

# Pack 110, Item 8

# Type: Backgrounder

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**Backgrounder on stroke**

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***What is a stroke?***

A stroke occurs when the blood supply to part of the brain is cut off. Without blood, brain cells lack a supply of oxygen, which causes cell damage and cell death. Depending on which part of the brain is affected and how quickly the person is treated, the impacts on stroke survivors can be devastating to the body and can affect mobility, speech, and how stroke survivors think and feel. Strokes sometimes result in death.

Stroke is a leading cause of death and disability globally, and Africa is no exception. Although most strokes happen to people over 65 years old, strokes can happen to anyone at any age, and they impact everyone: stroke survivors, family and friends, workplaces, and communities.

There are, however, preventive measures that people can take to reduce the risk of getting a stroke, and many things stroke survivors and their families can do to make life better and easier after a stroke.

***Key facts***

* According to the World Health Organization and other authorities on stroke, 6.2 million deaths occur globally from stroke each year, which is more than the deaths from AIDS, tuberculosis, and malaria combined. Stroke is the second leading cause of death and disability among adults globally.
* Globally, 17 million people suffer a stroke every year. Of these, more than six million or about 35% die, and another five million (30%) are left permanently disabled, which significantly burdens their families and communities.
* Today, two-thirds of all individuals who have suffered a stroke live in developing countries. In these countries, health systems are often already challenged to the limit, and support for individuals and families affected by stroke is minimal. While the incidence of stroke appears to be decreasing in higher income countries, it appears to be increasing in Africa.
* The lifetime risk of stroke is 1 in 5 for women, 1 in 6 for men.

***Myths and facts about stroke***

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| --- | --- |
| **MYTH** | **FACT** |
| Stroke cannot be prevented. | Up to 80% of strokes are preventable. |
| There is no treatment for stroke. | At any sign of stroke, call your emergency number immediately. Treatment may be available. |
| Stroke only affects the elderly. | Stroke can happen to anyone at any time. |
| Stroke happens in the heart. | Stroke is a “brain attack.” |
| Stroke recovery only happens for the first few months after a stroke. | Stroke recovery can be an extended and even a lifelong process. |
| Strokes are rare. | There are 26 million stroke survivors globally. Stroke is the second leading cause of death in the world. |
| Strokes are not hereditary. | A family history of stroke increases your chance of developing a stroke. |
| If stroke symptoms go away, you don’t have to see a doctor. | Temporary symptoms of stroke are called transient ischemic attacks (TIAs). They are warning signs prior to actual stroke and need to be taken seriously. |

***Key information about stroke***

1. **Signs of a stroke**

For a quick test to identify if someone has experienced a stroke, remember the word FAST.

FACE: Ask the person to smile. Does one side of the face droop?

ARMS: Ask the person to raise both arms. Does one arm drift downward?

SPEECH: Ask the person to repeat a simple phrase. Is their speech slurred or strange?

TIME: If you observe any of these signs, call 9-1-1 (or your local emergency number) immediately.

Additional after-stroke symptoms can include the following. Note that these can also be warning signs of an impending stroke:

* + Sudden weakness in face, arm, or leg on one side of the body
  + Sudden trouble speaking
  + Sudden confusion
  + Sudden difficulty understanding speech
  + Severe headache with no known cause, usually on one side of the head
  + Sudden dizziness and loss of balance or coordination
  + Trouble seeing or blurred vision in one or both eyes

**Time is short!** Fifteen minutes can change the life of someone who is having a stroke. Quickly restoring the blood flow to the brain is crucial to ensuring the survival of the brain cells that are vital to the quality of life after a stroke.

Because the brain controls hundreds of activities, the range of stroke symptoms is broad. Some warning signs of stroke are common and relatively easy to spot. Others are more difficult to detect, particularly in a *transient ischemic attack* (see below), also called a “mini-stroke.”

A stroke is an emergency. What should you do?

* + - 1. **Immediately call** your local emergency number. Ask for a translator immediately, if needed.
      2. Report a possible stroke.
      3. Answer questions with clear, short responses to make sure you are understood.
      4. Do not hang up first: listen for instructions.

### *How to help a stroke victim*

While you are waiting for an emergency vehicle to arrive, the person with the stroke symptoms should lie down. Watch the person and lift the chin to open the airway. Check for breathing and pulse. If necessary (if they are not breathing), perform [cardiopulmonary resuscitation (CPR)](https://www.mayoclinic.org/first-aid/first-aid-cpr/basics/art-20056600).

If the person is breathing but unconscious, roll them onto their side. However, strokes sometimes cause people to fall, so *do not move the person* if you suspect a head, neck, or back injury.

If the person is conscious, try to reassure and comfort them. Loosen constricting clothing or jewelry. If the person is having difficulty swallowing, try to turn them onto their side. Do not give the person anything to eat or drink.

***The kinds of stroke***

The two major kinds of stroke are *ischemic* and *hemorrhagic*.

In an *ischemic stroke,*a blood vessel is blocked by a blood clot and part of the brain becomes deprived of oxygen and stops functioning. About 80% of strokes are ischemic.

*Hemorrhagic stroke*s occur when a blood vessel that carries oxygen and nutrients to the brain ruptures and spills blood into the brain. Part of the brain becomes deprived of oxygen and stops functioning.

*Transient ischemic attacks*:TIAs or mini-strokes (which are sometimes considered a third type of stroke) have the same symptoms as a major stroke. In a TIA, the blood clot that blocks the flow of blood in the brain breaks up on its own, and symptoms disappear after a short time. A TIA does not usually cause severe brain damage. But it may be a warning sign of a future stroke.

***Risk factors for a stroke***

Some of the main risk factors for stroke are:

* High blood pressure
* Smoking
* Diabetes
* High cholesterol
* Physical inactivity and obesity
* Atrial fibrillation\* or other heart disease.

***Six steps everyone can take to reduce the risk and danger of stroke:***

1. Know your personal risk factors—for example, high blood pressure, diabetes, and high blood cholesterol.
2. Be physically active and exercise regularly (according to recommended guidelines for physical activity).
3. Eat a healthy diet—high in fruits and vegetables and low in salt (salt raises blood pressure)—to stay healthy and keep blood pressure low.
4. Limit consumption of alcohol.
5. Avoid cigarette smoke. If you smoke, seek help to stop now.
6. Learn to recognize the warning signs of a stroke (see above).

***Main effects of a stroke***

The brain controls many body functions. When a stroke occurs and blood can’t reach the part of the brain that controls that particular bodily function, that part of the body won't work as it should. The effects of a stroke depend on the location of the obstruction and the extent of brain tissue affected.

Because one side of the brain controls the opposite side of the body, a stroke that affects one side will result in complications on the side of the body it affects. For example, if the stroke occurs in the right side of the brain, the left side of the body (and the left side of the face) will be affected. This could result in any or all of the following:

* paralysis on the left side of the body
* vision problems
* memory loss

If the stroke occurs in the left side of the brain, the right side of the body will be affected, producing some or all of the following:

* paralysis on the right side of the body
* speech and language problems
* memory loss

When stroke occurs in the brain stem, depending on the severity of the injury, it can affect both sides of the body and may leave someone in a “locked-in” state. Stroke survivors in this state are generally unable to speak or move below the neck.

***Disorders after stroke***

The following disorders are common after a stroke:

[*Pain*](http://www.worldstrokecampaign.org/index.php/learn/disorders-after-stroke)*:* After-stroke pain can include head pain such as headaches as well as muscle pain. For example, if the shoulder muscles are paralyzed, they cannot help the tendons keep the upper end of the arm in the shoulder joint, and so the arm drops from the joint. This is very painful and can prevent rehabilitation of the hand and arm.

[*Depression*](http://www.worldstrokecampaign.org/index.php/learn/disorders-after-stroke)*:* Depression after stroke is very common, and often undiagnosed. It reduces the patient's capacity for rehabilitation and impairs their quality of life. Depression affects not only stroke survivors, but also the caregivers and other persons who take care of the patient. For many patients, spouses, and children, depression is a long-term challenge.

[*Cognitive*](http://www.worldstrokecampaign.org/index.php/learn/disorders-after-stroke) *decline:* Stroke can lead to a decline in cognitive abilities. This is also true for strokes that are undiagnosed because they don’t display the typical symptoms of stroke. It is especially true of recurrent (not first-time) strokes, which cause more and more damage and reduction of patients’ mental capacity.

[*Spasticity*](http://www.worldstrokecampaign.org/index.php/learn/disorders-after-stroke)**:** Brain injury from stroke sometimes causes paralyzed muscles to involuntarily contract when a stroke survivor tries to move a limb. This creates stiffness and tightness. For example, contracted muscles can permanently reduce the range of motion at the joints of the hand and arm so that they are “frozen” in an abnormal and often painful position. This makes stretching the muscle much more difficult and can seriously interfere with a stroke survivor's ability to perform daily activities such as dressing.

There can also be a variety of psychological and emotional problems, disturbances in the sensory systems of the body, motor control problems, and persistent fatigue, and problems using and understanding language.

1. **Ensuring safety and preventing injury for someone returning home after a stroke**

When a survivor returns home after a stroke, it’s important that families and the survivor take actions to ensure that he or she can be safely transferred from place to place in the home—and to adapt the home to prevent injuries.

To care for someone in the household with a stroke, the family should:

* Connect with medical staff, including doctors, nurses, and therapists, and ask questions about stroke and other conditions (see below for examples of questions).
* Find out if home care is needed and available.
* Find and talk to other families who have experienced stroke.
* Make the home safer for the stroke survivor (see below).
* Care for the person who is the main caregiver for the stroke survivor.

***Making the home safer***

Making the home safer is vitally important. For example, in the US, 2.5 million people hospitalized for a stroke are re-admitted within 30 days, mostly because of falls on slippery floors.

Here are some ways to adapt the home to make it safer for a stroke survivor:

* Cover floors with carpeting or other non-slippery materials, and use rubber-backed bathmats on bathroom floors rather than towels.
* Lower electrical switches and towel racks so that stroke survivors don’t lose their balance when reaching for them.
* Raise the toilet, especially for people who use wheelchairs, so that stroke survivors can sit down and stand up independently.
* Raise the level of the bed to make lifting or lowering the person easier on a caregiver’s back.
* Ensure that items in the kitchen are within easy reach.
* Make sure that the paths to the kitchen, bedroom, bathroom, and other rooms are clear of obstacles.
* Install handrails for support going up and down stairs.
* Install a bench in the bathtub.
* Install a shower head with a handle.
* Attach plastic strips that adhere to the bottom of a tub or shower to improve traction.
* In the bath, use long-handled brushes and washing mitts with pockets for soap.
* The stroke survivor should wear non-skid shoes and avoid slippery surfaces.

***Questions for family to ask medical personnel about returning home***

Ask doctors:

* What side effects of medications should be reported: for example, high blood pressure numbers, pain?
* Will you send my other doctors my hospital report?

Ask nurses:

* + Do I have prescriptions for medications, physical therapy, speech therapy, a personal care aide, a wheelchair, a walker?

Ask physical therapists\* and/or occupational therapists\*:

* Are there specific instructions to continue therapy at home?
* What is the purpose of each exercise? How should it be done? What is the benefit?
* When is the next appointment?
* Where can I buy adaptive products (for example, dining aids, bathing and grooming aids, dressing aids, mobility aids, and personal hygiene aids)?

Ask speech therapists:

* Are there specific instructions to continue at home?
* Are there books or workbooks I can use?
* When is the next appointment?

Ask pharmacists:

* When should I take the medication? With food? On an empty stomach?
* Are there any foods, vitamins, or alcoholic beverages I should avoid?
* Place *large* *letters* on the label of each medication with name, purpose, and instructions.

1. **Caring for the patient at home**

A stroke affects everyone in the family, and everyone in the family should share the care, including children. This protects the main caregivers from becoming sick from overwork.

***Questions a family must consider immediately and in the longer-term:***

* What help will be needed for the stroke survivor’s personal care?
* Who will provide that personal care and when?
* Who will give medications? When?
* Where can we find instructions to continue physical therapy?
* How can we share household chores?
* Will the survivor be able to remain living in their home?
* Is there enough money to cover living expenses now and in the future?

One of the most important things to organize is medication.

***Medication***

It’s important that stroke survivors and their caregivers understand the benefits of all medications and why they need to be taken at particular times. This helps survivors and their caregivers avoid missing doses.

**To better understand your medications, ask your healthcare professional or pharmacist the following questions:**

* What is the medicine’s name and what is it for?
* When and how do I take the medicine?
* What are the possible side effects?
* When should I expect the medicine to start working?
* Will this medicine interact with any of my other medicines?
* Is it okay to take this medicine with supplements such as vitamins?
* What should my medicine look like?
* What should I do if I forget a dose or take it late?
* What will happen if I stop taking this medicine altogether?
* Is there anything else I should know about taking my medicines (for example, should it be taken on a full stomach, with milk, etc.)?
* Are there foods I need to avoid when taking this medicine?

*A few pointers*:

* Make a chart of all medications.
* Include the name of the medication, and what time(s) each should be taken.
* When a medication has been taken, check it off on the chart.
* Use any tools you have to help you remember to take the medication. For example, you could:
* Set reminders on your phone or set an alarm to remind you when to take a dose.
* Use pill boxes to organize your medications by day and time of day.
* Use a medication tracker app available for smartphones.

***Blood pressure***

High blood pressure (also called hypertension) is a major risk factor for stroke, so it’s important to monitor it regularly, if possibly at home, but otherwise at a clinic or hospital.

Blood pressure is recorded as two numbers: The higher number (called *systolic*) measures blood pressure during a heartbeat, while the lower number (called *diastolic*) measures blood pressure between beats.

* *Ideal blood pressure*: Consistently between 90/60 and 120/80.
* *Pre-hypertensive or pre high blood pressure*: Consistently between 120/80 and 140/90.
* *High blood pressure or hypertensive:* Consistently over 140/90.

***Blood sugar***

Stroke survivors who had *hyperglycemia* (high blood sugar) before a stroke have worse post-stroke outcomes unless they reduce their blood sugar after a stroke. Hyperglycemia is associated with diabetes. Also, blood sugar levels rise for many people after they experience a stroke. It is therefore important to monitor and control blood sugar levels through getting tested and getting advice at clinics or hospitals.

***Bladder retraining***

Regaining control of urination increases comfort, independence, and self-esteem. While awake, stroke survivors should urinate every three to four hours on schedule rather than based on the urge to urinate. It’s best not to postpone the schedule.

***Bowel elimination retraining***

Like bladder training, it’s best to follow a routine and eliminate bowels at the same time every day, but without straining. To minimize problems, including constipation, drink sufficient liquid during the day, and eat high-fibre foods like vegetables, fruits, beans, and whole grains.

***Physical rehabilitation***

The goal of physical rehabilitation is to help the stroke survivor achieve maximum independence, either on their own or with assistance.

Strokes break vital connections between the brain and the muscles, which is why they almost always result in some loss of mobility and movement. But the loss isn’t necessarily permanent. Rehabilitation is especially important during the early stages of recovery, when patients have little to no control over affected muscles. At all stages in a stroke survivor’s journey toward recovery, long-term progress depends on a consistent physical therapy program.

Stroke often causes paralysis on one side of the body, which means that patients lose functioning in one arm and one leg. In the first weeks and months of recovery, physical therapists work with stroke survivors to keep these muscles toned and stimulated—even before survivors regain voluntary movement. If and when functioning does return, physical therapy helps patients to relearn everyday skills and retrain their healthy brain cells to control the affected body parts.

Exercises prescribed by a therapist may need to be performed throughout the day to minimize joint stiffness and stretch the muscles. It’s best to consult a professional for exercises, as some exercises are helpful and others may even be damaging.

By carefully watching a physical or occupational therapist work, families can continue therapy at home. Ask the therapist for a therapy plan with pictures and/or diagrams.

***Staying active***

Physical activity improves many of the risk factors for strokes. It improves heart functioning, lowers total cholesterol, and lowers blood pressure and resting heart rate. Being active reduces the risk and severity of diabetes, and improves strength, balance, endurance, and long-term brain health.

“*When I asked my doctor what I could do to help my recovery, his answer surprised me. He said if I continued to do tasks I had always done, using both my weaker and stronger hand—repeating each task several times—it would stimulate brain tissue and promote my healing. For more than a year, I did tasks in my home and garden. Change came, but the fingers in my weaker hand stayed shut. I continued anyway. Then one morning, I reached for a cup of coffee with both hands, and my fingers in my weaker hand began to open for the first time. I began to cry—and kept opening and closing them*.”

For stroke survivors, these benefits can mean the difference between dependence and independence. In addition to these physical benefits, exercise can enhance self-confidence and independence and reduce depression and anxiety.

***Impact on sex and intimacy***

Sex is a sensitive subject for many stroke survivors and their mates. Stroke can cause big changes in the lives of sexually active couples. Stroke-related changes can affect both sexual desire and performance. The insecurity, fear, and doubt that may arise can complicate even the most open and loving relationships and cause partners to ask: Is sex safe? Am I still attractive? Can I be both a caregiver and a lover?

Talking about these issues can be extremely uncomfortable for some people. But experts and survivors believe these issues can be resolved.

***Planning your day***

After a stroke, it’s important to allow sufficient time to get through the tasks required each day—and include time to rest for the stroke survivor and their helpers. Make sure you include sufficient time for eating, bathing, dressing, and physical therapy.

***Benefits of organizing your time***

**It’s about time!**



* Everything takes longer to do after a stroke.
* When a stroke survivor knows what they’re going to do next—until it becomes second nature—it helps them reach for greater independence.
* You’ll feel less stress about being on time for a doctor’s appointment or other activity.
* It helps a caring partner have time to rest and do things they like to do.

Organizing or planning the day has many benefits. It:

* builds structure into each day
* saves energy
* encourages independence
* leaves time for things the stroke survivor enjoys
* helps in setting and achieving goals

***Where can I find other resources on this topic?***

1. Akinyemi, Rufus O, 2016. *Global Epidemiology of Stroke with Special Reference to Sub - Saharan Africa*. PowerPoint presentation. <https://www.ean.org/fileadmin/user_upload/Akinyemi_R___Stroke_Epidemiology.pdf> (6.8 MB)
2. Anonymous. *Nigeria and Rising Cases of Stroke*. thepointernewsonline.com/?p=27288
3. Centers for Disease Control and Prevention, undated. *Stroke Signs and Symptoms*. <http://www.cdc.gov/stroke/signs_symptoms.htm>
4. Stroke Association, 2015. *State of the Nation: Stroke statistics*. <https://www.stroke.org.uk/sites/default/files/stroke_statistics_2015.pdf> (4.6 MB)
5. World Stroke Campaign, 2014. *Post-Stroke Checklist*. Canadian English version. <http://www.worldstrokecampaign.org/images/documents/pschecklist/HSF_Canadian_Post_Stroke_Checklist_English_2014.pdf> (143 KB)
6. World Stroke Organization website. <http://www.worldstrokecampaign.org/>

***Key definitions***

1. *Atrial fibrillation (AF):* An underdiagnosed and undertreated heart condition and a major risk factor for stroke. AF causes the two upper chambers (the atria) of the heart to quiver instead of beating effectively, resulting in blood not being completely pumped out of the chamber, which in turn causes pooling and can lead to clotting. These blood clots can travel to the brain and trigger a major and often fatal stroke. Stroke due to AF is highly preventable by anti-clotting drugs.
2. *Occupational therapist:* Occupational therapists treat injured, ill, or disabled patients through the therapeutic use of everyday activities. They help patients develop, recover, improve, and maintain the skills needed for daily living and working.
3. *Physical therapist*: Physical therapists provide services that develop, maintain, and restore maximum movement and functional ability. Typically, they teach and guide particular types of exercises, which patients practice during the appointment and/or at home.

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