

Brain Aneurysms

*Information About Brain
Aneurysms and Recovery*



Allina Health

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Introduction

This booklet will give you information about brain aneurysms. By learning about brain aneurysms, you and your family can work toward a better recovery.

This booklet is meant as a guide. It does not replace medical or professional advice.

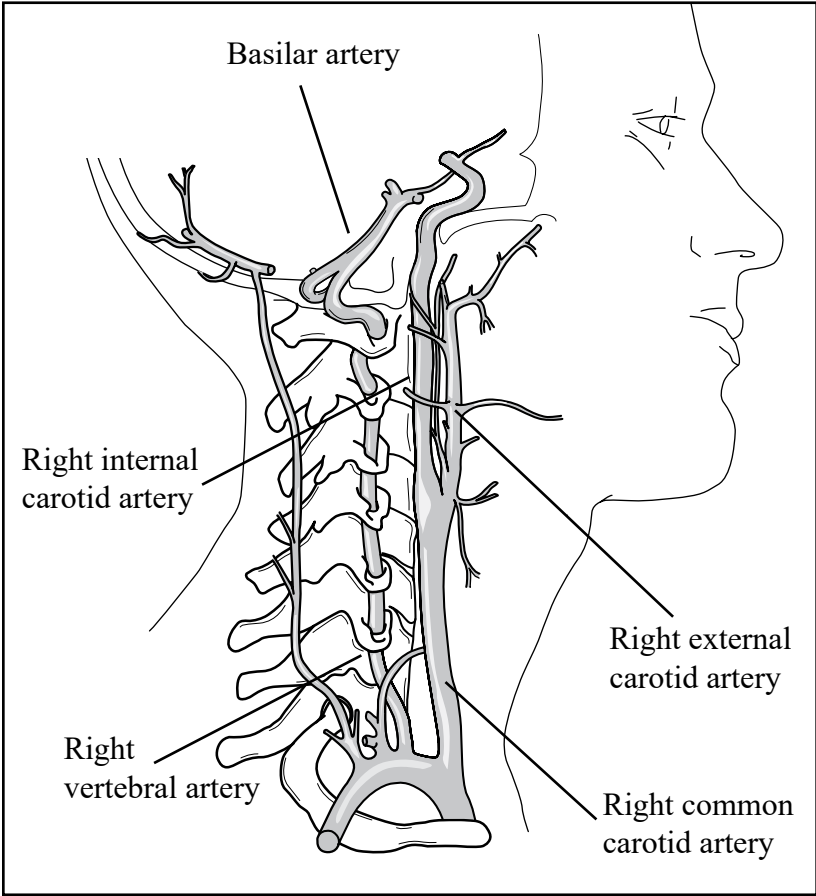
The way your body responds to a brain aneurysm is unique. If you have any questions about your recovery or general health, please talk with your doctor or health care provider (registered nurse, pharmacist, physical therapist).

Brain Aneurysms

An aneurysm happens when an artery or blood vessel becomes weak and bulges. It can break and cause bleeding.

A brain aneurysm is an aneurysm found on the arteries that supply blood to the brain. They are sometimes called “berry aneurysms” because they are often the size of a small berry.

Most brain aneurysms have no symptoms until they bleed, become large or break (rupture). When this happens, the most common symptom is a sudden, severe headache (“the worse headache of your life”) with neck stiffness.



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A brain aneurysm involves the brain and the arteries.

The Role of Your Brain

Your brain is an organ protected by the bones of the skull and three thin layers of tissue (membranes) called meninges. Inside the brain are nerves that carry messages back and forth between parts of the brain and the rest of your body.

The brain controls many functions such as:

- breathing
- senses (sight, hearing, touch, taste, smell)
- movement (walking)
- personality
- memory and thinking
- emotions.

The Parts of Your Brain

Frontal lobe controls:

- behavior and self-control
- decision-making, problem solving and planning
- emotions
- eye movement
- speech.

Parietal lobe controls:

- movement
- memory, recognition
- sensory information (touch, temperature, pain).

Occipital lobe controls vision.

Front

Back

Temporal lobe controls:

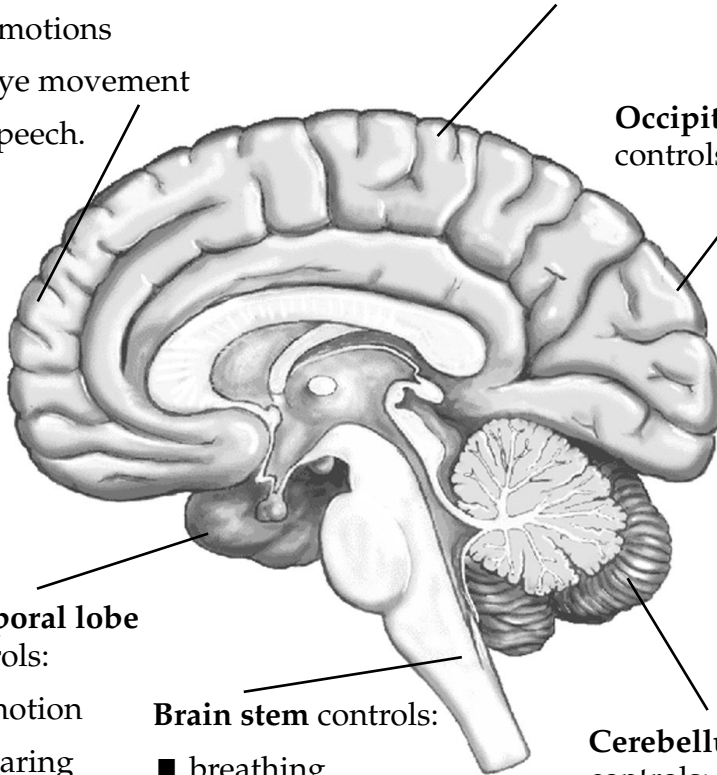
- emotion
- hearing
- language
- memory.

Brain stem controls:

- breathing
- heart rate
- eating
- swallowing
- sleeping
- arousal.

Cerebellum controls:

- balance
- movement
- posture.



Treatment

Treatment begins in the hospital. This experience can be overwhelming. Members of your health care team are there to help you and your family.

Tests

To confirm the brain aneurysm your doctor may order:

- **CT or CAT scan (computerized axial tomography).**
This test uses X-ray and a computer for an in-depth, cross-sectional look at the brain.
- **cerebral angiography.**
This is a special X-ray of the blood vessels using contrast.
- **MRI scan (magnetic resonance imaging).**
This test uses a magnetic field to get a 3-D view of your brain. This scan can give information about the tissues and blood flow within your brain.

Surgery

A brain aneurysm needs to be treated right away. There are two different treatment options.

- **Brain surgery (craniotomy)**
A neurosurgeon makes an opening in the skull to reach the brain. A small metal clip is placed on the aneurysm to prevent it from bleeding again.
- **Endovascular coiling**
A neuroradiologist inserts a long, narrow catheter to an artery in your groin and guides it to the aneurysm in your brain. The doctor threads small coils through the catheter into the aneurysm. These coils fill the aneurysm and help to prevent it from bleeding again.

You and your doctor will work together to decide which type of treatment is best for you.

After treatment

Your nurse will give your family visiting guidelines. Visiting may be very restricted. This will depend on how severe your brain aneurysm was and your current condition.

You will need to be in a quiet environment. This may include keeping the room lights low and the television and radio off. Restrictions may change several times during each day.

Possible Complications (Problems)

Unruptured aneurysm

The most common problems after a brain aneurysm that **has not** ruptured are:

- blood clots
- infection.

Read more about sign and symptoms to watch for on pages 18 to 19.

Ruptured aneurysm

The most common problems after a brain aneurysm that has ruptured are:

- **hydrocephalus.**

Extra cerebral spinal fluid builds up in the ventricles of the brain. This fluid moves around the brain and spinal cord at a steady rate. In hydrocephalus, the fluid is blocked and collects in the ventricles, causing swelling and pressure.

- To decrease the swelling and pressure, a neurosurgeon may place a drain through the skull and into the ventricle. This drain (called a ventriculostomy) allows the extra cerebral spinal fluid to drain into a collection bag at the bedside. This drain is short-term.
- If the fluid and pressure continue to be a problem, the neurosurgeon may place a long-term (permanent) tube.

■ **vasospasm.**

The blood vessels inside the brain narrow. This causes decreased blood flow to a region of the brain. This can cause changes such as:

- inability to move one side of your body
- difficulty with speech or communication
- changes in alertness (level of consciousness).

A vasospasm may last up to 2 weeks or longer. Your health care team will explain how to treat the vasospasm.

■ **rebleeding.**

There is a risk that bleeding can happen again. Your health care team will work to prevent:

- more bleeding
- high blood pressure
- headache
- nausea (upset stomach)
- vomiting (throwing up).

How to Manage Your Pain After Surgery

Having no pain while in the hospital is not realistic, but pain can be controlled.

Your health care team will work closely with you to help manage your pain during your hospital stay and when you return home.

Your right to pain management

All patients have the right to have their pain managed. Proper treatment of pain is necessary for you to achieve the best results during your recovery.

If you do not think that your pain is being treated well, please tell your nurse or doctor. He or she will talk with you about your pain and your pain management needs.

Your role in managing pain

After brain aneurysm surgery, it is common to have some pain. Your nurse will monitor your pain level often and help you manage the pain.

You are the only one who knows where and how severe your pain is. You have a key role in managing your pain.

Tell your nurse or doctor if you have pain.

Pain medicine side effects

All medicines have some side effects, but not everyone gets them. When side effects occur, it is usually within a few hours after taking the medicine. Most side effects can be managed and go away in time

Tell your doctor or nurse right away if you have:

- constipation
- sleepiness
- dizziness
- itching, rash or both
- nausea and vomiting
- slowed breathing
- difficulty concentrating
- forgetfulness
- increased anxiety.

Before you go home

Your doctor or health care team will give you directions for managing your pain at home. Be sure to have written instructions with a health care provider's name and number who will manage your pain after you go home.

It is important you follow your doctor's directions for taking pain medicine. If you need help, ask your doctor or pharmacist.

If you have concerns or side effects from pain medicine, call the doctor who prescribed the medicine, or call your regular care provider.

Recovery After an Unruptured Aneurysm

The length of your hospital stay will depend on the type of treatment used. Most patients who have:

- brain surgery will stay in the hospital for 3 to 4 days.
- endovascular coiling will stay in the hospital for 1 to 2 days.

Your health care team will work with you and your family to help develop your discharge plan. By using this plan, you and your family can make most discharge arrangements before your surgery.

Recovery and Rehabilitation (Rehab) After a Ruptured Aneurysm

Recovery is different for each person who has had a ruptured aneurysm. It includes medical care, natural recovery, rehab and your return to everyday activities.

You may have limits as a result of the brain aneurysm. Your goal is to be as independent and productive as you can. You will learn new skills, improve your physical condition and learn how to do tasks in different ways.

Rehab usually begins in the hospital. It may continue after your hospital stay ends. You, your family and your loved one's health care team will make decisions about his or her care before leaving the hospital.

The recovery team

You will work with a health care team that may include any of the following:

Doctor

A doctor will be in charge of your care. This doctor may be a(n):

- family doctor
- internist (doctor who specializes in adult medicine)
- geriatrician (doctor who works with older adults)
- neurologist (doctor who treats diseases of the brain and nervous system)
- physiatrist (doctor who works in rehab).

Nurses

Nurses will educate, support and guide you. They check your skin and check to make sure you have no problems going to the bathroom. Nurses will give you medicine and help with therapy. They will also work with the rest of the health care team to make sure you and your family's emotional needs are being met.

Pharmacist

The pharmacist will supply the medicines ordered by your doctor. He or she will watch to make sure your medicines work together without side effects.

Occupational therapist (OT)

The occupational therapist will look at your ability to do everyday activities. These include eating, brushing your teeth, getting dressed, taking a bath, doing housework and going to the bathroom. He or she will also look at and treat brain aneurysm-related problems with thinking (memory, judgment, safety) and vision. The OT helps you gain arm strength and coordination.

Physical therapist (PT)

The physical therapist treats your problems with balance, coordination, strength, walking and transfers (getting yourself in and out of a chair, bed or car). He or she will help you use aids such as canes, walkers or wheelchairs.

Social worker

The social worker looks at your social and emotional needs and helps plan for your discharge needs. If you are going home, the social worker will see there is accessible housing and trained caregivers. He or she will help you and your family with decisions about a new living place (if needed). The social worker can also help get financial and insurance information.

Planning for care after your hospital stay

You, your family and health care team will work on planning for your care after your hospital stay.

This planning begins shortly after you enter the hospital. Discharge planning is important. You and your family will decide on recovery goals and hospital staff can give you a list of resources to help aid your recovery.

Possible options for after your hospital stay include:

- home with no other treatment
- home with visits from home care staff
- home and therapy
- assisted living apartment or building
- rehab in a nursing home or other health care facility
- rehab center
- nursing home.

Rehab options

Some people do not need rehab after a hospital stay. If you do, you have four options. The type of rehab you receive depends on your ability to take part in therapy, your medical and nursing needs, and your caregiver.

■ **Hospital programs**

These are for patients you need doctor and nurse care every day. These programs are done in special rehab hospitals or in acute care hospitals. Patients stay in the hospital where they undergo therapy. Patients must be in therapy for at least 3 hours each day.

■ **Nursing home or skilled nursing facility**

Patients stay in the nursing home for 24-hour care. Nursing homes offer different programs. Some offer full rehab while other offer limited services.

■ **Outpatient programs**

These are for patients who live at home. They go to the hospital for care during the day.

■ **Home care**

These programs let patients receive services in their own homes.

Role of family and friends

The role of your family and friends is important to your rehab. They need to understand what you are going through and how the brain aneurysm has affected you.

The adjustment may be easier if family and friends know how to handle problems that may come up after you leave the hospital. They can also help by giving you support and encouragement.

Family and friends can help by:

- dealing with their own reactions
(anger, anxiety, resentment)
- knowing that your progress can be slow
- visiting and talking with you
- letting you know you are still needed and important
- supporting your rehab decisions
- becoming educated about your condition and recovery
- asking to go along to therapy sessions
- showing confidence in your improvement
- working with your health care team to create a healing environment at home.

Commonly Asked Questions

Before you go home, you will receive instructions on your diet, medicines, activity levels and symptoms to watch for. If you have any questions, ask your doctor or nurse. They want your recovery to be as smooth as possible. The following are the most commonly asked questions.

When should you call your doctor?

Call your doctor if:

- you have a temperature of 101.6 F or higher
- you have nausea (upset stomach) and vomiting (throwing up) that won't stop
- you have severe pain that cannot be relieved
- your incision is red, tender, has drainage, or signs of infection:
 - pain
 - swelling
 - redness
 - odor
 - warmth
 - green or yellow discharge
- you have a severe headache
- you have problems with your vision
- you have feelings of being dizzy or lightheaded
- you have problems breathing
- you are very tired (fatigue)
- you have any change in sensation (such as a new numbness or tingling)
- you have any change in movement (such as new weakness or inability to move as usual)

- you have new confusion
- you have any change in loss of bowel or bladder function
- you have any questions or concerns.

In an emergency, call 911 or have someone take you to the nearest hospital Emergency Department.

What are signs and symptoms of an infection?

Signs and symptoms may include:

- increased redness, swelling or warmth at the incision site
- change in color, amount, odor of drainage
- increased pain in the hip
- temperature higher than 101.6 F

Call your doctor if you have any of the above signs and/or symptoms.

What are signs and symptoms of a blood clot?

Signs and symptoms may include:

- swelling in one or both legs
- pain or tenderness in one or both legs
- warmth of the skin in the affected leg
- redness or discolored skin in the affected leg
- leg fatigue.

Call your doctor if you have any of the above signs and/or symptoms.

What are signs and symptoms of a pulmonary embolism?

Signs and symptoms may include:

- shortness of breath
- sharp chest pain that may get worse with deep breathing or coughing
- confusion
- sweating
- signs of shock.

Call 911 right away if you have any of the above signs and/or symptoms.

How do you take care of your incision?

- It is OK to gently wash your incision. Pat the incision site dry with a clean towel.
- When you are not in the shower, keep the incision site as clean and dry as possible.
- Call your doctor if you see any signs of infection.

How soon can you take a bath or shower?

- You can take a shower 48 hours after your surgery.
- If you have a drain, do not take a shower until it has been removed by your doctor.
- Do not take a tub bath until your doctor says it's OK.

When can you return to your normal diet?

As soon as you are able, eat well-balanced meals to help you recover more quickly and to help you feel your best. What you eat after your surgery affects your well-being. You need to eat healthful meals and drink lots of liquids.

Follow these guidelines to have a balanced diet:

- Resume your normal diet as soon as you can.
- Do not skip meals. Eating three balanced meals is essential to maintain your health.
- Balance your diet between the basic food groups: dairy, meat, fruits, vegetables and grains.

How do you manage constipation after surgery?

It is common for bowel movements to slow after surgery. This can be caused by pain medicines, iron supplements, decreased daily activity and changes in eating habits. Constipation after surgery is common.

Signs of constipation are:

- fewer number of bowel movements
- small, hard stools that are difficult to pass
- feeling bloated and uncomfortable
- gas
- abdominal cramping.

How to prevent constipation

- Drink 6 to 8 large glasses (8 ounces) of liquid each day. Liquids add moisture to stool, making them easier to pass. Water and juice are your best choices. Caffeine or alcohol can make constipation worse.
- Add more fiber to your diet with whole grain bread, bran cereals, fresh fruit and vegetables.
- Be as active as you can each day. Walking around your house or apartment will help. Follow your doctor's directions for activity.
- Try to have a bowel movement when you feel the urge. Do not ignore the urge. Try to set aside some time after breakfast or dinner sit on the toilet.
- Take less pain medicine, if possible. Follow your doctor's directions for taking pain medicine.

Use of constipation medicines

As long as you are taking prescription pain medicine, you may need to take a laxative to avoid constipation. Common products include:

- **stimulant laxatives.**
These cause the colon to have a bowel movement. This is the best choice when your constipation is caused by a prescription pain medicine. Examples include senna (Senokot[®]) and bisacodyl (Dulcolax[®], Correctol[®]). Follow package directions.
- **stool softeners.**
These add moisture to the stools to make the stool softer and easier to pass. These may not be enough to prevent constipation while you are taking a prescription pain medicine. An example is docusate (Colace[®]). Follow package directions.

When to call your health care provider

Call your health care provider if:

- your constipation does not improve after you've
 - made diet changes
 - made changes in your level of activity
 - tried laxatives or stool softeners
- you have not had a bowel movement in 3 days
- you have a severe, sudden onset of abdominal pain
- you have blood in your stool.

What precautions should you keep in mind?

Tell your doctors and dentists that you had a brain aneurysm **before** having any surgery, dental work, or other tests or procedures (such as a colonoscopy).

What are your activity restrictions?

Your doctor will talk with you about your activity restrictions.

When can you drive a car?

Talk with your doctor about when you can resume driving.

When can you return to work or your hobbies?

Discuss returning to work or hobbies with your doctor.

When can you resume sexual activity?

You can resume sexual activity when you are ready.

When do you need to see your doctor?

Before you leave the hospital, a nurse will

- review your discharge instruction sheet with you
- schedule a follow-up appointment for you with your doctor for 2 to 4 weeks after your surgery.

Resources

This is a stressful time for you and your family. Resources available to you include social workers, spiritual care providers, nursing staff, pharmacists, and doctors. They will be able to help you with any questions you may have.



Notes:



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