意力就会集中在治疗动脉瘤上。

血凝块只能暂时为动脉瘤止血，我们需要对动脉瘤进行治疗，以防止它再次破裂。治疗动脉瘤主要有两种方式：通过血管内治疗或手术。医疗团队会根据动脉瘤在大脑中的位置、大小和形态，以及病患的原有疾病等因素，来判断最适合病患的治疗方式。

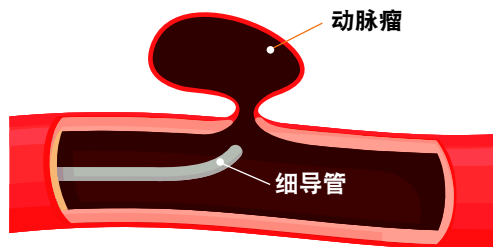
萨拉瓦纳·古玛医生，  
国立脑神经医学院介入神经放射学顾问



萨拉瓦纳·古玛  
医生

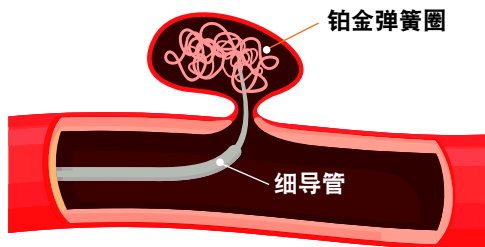
## 治疗动脉瘤破裂的方法

1



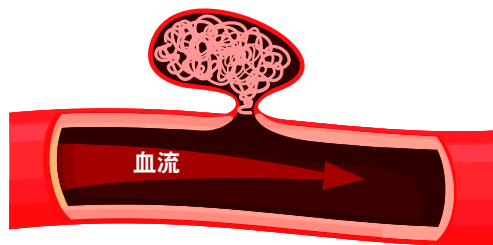
外科医生将一根很细的导管插入腹股沟或腕关节处的动脉，通过血管引导导管到达动脉瘤的位置。

2



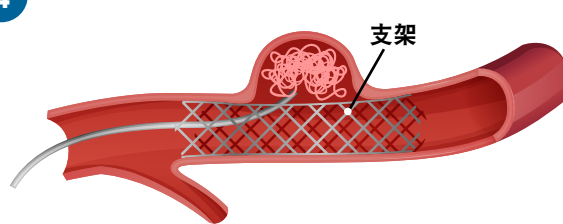
之后，把极细且柔软的铂金弹簧圈，通过导管导入动脉瘤囊中。

3



用弹簧圈栓塞动脉瘤囊，防止血液进入。

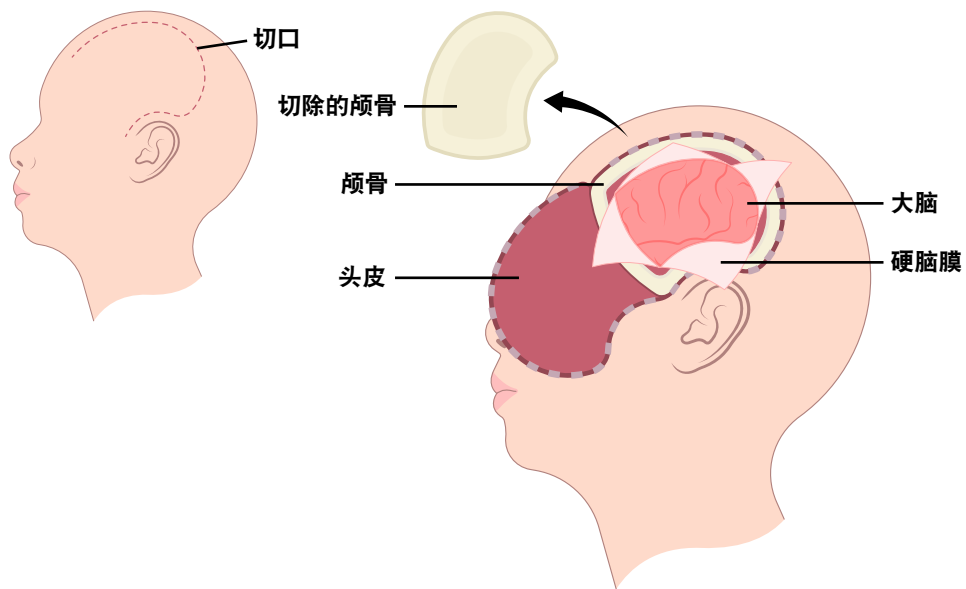
4



如果动脉瘤的颈部太宽，可能需要利用支架来将血流从动脉瘤中引开，并重建动脉壁。

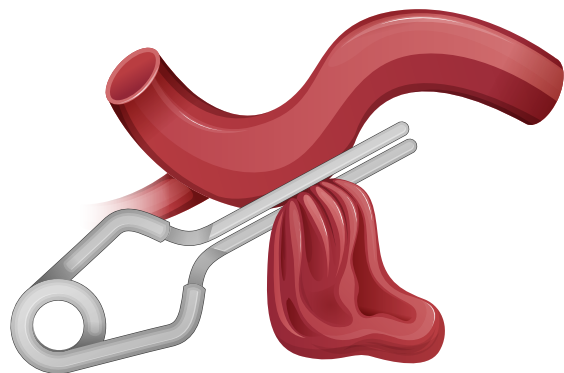
如果动脉瘤不适合进行血管内治疗，则需要动手术：

1



在颅骨上开一个口以观察大脑，动脉瘤，周围的凝块和脑组织分离的情况。此精细的手术需在显微镜下完成。

2



若有必要，找到为动脉瘤供血的血管位置，暂时阻断流向动脉瘤的血供，然后在横跨动脉瘤颈部放置永久性的钛制夹子将其封住。

3



在显微镜下进行血管造影（血管X光检查），以确认血流通顺良好。

## 动脉瘤破裂后4至14天

病患会继续在加护病房接受监测，脑部血管每天都需进行超声波扫描，以检测可能出现的严重并发症-即血管痉挛(vasospasm)。此病症是因病患的血炎症（之前蛛网膜下腔出血渗漏出的血液所引起）以及身体释放出让动脉收紧和变窄的物质所导致的。当血管明显收窄，流向大脑的血液减少，大脑就会缺少氧气和葡萄糖以致伤害。



“有大约50-70%的病患会在动脉瘤破裂后出现血管痉挛的情况。受影响的患者当中有一半会在4至14天内出现症状。我们每天在病患头部太阳穴（靠近耳朵的位置）进行超声波扫描，以检测血流速度的变化。扫描过程没有使用辐射，所以非常安全。一般来说，血管收得越紧，血管痉挛的程度就更严重，血流速度也会越快。”

潘子群

高级超声技师

神经科诊断实验室



潘子群

## 治疗血管痉挛的方法

病患在加护病房接受监测期间，医护人员会给予病患预防血管痉挛的药物，为期21天。如果检测到明显的血管痉挛，则需开始进行额外的治疗，以提高血压从而改善大脑中的血流供应。不过对一些病患来说，这不足以治疗血管痉挛。

萨拉瓦纳医生指出：“在这种情况下，我们会将药物直接注射到变窄的血管中，以‘放松’紧缩的血管壁，让血液能够更顺畅地流通。”他解释说：“我们会通过插入病患腹股沟动脉的细导管输入药物，让药物通过导管到达大脑中血管痉挛部位。”

## 移除脑室外引流导管(EVD)

当病患病情稳定后，团队将评估是否还需要使用脑室外引流导管，把多余的脑积液引流体外。

黄医生指出：“在80%的病例中，脑室外引流导管可以被成功撤除。不过有大约20%的病例，脑液循环和吸收仍然不佳，需要插入一个永久性分流器，将脑液引到腹部，在那里被身体吸收。”

## 两周至两个月

一旦血管痉挛的风险过去，永久分流器被插入（若有必要），医疗重点就会转向帮助病患康复。这是病患康复过程中的一个重要阶段，由康复专员负责协调。其中包括物理治疗师、职能治疗师、语言治疗师、营养师和/或神经心理治疗师。医疗团队由哪些专员组成则由病患的需求而定。

一开始是在急诊医院住三周，然后是6至8周的住院康复治疗，之后病患就可以回家休养。

## 回家后继续康复治疗

一旦出院，病患将根据需求继续在家里和社区进行康复治疗。病患还需定期预约到专科门诊诊所让神经外科医生、介入神经放射科医生和专科护士复查，直到病况稳定后，便可以转介到普通科医生或综合诊所接受长期跟进治疗。



扫描二维码收听萨拉瓦纳医生与CNA的访谈并了解更多关于脑动脉瘤的知识。  
(英语访谈节目)

# 无言以对



李谨

大约有一分之一的中风幸存者会在说话或与他人交流时面对困难。新保社区医院语言治疗师李谨与大家说明这些常的症状，以及如何帮助这类患者。

中风幸存者可能面对行走、肌肉僵硬和吞咽等问题，但最令人沮丧的并发症是说话和与他人交流时面对困难。这种病况称为失语症(aphasia)，最常见的致病原因是中风，不过脑部受创或脑肿瘤患者也可能患上这种病况。

李谨指出：“失语症患者也有他们想在对话中与他人分享的想法和观点，但是他们却可能受限於表达能力或理解信息的能力。他们的对话伙伴可以采用一些策略，营造一个有助他们沟通的环境，让失语症患者能够参与对话。此外，语言治疗也可以帮助失语症患者恢复一些说话的技能。”

失语症会影响一个人的说话、阅读、写作以及理解与他人对话的能力，但不会影响其智力。

## 不仅仅是失去说话能力

失语症可能单方面或多方面影响中风幸存者。这包括在进行下列日常活动时面对的困难：



理解他人所说的话，  
例如：明白对话内容或指示



阅读文字，  
例如理解手机短信或信件中的内容



用语言表达自己，  
例如：找到描述他们想要说的词语



写作，  
例如：拼写单词或无法在书面上组成句子，这使得他们在发送手机短信时面对很大的挑战

如果您或您的家人在中风后遇到上述任何问题，请告诉您的医疗团队。若有需要，他们会将您转介给语言治疗师。

# 语言治疗有何帮助?

语言治疗师会评估病患面对的困难，然后根据病患的情况来制定康复计划。

一般来说，语言治疗有三大目标：

1

## 治疗障碍

语言治疗师会通过一些活动来治疗说话障碍，例如要求病患开口说出，或选择印上字句的卡片与相应的图片配对；或是想想特定类别事物的词语，如食物、颜色；还是要求病患使用某一动词组成句子。

2

## 教导病患用其他方式与他人沟通

治疗师会教导病患如何克服他们面对的障碍，从而传达他们要表达的信息。

其中包括：使用沟通簿和交流板、字母板和/或其他策略，以帮助患者在想不出正确的词语时，设法表达自己。

3

## 看护者培训

教导病患的家人和看护者如何支持失语症患者沟通（对话伙伴训练）。有关这项训练的小贴士，请看下文。



# 看护者可采用的沟通策略

看护者采取的简单步骤有助促进与失语症患者的沟通。

## 与失语症患者沟通的技巧

- 1 在跟失语症患者说话之前，先引起他们的注意，并与他们保持眼神交流。
- 2 尽量减少周围环境中的干扰，如音乐或背景噪音。
- 3 放慢说话的速度，使用简单的短句和日常用语。避免使用嘲讽或复杂的笑话。
- 4 每次只谈一个话题。避免谈论过多话题，以免过度刺激病患，应给予他们充足的时间作出回应。
- 5 与中风幸存者交谈时，应保持他们中风前您对他们的尊重。不要使用对待孩子的语气与他们说话，用您平常说话的语气与他们正常对话。
- 6 必要时利用手势、不同的语气、面部表情或图片来与他们对话沟通。

## 帮助失语症患者沟通的技巧

- 1 如果他们面对沟通障碍，鼓励他们以结合话语、手势、书写或绘画的方式来表达自己。
- 2 熟能生巧。为他们创造练习进行对话机会将有助于防止中风幸存者变得孤僻。这状况在中风后十分常见。
- 3 尝试先确认他们谈论的话题，然后再进一步了解细节；例如，确定谈论是食物后，进阶了解细节，如他们对食物的偏好。
- 4 提出“是/否”的问题，以澄清他们的观点。
- 5 如果您不理解对话内容，不要假装理解。这可能会打击中风病患的自尊心。相反的，鼓励他们休息一下，然后再次尝试沟通。

- 6 在尝试下段对话时，安插休息时段，以免产生倦怠。
- 7 对失语症患者的病况展现同理心。不要因为他们无法表达自己的想法，就在谈话时把他们排除在外。



为失语症患者量身订制带有图像的沟通簿。



# 颠覆的生活

## 早发性失智症

自中学时期就相知相爱的安迪-宾-阿赫玛德 (Andi Bin Ahemad) 和诺里莎提-宾特-塞德克 (Norizyati Binte Sidek) 是一对羡煞旁人的情侣。50岁的夫妇虽然已婚多年，但是他们俩还是经常出双入对，恩爱如初。不过唯一不同的是，如今的安迪患有失智症

安迪和诺里莎提经常到住家附近的咖啡店吃早餐。但是几年前的某一天，诺里莎提发现安迪买早餐时竟然付了两次款，她觉察到老公有点不对劲。那天晚上，安迪还不断重复说他肚子饿，想吃东西。

事实上，就连安迪本身也注意到自己的状态异常。他发现自己经常在工作中犯下小错误、在与他人谈话时有时会找不到正确表达的词句，而且很容易感到沮丧。

安迪在看了不同的医生并接受了多项测试后，被诊断患上早发性路易体痴呆症 (young onset Lewy body dementia)。当时他只有48岁。这种

失智症主要是因为大脑上的蛋白质异常沉积引起的。

### 与失智症共存

安迪原本是一名航空工程师，患上失智症使他难以应付工作上的要求，因为他经常需要在飞机机身爬高爬低，以评估飞机的各个部位。

值得庆幸的是，安迪的公司非常体谅他的情况。“公司为我转换职位，安排我从事比较安全、简单的工作，比如包装飞机部件。”

安迪正积极的心态帮助他接受了自己事业上的这一大转变，而他的家人也不得不适应这项变化。

### 全力支持他的妻子

在患病之前，家里所有重要决定向来都是安迪一人说了算，但如今，他已将这项重任交给了妻子诺里莎提和他们的儿子。

“过去，我总是依赖他做每一件大小事。现在，我必须接下这个责任。”当了10多年家庭主妇的诺里莎提满是感慨。

身为安迪的主要看护者，诺里莎提已经学会如何应对安迪在情绪失控时的攻击性行为，他有时甚至会愤怒地拍打墙壁。发生这种情况时，诺里莎提会沉着应对，给他一些时间和空间冷静下来。她还帮助他克服了口吃的问题，并不断鼓励他说话，不要在意他人异样的眼光。他现在说话时已经不结巴了。他们也经常花几个小时聊生活大小事。

### 找到新嗜好

失智症也影响了安迪的运动能力，这是路易体痴呆症其中一个最典型的症状。他现在走路比较缓慢，需要使用手杖。他已无法从事以前喜欢的活动，如徒步旅行、划船、钓鱼和到国外旅游。为了弥补这个缺憾，安迪为自己找到了一个新的嗜好：玩具车。他笑着说：“我喜欢技术工作，既然现不能从事维修飞机的工作，我就自己组建玩具车，作为保持技能的一种方式。”



扫描二维码观看安迪和诺里莎提风雨同行的爱情故事。



蔡爱玲

性格与行为的突然改变是早发性失智症患者和看护者所面临的挑战。国立脑神经医学院护理部高级临床专科护士蔡爱玲与您分享预防和管理患者情绪失控的技巧。

对于那些在四五十岁被诊断患有失智症的人来说，骤然失去思考、记忆和计划的能力令他们感到非常沮丧，尤其当他们正处于事业巅峰。比起年长失智症患者，早发性失智症患者的性格与行为改变将发展得更快。其中可能包括暴躁情绪、容易发脾气

或抑郁，以及不适当地在公共场合脱掉身上的衣物。过去说话温和的人也可能开始出言不逊，而且对他人要求苛刻。

于减少这类情况发生的频率，但是患者在被外在因素激怒时还是有可能失控。采取防范措施预防这种情况发生，并学习应对方式都能大大帮助看护者照看亲人。

这种行为也被称为“情绪失控”。抗精神病和情绪稳定药物虽然可助

### 预防患者情绪失控的贴士：

- 1 认识并接受您亲人的病况。
- 2 掌握可能引起您亲人情绪失控的原因，例如疲累、无聊、太多噪音、饥饿、口渴、急着上厕所。
- 3 帮助您亲人找出他们可能感兴趣的新嗜好，并为他们提供所需的资源。让他们专注于他们感兴趣以及能力范围内的事，而不是做不好的事情。
- 4 做好规划，以提高顺利出门的机会，尽可能避免那些会引起情绪失控的因素，例如：
  - 避开人多的尖峰时段去咖啡店，在食客较少时前去用餐，就无需排队，尤其当您知道饥饿是一个可能引起情绪失控的因素。
  - 选择坐在较安静角落，避免噪音对患者造成过度刺激。
  - 保持警惕，注意任何可能引起情绪失控的因素。
  - 不要在外逗留太长的时间，在患者出现疲惫或不安的迹象之前或之时就应立即回家。



### 如果发生情绪失控的情况：

- 1 尽可能保持冷静，并做好准备应对患者情绪大爆发的情况。
- 2 不要提高您的声量或试图与您的亲人讲道理，因为他们在情绪失控时根本无法控制思维程序，而且往往也在事后不记得发生什么事。
- 3 撤走可能对患者或其他人造成伤害的物品。
- 4 试着找出引起情绪失控的原因。
- 5 如果您与患者当时正在外头，而旁观者出言批评或试图介入，不妨冷静向对方解释您亲人的病况，然后要求周围的人给予空间和隐私让您来处理眼前情况。
- 6 在情绪失控的情况过了顶峰之后，尝试分散您亲人的注意力，带他们离开现场/引起情绪失控的导因。如果您在外头，就尽快带他们回家。



## 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.



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