

GoToGuide

SECONDARY PREVENTION OF STROKE

To help you and your loved ones understand ischemic stroke and TIA, prevent another event, and move forward with confidence





GoToGuide: SECONDARY PREVENTION OF STROKE

INTRODUCTION

If you or someone you love has experienced a stroke or transient ischemic attack (TIA), you may be feeling overwhelmed – and that is completely understandable. Life may have changed in an instant, and the road ahead can seem uncertain. But here is something important to remember: you are not alone, and there is a way forward.

Every year, around 12 million people across the world experience a stroke¹, including nearly 1.8 million in the European region.² Today, more than 101 million people globally are living with the long-term effects of a past stroke³ – a number that continues to rise due to an ageing population and improved survival rates.

Strokes often strike without warning, even to people unaware of their risk. For those who have already experienced one, the idea of it happening again can feel deeply unsettling. And that concern is not unfounded: about 1 in 5 stroke survivors will have another stroke – known as recurrent stroke – within five years.⁴ What is equally concerning is that a second stroke often leads to more severe disability or even death compared to the first.⁵

The increased risk of a **recurrent stroke** makes **secondary prevention absolutely critical**. That means taking steps like medication, healthy habits, and ongoing medical care to lower the risk of another stroke.

As you may have seen firsthand, a stroke is one of the most serious and life-altering medical events a person can experience. And yet, many stroke survivors go on to live fulfilling lives. A key part of that journey is learning how to **reduce the risks of recurrent strokes** and that is exactly what this GoToGuide is here to help you do, while also offering strategies for living well with the effects of strokes.

By understanding your risk and taking proactive steps to manage it — whether through treatment, lifestyle changes, and regular medical follow-up with your healthcare team — you and your caregivers can make a significant difference in preventing another potentially life-threatening event.

This guide will walk you through the Seven Steps to Becoming an Empowered Patient, helping you make informed decisions about your care — every step of the way, and in a way that feels right for you.

SUPPORTED BY



الا Bristol Myers Squibb الالا

Johnson&Johnson

V. L. Feigin et al., 'World Stroke Organization: Global Stroke Fact Sheet 2025', International Journal of Stroke, vol. 20, no. 2 (2025), pp. 132–144, doi:10.1177/17474930241308142.

² C. F. Prendes et al., 'Burden of Stroke in Europe: An Analysis of the Global Burden of Disease Study Findings from 2010 to 2019', Stroke, vol. 55, no. 2 (2024), pp. 432–442, doi: 10.1161/STROKEAHA.122.042022.

³ Feigin et al., 'World Stroke Organization: Global Stroke Fact Sheet 2025'.

⁴ B. P. Berghout et al., 'Risk of recurrent stroke in Rotterdam between 1990 and 2020: a population-based cohort study', The Lancet Regional Health – Europe, vol. 30, 2023, 100651, doi:10.1016/j.lanepe.2023.100651.

⁵ S. R. Ferrone, 'Clinical Outcomes and Costs of Recurrent Ischemic Stroke: A Systematic Review', Journal of Stroke and Cerebrovascular Diseases, vol. 31, no. 8 (2022), 106438, doi:10.1016/j. jstrokecerebrovasdis.2022.106438.





AWARENESS SAVES LIVES

A reflection from Al Voss, stroke survivor and Mended Hearts Europe Executive Committee member.



WHEN I HAD MY STROKE, NO ONE EVER TOLD ME I COULD BE AT RISK OF HAVING ANOTHER ONE.

I DID NOT KNOW ABOUT RECURRENT STROKES, AND THAT LACK OF INFORMATION LEFT ME UNPREPARED AND AFRAID.

EDUCATION AND AWARENESS ARE CRITICAL —
NOT JUST FOR PATIENTS, BUT FOR FAMILIES AND CAREGIVERS
TOO. KNOWING THE RISKS AND HOW TO REDUCE THEM CAN MAKE
ALL THE DIFFERENCE.

WE NEED TO MAKE SURE PEOPLE UNDERSTAND THAT A STROKE DOES NOT END WITH RECOVERY FROM THE FIRST ONE —

awareness is the key to prevention and empowerment.

"







The *Seven Steps* to Becoming an Empowered Patient:



STEP 1 TAKE CONTROL

By reading this Guide, you are taking control of your healthcare journey and embarking on the first step to becoming an empowered patient. Here you will find valuable information along with tools and resources to reduce your risk of recurrency and manage your life after stroke. While some things may feel outside your control, there is so much you can do and it starts right here.



STEP 2 EDUCATE YOURSELF

Knowledge is power. For you to be truly empowered, it is important to understand what caused your stroke, what factors increase your risk, and how you can take action to prevent another one. Talk to your doctor about your condition and the risk of recurrence, and ask where you can find trustworthy, easy-to-understand information to learn more.



STEP 3

KNOW YOUR RIGHTS

Many patients feel they are dependent on the system and simply need to do "what the doctor says". While it is crucial to follow your treatment plan, you also need to be aware of, and assert, your rights as a patient when necessary.



STEP 4 BE PART OF THE TEAM

You know yourself better than anyone else. Make sure to discuss any questions, issues or concerns with your healthcare team, communicate your needs clearly, and show up to all your appointments.



STEP 5 GET INFORMATION

Whether it is about medication, rehabilitation, or lifestyle changes, you can never ask too many questions. Your doctor is there to ensure you feel confident about your treatment plan, so do not hesitate to keep asking questions until you fully understand everything. Being informed helps you follow your plan with more confidence — and helps avoid setbacks.



STEP 6 VOICE YOUR OPINIONS

Your voice matters. Your needs, thoughts, and opinions are valued. Do not be afraid to speak up if you feel confused or uncomfortable about any decision. Your opinion is a key part of building a plan that fits you.



STEP 7

MAKE INFORMED DECISIONS

You might come across the term "shared decision-making". It is a key component of patient-centred care and involves continuous communication between you and your healthcare provider. Your preferences are important. Make sure you are part of the conversation about your situation and participate in decisions about treatment options.



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TAKE CONTROL

After a stroke, it is common to feel like your body has let you down. Many stroke survivors describe a deep sense of uncertainty, vulnerability, or even loss of control over their future. The recovery journey – from processing what happened to relearning daily routines, regaining independence, and making the necessary changes to prevent another stroke – can be both physically and emotionally challenging.

However, while you cannot change the past, there is so much you can do to shape what comes next. You can still make decisions and choices that help you prevent another stroke, as well as improve your quality of life after surviving one.

Taking control starts with understanding what caused your stroke, what increases your risk of another, and acting on that knowledge. That includes not only protecting your health, but also finding new ways to live well, rebuilding confidence, and rediscovering what matters most to you.

This Guide is here to support you as you navigate this journey. Think of it as a companion — offering clear, practical information and encouragement so that you can make informed choices and feel confident in your next steps. You are more than your diagnosis. How you live your life after stroke is still in your hands. And you do not have to do it alone — your loved ones and your healthcare team are there to walk beside you.



Stroke is the third leading cause of death worldwide, responsible for an estimated $7\ million\ deaths$ each year.



TO RISE AGAIN IS TO CHOOSE A NEW WAY OF LIVING

Reflection from Willema Girard, stroke survivor, health advocate, and coach



THROUGH THE DARKNESS, CAUGHT BETWEEN FEAR AND HOPE, I FOUND MYSELF TRAPPED IN A BODY THAT NO LONGER RESPONDED... BUT DEEP INSIDE, ONE THING WAS CLEAR: I WAS NOT GOING TO GIVE UP. STEP BY STEP, I CHOSE TO FIGHT — TO RECLAIM MY BODY, MY MIND, AND MY LIFE. WHEN LIFE BRINGS YOU TO YOUR KNEES, YOU HAVE A CHOICE TO MAKE: TO SIT BACK AND WAIT — OR TO RISE TO THE CALLING.

⁶ Feigin et al., 'World Stroke Organization: Global Stroke Fact Sheet 2025'.



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EDUCATE YOURSELF

Once you decide to prioritise your health and well-being after a stroke, the next important step is to educate yourself. Learning about stroke and its symptoms, what may have caused it, diagnostic tests, the signs of recurrence, and your options for treatment and prevention, will empower you to take an active role in your care and reduce the risk of another stroke.

Education is crucial in becoming an empowered patient. At Mended Hearts Europe, we have seen that education is a powerful tool for recovery and prevention. Within our community of stroke survivors, their caregivers and family members, many have shared how gaining a better understanding of their condition gave them the confidence – not just in managing their health, but emotionally too.

We know that navigating all the available resources can be overwhelming, making it hard to know what is accurate or relevant to you. That is why this Guide was created: to provide clear, trustworthy insights into stroke and what you can do to reduce your risk of having another one. By reading it, you are already taking another step toward becoming an empowered patient — one who is informed, supported, and actively involved in their care.





MORE THAN

80% of strokes are preventable

YET EACH YEAR, OVER 1.8 MILLION PEOPLE IN EUROPE EXPERIENCE A STROKE, WITH MANY AT RISK OF A RECURRENT ONE.



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WHAT IS A STROKE?

Hearing the word "stroke" can be frightening — and for good reason. A stroke is a **serious medical emergency** and a life-threatening condition. It occurs when part of the brain does not have sufficient blood flow, most often due to a blocked artery or bleeding in the brain. Without a consistent blood supply, brain cells in the affected area begin to die from a lack of oxygen and other nutrients. The effects of a stroke can vary widely depending on the area of the brain affected and the severity of the interruption.

The good news is that more than 80% of strokes are preventable. With the right treatment, lifestyle changes, and ongoing support, many survivors regain independence and lead active, fulfilling lives. Managing your life after a stroke and lowering your risk of recurrence may include:

- Taking your medications as prescribed
- Controlling blood pressure, cholesterol, and blood sugar
- Eating a healthy diet
- Staying as physically active as you can
- Attending follow-up appointments
- Recognising stroke warning signs
- Looking after your mental health

⁷ Centers for Disease Control and Prevention, Preventing Stroke Deaths: Progress Stalled, Vital Signs, September 2017, https://archive.cdc.gov/#/details?url=https://www.cdc.gov/vitalsigns/stroke/index.html.



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WHAT IS SECONDARY PREVENTION OF STROKE?

Secondary prevention of stroke refers to the steps taken to prevent recurrent strokes (whether it is a second, third or later event), as well as transient ischemic attacks (TIAs). Unlike primary prevention (which focuses on reducing the risk of a first stroke), secondary prevention is for people who have already experienced one.

It involves a combination of lifestyle changes, managing risk factors, medical treatments and long-term follow-up strategies.

Recurrent strokes are often preventable. By working closely with your healthcare team, following your treatment plan, and making healthy choices every day, you can lower your risk of another stroke and protect your long-term health.





TYPES OF STROKE

Strokes are often categorised as either:

Ischemic Stroke*

It happens when one or more blood vessels in the brain, or leading to the brain, become narrowed or blocked (usually a blood clot), causing a significant reduction of blood flow. As a result, the affected area of the brain is deprived of oxygen and nutrients, and cells brain begin to die. This is the most common type of stroke, and although its prevalence among countries in Europe varies, on average ischemic stroke accounts for 85% or more of all cases.

Ischemic strokes are further classified into two categories, based on the origin of the blockage:

- Thrombotic ischemic stroke develops when a brain vessel is blocked by a blood clot that formed in the brain, often as a result of atherosclerosis (plaque buildup in the arteries). This is the most common subtype of ischemic stroke.
- Embolic ischemic stroke occurs when a blood clot forms elsewhere in the body and travels through the bloodstream to the brain. If the clot originates in the heart, it is referred to as a cardioembolic stroke.

^{*}This guide focusses primarily on ischemic stroke.



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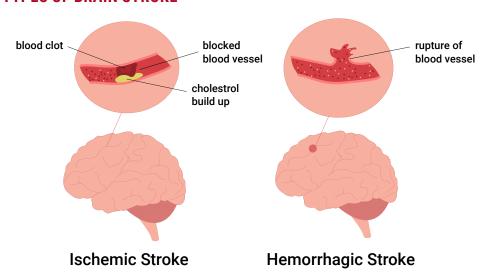
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Hemorrhagic Stroke (Brain Hemorrhage)

This occurs when a blood vessel in the brain leaks or ruptures, leading to bleeding in and around the brain. It is often caused by weakened blood vessels, which can result from conditions such as an aneurysm (a bulge in the vessel wall) or an arteriovenous malformation (AVM), a network of abnormal blood vessels. High blood pressure adds extra stress on these fragile areas, significantly increasing the likelihood of a rupture.

TYPES OF BRAIN STROKE



Transient Ischemic Attack (TIA)

Often referred to as a **warning stroke** or **ministroke**, TIA causes temporary stroke-like symptoms, that last from a few minutes up to several hours – but never more than 24 hours. Unlike a stroke, a TIA does not cause permanent brain damage. However, its occurrence is a serious warning sign that you are at high risk of having a stroke in the days and weeks that follow.

The symptoms of TIA are identical to those of a stroke, so in the moment, you cannot tell the difference. This is why a TIA should always be treated as a **medical emergency**. If you, or someone you are with, experiences symptoms, seek immediate medical attention. Prompt evaluation and care can save lives.





NEARLY 1 out of 5 people who experience a tia will have an ischemic stroke within 90 days – and almost half of those strokes occurring within the first $48\ hours$.

⁸ Stroke Europe, Transient ischaemic attack (TIA), https://strokeeurope.eu/index/stroke-prevention-in-europe/2-4-transient-ischaemic-attack-tia/.

S. Shahjouei et al., 'A 5-Decade Analysis of Incidence Trends of Ischemic Stroke After Transient Ischemic Attack: A Systematic Review and Meta-analysis', JAMA Neurology, vol. 78, no. 1 (2021), pp. 77–87, doi:10.1001/jamaneurol.2020.3627.



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Cryptogenic Stroke

Sometimes you may come across this term – this means the stroke was caused by undetermined factors even after thorough medical investigations.

UNDERSTANDING WHAT LEADS TO A STROKE

To better understand ischemic stroke or TIA, it is helpful to know some of the key processes happening inside the body — especially how changes in the arteries and blood flow can lead to a stroke and increase the risk of it happening again.

Atherosclerosis

Sometimes referred to as hardening of the arteries, atherosclerosis is one of the leading causes of heart disease, heart attacks – and also a major contributor to ischemic stroke. It happens when substances like cholesterol, fats, calcium and other materials build up in the inner walls of the arteries. This buildup is called **plaque**.

Over time, plaque can narrow the arteries and make it harder for blood to flow. Atherosclerosis usually develops gradually with age, but it can be accelerated by different factors and health conditions such as **high blood pressure**, **smoking**, **high cholesterol**, **diabetes and obesity**.

Over time, a plaque buildup can rupture (burst). When this happens, the body responds by sending platelets (tiny cell fragments in the blood) to form a **blood clot** (also called a thrombus). This clot can partially or completely block the artery. In some cases, a fragment of the ruptured plaque, or the clot itself, can break off and travel through the bloodstream, eventually blocking a smaller artery in the brain.



DISEASES LINKED TO atherosclerosis
ESPECIALLY ISCHEMIC HEART DISEASE
AND ISCHEMIC STROKE - ARE AMONG THE

leading cause of death worldwide. 10

Blood Clots

As explained earlier, blood clots can form in the arteries when a plaque ruptures, but they can also originate in other parts of the body. When a clot forms in the heart, it is often due to an abnormal heart rhythm called **atrial fibrillation** (AFib or AF) – which is discussed in more detail in the Risk Factors section.

Blood clots can also form in the veins, such as those in the legs. These are carried to the right side of the heart, and then pumped to the lungs, where they may block a blood vessel – a condition known as pulmonary embolism. However, these clots cannot reach the brain, as they do not get to the left side of the heart and therefore cannot cause a stroke.

L. Nedkoff et al., 'Global Trends in Atherosclerotic Cardiovascular Disease', Clinical Therapeutics, vol. 45, no. 11 (2023), pp. 1087–1091, doi:10.1016/j.clinthera.2023.09.020.



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HOW ATHEROSCLEROSIS IN THE CAROTID ARTERIES CAN LEAD TO STROKE



HEALTHY CAROTID

The carotid arteries are large blood vessels on each side of your neck. They carry oxygen-rich blood from the heart to your brain, face, and head.



PLAQUE BUILDUP

As the carotid arteries travel up the neck, they split into two branches — this point is called the bifurcation. It is a common spot where plaque starts to build up.



CAROTID ARTERY DISEASE

Over time, the plaque narrows the artery, making it harder for blood to reach the brain. This is called **carotid artery disease** or carotid artery stenosis.



ARTERY BLOCKAGE

If the plaque ruptures, it can block the carotid artery, or a piece of plaque or clot can break off, travel through the bloodstream, and block a smaller artery in the brain.



ISCHEMIC STROKE

Any of these events can lead to an ischemic stroke.



Carotid artery disease is linked to up to 1 in 5 of all ischemic strokes. 11

¹¹ L. Mechtouff et al., 'A Narrative Review of the Pathophysiology of Ischemic Stroke in Carotid Plaques: A Distinction Versus a Compromise Between Hemodynamic and Embolic Mechanism', Annals of Translational Medicine, vol. 9, no. 14 (2021), 1208, doi:10.21037/atm-20-7490.



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RECOGNISING THE WARNING SIGNS AND SYMPTOMS OF RECURRENT STROKE OR TIA

The warning signs – sometimes called warning symptoms – of a recurrent stroke may be similar to those of the first stroke, but not always. Depending on which part of the brain is affected, the symptoms may feel familiar or completely different. This is why staying alert and acting quickly is so important — it can make a critical difference in reducing damage and supporting recovery.

You do not need to live in fear, but being prepared gives you, and those around you, more control. Here are a few practical tips:

- ♥ Make sure your family and caregivers know the warning signs. It is important
 to put in place a clear plan in case of an emergency.
- If you live alone, make sure you can easily call the local emergency services on your own. You may also want to inform a trusted neighbour who can assist in case of an emergency.
- Do not delay and never attempt to drive yourself to the hospital if you suspect a stroke. Time is critical — call for help immediately.

While stroke warning signs often happen suddenly, sometimes they can happen gradually, and may vary from person to person.

Below are the most common warning signs for a first or recurrent (ischemic or hemorrhagic) stroke, as well as for a TIA. In a recurrent stroke, you may exhibit the same sign(s) as with your first stroke or you may exhibit different ones. It all depends on what part of the brain is affected.



Sudden numbness or weakness of the face, arm or leg, especially on one side of the body.



Trouble seeing: This could happen in one or both eyes.



Sudden confusion, trouble speaking or understanding speech.



Trouble walking: This could include sudden dizziness, loss of balance, or lack of coordination.



A sudden severe headache with no known cause. Note that this is the most common warning sign of a hemorrhagic stroke.



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The "F.A.S.T." acronym is often used to help the public remember stroke warning signs:

FACE DROOPING

Does one side of the face droop or is it numb? Ask the person to smile. Is the person's smile uneven?



A

ARM WEAKNESS

Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?



S

SPEECH DIFFICULTY

Is speech slurred?



Ī

TIME TO CALL EMERGENCY SERVICES

Stroke is an emergency. Every minute counts. Call your local emergency number immediately. Note the time when any of the symptoms first appear.



Tips for preparing in case of a recurrent stroke

HOW TO BE PREPARED IN CASE OF ANOTHER STROKE

Stacie Broek, stroke survivor and public advocate, shares her practical changes that can make you feel more prepared and confident in case of another stroke:

- I use an electronic doorbell so I can alert my family whenever I start feeling "strokey".
- ♥ I wear a smart watch to call emergency services from wherever I am.
- I keep a list of medications, doctors, and emergency numbers on the refrigerator for quick access — it gives my family peace of mind.
- ♥ I take my blood thinners regularly and follow a heart-healthy diet.
- I monitor my blood pressure and make sure to stay physically active.
- U avoid smoking and limit alcohol.
- I schedule an annual MRI to track my health and feel reassured.
- Most importantly, I focus on doing what I love following my passions and encouraging others to do the same.

"The most powerful prevention tool I know is living fully and purposefully. That is how I keep another stroke at bay."



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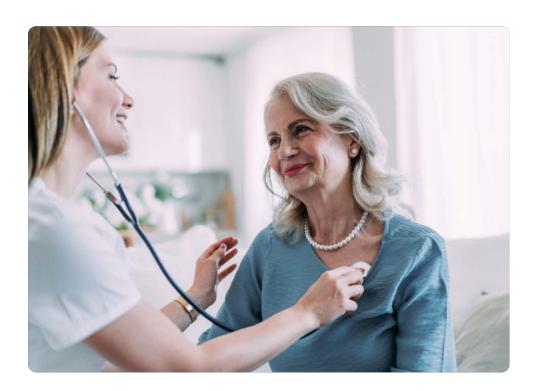
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HOW IS A RECURRENT STROKE DIAGNOSED?

If you have already experienced a stroke or a TIA, you may know how suddenly symptoms can appear – and how immediate action is needed. When it comes to a recurrent stroke, **early diagnosis and treatment are just as critical**.

Recurrent strokes are diagnosed using the same process as a first event, so as a stroke survivor, you may be familiar with most of these diagnostic tests. Still, facing the possibility of another stroke can feel overwhelming. But knowing what to expect — and how it is diagnosed — can help ease fear and uncertainty. These tests are not just procedures; they are tools that help your care team understand what is happening, identify the cause, and tailor your treatment to reduce your risk going forward.

You are not starting from zero. Your past experience, your health team, and your awareness all play a role in catching things earlier and improving your outcomes.

Why fast and accurate diagnosis matters

Before treatment can begin, doctors need to confirm the type of stroke — whether it is **ischemic** (caused by a blockage) or **hemorrhagic** (caused by bleeding). These two types can share similar symptoms, but their treatments are very different. For example, a medication commonly used to treat ischemic stroke could be harmful in a hemorrhagic stroke.

That is why **fast and accurate diagnosis is essential** — not only to guide the right treatment, but also to protect the brain from further damage. Brain cells begin to die quickly when deprived of oxygen, so every minute counts.



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What happens at the hospital

When someone is suspected of having a stroke — whether it is their first or a recurrence — things move quickly in the emergency room. Here is what you or your family/ caregiver can expect:

Initial assessment

A healthcare professional will review your medical history and perform a physical and neurological examination. They will ask about your previous stroke, whether you have been taking any medications to help prevent another stroke, and assess whether any new or changing stroke risk factors may be contributing to your current symptoms.

Blood pressure check

Since high blood pressure is a major risk factor for stroke, it will be checked right away.

Blood tests

A blood sample will be drawn to check for:

- Blood sugar level (as high or low blood sugar can mimic some stroke symptoms)
- Dlood's clotting ability or presence of any clotting disorders
- Signs of infection
- Inflammatory markers that are associated with atherosclerosis and plaque development

Imaging tests (CT or MRI)

CT or MRI imaging tests of the brain will be performed.

- A CT (Computerised Tomography or CAT) scan is often used first, as it can quickly identify whether there is bleeding in the brain which would indicate a hemorrhagic stroke or signs of brain damage from an ischemic stroke.
- An MRI (Magnetic Resonance Imaging) can also differentiate between stroke types and offers more detailed images than a CT scan. However, MRIs take longer and may not be as readily available in all emergency settings. For this reason, a CT scan is usually the first imaging test done, with a target of completing it within 25 minutes of the patient arriving at the emergency department.



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Other tests

Depending on your symptoms and stroke history, the medical team may run additional tests to understand the cause and prevent another stroke in the future:

- CT or MR Angiography (CTA/ MRA): imaging with contrast dye to view the blood vessels or blood flow in the brain.
- Electrocardiogram (EKG or ECG): identifies abnormal heart rhythms, such as atrial fibrillation (AFib).
- Carotid ultrasound: uses sound waves to examine the carotid arteries for plaque build-up and possible blockages of blood flow.
- Cerebral angiography: provides detailed imaging of the arteries in the brain and neck. A catheter is inserted through a small incision, typically in the groin, and guided into a neck artery. A special dye is injected through the catheter into the bloodstream, making the arteries visible on X-ray images.
- Echocardiogram: uses sound waves to create detailed heart images. This procedure helps detect blood clots in the heart that may have been a source for clots that travelled to the brain and caused a stroke.
- Long-term heart EKG monitoring devices: like Holter monitors (usually record for 24 to 48 hours), event monitors (can be worn for up to a month) or implantable loop recorders (implanted under the skin and can function for up to three years) may be used to detect irregular heart rhythms such as AFib that come and go and were not identified before a stroke happened.

Sometimes, it is not a stroke – but something that looks like one.

YOUR MEDICAL TEAM WILL ALSO CONSIDER THE POSSIBILITY OF "STROKE MIMICS" – CONDITIONS THAT CAUSE SIMILAR SYMPTOMS BUT ARE NOT ACTUALLY STROKES.

THESE CAN INCLUDE

migraine with aura, seizures, multiple sclerosis, infection, or brain tumours.

BY REVIEWING YOUR MEDICAL HISTORY, DOING A
NEUROLOGICAL EXAM, RUNNING BLOOD TESTS, AND
ANALYSING CT OR MRI IMAGES, YOUR DOCTORS CAN HELP
RULE OUT THESE OTHER CAUSES AND MAKE SURE YOU
RECEIVE THE RIGHT TREATMENT AS QUICKLY AS POSSIBLE.



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EARLY TREATMENT OF AN ISCHEMIC STROKE

Once a diagnosis of ischemic stroke is confirmed, treatment can begin — often within minutes. The primary treatment goal is to **restore blood flow in the brain as quickly as possible**, by either dissolving or removing the clot. This is a time-sensitive medical emergency: the faster the blockage is treated, the more brain tissue can be saved, and the better your chances of recovery.

Depending on your specific situation, whether you have had a previous stroke, your overall health, and the timing of your symptoms — your care team may recommend one or more of the following treatments:

tPA Medications – dissolving the blood clot(s)

To quickly break up the clot, doctors may administer an intravenous medication called **tissue plasminogen activator** (tPA). Sometimes referred to as "clot busters", these medications are used to dissolve the clot, allowing blood flow to reach the affected area of the brain. The tPA should be administrated within 4.5 hours since the beginning of the symptoms. However, some research suggests that it may still be effective for some patients up to 9 hours after stroke onset. Because the effectiveness of tPA is time-dependent, the sooner it is given, the greater will be its potential benefit.

Mechanical Thrombectomy – removing the blood clot(s)

For larger clots, doctors may use a procedure called a **mechanical thrombectomy**. This involves inserting a catheter (a thin tube) into an artery in the groin, and carefully guiding it to the blocked artery in the brain. Once in place, a small device – such as a wire-cage stent retriever – is used to open the blood vessel and remove the clot. This procedure is typically performed within 6 to 24 hours from the onset of symptoms. Your medical team will evaluate whether this treatment is appropriate in your case. It may also be used in combination with tPA, depending on the timing and nature of the stroke.

Carotid Artery Disease Interventions

If your stroke was caused by a blockage in one or both carotid arteries (the major arteries in your neck that supply blood to the brain), there are procedures available that can help remove or reduce these blockages. These interventions are usually done at least two weeks after the stroke, once you are stable:

- Carotid endarterectomy: A surgeon opens the affected artery and removes the plaque buildup directly.
- Carotid angioplasty and stenting: A small, deflated balloon attached to a catheter is temporarily inserted into the carotid artery. When the balloon reaches the area where the carotid is blocked, it is inflated to widen the narrowed area so that more blood can flow to your brain. Sometimes, a metal coil-like stent is placed to keep the artery open.

These procedures may also be recommended before a stroke occurs if a severe blockage is found during testing.



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Long-term heart EKG monitoring

Devices like Holter monitors (usually record for 24 to 48 hours), event monitors (can be worn for up to a month) or implantable loop recorders (implanted under the skin and can function for up to three years), may be used to detect irregular heart rhythms that come and go, such as AFib.



TREATING AND MANAGING A RECURRENT STROKE

As a stroke survivor, you are probably already taking one or more medications. These treatments are often part of a long-term plan developed with your healthcare team, based on your individual needs, health history and stroke risk.

This section offers an overview of medications that may be part of your treatment plan to help manage risk factors and prevent another event. Depending on your situation, your care team might recommend:

- Antithrombotic (anti-blood clotting) medications: these reduce the risk of blood clots and are generally recommended for nearly all ischemic stroke patients without contraindications.
 - Antiplatelet agents (aspirin being a common example) helps prevents platelets from clumping together and forming a blood clot.
 - Anticoagulant agents (sometimes called blood thinners) delay the clotting of blood. Some of these medications may also be prescribed for people with AFib.
- ♥ High blood pressure medication(s): to help control high blood pressure, a major stroke risk factor.
- Cholesterol-lowering medication(s): typically statins, which not only reduce LDL ("bad") cholesterol, but also help prevent vascular disease and reduce the likelihood of atherosclerotic plaque rupture.
- Diabetes medication(s): to help manage blood sugar levels, as uncontrolled diabetes can increase risk of stroke.
- Heart rate and rhythm medication(s): to help regulate how fast and how regularly the heart beats, particularly to control AFib episodes.
- Antidepressants: to treat post-stroke depression and/or anxiety, which are common and deserve attention.



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A special note on anticoagulants:

If you have been prescribed an anticoagulant, it is important to follow some extra precautions:

- ▼ Take your medications exactly as prescribed. Too little may not have the desired effect, and too much can increase your risk of bleeding.
- If you are taking the warfarin, you will need to take a blood test called prothrombin time (PT) or International Normalized Ratio (INR) regularly. This will help your healthcare provider ensure that the amount of medications in the blood stays within a safe and effective range.
- O not take aspirin (an antiplatelet medication) alongside anticoagulants unless your doctor tells you to.
- Tell all your healthcare providers including dentists that you are on anticoagulant treatment.
- Always consult with your healthcare provider before starting any new medicines or supplements – including prescription or over-the-counter products such as aspirin, cold medications, painkillers vitamins, sleeping pills, or antibiotics. Some substances can increase or decrease the effect of your anticoagulant.
- ▼ Talk to your healthcare team about your diet. Foods rich in vitamin K (such as green leafy vegetables) can reduce the effectiveness of warfarin.
- Let your family know that you are on anticoagulants.
- Consider carrying a medical ID (such as a card, bracelet, or smartphone emergency information) that clearly states you are taking anticoagulants – in an emergency, this information can help first responders provide the safest and most appropriate care.

Your anticoagulants should not cause any problems, but let your doctor know right away if:

- ♥ You think you are pregnant or you are planning to get pregnant.
- ♥ Your urine has a reddish color this could indicate a urinary tract bleeding.
- Your stools turn red or black this could be a sign of intestinal bleeding.
- Vou bleed more than normal when you have your period.
- Your gums bleed.
- You have a severe headache or stomach pain that does not go away.



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Top Ten Medication Tips

DOWNLOAD THE TIPS <u>HERE</u>

Medications tips

Insights from patients managing cardiovascular diseases have provided valuable advice on effectively managing medications. You can download their Top 10 Tips from this page. Additionally, here are some more suggestions:

- ♥ Fill your prescriptions on time: Be sure to get your prescriptions refilled before you run out. If automatic refills are an option in your country, consider requesting them. In addition, investigate the possibility of having your prescriptions delivered to your home by mail, if available.
- ♥ Follow instructions: Always read the instructions and information that come with your medications carefully. They explain when and how often to take them, as well as what to avoid while under treatment. Be sure to follow the guidance of your healthcare team. If you do not understand the instructions, promptly call your doctor or pharmacist for clarification.
- Adhere to your medications: Do not stop taking your medications without consulting your doctor first. If you experience side effects, discuss with your doctor the appropriate course of action.
- Create your own routine: Creating your own daily routine can make it easier to stick to your treatment. Try taking your medications at the same time each day and linking them to something you already do—like brushing your teeth or having breakfast. A steady routine can help you stay on track without even thinking about it.
- Prepare when travelling: When travelling, pack all your medications and include a few extra doses in case of unexpected delays. When flying, keep your medications with you, and never place them in a checked bag. If you will be away for an extended period of time, ask your doctor or pharmacist about getting a multi-month refill. If you are travelling abroad, you could also bring your prescription with you, in case you need to buy extra. Moreover, be aware that medications availability may differ from country to country.
- ♥ European Union cross-border prescriptions: According to European Union (EU) regulations, a prescription from a doctor in one EU country is valid in all other EU countries and the European Economic Area (EEA) as long as it contains specific information. If you are planning an extended trip, discuss this with your doctor. However, be aware that certain medications may not be authorised for sale or available in another country, even within the EU.¹²
- Keep a list: Maintain an up-to-date list of all your medications and bring it to your medical appointments. If you use a health app, you may also be able to store your medication details there for easy access.
- ♥ Fake medications: Fake medicines can be contaminated or mislabelled. Do not take the chance; instead of improving your health, they can harm you. Whenever feasible, stick to your usual pharmacy, and never buy medicines from unknown websites or marketplaces.
- Non-prescription medications: Talk to your healthcare provider before initiating any over-the-counter medications (such as vitamins, pain medications, cough or cold remedies, for instance). Some of these products may contain ingredients that could interact with your prescribed stroke medications. Remember, just because a medicine does not require a prescription does not mean it is harmless.

¹² European Commission, 'Presenting a Prescription in Another EU Country', Your Europe, https://europa.eu/youreurope/citizens/health/prescription-medicine-abroad/prescriptions/index_en.htm.



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LIFE AFTER STROKE: YOUR PATH TO PREVENTION AND RECOVERY

You, or someone you care for, has had an ischemic stroke — or perhaps a TIA — and now you are left asking: What comes next?

The immediate crisis may have passed – imaging tests were done, and urgent treatment was given to restore blood flow and limit damage. But the journey is not over. Whether you are a stroke survivor or a loved one walking this path along them, the days and months ahead are about healing, adapting and taking steps to prevent another stroke.

Next, the care team will perform additional testing to understand the underlying causes of the stroke and assess ongoing risk factors. This information will help shape an **individualised plan to prevent a recurrent episode**. Research shows that people who have had TIA or an ischemic stroke benefit from the same strategies for secondary prevention – and there is a lot that can be done to lower the risk of another event.

That plan may include medications, medical procedures and lifestyle changes (which are covered in more detail later in this guide) – all designed to support your brain health and help prevent a recurrent stroke. Adopting healthy habits, such as eating a heart-healthy diet, getting regular physical activity, quitting smoking, avoiding recreational drugs, as well as limiting or avoiding alcohol consumption, can make a meaningful difference by protecting your brain, supporting your heart health, and improving your overall well-being.

Most strokes can be prevented

RESEARCH SHOWS THAT 80% OR MORE OF STROKES ARE PREVENTABLE THROUGH A COMBINATION OF:

- ♥ Blood pressure control
- ♥ *Healthy eating*
- ♥ Maintaining a healthy weight
- ♥ Regular physical activity
- ♥ *Quitting smoking*

TALK TO YOUR HEALTHCARE TEAM ABOUT THE LIFESTYLE CHANGES THAT ARE RIGHT FOR YOU. EVERY STEP YOU TAKE CAN MAKE A DIFFERENCE.



once you have had a stroke, your risk of recurrence is $\ much \ higher.$



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RISK FACTORS FOR RECURRENT STROKE: WHAT YOU CAN AND CANNOT CHANGE

This section will walk you through the two types of risk factors – the ones that you **cannot** modify, treat or manage, and those you **can** – and what it means for you and your loved ones moving forward.

Risk factors you cannot control or modify:

- Age: The risk of ischemic stroke increases with age. After 55, the likelihood of stroke roughly doubles with each passing decade. Aging also increases the incidence of some other risk factors such as atrial fibrillation.
- Heredity/ Family History: If you have close relatives who have had strokes, your risk may be higher.
- Race/ethnicity: Ischemic stroke disease burden is notably high in Eastern Europe, even higher than the global rate. The impact of race varies by country throughout Europe, but some countries have reported higher ischemic stroke burden in Caribbeans, West Africans and South Asians compared to white Europeans.¹³
- Gender: There are geographic variations in stroke risk in men versus women. In general, stroke occurs more often in men, but more women than men die from stroke. Women also face some unique risk factors, related to hormonal and physiological differences.

What makes stroke risk different for women?

WOMEN FACE ADDITIONAL STROKE RISKS DUE TO:

- ♥ Pregnancy-related complications
 E.G. PREECLAMPSIA, GESTATIONAL DIABETES
- ♥ High blood pressure during pregnancy
- ♥ Oral contraceptive use (ESPECIALLY WITH SMOKING)
- ♥ Hormone replacement therapy (HRT)

 AFTER MENOPAUSE
- ♥ Migraine with aura
- ♥ Autoimmune diseases like lupus
- ♥ Higher rates of depression

TALK TO YOUR HEALTHCARE PROVIDER ABOUT HOW THESE RISKS MIGHT APPLY TO YOU OR A LOVED ONE — ESPECIALLY IF YOU ARE MANAGING MULTIPLE RISK FACTORS.

WOMEN ALSO TEND TO HAVE WORSE OUTCOMES AFTER A STROKE — INCLUDING MORE DISABILITY AND COMPLICATIONS.

¹³ P. Kakar, A. Gunarathne and G. Y. H. Lip, 'Stroke: Ethnic Differences Do Exist', Expert Review of Neurotherapeutics, vol. 6, no. 12 (2006), pp. 1769–1771, doi:10.1586/14737175.6.12.1769.



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- ♥ History of Prior Stroke, TIA, or Heart Attack: A previous stroke or TIA significantly raises the risk of having another one. A TIA should always be seen as a warning sign for a possible upcoming ischemic stroke. Similarly, if someone has had often caused by atherosclerosis (plaque buildup) in the heart's arteries it is very likely that similar plaque deposits exists in other arteries in the body, including those suppling the brain. This can increase the risk of stroke.
- ♥ Heart Valve Disease: A defective heart valve whether leaky, stiffened or malformed – can cause blood clots to form. If a clot develops on the left side of the heart, it can travel to the brain, potentially causing a stroke or a TIA. While a damaged valve is a non-modifiable risk factor for stroke, its impact can be managed with the right treatment and supportive lifestyle changes.
- Hereditary Blood Clotting Disorders: Some inherited or acquired blood clotting conditions can cause the blood to clot more easily than normal. This increases the risk of developing clots that may travel to the brain and lead to an ischemic stroke.
- ▶ Patent Foramen Ovale (PFO): The foramen ovale is a small opening between the two upper chambers (atria) of the heart that plays a role during fetal development. It usually closes by itself shortly after birth but in about 1 in 4 people, it remains open, a condition called "patent foramen ovale".¹⁴ Most people with a PFO have no symptoms and may not know they have it. However, in some cases, a blood clot can pass from the right side of the heart to the left side through the PFO. From there, the clot can travel to the brain, potentially causing an ischemic stroke or a TIA. In a normal heart, such clots would be "filtered out" by the lungs. There are procedure available to close a PFO, but they are only recommended in certain cases.

D. Forno, R. Asteggiano and I. Parrini, 'Patent foramen ovale in patients with cryptogenic stroke: to close or not to close?', European Society of Cardiology, CardioPractice, (2025), https://www.escardio.org/Councils/Councilfor-Cardiology-Practice-(CCP)/Cardiopractice/Patent-foramen-ovale-in-patients-with-cryptogenic-stroke-toclose-or-not-to-close



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Risk factors you can control, treat or modify:

➡ Hypertension (High Blood Pressure): Blood pressure is the force of blood pushing against the artery walls. It is measured with two numbers: the first number is called the systolic pressure (which indicates the pressure when your heart beats), and the second one is the diastolic pressure (which shows the pressure when your heart rests between beats). When these numbers rise above certain limits, the condition is called hypertension. Generally, according to the European Society of Cardiology, hypertension is defined as a confirmed systolic pressure equal or higher than 140 mmHg, or a diastolic pressure of 90 mmHg or higher.

Uncontrolled high blood pressure can damage the artery walls, making it easier for atherosclerotic plaques to develop there. This narrows the arteries and reduces blood flow, increasing the risk of a **stroke**, **heart attack**, and other serious vascular problems.

In the brain, hypertension can weaken the walls of the arteries to the point of rupture, resulting in a **hemorrhagic stroke**. This makes hypertension the **leading risk factor for this type of stroke**.

Atrial Fibrillation (AFib): Atrial fibrillation is the most common heart rhythm disorder. In a normal heart, the upper chambers (the atria) contract and empty blood into the lower chambers (the ventricles). The ventricles then contract (beat), with the right ventricle sending blood to the lungs and the left ventricle sending blood to the rest of the body. In AFib, the atria contract in a rapid, chaotic, irregular fashion, becoming ineffective in passing the blood to the ventricles. This causes blood to pool in the atria, causing blood clot formation. If clots form in the left atrium, they could travel to the brain, where they may cause an ischemic stroke.

AFib is not always easy to detect as it has no obvious symptoms. Some people feel a rapid, fluttering and irregular heartbeat or pounding sensations in their chest. Others may only experience episodes of dizziness, anxiety, lightheadedness or fainting. AFib can be continuous, or it can come and go (intermittent or paroxysmal AFib). If you experience any of these symptoms, speak to a healthcare professional. Diagnosing AFib may require an EKG or long-term heart monitoring.



over 11 million people in Europe live with AFib. 15

WHILE IT CAN OCCUR AT ANY AGE,
AFIB IS MORE COMMON IN OLDER PEOPLE.



ABOUT

5% of people over 65 years are living with AFIB -

AND THE NUMBER DOUBLES AFTER AGE 80.16

¹⁵ I. C. van Gelder et al., '2024 ESC Guidelines for the Management of Atrial Fibrillation', European Heart Journal, vol. 45, no. 36 (2024), pp. 3314–3414, doi:10.1093/eurheartj/ehae176.

¹⁶ M. Zoni-Berisso et al., 'Epidemiology of Atrial Fibrillation: European Perspective', Clinical Epidemiology, vol. 6 (2014), pp. 213–220, doi:10.2147/CLEP.S47385.



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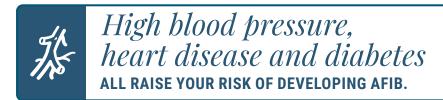
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IF YOU HAVE AFIB, YOUR RISK OF STROKE IS UP TO $5\ times\ higher$ than someone who does not.17

- Smoking: Smoking is a major risk factor for stroke, as well as heart disease, lung disease, cancer, and other serious health problems. During smoking, a toxic gas called carbon monoxide is produced − this gas displaces oxygen in the blood, reducing the amount that reaches vital organs. In addition, nicotine (a highly addictive component of tobacco) makes quitting smoking very difficult. However, even if you have been smoking for many years, quitting can reduce your risk of stroke almost immediately. If someone in your household smokes indoors, you are also being exposed to harmful "secondhand" smoke. Ask your healthcare provider about resources that can support your goal to guit smoking.
 - Support for quitting: Many resources are available to help, including nicotine replacement therapies (patches, gum), counselling, community programmes, and peer-support groups.
 - ▼ Vapes and Electronic cigarettes: Originally marketed as smoking cessation tools, vapes have become widely used, especially among younger adults. Despite their popularity, research has shown that vaping increases stroke risk and has been linked to other serious conditions. Vapes and electronic cigarettes were first introduced to help people quit smoking. Over time, their popularity has grown, due to their appealing designs and wide variety of flavours. Their use has expanded beyond former and current tobacco consumers and now has reached a significant number of youth and young adults. Today, vaping is considered a growing public health concern.

Studies have shown that vaping increases the risk for stroke among former and current tobacco users. It has also been linked to other serious health conditions, including cancer, heart disease, and lung disease.



¹⁷ American Heart Association, FAQ About AFib, https://www.heart.org/en/-/media/Files/Health-Topics/Atrial-Fibrillation/FAQ-About-AFib.pdf



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PEOPLE WITH DIABETES ARE 2 to 6 times MORE LIKELY TO EXPERIENCE A RECURRENT STROKE COMPARED TO THOSE WITHOUT DIABETES. 18

- Diabetes: Diabetes damages the inner lining of arteries and speeds up the development of atherosclerosis (plaque buildup). People with diabetes have 2 to 6 times higher risk of a recurrent stroke compared to those without diabetes. The risk increases further if blood sugar levels are out of control. Healthy diets and medications can help manage diabetes and reduce its impact on your body.
- ♥ Overweight and Obesity: The majority of adults in Europe are either overweight or obese. 19 Studies have shown that obesity increases the risk for ischemic stroke by 50% to 100% compared to individuals with a normal weight. 20 Several interventions can help address this issue, including dietary changes, nutritional and/or psychological counselling, increased physical activity, medications that reduce appetite, or bariatric surgery (weight-loss surgery that changes the digestive system to help reduce food intake or absorption). Eating healthier and losing weight can also help control other stroke risk factors such as high blood pressure and diabetes.
- ♥ High Blood Cholesterol: Cholesterol is a soft, waxy substance, similar to fat, that is found in the body's cells and bloodstream. It part of a group of compounds called lipids, which also includes fats. In addition to the cholesterol your body makes, you also get it from animal-based foods such as meat, cheese, butter or eggs.

There are two main types of cholesterol: high-density lipoprotein cholesterol (HDL) and low-density lipoprotein cholesterol (LDL). LDL-C is often called "bad" cholesterol because, in high levels, it sticks to the artery walls and forms plaque. Reducing cholesterol intake through diet can help lower your LDL-C levels. Along with dietary changes, doctors may recommend cholesterol-lowering medication to help reduce LDL levels and reduce your risk of stroke.



▼ Triglycerides: Triglycerides are the most common type of fat in the body. They come from certain foods, but are also produced when the body converts extra calories – especially from sugar, alcohol, white bread or refined carbohydrates – into fat. While triglycerides play an important role by providing energy for the body, high levels can lead to inflammation in the arteries, contributing to plaque buildup which increases the risk of atherosclerosis and potentially leading to an ischemic stroke.

Risk factors for high triglycerides include excess weight, smoking, lack of physical activity, drinking too much alcohol, and eating too many carbohydrates. Medical conditions such as diabetes and genetic factors can play a role.

¹⁸ O. Mosenzon et al., 'Diabetes and Stroke: What Are the Connections?', Journal of Stroke, vol. 25, no. 1 (2023), pp. 26–38, doi:10.5853/jos.2022.02306.

¹⁹ World Health Organization, WHO European Regional Obesity Report 2022, ISBN 9789289057738, https://iris.who.int/server/api/core/bitstreams/e65ae612-3723-4df5-a0e3-639dcdaa9ef8/content

²⁰ Q. Qian et al., 'The Relationship Between Body Mass Index and Recurrence Risk of Stroke: A Systematic Review and Dose–Response Meta-Analysis', Brain and Behavior, vol. 15, no. 6 (2025), e70550, doi:10.1002/brb3.70550.



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♥ Lifestyle Factors: Making healthy lifestyle choices – such as eating a hearthealthy diet and staying active – is essential for preventing a recurrent stroke. Later in this guide, you will find practical tips on how to read nutrition labels and adopt a low-salt or Mediterranean diets, both of which are effective for stroke prevention.

While physical activity can be more challenging after a stroke, even small movements can make a difference. Your care team, including rehabilitation counsellors or physical therapists, can help you find safe ways to stay active in a manner that fits your needs better. With the right support, you can build a routine that works for you and helps lower your risk of another stroke.

- Alcohol: Alcohol consumption raises your risk of stroke. It also increases stroke risk factors including AFib and hypertension and can contribute to weight gain – especially in heavy drinkers. Your healthcare provider can advise you on whether alcohol is safe for you. If you need support in reducing or quitting alcohol, talk with your healthcare provider or reach out to a local support group.
- Obstructive Sleep Apnea (OSA): OSA is a sleep disorder where your throat muscles relax, intermittently blocking the airflow to your lungs. It means that you stop breathing for a few seconds before starting again, many times while you are asleep. This condition increases the risk of stroke and can contribute to other risk factors like heart disease, hypertension, and AFib. OSA is more common in men, older adults, and individuals with obesity. It can be diagnosed through a sleep study and is typically treated using a continuous positive airway pressure (CPAP) machine. If you snore loudly or often feel tired in the morning even though you had a full night's sleep, ask your doctor about getting tested for sleep apnea.
- ♥ Illicit or Stimulant Drugs: Stimulant drugs such as cocaine, amphetamine and related substances significantly raise your risk of stroke. They can cause dangerous spikes in blood pressure, promote blood clot formation and damage blood vessels. Drug use is one of the most common stroke risk factors among people under 35. These substances are extremely harmful and should not be used under any circumstance.



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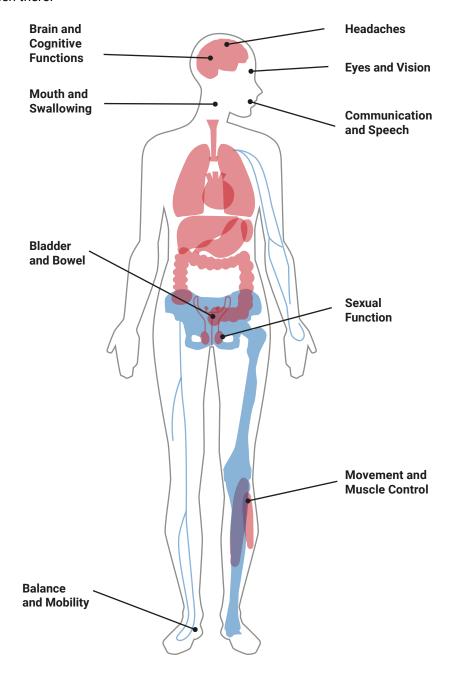
HOW STROKE AFFECTS YOUR BODY, MIND AND EMOTIONS

An ischemic stroke can impact the body and mind in many different ways – and no two people experience the same journey. The effects depend on the severity of the stroke and where in the brain it occurred.

Generally, a stroke on the right side of the brain affects the left side of the body, and a stroke on the left side of the brain affects the right side of the body. This may result in weakness, paralysis, coordination issues and other physical and cognitive challenges.

Whether you are a stroke survivor or a caregiver, understanding these effects can help you prepare for what comes next and feel more confident navigating recovery.

The next section breaks down some of the most common effects stroke can have on the body, as well as some tips and experiences from others who have been there.





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Brain and Cognitive Functions

- Memory and thinking problems: Trouble remembering things, learning new tasks, or making decisions.
- Difficulty concentrating: Hard to stay focused or solve problems.
- Emotional changes: Mood swings, depression, irritability, or withdrawing from others.
- Seizures: Some people may experience seizures after a stroke.
- Hand-eye coordination problems: Disrupted brain-to-nerve communication after stroke can make tasks like reaching, writing, or picking things up more difficult.

Communication and Speech

- Aphasia: Difficulty finding the right words, speaking, or understanding language.
- Opsarthria: Speech may sound slurred or hard to understand.
- Acalculia: Difficulty doing simple calculations or working with numbers.

Eyes and Vision

♥ Vision problems: Blurry or double vision, or loss of sight in one or both eyes.

Mouth and Swallowing

Difficulty swallowing (Dysphagia): Trouble swallowing food or liquids safely, increasing the risk of choking.

Movement and Muscle Control

- ♥ Weakness or paralysis: Often affects one side of the body face, arm, or leg.
- Spasticity: Muscles become tight or stiff and may contract without control, especially in the elbow, wrist, or ankle.
- Numbness or tingling: Unusual sensations in the affected side of the body.
- Coordination problems (Ataxia): Feeling clumsy or unsteady when moving.

Balance and Mobility

- Difficulty standing or walking: Loss of balance or coordination may make moving safely harder.
- Persistent Fatigue: Feeling tired or worn out, even after rest.

Sexual Function

Changes in sexual function: Stroke-related physical and emotional changes – like weakness, fatigue, paralysis or depression, can affect intimacy.

Bladder and Bowel

Control problems: Trouble managing urination or bowel movements.



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Headaches

Severe or long-lasting headaches: Can occur during or after a stroke and may last for days.

Body Temperature Regulation

Temperature Control Changes: Some strokes can affect the brain areas that help regulate body temperature. You may feel too hot or too cold for no clear reason.

Practical Tips for Everyday Challenges

Now that you have learned how stroke can affect different parts of the body and mind, you might be wondering: What can help in day-to-day life?

This next section offers practical, easy-to-try suggestions to help manage common stroke effects — from movement and fatigue to speech, memory, and emotions. Whether you are a stroke survivor or caregiver, these simple suggestions may help you or your loved one feel more confident and comfortable while recovering. While they are not replacing your medical treatment or rehabilitation plan, they can help make daily life a little easier and empower you to take small steps toward healing, one day at a time. And remember: everyone's journey is different — try what feels right for you and speak to your care team if you have questions.

- Weakness or paralysis on one side of the body: Using assistive tools like canes, braces or proper pillows – and doing light, guided exercises – can help you move more safely and feel more supported.
- Troubles standing, walking, keeping your balance: Small changes at home like grab bars or non-slip mats and gentle balance exercises can help reduce the risk of falling and support your independence.
- Post-stroke spasticity: Stretching, splints or using warm or cold packs may help. In some cases, your doctor may suggest treatments to ease tight muscles.
- Difficulty swallowing (dysphagia): Changing food texture, eating in the right position and using special swallowing techniques can make eating and drinking safer and more comfortable.
- Feeling tired all the time (fatigue): Pacing yourself, resting regularly, and staying hydrated can go a long way. Try planning your day around when you feel your best.
- Speech and communication challenges (aphasia, dysarthria): Practicing speech at home, using pictures and writing things down, and exploring helpful apps can support better communication.
- Memory problems and difficulties with concentration: Using planners, alarms, or simple routines can help you stay organised and reduce stress during the day.
- Changes in mood or behaviour: Stroke can affect how you feel. It is ok to have ups and downs. Try relaxation techniques, talk to someone you trust, and do not hesitate to ask for professional help if you are feeling overwhelmed.
- Bladder and bowel control: Keeping a routine, doing gentle pelvic floor exercises, and talking to your healthcare team can help you manage these changes with more ease.



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Understanding and Managing Depression After Stroke

After a stroke, your body is not the only part that needs time to heal. Many survivors – and caregivers – experience emotional changes that are just as real and important as physical symptoms.

Feeling sad, frustrated, anxious, or overwhelmed is normal. But if these feelings persist or start to interfere with your daily life, they may be a sign of **post-stroke depression** — a common but often overlooked part of recovery.

It is important to understand that depression is not a character flaw, it is also something you cannot just shake off or snap out of. Depression is a serious chronic condition that requires medical care. The good news is, that depression can be treated very effectively, and most people who are treated can experience relief from their symptoms. It is important that you do not ignore your symptoms, and you speak to your clinician to discuss the best options for you.

While depression is not an easy thing to define, there are definite symptoms associated with the condition. Depression means having some of the symptoms below nearly every day, for extended periods of time.

Signs to watch for:

- Feeling sad or having a depressed mood, including crying often
- Losing interest in activities you used to enjoy
- Any change in appetite or weight
- Sleeping too much or too little
- Feeling agitated, cranky, or sluggish
- Losing energy
- Feeling guilty or worthless
- Having trouble concentrating or making decisions
- Having thoughts of death or suicide



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For people who have had a stroke or a heart attack, the symptoms of depression can be more severe. What you can do:

- Talk to your doctor: Depression is a medical condition, not a weakness. It is okay to ask for help.
- Ask about treatment options: Your healthcare provider can guide you through different options such as counselling or therapy, support groups, medications that help ease symptoms.
- If medications are prescribed:
 - Be sure to tell your doctor about any other medications you are taking some antidepressants can interact with stroke or heart medications.
 - Most medications take time to work, so do not worry if you do not feel better right away.
 - Always report any side effects to your healthcare provider so they can adjust your treatment if needed.
- Speak with your family or caregiver: Letting others know how you feel is important. You do not have to go through this alone.
- ♥ Be kind to yourself: Recovery takes time, and it is normal to have hard days. Take it one step at a time.
- Caregivers: Your emotional health matters, too. Supporting a loved one through stroke recovery can be emotionally and physically demanding. It is important to take care of your own well-being and reach out for support when needed.



Depression and anxiety Affect about 1 in 3 people In the first year after a stroke.²¹



SERIOUS DEPRESSION CAN LEAD TO SUICIDE – CAUSING THE DEATH OF APPROXIMATELY 3-4 OUT Of every 1,000 STROKE SURVIVORS WITHIN THE FIRST 5 YEARS.²²



WOMEN, PEOPLE WITH A HISTORY OF DEPRESSION, AND THOSE WITHOUT SOCIAL OR EMOTIONAL SUPPORT ARE AT HIGHER RISK OF DEPRESSION AFTER A STROKE.

²¹ L. Rafsten et al., 'Anxiety after stroke: A systematic review and meta-analysis', Journal of Rehabilitation Medicine, vol. 50 (2018), pp. 769–778, doi:10.2340/16501977-2384.

²² Ho-Yan Yvonne Chun et al., 'Depression, Anxiety, and Suicide After Stroke: A Narrative Review of the Best Available Evidence', Stroke, vol. 53, no. 4 (2022), pp. 1402–1410, doi:10.1161/STROKEAHA.121.035499.



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KNOW YOUR RIGHTS

After a stroke, navigating your care and recovery can feel overwhelming — but you are not powerless. You are an essential member of your healthcare team, and your voice matters at every step. Speaking up, asking questions, and making informed choices can help you feel more in control and supported throughout your recovery.

As a stroke survivor, you have the right to:

- Be treated as part of the team: Your insights, experiences, and preferences should be included in decisions about your care.
- Ask questions and receive answers: You deserve to understand your condition, treatments, and recovery options.
- ♥ Have your concerns heard: If something does not feel right, it is okay to speak up.
- Have easy access to notes and medical records: This may vary by country check local regulations.
- ♥ Get another opinion: Especially when faced with major treatment decisions or uncertainties.
- Suggest alternatives: Recovery looks different for everyone; you can ask about different approaches or therapies.
- Feel confident in your healthcare team: Trust and communication are key to healing.
- Change your mind: If your goals or circumstances shift, your care plan can adapt too.
- Appeal a decision if you disagree: You have the right to question or challenge decisions that do not feel right for you.
- Ask about your rights to medical leave and workplace protections related to your condition: Note that these regulations may change by country.
- Know your rights and insist that they are respected

You are not "just a patient" — you are a person with goals, values, and a future. Knowing your rights helps you reclaim confidence and dignity on your path forward.



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BE PART OF THE TEAM

If you have had a stroke, it may feel unusual or even intimidating to think of yourself as part of the medical team. You may be used to viewing healthcare professionals as the only ones with the knowledge. But stroke recovery is not something done to you - it is something done with you.

In fact, research shows that people who take an active role in their care often feel more in control and are more likely to follow their treatment plan. Today, your healthcare team welcomes — and encourages — your engagement.

Being involved means asking questions, sharing concerns, and helping shape a plan that works for your goals, your needs, and your life.



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Your Stroke Recovery Team

Your healthcare team, built on yours and your family's needs, is often multidisciplinary and typically includes some or all of the following:

- Stroke specialists like neurologists, and stroke nurses
- Physical medicine and rehabilitation physician
- Radiologist
- Other healthcare professionals such as:
 - Physiotherapists
 - Speech and occupational therapists
 - Cardiac rehabilitation professionals

Depending on your specific situation, other specialists may be involved – such as a cardiologist (to help manage AFib or risk factors shared by stroke and heart disease), a diabetes specialist, a psychologist, or a nutritionist. Your internist or primary care doctor will be involved in managing your overall health.

Your Role on the Team

As a team member, you bring something no one else can: your lived experience.

Here is how you can take part:

- Ensure you understand your condition
- Ask questions when needed
- Gather all essential information
- Make suggestions

Together, you and your team can build a care and recovery plan that fits your life — not just your diagnosis.



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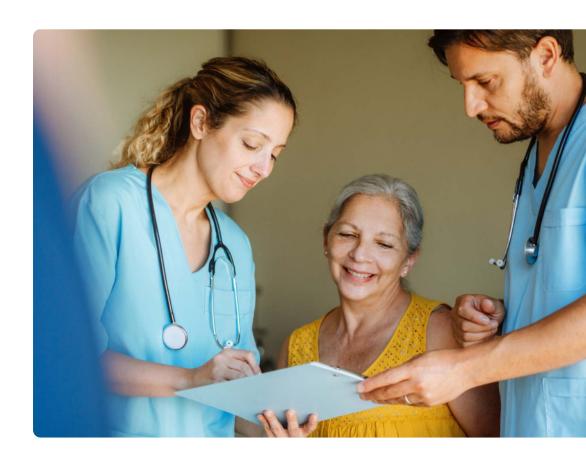
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GET INFORMATION

Understanding your condition is one of the most empowering steps you can take in your recovery. By now, you have already completed Step 2 by educating yourself and you have likely learned quite a bit about stroke and the risk of recurrency. But recovery is a journey, and you may still have questions, uncertainties, or concerns. That is completely normal.

The more informed you are, the more confident you will feel navigating decisions about your care, your medications, your lifestyle and your future. Step 5 in becoming an empowered patient is to make sure you understand as much as you can about your condition. And your healthcare team is there to help — not just with treatment, but also with guidance and education tailored to you.

QUESTIONS TO ASK YOUR HEALTHCARE PROVIDER

You are not expected to know everything — but you do deserve clear answers. Consider these suggestions for questions you may want to ask any of your healthcare providers. Make sure to mention any concerns you may have as well. Writing them down in advance will help you remember them. Bring your list of questions along to your appointments and consider taking a caregiver, family member, or friend who can help listen and take notes. Do not hesitate to contact your clinician for clarifications between appointments.



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Understanding your stroke:

- What caused my ischemic stroke or TIA?
- How severe was my stroke, and what does that mean for my recovery?
- What part of my brain was affected?

Understanding your risk of a recurrent stroke:

- What is my risk for having another stroke?
- What steps can I take to reduce my risk of other events?
- ♥ Do I need further testing for hidden stroke risk factors?

Medications and treatments:

- What medications should I be taking to manage my blood pressure/ cholesterol levels/ diabetes, etc. (choose which of these are applicable to you)
- What other treatment options are on the table for me, and what are their risks and benefits?
- What side-effects should I look out for?
- Do I need to stay on blood thinners forever?

Rehabilitation and recovery:

- ♥ Should I be in a stroke rehabilitation programme?
- What exercises can I safely do at home?
- Are there treatments for my stiff muscles?
- How long will it take before I regain movement or speech?
- How long will it take for me to walk again?
- How can I improve my memory after a stroke?
- Why am I still so tired, even months after my stroke?

Swallowing and eating issues:

- What foods are safe for me to eat?
- How do I avoid choking while eating or drinking?
- Can I eat out at restaurants safely, or should I stick to home-prepared meals?
- > How can I make sure I am getting enough nutrition if I have trouble swallowing?

Lifestyle changes:

- ♥ What dietary or physical activity modifications should I implement?
- Are there any other lifestyle adjustments I should consider making?
- Can I drive again? When?



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Sexual health and intimacy:

- Is it safe to be sexually active again?
- Why am I experiencing erectile dysfunction?

Emotional and mental health:

- Is it normal to feel down or angry or cry easily after my stroke?
- How can I cope with feelings of depression or anxiety?
- Are there medications or therapies that could help?

Follow-up and support:

- How often should I see you for follow-up care?
- How will we monitor my progress over time?
- Where can I access trustworthy resources and information on stroke recurrency and TIA?
- Are there warning signs I should look out for that might suggest another stroke or TIA?
- Are there any support groups for stroke survivors or caregivers?

STROKE RECOVERY - COMMON QUESTIONS (FAQS)

The questions above can guide your conversations with your healthcare providers and help you get clear, personalised answers. Still, even with good information from your healthcare team, it is normal to face everyday doubts during recovery. To support you between visits, here are some of the most common questions stroke survivors ask — with simple, practical answers to reassure you and help you know what to expect.

Q: How long will it take for me to recover after a stroke?

A: Recovery is different for everyone. Some improvements happen in the first few weeks, but recovery can continue for months or even years. Setting small daily goals and working with your therapy team can help you make steady progress.

O: What can I do at home to help my recovery?

A: Simple daily exercises for strength, balance, and memory can support your recovery. Keeping a regular routine, using reminders, and staying socially connected are also very helpful. Always check with your therapy team before starting new exercises.

Q: Why do I feel so tired all the time after my stroke?

A: Post-stroke fatigue is very common. Your brain and body are working hard to heal. Plan short activity periods with plenty of rest breaks, stay hydrated, and talk to your doctor if fatigue feels overwhelming.



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Q: What should I do if I have trouble swallowing?

A: Take small bites, eat slowly, and sit upright when eating and drinking. You may need to stick to softer foods or thickened liquids. A speech therapist can give you a personalised swallowing plan.

Q: I am having trouble speaking. Will it get better?

A: Many people improve over time. Practice daily, even if it is hard. Using pictures, gestures, or writing things down can help you communicate. Speech therapy is often very effective.

Q: Will I be able to drive again?

A: Some people return to driving after a stroke, but it depends on your vision, strength, reaction time, and judgment. Your doctor or occupational therapist can help assess your readiness.

Q: What can I do to prevent another stroke?

A: Take medications as prescribed, keep your blood pressure and cholesterol under control, quit smoking, eat a heart-healthy diet, stay active, and manage conditions like diabetes.

Q: Why am I feeling emotional or depressed after my stroke?

A: Emotional changes are very common. Stroke affects parts of the brain that control mood. Do not hesitate to talk to your doctor — counselling, support groups, and sometimes medication can really help.

Q: Is it normal for my muscles to feel stiff and tight?

A: Yes, that is called post-stroke spasticity. Gentle stretching, range-of-motion exercises, and sometimes special treatments can help. A physical therapist can teach you exercises to loosen stiff muscles.

Q: How do I explain my stroke to friends and family?

A: Keep it simple: "A stroke is like a brain injury that can affect my movement, speech, or memory. I am working hard to get better, and your support means a lot." It helps others understand and be patient.



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VOICE YOUR OPINIONS

As someone navigating life after a stroke, you bring a perspective no one else has. Step 6 in becoming an empowered patient is about feeling confident to share that perspective — especially when it comes to your needs, preferences, and concerns.

You have already seen in Step 4 how important it is to be part of your healthcare team. That also means feeling comfortable expressing your thoughts — even if they differ from your doctor's. It is not about being difficult; it is about being heard. You are the one living with the impact of a stroke, and your lived experience brings essential insight to your care.

It is okay to ask questions. It is okay to say you need something explained again. And it is more than okay to share your opinion. The best care happens when you and your team work together.

Top 10 tips from patients about communicating with your healthcare provider

- Be clear about your health goals and specific about what you want to know.
- Do not hesitate to keep asking questions until you understand.
- 3 Learn about your condition so you are better prepared.
- Choose the right healthcare professional for you and consider seeking a second opinion if needed.
- Ask about the best way to communicate with your healthcare professional.
- 6 Keep a list of questions and bring it along to your appointments.
- Request resources and educational materials from your healthcare provider so you can learn more.
- Remember, you are the expert on your own health share your thoughts and opinions openly.
- If possible, bring someone with you to appointments for an extra set of ears.
- Do not wait for an appointment to address questions or concerns; communicate as needed.



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MAKE INFORMED DECISIONS

After a stroke, you might feel like a lot has been decided for you — tests, treatments, routines. But the truth is, you still have a voice. The final step in becoming an empowered patient is all about using everything you have learned to make informed decisions that reflect your needs, values, and goals.

Making informed decisions does not mean doing it alone. It means working together – with your healthcare team, your loved ones and others who understand your experience – to explore your options and choose what feels right for you. When you feel confident and supported in your care plan, you are more likely to follow it and feel in control of your recovery.

This section highlights key areas where knowledge, collaboration, and support can make a real difference:

- Preventing a recurrent stroke practical steps to help you take charge of your health, reduce your risk of another stroke or TIA, and build a life that feels good and manageable one step at a time.
- Rehabilitation and recovery understanding and choosing the programmes and therapies that can help you regain independence and confidence.
- Reintegration and life forward including returning to work or study, reconnecting with other, and redefining what balance and purpose mean for you.
- Supporting caregivers recognising the vital role caregivers play in recovery and ensuring they receive care, guidance, and encouragement, too.



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SIX STEPS TO REDUCE THE RISK OF A RECURRENT STROKE

While you may not be able to reverse all the effects of your initial stroke, adopting certain lifestyle measures can help keep your brain and body as healthy as possible and potentially prevent further damage.



1. Assess your current situation

Preventing another stroke often means making changes – and to do that, you first need to understand where you are starting. This includes looking honestly at things like your eating habits, activity levels, stress, lifestyle and routines to identify areas for improvement.

- Evaluate your diet and physical activity: Are you eating foods that are healthy for your brain and heart, or are your meals high in sugar, salt and saturated fat? Are you moving your body in safe, gentle ways each day? Your healthcare team can suggest simple, realistic improvements.
- ♥ Habits: Smoking, alcohol or drug use can negatively affect your brain's (and heart) health, making recovery harder as well as increasing your chances of having another stroke. If you struggle with these, know that you are not alone — ask your doctor about support programmes that can help you make gradual changes.

This is not about blame — it is about awareness and giving yourself a clear picture so you and your caregiver can track progress and celebrate milestones together. With support from your healthcare team, you can set realistic goals and start building healthier habits, step by step.



2. Follow your treatment plan

You and your healthcare team have hopefully developed a treatment plan that fits your needs. This may include dietary adjustments, physical activity routines, medications and in some cases, medical devices such as long-term EKG monitors. Following this plan gives you the best chance of recovery and preventing another stroke.

- ▼ Track your health: You may be asked to monitor your blood pressure, cholesterol and blood sugar levels or weight. These are key indicators of cardiovascular and brain health. High numbers in any of these areas can increase your risk of another stroke. Your healthcare provider may recommend specific apps or provide alternative methods if you do not have access to a smartphone or device.
- Adjust when needed: Keep in mind that your plan should be tailored to your needs. Side effects, worries about medications, or difficulties with lifestyle changes are common. Do not be discouraged – bring up your concerns. Treatment plans are meant to be adapted as you go.



ALWAYS CONSULT WITH YOUR MEDICAL TEAM BEFORE MAKING ANY CHANGES TO YOUR MEDICATIONS OR PHYSICAL ACTIVITY.



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TIPS FROM OTHER STROKE SURVIVORS AND CAREGIVERS:

Everyday life can make it challenging to stay on track, but many stroke survivors and caregivers have found practical ways to make it easier:

- 1. Set phone alarms or reminders for medication times.
- 2. Use a pill organiser (weekly or monthly) to prepare doses in advance.
- 3. Keep a notebook, diary, or app to log medications, blood pressure, or symptoms.
- 4. Pair medications with a daily routine (like brushing teeth or eating breakfast).
- 5. Ask a caregiver or family member to check in, especially in the first weeks.
- 6. Carry a medication list (with dosages and timing) at home, in your wallet, and on your phone.
- 7. Keep medicines in a visible place (but out of children's reach).
- 8. Celebrate milestones a week, a month, or more to stay motivated.
- 9. Bring your notes or logs to appointments so your doctor can review your progress.





3. Adapt your diet

Eating well after a stroke is one of the most powerful ways to support your recovery. A nutritious diet helps your brain and body heal, boosts your energy, and can reduce fatigue. It can also help manage your weight and lower your risk of another stroke.

If physical challenges make cooking or grocery shopping difficult, do not lose heart — small steps still make a big difference. Ask a family member, friend, or caregiver to help with meal preparation, or look for healthy ready-made options such as pre-washed salads, frozen vegetables, or low-sodium soups. What matters most is making balanced, heart-healthy choices in a way that works for your situation.



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HERE ARE SOME TIPS FOR HEALTHY EATING:



Prioritise fresh fruits, vegetables and whole grain breads, rice, and pasta, as they offer essential nutrients and are typically free of added fats or sugar.



Cut down on salt to help manage your blood pressure. Aim for less than 2,000 milligrams (mg) of sodium per day — which corresponds to 5 grams of salt²³ unless your doctor gives you a different goal. Keep in mind that packaged foods (those that are canned, frozen or in boxes) typically contain higher sodium levels than fresh foods.



Limit fats. Choose lean cuts of meat, skinless poultry, fish and low- or fat-free dairy products to maintain healthy cholesterol levels, while avoiding or limiting saturated and trans fats found in processed foods.²⁴



Limit or avoid alcohol. Moderate alcohol consumption typically means up to two drinks per day for men and one drink per day for women. However, it is essential to consult your doctor for personalised advice on how alcohol might affect your health or whether you should avoid alcohol altogether.

MORE TIPS FOR HEALTHY EATING – WHATEVER YOUR SITUATION:

Once you feel ready, you can try some of these additional ideas to make healthy eating easier and more enjoyable — even if you need a bit of help preparing meals.

- Prepare your own meals at home, when you can, to better control portion sizes and sodium levels.
- ♥ If cooking is difficult, choose healthy shortcuts pre-cut or frozen vegetables, ready-to-eat salads, or low-sodium canned foods.
- If you can cook, choose healthier methods such as broiling, baking, steaming, poaching or grilling instead of frying or sauteing.
- Use onions, garlic, spices and herbs to flavor food instead of relying on salt.
- Try to eat a "rainbow" of different fruits and vegetables and learn their nutritional benefits.
- Use ketchup, mayonnaise, soy sauce and other condiments sparingly. Buy low-salt varieties when possible.
- Avoid foods that are pickled, brined, cured, or barbecued, as they tend to be high in sodium.
- If fatigue makes eating difficult, try smaller, more frequent meals to keep your energy up.
- Ask a family member, friend, or caregiver to help with grocery shopping or meal prep when needed — teamwork makes healthy eating easier.

²³ World Health Organization (WHO), Salt reduction, https://www.who.int/news-room/fact-sheets/detail/salt-reduction.

²⁴ World Health Organization (WHO), Trans fat, https://www.who.int/news-room/fact-sheets/detail/trans-fat.



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IMPORTANT NOTE ABOUT FOOD AND MEDICATIONS

IF YOU ARE TAKING AN ANTICOAGULANT, BE MINDFUL OF FOODS AND DRINKS THAT ARE HIGH IN VITAMIN K, SUCH AS GREEN LEAFY VEGETABLES AND CERTAIN JUICES – THESE CAN AFFECT HOW YOUR MEDICATION WORKS.

TRY TO KEEP YOUR INTAKE OF VITAMIN K-RICH FOODS CONSISTENT FROM DAY TO DAY RATHER THAN MAKING SUDDEN CHANGES.

ASK YOUR HEALTHCARE PROVIDER FOR A LIST OF FOODS TO EAT ONLY OCCASIONALLY OR IN STEADY AMOUNTS, AND WHETHER ANY OF YOUR OTHER MEDICATIONS MIGHT ALSO INTERACT WITH CERTAIN FOODS.

HOW TO READ THE NUTRITION INFORMATION ON PREPACKED FOOD

All prepackaged food sold in the EU requires a nutrition information label that informs consumers about its energy and nutrient content.²⁵ This label, known as a Nutrition Declaration, must include:

Energy value – this indicates the amount of energy you will get from the food, and it is measured in kilojoules (kJ) and kilocalories (kcal – often referred to as "calories"). Calories consumed should be in balance with the ones burned.

Fat – this shows the total grams of fat in the food, including both healthy fats and saturated fats, which are considered less healthy.

Carbohydrates – this represents the total amount of carbohydrates, including sugars, in the food.

Proteins – this indicates the amount of protein (essential for building and repairing tissues) in the food, in grams.

Salt – this shows the amount of salt in the food, in grams. Talk to your doctor to determine your recommended daily salt intake.

Nutrition Facts

Per 100 a 485 KJ / 117 kcal Energy 8 g Of which Saturates 3,7 g Carbohydrate 9 g Of which Sugars 8 g Protein 1,4 g Salt 0,02 g 14,81 mg 19% RI* Vitamin C

Salt content is exclusively due to the presence of naturally occuring sodium.

*Reference intake of an average adult (8 400 KJ / 2 000 kcal)

INGREDIENTS: Mandarin Oranges (37.9%), Light Whipping Cream (Milk), Pears (12.4%), Peaches (7.7%), Thompson Seedless Grapes (7.6%), Apple (7.5%), Banana (5.9%), English Walnuts (Tree Nuts)

²⁵ European Commission, 'Nutrition Declaration – EU Labelling Rules', Your Europe, https://europa.eu/youreurope/business/product-requirements/food-labelling/nutrition-declaration/index_en.htm.



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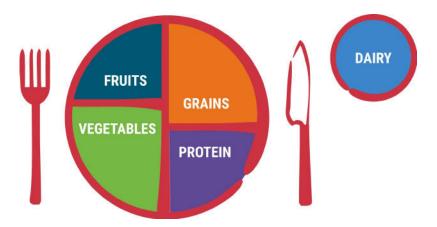
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CHOOSE YOUR PLATE

A balanced diet includes a variety of foods such as fruits, vegetables, whole grains, nuts, and lean proteins. It should be low in saturated and trans fats, sugars, and salt, while high in fibre. Portion control is also vital to align calorie intake with energy needs. For personalised guidance, it is beneficial to consult with a nutritionist or dietician who can help tailor a meal plan suited to individual factors like height, weight, and overall health goals.



4. Maintain a healthy weight

Carrying extra weight puts strain on your heart and blood vessels, increasing the risk of another stroke. Even modest weight loss can have major health benefits — lowering blood pressure, improving cholesterol, and helping balance blood sugar levels.

If you are unsure where to start:

- Talk to your doctor or dietitian about a safe, gradual plan for weight management.
- Focus on small, sustainable changes like reducing portion sizes, drinking more water, and choosing whole foods instead of processed ones.
- Celebrate progress, not perfection. Even a few kilograms lost can make a meaningful difference.

World Health Organization, 'Healthy Diet', WHO Fact Sheets, 29 April 2020, https://www.who.int/news-room/fact-sheets/detail/healthy-diet.



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5. Adjust your physical activity level

Moving your body — in any way that is safe for you — is an important part of recovery. Physical activity supports your heart and brain health, helps manage blood pressure and cholesterol, and can boost your energy, mood, and sleep.

For health benefits, the World Health Organization (WHO) recommends at least 150 to 300 minutes of moderate physical activity per week.²⁷ However, after a stroke, everyone's abilities are different. What matters most is finding the level of activity that fits **your current situation** and building from there, one step at a time.

If your doctor or rehabilitation team gives you the green light to exercise, start slowly. Even 5–10 minutes of gentle activity can make a difference, and you can gradually increase the time as your strength improves. Remember, you do not need to do everything at once — three 10-minute sessions spread throughout the day count just as much as one longer one.

If you have **good mobility**, activities such as walking, light stretching, or chair-based exercises can help keep you active.

If you have limited movement or paralysis, your rehabilitation team can guide you through safe exercises — such as assisted stretching, passive range-of-motion movements, or seated exercises — to help maintain flexibility, circulation, and strength in the muscles that can still move. Even small movements can support recovery.

If it is possible for you, consider joining a post-stroke rehabilitation programme. These programmes are tailored to your abilities and will help you build confidence as you regain strength and balance.

Whenever you are ready to add more activity, choose something you enjoy — whether it is a gentle walk in the park, light exercises at home, or following an online movement video. What matters most is staying consistent and celebrating your progress, no matter how small.



ALWAYS CONSULT YOUR DOCTOR OR REHABILITATION TEAM BEFORE STARTING ANY PHYSICAL ACTIVITY OR EXERCISE PROGRAM.



Every movement counts — start small and listen to your body.

²⁷ World Health Organization (WHO), Physical activity, https://www.who.int/news-room/fact-sheets/detail/ physical-activity.



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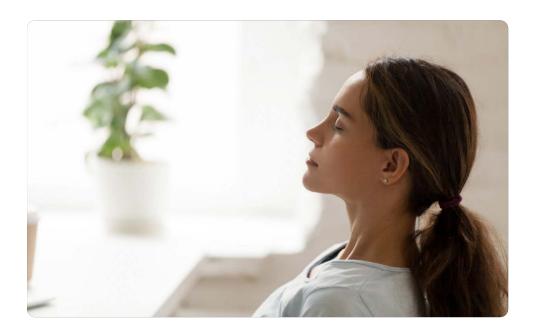
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6. Make additional lifestyle adjustments

Recovering from a stroke is not only about medication or rehabilitation — it is also about making small, positive changes in your daily life. These changes can help you feel stronger, improve your well-being, and reduce the risk of another stroke. You do not have to do everything at once; even one step at a time can make a difference.

Stop Smoking: If you smoke, quitting is one of the best things you can do for your health. Smoking damages your blood vessels and increases the risk of another stroke, heart disease, and many other conditions. Even secondhand smoke can harm those around you.

The good news? Your body starts healing almost immediately after you stop. Within days, your blood pressure and circulation begin to improve. Quitting can be tough, but you do not have to do it alone — your doctor can guide you toward programmes, medication, or support groups that make it easier.

If you use e-cigarettes or chewing tobacco, these can also harm your heart and blood vessels. The same advice applies: talk to your healthcare provider about safe ways to quit and stay tobacco-free.

Reduce or Manage Stress: Life after stroke can be stressful — not just physically, but emotionally too. You may feel frustrated, anxious, or uncertain at times. These feelings are completely normal. But too much stress can raise your blood pressure and make recovery harder.

Instead of turning to habits like overeating, drinking, or smoking, try finding small, healthy ways to relax. Gentle breathing exercises, listening to music, meditation, stretching, or spending time outdoors can help calm your mind.

If you find it difficult to manage stress or anxiety on your own, talk to your doctor. They may recommend a therapist, counsellor, or support group. Connecting with others who understand what you are going through can make a huge difference.



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Get Enough Sleep: Sleep is your body's way of healing and restoring energy — and after a stroke, you may need more rest than before. Ideally, adults should aim for seven to eight hours of sleep per night. However, it is common for stroke survivors to have sleep problems such as:

- Insomnia (trouble falling or staying asleep)
- Sleep-wake cycle issues (feeling sleepy during the day and awake at night)
- Sleep apnea (brief interruptions in breathing during sleep)

Try to keep a consistent bedtime routine, avoid heavy meals or alcohol close to bedtime, and make your sleeping space as quiet and comfortable as possible.

Some stroke survivors also experience excessive daytime sleepiness (EDS), also known as hypersomnia. EDS makes you feel tired and sleepy during the day, even if you had a full night's rest. This often improves over time, but if it continues for several weeks or months, it is important to mention it to your doctor. Persistent sleepiness could be related to changes in brain function or other health factors that need attention.



7. Get connected

Recovering from a stroke can sometimes feel lonely — but you are not alone. Connecting with others who understand what you are going through can make a world of difference. Talking with someone who has faced similar challenges can give you hope, practical advice, and the reassurance that recovery is possible at your own pace.

Staying socially connected is good not only for your emotional well-being but also for your physical health. Research shows that people who feel supported often recover and experience fewer hospitalisations.²⁸



CARING FOR YOURSELF ALSO MEANS GIVING YOURSELF GRACE. RECOVERY TAKES TIME — AND PROGRESS COMES IN MANY FORMS. FOCUS ON WHAT YOU CAN DO TODAY, NOT ON WHAT YOU CANNOT DO YET.



RECOVERY IS NOT ONLY ABOUT HEALING YOUR BODY — IT IS ALSO ABOUT REBUILDING CONNECTIONS WITH THE PEOPLE AROUND YOU. EVERY CHAT, VISIT, OR SHARED LAUGH HELPS YOU HEAL A LITTLE MORE, BOTH IN BODY AND IN SPIRIT — FOR YOU AND FOR THOSE WHO CARE FOR YOU.

²⁸ Nesta, The Power of Peer Support: What We Have Learned from the Centre for Social Action Innovation Fund (London: Nesta, 2016), https://www.nesta.org.uk/report/the-power-of-peer-support/.



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Family and friends: Reconnecting with friends and family can be one of the most healing parts of recovery. It may take time to rebuild confidence in social situations, and that is okay take it at your own pace. Let your loved ones know what kind of help or understanding you need, whether that is patience in conversation, help getting out of the house, or simply spending quiet time together.

If speaking or moving is more difficult, find ways to stay connected that feel comfortable – a short phone call, a text message, or a visit at home. Small moments of connection remind you that you are still part of a community that cares for you.

Peer support: Sharing experiences with another stroke survivor can help you feel understood and less isolated. It can be comforting to talk to someone who has "been there" - someone who truly understands the ups and downs of recovery. Peer support can happen one-on-one, in a group, or even online, if meeting in person is difficult. Ask your healthcare team or a local stroke association about support programmes or online communities that fit your needs.

THE POWER OF PEER SUPPORT

Reflection from Paul Quinn, stroke survivor and advocate



AFTER MY STROKES, I REALIZED HOW POWERFUL IT IS WHEN SURVIVORS CONNECT WITH ONE ANOTHER.

PEER-TO-PEER SUPPORT GIVES US BACK A SENSE OF OWNERSHIP AND AGENCY — IT FILLS THE SPACE THAT STROKE CAN LEAVE BEHIND.

LIVED EXPERIENCE IS ONE OF THE MOST VALUABLE CONTRIBUTIONS WE CAN MAKE TO RECOVERY AND TO SHAPING BETTER CARE FOR THE FUTURE.

- Supporting others: Once you feel ready, consider giving back. Many stroke survivors find purpose and strength in supporting others — whether through peer programmes, volunteering, or simply sharing their story. Helping someone else navigate recovery can be deeply rewarding and remind you how far you have come.
- Support for caregivers: If you are caring for someone after a stroke, remember that you need support too. Connecting with other caregivers can give you space to share experiences, ask questions, and learn new coping strategies. Support groups, community programmes, or online forums can help you recharge emotionally and prevent burnout. Taking care of yourself allows you to care for your loved one more effectively.



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DECIDING ON REHABILITATION

Rehabilitation is another important decision that you will make after a stroke as it is an essential part of your recovery. It is your chance to regain independence and enjoy the best possible quality of life after a stroke.

Rehabilitation is not just about physical recovery — it is about rebuilding confidence, rediscovering abilities, and finding new ways to do things that matter to you.

After a stroke, some skills may be temporarily lost or harder to perform. Rehabilitation helps you relearn these skills and, when necessary, discover new strategies to adapt. For example, you may need to learn how to bathe and dress using only one hand, or use special techniques and tools to communicate if speech or language are affected.

KEY FACTS ABOUT REHABILITATION:

- It promotes movement and independence, even if part of your body feels weak or paralysed.
- It focuses on practical daily activities like bathing, dressing, and using the toilet, helping you regain control and confidence.
- Recovery continues well beyond the hospital progress can happen for months or even years.



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WHO HELPS WITH REHABILITATION?

Stroke recovery is a team effort — and you are at the center of that team:

- Physicians have the primary responsibility for managing and coordinating your long-term care, including:
 - Recommending rehabilitation plans that will best address your needs
 - Overseeing your overall health
 - Providing guidance to prevent stroke recurrency, such as controlling high blood pressure or diabetes, and eliminating risk factors such as smoking, excessive weight, a high cholesterol diet, and high alcohol consumption.
- Neurologists usually lead the hospital team that cares for your after a stroke and may continue to support you during your rehabilitation.
- During your recovery, other specialists may take the lead in your rehabilitation, especially **physiatrists**, who are doctors trained in physical medicine and rehabilitation.
- Rehabilitation nurses who work closely with you and your caregiver to support your recovery. They will help you:
 - Relearn how to carry out everyday activities like bathing, dressing, and eating
 - Understand your ongoing health needs and daily care routines
 - Identify and reduce risk factors that could lead to another stroke
 - Guide and train caregivers to provide safe, effective support at home
 - Manage personal care challenges, such as bathing and bladder control.
- Physical therapists work with you to rebuild strength, balance, and coordination after a stroke. They are movement specialists who understand how your muscles, joints and nerves work together. They will help you:
 - Assess your strength, endurance, flexibility, walking, and balance
 - Create an exercise plan tailored to your abilities and goals
 - Learn safe ways to move and compensate for any lasting weakness or stiffness
 - Build daily routines to help you maintain and improve your progress over time



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- Occupational therapists help you regain independence in your everyday life and make sure your home environment is safe and comfortable. They support you to:
 - Relearn practical skills such as dressing, cooking or grooming using new techniques or tools
 - Find easier ways to complete daily tasks with your current abilities
 - Make small changes to your home to reduce risk and make activities more manageable
- Recreational therapists help you reconnect with hobbies and activities that bring you joy and support your recovery. They focus on helping you use your free time to boost your confidence, health, and sense of independence.
- Speech-language pathologists help you recover or adapt your communication and swallowing abilities. They can:
 - Work with you to improve speech, understanding, reading, and writing
 - Teach alternative ways to communicate if speech is difficult
 - Support swallowing safety and nutrition
 - Help you strengthen problem-solving, memory, and social interaction skills
- Vocational therapists support you if you want to return to work or explore new opportunities after a stroke. They can help you:
 - Identify your strengths and create a résumé that highlights your abilities
 - Assist in specific job searches, suited to your current skills, and connect you to stroke rehabilitation programmes
 - Understand your workplace rights and protections, including "reasonable accommodations" employers can make to support your return to work.

WHERE REHABILITATION CAN TAKE PLACE

Rehabilitation can take place in different settings, depending on your needs and level of independence. Your healthcare team will help you choose the setting that best fits your recovery goals.

♥ Inpatient rehabilitation units: These programmes are often located in hospital or specialized centers. You stay in the facility, usually for 2 – 3 weeks and take part in an intensive daily schedule of therapy – often around three hours a day, five or six days a week. You will have 24-hour access to medical care and a full team of therapists who work together to support your recovery. This setting is best when you need close medical supervision and coordinated, hands-on rehabilitation.



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- ○Outpatient rehabilitation units: These programmes are often connected to hospitals or clinics You visit for therapy sessions several times a week (typically a few hours per visit) and return home afterward. Outpatient care offers a balance between structured therapy and the comfort of being at home. Programmes can be intensive, similar to inpatient rehabilitation, or adjusted to your energy level and abilities.
- ♥ Nursing facilities: Some people continue their recovery in nursing or skilled nursing facilities. These settings vary in the level of rehabilitation they provide. Skilled nursing facilities usually focus on rehabilitation, whereas traditional nursing homes offer more general care and fewer therapy hours. This option can be helpful if you still need daily assistance but are not ready to return home.
- ♥ Home-based rehabilitation programmes: Rehabilitation at home give your flexibility and comfort. Therapists may visit you to guide exercises or teach you and your caregiver how to continue therapy safely between visits. You might follow an intensive schedule with several hours of therapy per week, or a lighter routine depending on your needs. Home programmes work best when you require support from one or two types of therapists and have a safe environment for recovery.



REHABILITATION IS NOT A RACE — IT IS A JOURNEY OF REBUILDING, RELEARNING, AND REDISCOVERING WHAT YOU CAN DO. WHETHER PROGRESS FEELS BIG OR SMALL, EACH STEP FORWARD MATTERS.



SUCCESS IS NOT ABOUT GOING BACK TO HOW THINGS WERE BEFORE — IT IS ABOUT FINDING A NEW WAY FORWARD THAT SUPPORTS YOUR WELL-BEING AND GOALS.

REINTEGRATION AND LIFE FORWARD

Recovery is not only about physical healing — it is also about rebuilding your daily life, reconnecting with others, and rediscovering what brings you purpose and joy. For some people, that means returning to work or studies; for others, it is about strengthening relationships or finding new ways to engage socially and emotionally.

This part of your journey is about moving forward — at your own pace — and creating a life that feels balanced, meaningful, and uniquely yours.



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RETURNING TO WORK OR STUDIES

Getting back to work or studies after a stroke is a big step — and a deeply personal one. For many survivors, it is about more than just resuming tasks or routines; it is about regaining confidence, independence, and a sense of purpose.

Before you return:

- Talk to your healthcare team about whether you are ready to start again. They can help you understand how your recovery is progressing — physically, mentally, and emotionally.
- Start small if possible with part-time hours, flexible schedules, reduced workloads, or lighter study commitments.
- Communicate openly with your employer, teachers, or academic advisors about what support you may need. A note from your doctor or therapist can help explain this.

Remember:

Your pace and abilities may look different now, and that is okay. Focus on what you can do and give yourself time to adjust. Success is not about returning to "before" but finding a new way forward that works for you.

MY STROKE JOURNEY: REFLECTIONS FROM A YOUNG SURVIVOR

A reflection from Chloe Greene, a young stroke survivor, patient advocate, and PhD student in health psychology. This part of your journey is about moving forward — at your own pace — and creating a life that feels balanced, meaningful, and uniquely yours.

At the beginning: "After coming home, setting small, achievable goals helped me focus on what I could achieve instead of what I still struggled with. Communicating openly with my healthcare team helped me understand what happened to me and eased my anxiety — I felt more in control of my care."

Finding connection: "It is easy to feel like isolating yourself if you are down about where you are physically or with your health, but staying in touch with friends, family, and other patients made me feel less alone. It gave me a safe space to process what happened with people who understood."

Moving forward: "I have not perfected my work-life balance, but I have been trying to find a workplace that suits me after my stroke. Returning to higher education to complete my PhD in health psychology has helped me feel fulfilled again. Some social situations, especially those involving alcohol, are still hard, but I have found new ways to socialise that I enjoy just as much as before."



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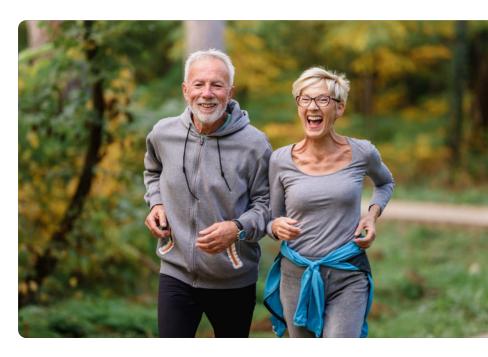
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Relationships and intimacy: A stroke can change how you relate to others — including friends, family, and partners. These changes are natural, and it takes time and understanding to adjust. Connection, trust, and communication are just as important to recovery as physical therapy or medication.

Friends and family: Roles and dynamics may shift after a stroke. Some people may become caregivers; others might feel unsure about how to help. Talk openly about what you need and what makes you comfortable. Encourage your loved ones to treat you as the person you have always been — not just as someone recovering from a stroke. Shared moments, humour, and normal routines can help strengthen bonds and restore a sense of balance.

Romantic and sexual relationships: Physical changes, fatigue, or medication can affect intimacy. These challenges are common — and they can be managed. Talk with your partner about your needs and comfort level and speak with your doctor or therapist if you have concerns. Sometimes, small adjustments — different timing, more focus on closeness or touch, or exploring new forms of intimacy — can make a big difference.

Rebuilding connection takes time: Be patient with yourself and your partner as you rediscover what feels right. Connection and affection are about much more than sex — they are about trust, laughter, and shared experience. Many survivors and couples find that, with time, their relationships become deeper and more meaningful.



ALTHOUGH LIFE LOOKS A LITTLE DIFFERENT AFTER A STROKE, $it\ is\ still\ full\ of\ meaning\ -$ Just in new and unexpected ways.



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SUPPORTING A LOVED ONE: TIPS FOR CAREGIVERS

Caring for someone who has had a stroke can feel both rewarding and overwhelming. Recovery is a personal journey, and each survivor moves forward at their own pace. As a caregiver, you play a vital role — not only in providing physical support but also in offering encouragement, understanding, and hope.

Here are some tips to help you navigate this journey with compassion and confidence:

Be present and patient: Your presence means more than you might realise. Offer reassurance, listen without judgment, and give them space to express their emotions. Recovery takes time — patience and encouragement go a long way.

Offer practical help: Ask your loved one what kind of help they need most. It might be assistance with daily tasks, organizing medication, attending appointments, or simply sharing a meal and conversation.

Encourage therapy and rehabilitation: Support their rehabilitation by helping them stay motivated and engaged in therapy — whether it is physical, speech, or cognitive. Celebrate small improvements to keep morale high.

Promote independence: Allow your loved one to do as much as they safely can on their own. Even small tasks help build confidence and restore a sense of control.

Stay in touch with healthcare professionals: Maintain open communication with doctors, therapists, and social workers. They can help you understand progress, adjust treatment plans, and answer your questions.

Monitor their health: Keep a simple record of medications, doses, and any side effects. Note changes in speech, mobility, or mood, and report concerns promptly.

Prepare for emergencies: It can help to keep a family medical chart with key contacts, medications, and instructions for what to do if symptoms reappear. Being prepared can reduce anxiety for both of you.

Create a safe home environment: Make small changes around the house — remove clutter, install grab bars, improve lighting, and organise commonly used items within easy reach.



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Stay organised: Use a calendar or notebook to manage appointments, therapy schedules, and daily routines. Having structure can make caregiving more manageable and less stressful.

Celebrate progress: Every step forward — no matter how small — deserves recognition. Celebrating milestones helps both of you stay motivated and positive.

Encourage social reconnection: Help your loved one rebuild relationships and confidence by joining community activities, patient groups, or online support spaces. Connection helps combat isolation.

Plan for the future together: Talk about goals and aspirations — whether it is returning to work, studying, or finding new hobbies. These shared plans create purpose and direction.

Educate yourself: Learn about stroke recovery and the challenges it brings. Understanding what your loved one is experiencing will help you provide better care and empathy.

Take care of yourself: Caring for someone else starts with caring for yourself. Make time for rest, good meals, and activities that recharge you. Seek out caregiver support groups — connecting with others in similar situations can provide relief and valuable advice

CAREGIVERS ARE PART OF THE RECOVERY TEAM.

Their encouragement, patience, and compassion

CAN MAKE A LASTING DIFFERENCE — FOR THEIR LOVED ONE, AND FOR THEMSELVES.



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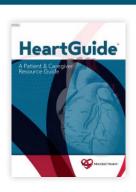
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The Mended Hearts, Inc. HeartGuide® is a comprehensive resource for those living with heart disease. Use it as your trusted companion along your journey to heart health.

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ABOUT MENDED HEARTS EUROPE

Mended Hearts Europe (MHE) is a non-profit organization dedicated to fostering hope and enhancing the lives of cardiovascular disease patients of all ages, their families, and caregivers. Through ongoing peer-to-peer support, patient education, and advocacy, its mission is to build a community characterised by resilience, care, and collective strength in overcoming challenges. Headquartered in Geneva, Switzerland, MHE marks the expansion of The Mended Hearts, Inc. (MHI) into Europe.





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