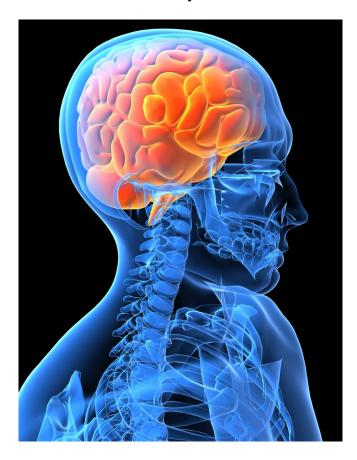
Cerebral Aneurysm

Information for patients and families



This booklet was created to give you and your caregivers information about your brain, cerebral aneurysm, and treatment and recovery.





Dear patient and family:

We are pleased to present you with this booklet. We hope it will be helpful to you and to those helping you in your recovery.

This booklet was created to give you and your caregivers information about your:

- brain
- aneurysm
- treatment and recovery

It also gives the answers to many general questions.

During your hospital stay, the Krembil Neuroscience Program is committed to offering you the highest quality care. Please contact any member of your health care team if you have questions or concerns.

We wish you a speedy return to a full and productive life.

Regards,

The Neurovascular Team at Toronto Western Hospital

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Your brain and nervous system

Basic facts about your brain

What is the size and shape of the brain?

In an average adult, the brain:

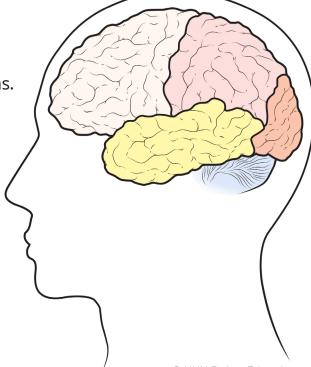
- weighs about 1½ kilograms
- contains about 100 billion nerve cells, or 'neurons'
- is about the size of 2 fists
- appears grey
- feels like firm custard to the touch

How does the brain work?

The larger part of the brain, or "cerebral cortex", is divided into a left and right side or "hemisphere". Each side is divided into 4 lobes. Each lobe serves different functions. There are also deep brain structures that have important functions.

Tucked under the brain is another brain structure called the cerebellum, or "little brain".

Some functions of the brain, like muscle control and sensation, can be found in both sides. Other functions are found on only one side of your brain. For example, the speech centre is found only in the left side in most people.



The 4 lobes of the brain and the cerebellum

How is the brain formed?

The outside of your brain is called 'grey matter'. It allows you to be awake, alert and aware of your environment. The grey matter is between 1 millimetre and 4 millimetres deep.

Under the grey matter is the 'white matter' that passes information back and forth (like very complicated highways) to different parts of the brain for interpretation.

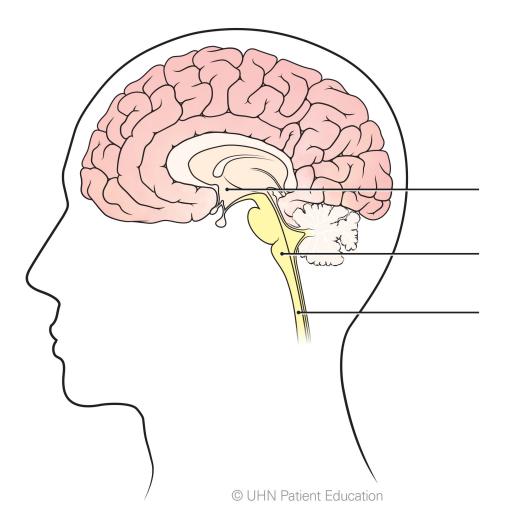
Some conditions affect only grey or white matter. Some conditions, such as brain tumours, stroke, Parkinson's disease and Alzheimer's disease, can affect both the grey and white matter.

Other parts of your brain maintain your:

- hormonal balance
- appetite
- · temperature, breathing and heart rate
- sleep wake cycles
- emotions
- · response to fear
- co-ordination of movement and balance

The brain stem is connected to the 'bottom' of the brain and joins it to the spinal cord. The brain stem controls most of the muscles and feeling in your face.

The brain, brain stem and spinal cord are all sealed in a tough protective covering known as the 'dura mater' (also known as the dura). The brain, brainstem and spinal cord are all bathed in 'cerebrospinal fluid' or CSF.



What is cerebrospinal fluid?

Cerebrospinal fluid (also known as CSF) supplies your brain with a constant mix of nutrients (such as salts, sugars and proteins) and keeps it moist.

Every hour about 2 tablespoons of CSF are made by small cells within 4 cavities or spaces called ventricles. The ventricles are deep within the brain. They keep brain fluid pressure at a constant level.

The CSF travels in this direction:

- 1. out from the ventricles
- 2. over the surface of the brain
- 3. down around the brain stem and spinal cord

The CSF is absorbed back into the brain through small vessels and is passed to the kidneys where it is removed from the body.

How does blood flow?

Almost everyone is born with the same arteries and veins but the size and shape of everyone's arteries and veins are different.

For the brain to work properly, it needs a constant supply of blood. Your brain receives about 1 litre of blood every minute!

Three main blood vessels pump blood full of oxygen and nutrients from the heart to the head:

- 2 carotid arteries, one runing up each side of your neck
- 1 basilar artery that runs up from the spinal cord

The 3 arteries join together inside your brain to form a circle known as the 'Circle of Willis'. This circle allows your brain to continue to receive blood and nutrients even if one of the arteries is not working properly.

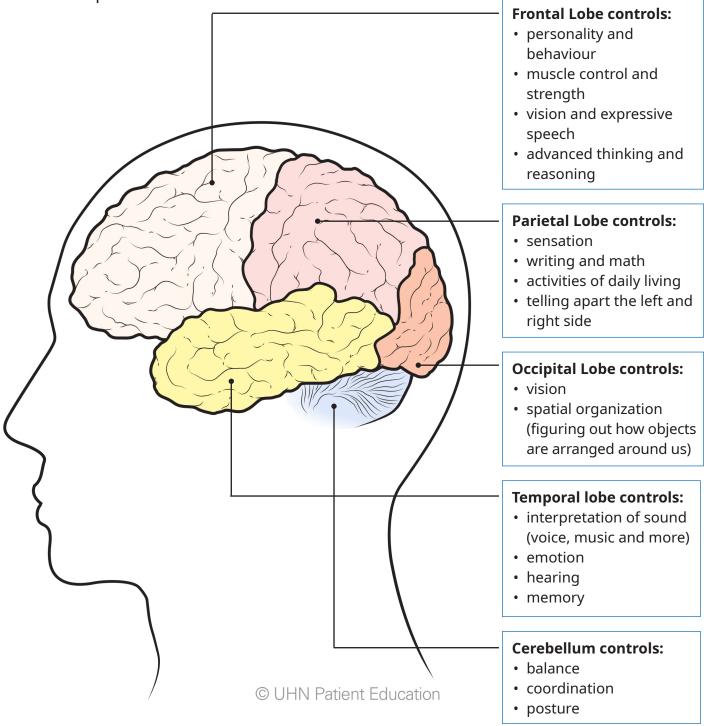
Arteries drain into veins. The veins in your brain take away the waste products and return them to the body for removal.

What does the brain do?

The brain is divided into 4 different lobes and the cerebellum:

- 1. Frontal
- 2. Parietal
- 3. Occipital





Your brain is an amazing organ and is considered the body's 'central control'. Some of your brain works without you realizing it. For example, you are not usually aware of your heart beating or what your blood pressure is. But, a lot of brain function is under your control. For example, you can:

- choose to move your muscles
- · speak to others
- · problem solve

What are nerve fibres?

Nerve fibres are like wires or cords that travel back and forth forming many connections between neurons (nerve cells) through your brain, brain stem and spinal cord. Nerve fibres also carry information throughout the brain and to different parts of the body. They travel from the spinal cord, like branches of a tree, and reach all parts of the body to send and receive messages from the brain to places like the skin, muscles and blood vessels.

Why are nerve fibres important?

If any nerve fibres along the way are injured or damaged by disease, messages do not get through. The part of the body affected may not react as it should.

For example, when there is a bleed in the brain, the blood or injured brain area can interfere with messages to and from different parts of the body. Depending on the area of the brain that is affected, this can cause:

- inability to move
- swallowing, speech, vision and hearing problems
- personality changes
- pain
- problems with bladder or bowel control

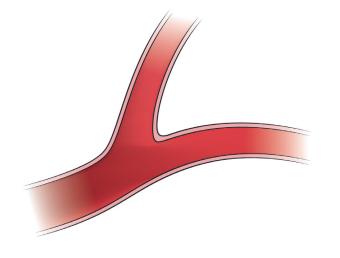
Sometimes function can gradually return as the brain heals. But sometimes, when the problem lasts longer or when there is a permanent injury, function may not return. The amount of recovery can be hard to predict early after injury.

Aneurysms

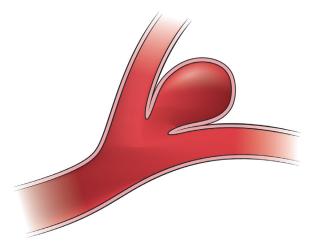
What is an aneurysm?

An aneurysm is a bulge or balloon-like swelling on the side of a blood vessel. Sometimes, this bulge can leak or burst and cause bleeding. An aneurysm can happen anywhere in the body. An aneurysm in the brain is called a **cerebral aneurysm**. Aneurysms can be found on any blood vessel in the brain but are more common on those in the front of the brain.

The most common type of aneurysm is known as a 'berry' aneurysm because it looks like a small blueberry. Another type of aneurysm, called a 'fusiform' aneurysm, runs along the vessel and makes it look like a sausage.



Normal blood vessels in the brain



Aneurysm:

a swelling of the wall of the blood vessel

Facts about aneurysms

Aneurysms:

- Happen to about 1 in every 350,000 Canadians
- Seem to develop in areas with a lot of blood flow, especially where blood vessels divide in the body
- Seem to take many years to develop (very rare in children)
- Are mostly found in people between the ages of 40 and 60
- Are more common in women than in men
- Are more common in smokers, people with kidney disease and those with high blood pressure
- Sometimes are genetic or passed down in families
- May or may not burst and bleed depending on their size and where they are in the brain
- Are not always found since they do not always burst and affect the health of the person
- Are not related to migraine headaches or head injuries

Are there family connections?

Because of genes or inherited factors, about 15% (15 out of every 100 people) of all aneurysms have a family link.

If one or more relatives in the same blood family has an aneurysm, the other family members over 30 years old can be tested. Family members under 30 years old are not usually tested because aneurysms can take years to develop and are very rare in younger people.

Your family doctor can order a CAT Scan (CTA), or Magnetic Resonance Imaging (MRI or MRA) to test for aneurysms.

What are the symptoms of an aneurysm?



- Most aneurysms are 'asymptomatic' (they give no symptoms).
- Usually, they are not found until there is a leak of blood from the aneurysm into the brain.
- Many patients only find out that they have an aneurysm when they have a brain scan for other reasons.

What is a subarachnoid haemorrhage (SAH)?

When an aneurysm in the brain bursts or bleeds into the space surrounding the brain, it is called a **subarachnoid haemorrhage** or **SAH**. It is a form of stroke, called a "hemorrhagic stroke".

SAH is rare but can happen at any time. For example, while watching TV or during exercise.

What are the signs and symptoms of SAH?

- A 'thunderclap' headache. This is a sudden, severe headache often described as being the worst headache of a person's life.
- Nausea (feeling like you want to throw up) or vomiting (throwing up)
- Loss of consciousness
- Seizures
- Confusion
- Neck stiffness

SAH is a medical emergency.

About 7 or 8 out of 10 patients who survive SAH have temporary or permanent disability.

Treating aneurysms

How do you diagnose an aneurysm?

The medical team will decide how to test and diagnose you for an aneurysm. There are 4 possible tests used to find aneurysms. You may have one or more of these tests:

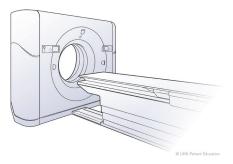
- 1. Computerized Tomography (CT or CAT scan using a dye or contrast)
- 2. Magnetic Resonance Imaging (MRI or MRA)
- 3. Angiogram
- 4. Lumbar puncture

Testing gives your health care team information about where your aneurysm is found and the size of it. Tests also help the team decide on the treatment.

1. What is a Computerized Tomography (CAT or CT) Scan?

This test takes images or pictures of the inside of your head. A dye called a 'contrast' is often used to take clearer pictures of blood vessels.

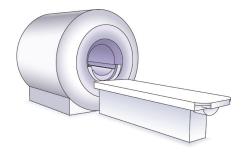
The scan takes about 10 minutes.



2. What is Magnetic Resonance Imaging (MRI or MRA)?

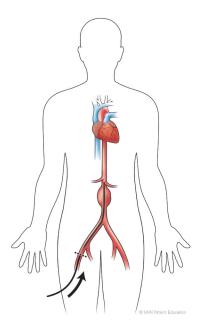
This is a test that uses magnets, radio waves, and a computer to create images of your brain. The room is very noisy but the test is painless.

The scan takes about 1 hour.



3. What is an angiogram?

This test uses a contrast dye and x-rays to show how blood flows through your brain. The doctor inserts a thin, hollow tube called a **catheter** into an artery at the top of your leg (groin area) or sometimes in your arm or neck. The catheter then carefully moves up through the main blood vessels in the abdomen and chest, and into an artery in your neck. Dye is then sent through the catheter and into your brain where moving x-ray images help the doctor see any problems in the blood vessels. The aneurysm can sometimes be treated at the same time.



4. What is a Lumbar Puncture test?

If we think you may have bleeding in the brain or spinal column, the doctor or health care practitioner can do a lumbar puncture (also known as a spinal tap) to check for it. Blood in the cerebrospinal fluid (CSF) around the spinal cord may mean there is a brain hemorrhage (bleed).

The doctor or health practitioner freezes the area where you will have a needle. While you lie on your side, the doctor puts a needle into your lower back and takes a small amount of CSF from the space around the spinal cord.

The test takes about 20 minutes.

What are the treatment options?

The goal of all treatment is to stop or lower the chance of bleeding.

Some aneurysms only need to be watched carefully or maybe they need no treatment at all. This depends on the size of the aneurysm, where it is, your age, health or your own choice.

If your doctor says the aneurysm is not risky, he or she will usually recommend that you have follow-up appointments to make sure nothing changes. For example, they will check to see if the aneurysm has grown larger.

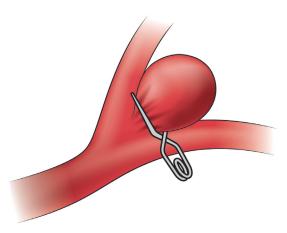
If your doctor decides that the aneurysm needs attention, then there are 3 ways to treat it:

- 1. Clipping (done by a neurosurgeon)
- 2. Coiling and/or stenting (done by an interventional radiologist)
- 3. A combination of treatments

What is aneurysm clipping?

Aneurysm clipping means having brain surgery.

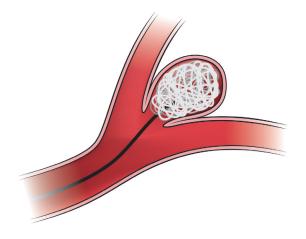
A section of your skull is opened and the surgeon places a small titanium 'clip' on the neck of the aneurysm. The clip looks like a tiny clothes peg. It permanently blocks off the blood flow to the aneurysm and prevents any future bleeding.



Your body will not reject the clip. It will stay in place for the rest of your life and never move. Titanium does not set off airport security alarms and you can usually continue to have MRI and CT tests.

What is aneurysm coiling?

The doctor inserts a very small tube into the femoral artery (which is in your groin area). The tube is threaded all the way to the affected area of the brain. When the angiogram catheter reaches the aneurysm, many very tiny, flexible platinum coils are injected into the aneurysm from the tube.



These tiny coils fill the space and create a solid clot of titanium and blood. This stops blood flow into the aneurysm and prevents future bleeding.

Depending on the condition of the aneurysm, some patients will need a 'stent' (or tube) during coiling. The doctor places the stent in the blood vessel to stabilize the neck or opening of the aneurysm. This permanently stops the coils from falling out of the aneurysm back into the blood vessel.

Sometimes you may need to take blood thinning medicine every day after these procedures.

What are other treatments?

A less common treatment when the aneurysm cannot be clipped or coiled is EC-IC by-pass.

What is EC-IC bypass?

A brain bypass is like a heart bypass. The doctor uses a grafted-in artery to re-direct blood flow around an aneurysm so that the part of the brain involved can continue to get blood once the aneurysm is treated. Graft arteries for brain bypass are usually taken from the scalp, but can be taken from the arm or leg. This graft then carries normal blood flow between healthy vessels and 'bypasses' the aneurysm.

Your treatment team

You are in excellent hands! The Krembil Neuroscience Centre has highly trained professionals from many fields of expertise. They work together as a team to give you the best care possible.

Depending on how complicated your case is and how long your hospital stay is, you will meet some of the following people.

Neurosurgeons: medical doctors specially trained to diagnose and surgically treat people with brain and spine problems.

Neurosurgical Fellows/residents: qualified medical doctors finishing training. They are under the direct supervision of the neurosurgeons.

Interventional radiologists: Medical doctors specially trained to perform angiograms and other procedures through catheters inserted into blood vessels.

Nurse Practitioners: Registered Nurses in the Extended Class (RN-EC) with advanced training who work with medical specialists to provide medical care. They order tests, blood work and imaging. They also assess and order medicines.

Unit Managers: provide leadership for all services on a hospital unit. They can talk to you about any questions or concerns you may have about your care. (Ask your unit nurse if you would like to meet the Manager).

Unit Nurses: Registered Nurses (RNs) who help provide and coordinate your care. They give you information and communicate with doctors and other staff to plan your overall care.

Social Workers: give emotional support and information about resources that you may need when you leave the hospital. They work with the entire team to coordinate your care plans and arrange your transfer to other facilities, if needed.

Physiotherapists: assess your physical ability and develop therapy plans to help with your movement or balance during and after your hospital stay. They may also help with treatment plans to help you become more independent.

Occupational Therapists: assess how well you handle everyday living and help you to become more independent. They suggest helpful services and equipment, as needed, and help plan for when you leave the hospital. Occupational Therapy assistants may also be involved in your care.

Speech Language Pathologists: assess any communication or swallowing problems you may have. They also recommend treatment and teach you about swallowing and speech to help you once you leave the hospital stay.

Dietitians: determine your calorie and fluid requirements and suggest any special food you may need. They teach you about meal planning to help you with healthy eating once you leave the hospital.

Pharmacists: help the medical team manage your medications. They may meet with you to check your medication history and any allergies you may have.

Spiritual Care: are spiritual professionals from many faiths and can give emotional support and spiritual care for you and your family.

Hospital Volunteers: help patients or staff as needed.

Your elective treatment schedule

What to do before you are admitted to hospital:

If you are having elective (non-emergency) surgery, such as clipping, coiling and/or stenting, you will go to a Pre-admission clinic a few days before your surgery.

At the Pre-admission clinic:

- you will have blood collected
- · your medical and medication history will be confirmed
- you will have the chance to ask a doctor any questions you may have

What to expect on the day of surgery:

Because you are having elective surgery, you will be admitted to hospital on the morning of your surgery.

Do NOT eat or drink after midnight on the day of your surgery. You will be told what medications you can or should take.

What to expect after surgery

If you have had coiling or stenting, your doctor will ask you to lie flat in bed for up to 4 hours. This rest period lets the opening in the femoral artery in your groin seal.

If you had surgery, you may spend the first 24 hours on a unit where you can be closely watched for any complications. If all goes well, you may be moved to a neuroscience ward and leave the hospital for home from there.

If you had clipping or coiling, you will need an angiogram, CAT scan (CTA) or magnetic resonance angiogram (MRA) before you go home. You may also need to come back for a follow-up angiogram or MRA. Usually these tests are done a few months after the surgery to make sure everything is healing properly.

Follow up visit (4 to 8 weeks after surgery)

We will make an appointment at the AVM/Aneurysm Clinic about 4 to 8 weeks after you leave the hospital. We will usually call you at home after the procedure with this appointment.

Depending on the surgery you had and whether you have another aneurysm that needs to be treated or monitored, we may arrange long-term follow-up visits. A member of the neurosurgical team will explain what is best for you at the time of your appointment.

What is the risk of complications?

There are always risks with any procedure, but serious complications are rare. Most patients go through their surgery very well and the aneurysm is usually completely fixed.

Watch for these possible complications:

- · infection or fever
- worsening headaches
- trouble seeing or talking
- stroke-like symptoms such as:
 - weakness in one arm or leg
 - numbness
 - tingling
 - trouble talking or confusion

Your doctor will talk about the risks with you before your procedure.

Medications used to treat aneurysms

Your doctor or nurse practitioner may prescribe medication after your surgery. A member of the health care team will tell you:

- · what these medications are for
- any possible side effects
- how long you are expected to take them



You may receive medications to treat or prevent:

- Pain (usually for the wound site or headaches)
- Infection
- Swelling (particularly of the brain)
- Seizures
- Nausea
- High blood pressure
- Other problems such as constipation (a common side effect of pain medications)

The hospital pharmacist may also talk to you about your medications and your medication history while you are in hospital.

Recovering from your aneurysm or hemorrhage

What can I expect as I recover?

How you will feel and recover after surgery depends on:

- · the location and size of the aneurysm
- if you had any bleeding in your brain and how much
- · the treatment you had

Some patients with aneurysm are able to go back to their normal life quite quickly after surgery.

Other patients end up having more permanent and life-changing problems, called **deficits**, such as not being able to communicate properly, double vision, limb weakness, or problems with short or long-term memory.

Your health care team will meet with you and your family to review your situation and find out what your needs are and how they can be met. For example, the team can help with resources for financial support or rehabilitation, if needed. The effect of some deficits can be greatly reduced with rehabilitation, support and counselling. Most patients find they are able to make up for problems they face and find new ways of doing many tasks.

Remember, you and your family will be part of the planning, discharge and decision-making process throughout your stay in hospital. Time, of course, is the greatest healer.

Some common problems

The most common problems that people go through are listed below. These problems can be short-term, minor problems. They can also be longer-term problems where recovery can take time. Some changes may be permanent.

Your treatment team will try to help with many of these issues.

Physical:

- walking, balance
- · loss of muscle strength
- lack of coordination
- loss of feeling

Cognitive or thinking:

- problems with long-term or short-term memory
- poor judgment or a change in personality
- · trouble with managing everyday living

Swallowing:

weakness or other problems with swallowing

Communication (aphasia):

- · problems understanding what is being said
- problems speaking or putting the right words together

Vision:

- 'frozen' eye muscles leading to changes in vision, such as double vision
- loss of some vision
- altered colour sensations

Hydrocephalus:

- the flow of cerebrospinal fluid (CSF) in the ventricles becomes blocked by brain swelling or blood
- Hydrocephalus can cause headaches, changes in memory or alertness and trouble walking
- an external ventricular drain (EVD) may be inserted through the skull into the ventricles in the brain to drain fluid (the EVD is temporary)
- for some people, hydrocephalus gets better on its own over time. For others, a 'shunt' is needed (a tube placed into the ventricles in the brain that drains inside the body to remove the extra CSF fluid from the brain)

Some patients tell us that they suffer from one or both of the following conditions after an aneurysm bleed:

Fatigue and feeling 'blue':

- Feeling very tired (fatigue) and 'blue' or sad are normal stages of recovery for some patients. For most people these feelings pass in time. If they don't, talk to your primary care provider about possible medications or getting a referral for counselling.
- Rest and take time to recover!

Headaches:

- Some people get headaches after their surgery. They can last for days or even weeks, but they usually stop after some time.
- Most headaches are not a problem. If you are really worried about your headaches, talk to your primary care provider.



Most of the common problems people have after surgery will either go away or you will learn to live with them. But, you should call your doctor if:

- You still feel tired after 2 months
- You still feel 'blue' or sad after 1 month or you think the feelings are getting worse
- · Your headaches are getting worse
- You have any concerns about your general health

What about therapy?

You may need physical therapy for one or more deficits. Once your doctor says it is safe to leave the hospital (we call this being discharged from hospital), different options are available. Depending on your needs, you could:

- Go home with no therapy needed
- Go home with a referral for nursing care provided at home (such as bathing, dressing, medications) or for therapy in the home from the Local Health Integration Networks (LHIN) Home and Community (formerly CCAC)
- Go home with a referral to Out-Patient Rehabilitation
- Transfer to another health care organization that specializes in In-Patient Rehabilitation
- If you came to TWH from another hospital and still need more time for recovery, you will be transferred to a hospital near your home when you no longer need specialized neurosurgical care

Some patients with serious deficits from a hemorrhage, or those who need a longer time for recovery, may be taken to facilities that can continue to give higher levels of nursing care. These include Long-Term Care facilities or Complex Continuing Care facilities.

When you leave the hospital

For you, the patient

Patients have told us about 6 areas where they had to make changes during recovery. You may face one or more of the following challenges:

- 1. How long is takes to heal
- 2. Setbacks
- 3. Dealing with the 'new normal'
- 4. Returning to work
- 5. Your family
- 6. Relationships

1. Healing

Every brain is different. So, every patient recovers at a different pace. Some patients go back to their usual activities quickly. Others take longer to heal and may need rehabilitation therapy.

Some people feel discouraged if recovery is not as quick as they hoped. If this happens to you, remember that many patients who have dealt with aneurysms have recommended, "Have patience and give yourself the gift of time."

2. Setbacks

You may sometimes think that your recovery has:

- Stopped
- · Stopped improving
- Slipped backwards in some way

This is normal as the brain recovers. Most patients find that, even after a setback, healing moves forward again and progress becomes noticeable. Trying to keep a positive attitude is good for the body and the mind.

3. The 'new normal'

While some patients recover quickly from their aneurysm surgery, others have to live with new realities and challenges. You may have physical and emotional changes, or changes in your thinking. Maybe you are just not used to spending so much time at home. You may think about your life differently than you did before. Many patients with medical problems feel this way, not just people with aneurysms.

Your family and friends may also notice differences in your attitude, priorities and sometimes even in the way you relate to others or think about yourself. Some patients tell us that they feel like 'a different person'. This is often called the 'new normal'. Although this can be an odd and unexpected situation for you and your family and friends, you will learn to adjust to it over time. Going through a brain injury may cause a more sudden or unexpected change. Patients and family members often say that a 'new normal' person is just as interesting and lovable and, in many ways, even better than the old one!

If you find these changes difficult, there is help. Some resources are the Ontario Brain Injury Association, family counsellors and psychologists. Talk about your needs with your primary care provider if you feel that you need help, or call your surgeon's office.

4. Returning to work

Going back to work is a decision that you and your doctor must make together.

You might not feel ready to go back to work even though the healing of the brain and body has gone well. Maybe you want to return to work because it will help to make you feel normal even though you still have challenges. You will need to think about what is best for you and what feels right.

Although going back to work can be an important step in recovery, nobody can predict for sure when you will be ready for it. This is why it is important to talk about this decision with your family and with your primary care provider. The primary care provider can help you if you decide to take more time to recover.

They can also give you a letter for your employer to ask for changes in the workplace to:

- adjust your work hours
- change your responsibilities
- · provide special equipment

Make sure you apply for all the financial benefits that you are entitled to, such as Employment Insurance or Short-term Disability Employee Benefits. For patients with no insurance, benefits or savings, **Ontario Works** is a government program that can help to support you through the time off work.

5. Your family

Sometimes, patients are more concerned about the reactions and worries of their family members than they are about themselves. When someone suffers an aneurysm, everyone who loves and cares for them is affected — a spouse, partner, children, siblings and friends.

Sometimes, returning to loving relationships and social activities can be hard:

- Family members may treat you as though you are fragile or not able to do many things for yourself (sometimes this might be true but, usually, you can do much for yourself)
- Often caregivers become tired and emotionally drained themselves

In these situations, try to understand that your family members also need comfort and support.

6. Relationships

Having sex again may be awkward or concerning. If your aneurysm burst during sex (or during a bowel movement, which is common), having aneurysm clipping or coiling surgery has fixed your problem and you are **no longer at risk during either of these activities!**

If you need help coping with these fears, it is important to speak to your primary care provider, a qualified psychologist, social worker, or other licensed health care provider.

A closing thought

At the end of this guide, we would like to share with you two quotes from patients who had aneurysms. We often share these quotes with with recovering patients:

"My recovery....continues to be the....success story that I first thought it was."

[from a patient after several setbacks]

"The word 'recovery' seems to suggest looking backwards. Instead, I think a more appropriate word might be 'discovery'." [from a patient with a double aneurysm]

For your caregiver

For a patient with an aneurysm, a caregiver is anybody who helps, supports and encourages. This can include a:

- Spouse or other significant partner
- Relative
- Friend
- Professional caregiver

Caregivers are great support and can be very helpful in recovery.

It is always wonderful for the patient to be able to go home but, as a caregiver, you may have felt stress during the patient's hospital stay. You need to know your limits, both physically and emotionally.

Be ready with as much information as possible. Before discharge from hospital, the health care team will talk with you about the patient's medical needs. It is important that you understand these needs and feel sure that you can help the patient properly.

Ask one of our team members if you need more help or information.

Where to find more information:

Krembil Neuroscience Website

<u>brainavm.com</u> (no 'www' needed)

Ontario Brain Injury Association

Offers a phone support line

Website: http://obia.ca/support

Toll-free: 1 800 263 5404

Brain Injury Society of Toronto (BIST)

Offers a brain injury survivor support group

Website: <u>www.bist.ca</u>Phone: 416 830 1485

Other useful resources

For families and visitors from out of town

Toronto Western Hospital staff will be happy to help with any questions you might have. Here is a short list of what's most important:

- If you need help finding a place to stay while in Toronto, ask the social worker or ward clerk for our list of places to stay near the hospital or search check our website www.uhn.ca
- Visit the TWH Patient & Family Library on the 1st floor near the West Elevators. Computers are available for health-related searches and short-term use. Visit www.uhnpatienteducation.ca
- Visitor parking is located in parking lots off Leonard Ave and Nassau St.
- Free shuttle bus service on weekdays between Toronto Western and Toronto General Hospitals.
- Free phone in the main lobby for calling taxis.
- The TTC streetcar stops at Nassau Street and Dundas Street West.
 Ask for a free transit map at any TTC subway station.
- Commuter and main line (VIA) trains run from Union station.
- Places of worship for many denominations within a short distance of the hospital

Other hospital services include:

Patient Relations (compliments or complaints)

Phone: 416 340 4907

Email: patientrelations@uhn.ca

Security and Lost Items

Phone: 416 340 4111

Volunteer Services

Phone: 416 603 5800 extension 6125

Email: volunteering@uhn.ca

What if I have other questions?

- ✓ Talk to your primary care provider
- ✓ Call Tele-health Ontario at 1 866 797 0000 or go to their website www.health.gov.on.ca/en/public/programs/telehealth
- ✓ Talk to a member of our Toronto Western Hospital team
- ✓ Talk to your neurosurgeon at your follow-up visit

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Reviewed by:

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Visit our website at: brainavm.com (no 'www' needed)



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