



A GUIDE FOR STROKE
Your Road to a Healthy Recovery

TABLE OF CONTENTS

WELCOME

DURING YOUR HOSPITAL STAY

GOING HOME

REHABILITATION

NUTRITION

JUST THE FACTS

WELCOME TO EDWARD HOSPITAL

Our staff is dedicated to the early diagnosis, treatment, and prevention of Stroke, from the Acute Care setting to discharge and beyond. Being hospitalized for a stroke, or possible stroke, can be a stressful time not only for you but also your loved ones. Knowing what to expect, including what testing will be completed, can help ease anxiety and aid in recovery.

The information in this folder will help guide you and your loved ones through your experience at Edward Hospital. Our doctors, nurses and other healthcare team members strive to provide you with the safest and best medical care possible. Please do not hesitate to ask a member of your health care team any questions that come up during your stay.

This educational folder will help you organize important information to take with you upon your discharge. We ask you to leave the folder in your room until you are discharged so we can add additional information throughout your stay. We also ask that you bring it with you any time you return to the hospital in order for us to provide consistent education along with excellent medical treatment.

Edward Hospital has been designated as a **Comprehensive Stroke Center of Excellence** by DNV GL- Healthcare and in keeping with the standards of this achievement we believe that patients and their loved ones play a key role in ensuring a successful stay and recovery. Our goal is to involve our patients and loved ones in their treatment through each step of the program.

Remember, this is a guide. Your physicians and their teams may add to or change any of the recommendations based on your personal requirements. Always use their recommendations first and ask questions if you are unsure of any information.

WHAT IS A “STROKE CENTER OF EXCELLENCE”?

Since 2008, Edward Hospital has been designated by the Joint Commission as a **Primary Stroke Center for Excellence** and as of 2017 we have been designated as a **Comprehensive Stroke Center of Excellence** by DNV GL- Healthcare. These certifications recognize that Edward Hospital provides outstanding care in meeting the needs of stroke patients.

What does this certification mean for patients and their families?

Edward Hospital follows the guidelines put forth by the American Stroke Association and American Heart Association to direct our care plans, policies, procedures and clinical pathways to care for the Stroke patient.

Edward Hospital works closely with our Emergency Medical Services (EMS) providers to ensure a collaborative relationship in the emergent care of acute stroke patients.

All Edward Neurologists, Neurointensivists, Neurosurgeons, Neurointerventionalists, Emergency Department physicians, and neurology midlevel practitioners are specially trained in the care and treatment of stroke patients.

Edward Hospital provides state-of-the-art diagnostic testing that includes CT, MRI, CTA, and CT perfusion studies.

All staff providing care for Stroke patients receives additional education on how to manage and care for this patient population.

Edward’s Rehabilitation Department provides evaluations on all stroke patients in order to determine what services the stroke survivor will need on discharge in order to maximize their recovery.

Stroke education – including risk factor modifications, strategies, signs and symptoms of stroke, importance of following up with physicians, discussion of prescribed medications, and the importance of calling 911 if stroke symptoms are noted – are discussed with all TIA, Hemorrhagic and Cerebral Vascular Accident (CVA) patients and their families.

For more information regarding the Neurosciences team and services at Edward Hospital visit: www.eehealth.org/services/neuro.

MY DOCTORS

Neurologist: _____

Primary Care Doctor: _____

Hospitalist: _____

Cardiologist: _____

Consultant: _____

Consultant: _____

Consultant: _____

EDWARD HOSPITAL NEUROLOGY RESOURCES

Cardiac-Neuro ICU	630-527-7800
Cardiac Telemetry 7	630-527-7952
Cardiac Telemetry 3	630-527-3677
Patient Advocate	630-527-7225
Cardiac Rehabilitation	630-527-3388
Class Registration	630-527-6363
Diabetes Center	630-527-3213
Prevention & Education Services	630-527-2758
Cardiac Nurse Heartline	630-527-2825
Website	www.eehealth.org

ADDITIONAL RESOURCES

If you are having difficulty starting or maintaining changes to your lifestyle, or if you need extra help, please refer to the following resources:

Where Can I Get Information?

For information on neurological disorders or research programs funded by the National Institute of Neurological Disorders and Stroke, contact the Institute's Brain Resources and Information Network (BRAIN) at:

BRAIN

P.O. Box 5801
Bethesda, MD 20824
(800) 352-9424
<http://www.ninds.nih.gov>

American Stroke Association: A Division of the American Heart Association

7272 Greenville Avenue
Dallas, TX 75231-4596
strokeassociation@heart.org
www.strokeassociation.org
(888) 4STROKE (478-7653); FAX 214-706-5231

Brain Aneurysm Foundation

12 Clarendon Street
Boston, MA 02116
office@bafound.org
<http://www.bafound.org>
(888)272-4602

Provides support networks and educational resources to raise public awareness regarding early detection and treatment of brain aneurysms. Information is also available for caregivers.

National Stroke Association

9707 East Easter Lane
Englewood, CO 80112-3747
info@stroke.org
<http://www.stroke.org>
(303) 649-9299; (800) STROKES (787-6537); FAX (303) 649-1328

National non-profit organization that offers education, services and community-based activities in prevention, treatment, rehabilitation and recovery. Serves the public and professional communities: people at risk, patients and their health care providers, stroke survivors, and their families and caregivers.

American Speech-Language-Hearing Association (ASHA)

10801 Rockville Pike
Rockville, MD 20852
(800) 638-8255
actionceter@asha.org
www.asha.org

Brain Injury Association of America

8201 Greensboro Drive, Suite 611
McLan, VA 22102
(800) 444-6443
familyhelpline@biausa.org
www.biausa.org

National Aphasia Association (NAA)

29 John Street, Suite 1103
New York, NY 10038
(800) 922-4622
www.aphasia.org

American Academy of Neurology

1080 Montreal Avenue
St. Paul, MN 55116
(651) 695-1940
www.aan.com

American Heart Association

7272 Greenville Avenue
Dallas, TX 75231
(800) 242-8721
www.americanheart.org

Head and Neck Surgery (AAO-HNS)

www.entnet.org

National Institute of Dental and Craniofacial Research (NIDCR)

(301) 402-7364
www.nidcr.nih.gov

National Institute of Diabetes, Digestive and Kidney Diseases (NIDDK)

(301) 496-3583
www.niddk.nih.gov

Neurosciences at Edward

Neurology



Mohammad Sajed, MD



Ameer AlWafai, MD



Kevin Bockhold, MD



Henry Echiverri, MD



Nicholas Mathenia, DO



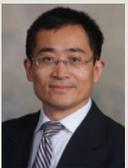
Hurmina Muqtadar, MD



Cathy Stachnik, DO



Li Zhang, MD



Michael Zhang, MD



Diane Blowers, PA-C



Aasheeta Parikh, PA-C



Catherine Aler, APN



Abigail Davis, APN



Ernest Emery, APN



Shannon Kirby, APN



Cheryl Lorenzin, APN



Becky McLaughlin, APN



Chelessa Usselman, APN

Neurosurgery



Michael Caron, MD



Michael Casey, DO



William Schueler, MD



Drew Spencer, MD



Caryn Josh, APN



Cheryl Lorenzin, APN



T. Lindley Pittman, PA-C



Kim Otto, APN



Dan Sears, PA-C



Brittany Sheehy, PA-C



Ashtyn Talos, PA-C

Neurointerventional Surgery



Ali Shaibani, MD



Michael Hurley, MD



Sameer Ansari, MD, PhD

Pain Medicine



Mohammad Khan, MD



David Peng, MD



Connie Shyu, PA-C



Amy Batista, APN



Teena Joseph, APN

For more information on our specialists, call (630) 527-7730.

Hospitalist Program

Rest assured that you are in very good hands while you are receiving care at Edward Hospital. Our hospitalists have partnered with your doctor and are committed to provide you with the highest quality inpatient care.

What is a Hospitalist?

Hospitalists are experts at treating people who are hospitalized - they are specialists with a unique knowledge of in-hospital medicine. Adult Hospitalists are Internal Medicine doctors and Pediatric Hospitalists are Pediatricians - both board-certified/eligible specialists in inpatient care. They spend their time in the hospital and are readily available 24/7. This specialized care means patients benefit from improved care and better outcomes.

Communication is Key

Communication - your inpatient care team relies on it to ensure you receive top-notch, coordinated care. Use of an electronic medical record (EMR) allows for two way communication. It enables your inpatient care team to review your health history, medications and any tests that have been performed prior to being hospitalized. EMR also helps us to communicate with your doctor about your stay.

Your Doctor, Our Partner

Your hospitalist actively communicates with your primary care doctor who is on staff at Edward Hospital. If your doctor is not on staff at Edward Hospital, they are welcome to notify our hospitalist directly to discuss your care plan. Once you are ready to go home, follow-up with your physician and any specialists as recommended. If you do not have a doctor we will be happy to assist you in selecting one.

Hospitalists are doctors that are Hospital Specialists.

[Meet the providers >](#)

Edward Medical Group Adult Hospitalists



Faisal Akbari, MD



Nazli Bavani, MD



Matthew Dunne, MD



Neal Ghelani, DO



Manju Joseph, MD



Durre Khalil, MD



John McAnelly, MD



Oana Olaru, MD



Tanya Pitroda, MD



Arun Ragothaman, MD



Ankur Singal, MD



Gokul Solai, MD



Pranav Tailor, MD



Ronald
Zimmermann, DO

Mid-Level Hospitalists



Christie Miller,
PA-C



Marie Monhardt,
APN

Edward Medical Group Pediatric Hospitalists



Ajitha Antony, MD



Galina
Artemyeva, MD



Vyta Ben Barak, MD



Vija Bublys, MD



Shreevidya Menon, DO

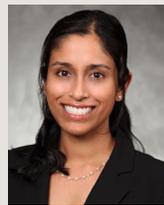
DuPage Medical Group Adult Hospitalists



Irina Domjan, MD



Lisa Dunning, MD



Reena Julka, MD



Leslie Delaza Mattson, MD



Joseph
Sutherland, MD



Charles
Yohannan, MD

Mid-Level Hospitalists



Katie Keeley, PA-C

WHAT TO EXPECT DURING YOUR HOSPITAL STAY

To help increase your comfort and give you a better understanding of your healthcare experience, we have outlined a typical plan of care for Ischemia/Hemorrhagic/TIA stroke patients. If you or your loved ones have questions about your treatment or what to expect during your hospital stay please feel free to talk with your nurse or a member of our staff and ask questions. As your care team personalizes your visit and treatment, your plan of care may vary from the following descriptions.

	Admit Day (ER- 1 st 24 hrs)	Day 2	Day 3	Day 4	Day 5 (or day of discharge)
General Goals	<p>Stable Vital Signs and Neurological Status</p> <p>Admit to: -Cardiac Neuro ICU (CNICU) -Cardiac Telemetry (CTU)</p> <p>Cholesterol and Blood sugar levels ordered</p> <p>Blood clotting prevention protocol in place</p> <p>Blood thinning medication addressed - if applicable</p> <p>Discharge planning begins</p>	<p>Stable Vital Signs and Neurological Status</p> <p>Begin assessing if can be transferred from CNICU - if applicable</p> <p>Cholesterol and Blood sugar levels resulted</p> <p>Blood clotting prevention remains in place</p> <p>Continue blood thinning medication - if applicable</p> <p>Rehab services and Social work involved</p> <p>Further diagnostic imaging, if needed, being completed</p>	<p>Stable Vital Signs and Neurological Status</p> <p>Patient on CTU</p> <p>Medications ordered for cholesterol and blood sugar - if applicable</p> <p>Blood clotting prevention remains in place</p> <p>Continue blood thinning medication - if applicable</p> <p>Discharge recommendations made</p> <p>Depression screening performed</p>	<p>Stable Vital Signs and Neurological Status</p> <p>Patient on CTU</p> <p>Cholesterol and blood sugar medications continue</p> <p>Blood clotting prevention remains in place</p> <p>Continue blood thinning medication - if applicable</p> <p>Discharge planning continues</p>	<p>Stable Vital Signs and Neurological Status for discharge</p> <p>Discharge: - statin addressed, if applicable - blood thinning medication addressed, if applicable - education done</p>
Education	<p>Stroke Folder given</p> <p>Smoking cessation discussed- if applicable</p>	<p>Stroke Folder Reviewed</p> <p>Cardiac Rehab providing Education</p>	<p>Continue reinforcing education</p> <p>Coumadin teaching - if applicable</p> <p>Diabetes teaching - if applicable</p>	<p>Continue education</p>	<p>Education completed</p> <p>Discharge with Stroke Folder</p>
Activity	<p>Bedrest for 24 hours</p>	<p>Begin ambulation</p> <p>Physical therapy to evaluate</p>	<p>Increasing activity, as tolerated</p>	<p>Increasing activity, as tolerated</p>	<p>Activity, as tolerated</p>
Diet	<p>Nothing by mouth until swallow evaluation completed and passed</p> <p>Speech therapy to see, if applicable</p> <p>Appropriate diet ordered</p>	<p>Further swallow testing, if applicable</p> <p>Appropriate diet ordered</p>	<p>Consider possible short term feeding tube, if applicable</p> <p>Dietary consult - if applicable</p> <p>Continue appropriate diet</p>	<p>Consider insertion of long term feeding tube, if applicable</p> <p>Continue appropriate diet</p>	<p>Discharge on appropriate diet recommendations</p>

Functional Areas of the Brain¹

Motor Area

- control of voluntary muscles

Sensory Area

- skin sensations (temperature, pressure, pain)

Frontal Lobe

- movement
- problem solving
- concentrating, thinking
- behaviour, personality, mood

Broca's Area

- speech control

Temporal Lobe

- hearing
- language
- memory

Brain Stem

- consciousness
- breathing
- heart rate

Parietal Lobe

- sensations
- language
- perception
- body awareness
- attention

Occipital Lobe

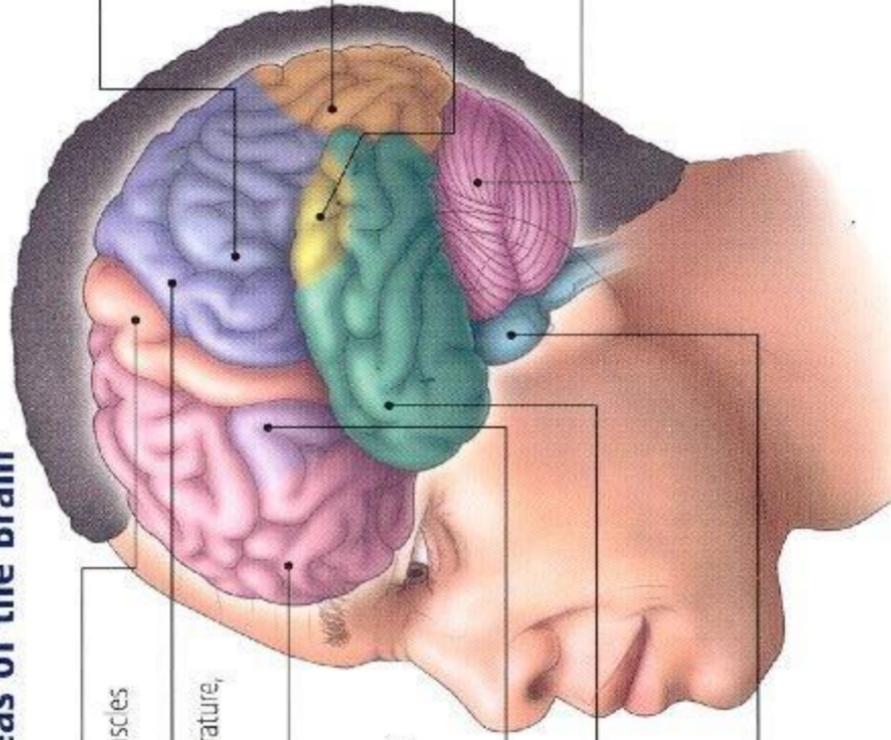
- vision
- perception

Wernicke's Area

- language comprehension

Cerebellum

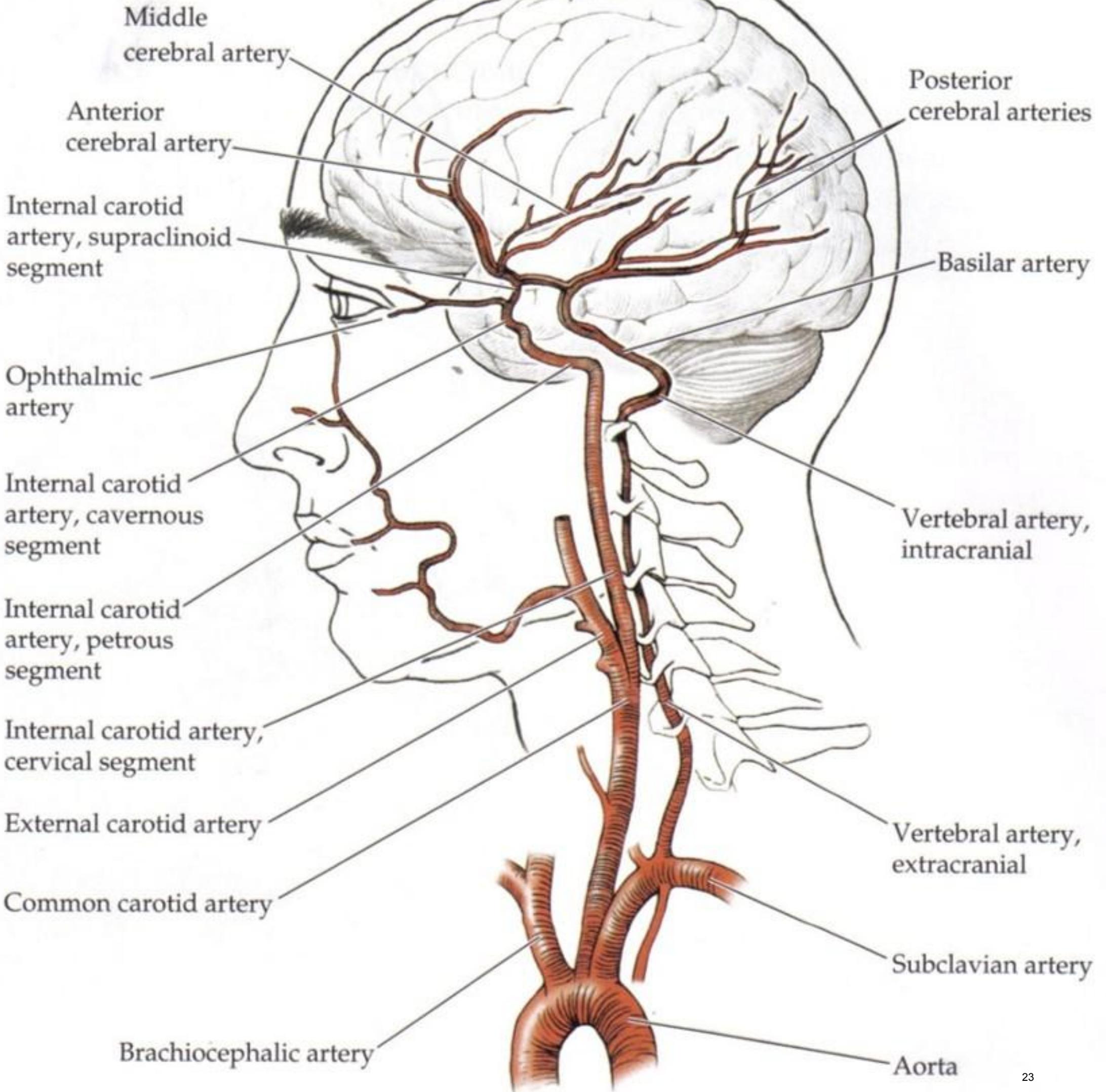
- posture
- balance
- coordination of movement



AREA OF YOUR STROKE

(A) Anterior circulation:

Posterior circulation:



F.A.S.T. is how we come *together* to end stroke™

Learn the stroke warning signs



F - FACE DROOPING



A - ARM WEAKNESS



S - SPEECH DIFFICULTY



T- TIME TO CALL 9-1-1

EVERY 40 SECONDS, SOMEONE IN THE U.S. HAS A STROKE. It could happen on your street, in your workplace, at a store where you shop — anywhere. Your readiness to spot the stroke warning signs and call 911 could save a life or make the difference between a full recovery and long-term disability. That's why it's so important to learn the stroke warning signs and urge everyone you know to do the same.

**When it comes
to treating
stroke, the sooner,
the better.**

THE FASTER STROKE IS TREATED, THE MORE LIKELY THE PATIENT IS TO RECOVER.

In fact, stroke patients who are treated with the clot-busting drug IV r-tPA Alteplase within 90 minutes of their first symptoms were almost three times more likely to recover with little or no disability.

In some cases, a procedure to remove the clot causing the stroke is also recommended. Ninety-one percent of stroke patients who were treated with a stent retriever within 150 minutes of first symptoms recovered with little or no disability.

The thing to remember is that stroke is largely treatable. It's a matter of getting the right treatment, right away.

Learn more at StrokeAssociation.org/StrokeMonth



**Together
to End Stroke™**

Nationally sponsored by
Medtronic

Going Home

Inside this section you will find your individualized discharge instructions which will guide you in the first few days after you leave the hospital. Included are three important documents – your discharge instructions, your education prescription, and your medication prescriptions.

- The discharge instructions are specific to your stay at Edward Hospital.
- Your education prescription is a prescription for classes available to you at Edward Hospital that will help you learn more about your condition and how to maintain a healthy lifestyle.
- Your medication prescriptions are those new medications prescribed for you by your physician which you will need to take when you go home.

The discharge instructions you will find in this section of the binder are specific to your diagnosis and any procedures you may have had done during your stay here. You will also find a resource page on Residential Home Health – Edward Hospital's Home Health program.

Discharge Planning

Discharge planning begins the day you are admitted to the hospital. It involves the patient, family, medical/nursing team, and rehabilitation staff. The purpose of discharge planning is to determine your needs to ensure that you obtain the appropriate resources to maximize your recovery. Things discharge planning can include:

- Make sure that the stroke survivor has a safe place to live after discharge from the hospital or rehabilitation facility
- Decide what care, assistance or special equipment will be needed
- Arrange for more rehabilitation services or for other services in the home (such as visits by a home health aide)
- Choose the physician, APN or PA who will monitor the person's health and medical needs
- Make an appointment to see your physician, APN or PA (Physician Assistant) within 7 days after hospital discharge unless otherwise instructed
- Determine the caregivers who will work as a partner with the patient to provide daily care and assistance at home and teach them the skills they will need
- Help the stroke survivor explore employment opportunities, volunteer activities and driving a car (if able and interested)
- Discuss any sexual concerns the stroke survivor or spouse may have. Many people who have had strokes enjoy healthy sex lives

Preparing for Discharge

Many stroke survivors can return to their own homes after rehabilitation. Others need to live in a place with professional staff, such as a nursing home or assisted living facility. An assisted living facility can provide residential living with a full range of services and staff. The choice usually depends on the person's needs for care and whether caregivers are available in the home. The stroke survivor needs a living place that supports continuing recovery.

During discharge planning, program staff will ask about the home and may also visit it. They may suggest changes to make it safer. These might include changing rooms around so that a stroke survivor can stay on one floor, moving scatter rugs or small pieces of furniture that could cause falls, or putting grab bars and seats in tubs and showers. It is a good idea for the stroke survivor to go home for a trial visit before discharge. This will help identify problems that need to be discussed or corrected before the patient returns.

Deciding about Special Equipment

Even after rehabilitation, some stroke survivors have trouble walking, balancing or performing certain activities of daily living. Special equipment can sometimes help. Here are some examples:

- Cane: Many people who have had strokes use a cane when walking. For people with balancing problems, special canes with three or four “feet” are available.
- Walker: A walker provides more support than a cane. Several designs are available for people who can only use one hand and for different problems with walking or balance.
- Ankle-foot orthotic devices (braces): Braces help a person to walk by keeping the ankle and foot in the correct position and providing support for the knee.
- Wheelchair: Some people will need a wheelchair. Wheelchairs come in many different designs. They can be customized to fit the user’s needs and abilities. Find out which features are most important for the stroke survivor.
- Assistive devices (aids for bathing, dressing and eating): Some of these are safety devices such as grab bars and nonskid tub and floor mats. Others make it easier to do things with one hand. Examples are Velcro fasteners on clothes and placemats that won’t slide on the table.
- Communication aids: These range from small computers to homemade communication boards. The stroke survivor, family and rehabilitation program staff should decide together what special equipment is needed.
- Program staff can help in making the best choices. Medicare or health insurance will often help pay for the equipment.

Preparing caregivers

Caregivers who help stroke survivors at home are usually family members such as a husband or wife or an adult son or daughter. They may also be friends or even professional home health aides. Usually, one person is the main caregiver, while others help from time to time. An important part of discharge planning is to make sure that caregivers understand the safety, physical and emotional needs of the stroke survivor and that they will be available to provide needed care. Since every stroke is different, people have different needs for help from caregivers. Here are some of the things caregivers may do:

- Keep notes on discharge plans and instructions and ask about anything that is not clear.
- Help to make sure that the stroke survivor takes all prescribed medicines and follows suggestions from program staff about diet, exercise, rest and other health practices.
- Encourage and help the person to practice skills learned in rehabilitation.
- Help the person solve problems and discover new ways to do things.
- Help the person with activities performed before the stroke. These could include using tools, buttoning a shirt, household tasks and/or leisure or social activities.
- Help with personal care if the person cannot manage alone.
- Include the stroke survivor in conversations even when the person cannot actively participate.
- Arrange for needed community services.
- Stand up for the rights of the stroke survivor.

Adjusting to the change

Going home to the old home or a new one is a big adjustment. For the stroke survivor, it may be hard to transfer the skills learned during rehabilitation to a new location. Also, more problems caused by the stroke may appear as the person tries to go back to old activities. During this time the stroke survivor and family learn how the stroke will affect daily life and can make the necessary adjustments. These adjustments are a physical and emotional challenge for the main caregiver as well as the stroke survivor.

The caregiver has many new responsibilities and may not have time for some favorite activities. The caregiver needs support, understanding and some time to rest. Caregiving that falls too heavily on one person can be very stressful. Even when family members and friends are nearby and willing to help, conflicts over caregiving can cause stress. Working together eases the stress on everyone.

Tips for Reducing Stress

The following tips for reducing stress are for both caregivers and stroke survivors:

- Take stroke recovery and caregiving one day at a time and be hopeful. Remember that adjusting to the effects of stroke takes time. Appreciate each small gain as you discover better ways of doing things.
- Caregiving is learned. Expect that knowledge and skills will grow with experience.
- Experiment. Until you find what works for you, try new ways of doing activities of daily living, communicating with each other, scheduling the day and organizing your social life.
- Plan for breaks so that you are not together all the time. This is a good way for family and friends to help on occasion. You can also plan activities that get both of you out of the house.
- Ask family members and friends to help in specific ways and commit to certain times to help. This gives others a chance to help in useful ways.
- Read about the experiences of other people in similar situations. Your public library has life stories by people who have had a stroke as well as books for caregivers.
- Join or start a support group for stroke survivors or caregivers. You can work on problems together and develop new friendships.
- Be kind to each other. If you sometimes feel irritated, this is natural and you do not need to blame yourself. But, don't take it out on the other person. It often helps to talk about these feelings with a friend, rehabilitation professional, or support group.
- Plan and enjoy new experiences and do not look back. Avoid comparing life as it is now with how it was before the stroke.

Source: *The Department of Health and Human Services, adapted from the US Dept. of Health and Human Services by HealthGate Editorial Staff <http://community.healthgate.com/GetContent.asp?siteid=ehosp&docid=/healthy/living/edstaff>>Copyright© 2004*

DISCHARGE CRITERIA FOR STROKE PATIENTS

Patients that return directly **home**:

- Able to ambulate 300 feet or more at Modified Independent level
- Able to perform sit to stand at supervision or above or has someone at home to assist with this task
- Able to perform toileting and lower extremity dressing at supervision or above or have someone at home to assist with activities of daily living
- Pain is well controlled
- Near baseline functional abilities

Patients that return home but require **home health physical or occupational therapy**:

Patient must be considered homebound to receive home health services. See below criteria from Medicare.

- Significant lack of strength, coordination, and or range of motion
- Patient is less than mod independent with ambulation & curb/stair negotiation
- Poor safety awareness and ambulating less than 300 feet
- When patient requires minimum assistance in sit to stand, toileting, or lower extremity dressing and has someone at home assist them to complete the activity.
- May require a home safety evaluation

Patients that return home and are able to go directly to **Outpatient rehabilitation**:

- Able to ambulate 300 feet or more at Modified Independent level
- Mild strength, balance, and coordination impairments
- Patient is mod independent with sit to stand, and curb/stair in order to get to facility outside of home
- Patient has someone to drive them to facility, or transportation is set up

Patients that require **Acute inpatient rehabilitation:**

- Ambulate less than 150 feet and require minimum assistance or more for ambulation
- Require moderate assistance or more to perform sit to stand, lower extremity dressing, or toileting and do not have someone to assist them to complete these activities.
- Significant fall risk and balance impairments
- Poor safety awareness or insight into impairments
- Significant active co morbidities that require medical management
- The patient is judged to have significant functional deficits and medical and nursing needs regardless of diagnosis that require:
 1. close medical supervision by a physiatrist or other physician qualified by training and experience
 2. 24 hour availability of nurses skilled in rehabilitation; and
 3. Treatment by multiple other licensed rehabilitation professionals (such as physical therapists, occupational therapists, speech language pathologists, and psychologists) as needed in a time intensive and medically coordinated program. Patient must be able to participate in 3 hours of skilled therapy per day.

Patients that require **Sub-acute rehabilitation:**

- Ambulate less than 150 feet and require minimum assistance or more for ambulation
- Require supervision assistance or more to perform sit to stand, lower extremity dressing, or toileting and do not have someone to assist them to complete these activities.
- Pain is not well controlled
- Patient does not need close medical supervision, 24 hour skilled rehabilitation nursing, or multiple licensed rehabilitation professionals that provide 3 or more hours of skilled therapy per day.
- Unable to participate in 3 or more hours of therapy per day

Patients that require **Long term acute care facility:**

- Chronic complex medical condition
- Requires ventilator care, ventilator weaning, or trach collar trials
- Longer length of stay greater than 30 days
- Decreased ability to participate in therapy
- Often requires acute or sub-acute rehab after LTAC

ADJUSTING TO BEING BACK AT HOME

Situations may come up once you return home that require you or your caregiver to seek the guidance and support of others. Below is a list of places that may be able to assist you.

❖ Community Access

- County Services
- Township Office (contact information is located on your voter registration card)
- Village Hall Clerk
- Local Churches

❖ If you are receiving Home Care and need further assistance, speak with the Home Care Nurse to see if the agency has a social worker who may be able to assist you.

❖ Other

- DuPage County (for residents of DuPage County)
 - 630-407-6500
- PACE (Suburban Bus Division of the RTA)
 - 847-364-7223
- Private Transportation Services
 - Comfort Coach: 630-285-1900
 - Superior Ambulance – Lisle: 630-963-3407
 - Superior Ambulance - Elmhurst: 630-882-2000

WHAT YOU SHOULD KNOW ABOUT TAKING YOUR MEDICATION

Medications have a great impact on the wellbeing of individuals in rehabilitation. Most patients follow a medication regimen prescribed by their physician. Lack of adhering to this regimen presents another risk factor for cardiovascular disease. Below are some general guidelines to follow for your medicines.

Have a Routine

- Do not stop taking any of your medications without first checking with your physician. Some medications require doses be reduced gradually before being stopped completely.
- Do not take anyone else's medications, even if he/she has the same illness
- Take your medications EVERY DAY as directed
- Know what each medication is for and what it looks like
- DO NOT skip medication, even if you are feeling better
- NEVER take more medication than prescribed
- DO NOT double up on medication if you miss a dose, unless told to do so by your doctor or nurse
- Avoid nonprescription medications unless recommended by the doctor

Keep Track

- Keep your medications in their original containers- do not mix pills
- Keep your medications in a cool, dry place away from direct sunlight-avoid the bathrooms
- Keep all medications out of the reach of children
- Some medications lose their strength or may become dangerous after a few months. If your medication is 4-6 months old, ask your doctor if it still safe to use and discard old medications by flushing them down the toilet.
- DO NOT run out of medications
- Keep a list of your medications in your wallet or purse
- Carry your medications with you when you travel or visit the doctor

Report Anything Unusual To Your Doctor or Nurse

- Cramps in legs
- Lightheadedness or dizziness
- Persistent dry cough
- Swelling of tongue or throat
- Blurred vision
- Upset stomach
- Rapid or irregular heartbeat

CASE MANAGEMENT TOOLS

During your hospitalization you will meet our Case Management and Social Work team who will help you to understand your needs and recommendations. The following pages contain information on area facilities.

Choosing one of these 6 facilities ensures...

- A dedicated Nurse Practitioner or Facility-Based Physician will work hand in hand with your Edward Physician to coordinate your care
- That the Facility has met Edward Medical Group's quality standards and is regularly monitored by EMG
- Should your condition dictate that you visit the hospital again; your re-admission will be carefully coordinated by EMG, Edward Hospital and the Facility
- For current quality information on service provided: visit the Medicare website <https://data.medicare.gov>
If assistance is needed locating the information please contact the case manager or social worker



1136 North Mill Street
Naperville, IL 60563
P 630-355-3300
www.cnrcilc.com

AMENITIES

Private rooms, highly trained and developed clinical staff on site 24/7, On site ownership, expansive, cutting-edge therapy gym, flat screen TVs, free Wi-Fi, menu-driven fine dining, hair salon, outdoor patios, complementary laundry service, gift shop

PROGRAMS

Physician-driven advanced rehab programs including pulmonary, cardiac, wound and orthopedic, physical therapy, occupational therapy, speech therapy, and respiratory Therapy 7 days/week, On-site hemodialysis, respite care, palliative care and hospice care programs, focused patient and family care education, to ensure your successful transition home

CLINICAL SPECIALTIES

Daily/weekly rounds by physicians including primary care, cardiology, pulmonology, infectious disease, nephrologist, podiatrist, wound care, palliative care, physiatrist, psychiatry and psychologist, also a nurse practitioner on site 7 days/ week, physician driven advanced physical rehabilitation with modalities including E-Stim, ultrasound, Ditheramy, VitalStim, Omni VR, registered dietician, clinical nurse liaison, certified wound care nurse, dedicated post-acute nurse team



2308 N. Rt 59 Naperville, IL 60563
630-300-1200

www.thespringsatmonarchlanding.com

AMENITIES

All private suites with full bathrooms. Complimentary Wi-Fi, Cable TV, and direct phone lines. Dine any time with daily menu options and made-to-order breakfast, hair salon, outdoor patios, and complimentary laundry services. Care personalized for the individual by highly trained clinical staff, along with advanced therapy programs including the Biodex Free Step System

GENERAL PROGRAMS

Post-acute rehab, therapy services-7 days/week (physical, occupational, speech), skilled nursing, assisted living with memory care (secured), respite care, restorative care, palliative care, and hospice

CLINICAL SPECIALTIES

Full-time Edward Medical Group physician on site 5 days/week and on-call weekends. Other on site providers include cardiologist, psychiatrist, gerontologist, neuropsychologist, psychologist, dentist, podiatrist, registered dietician, certified wound care nurse, clinical nurse liaison, and licensed clinical social worker, speech therapy - VitalStim Therapy System certified physical therapy, certified neuromuscular electrical stimulation therapist, and occupational therapy, certified lymphedema therapist



200 W. Martin Ave.
Naperville, IL 60540
P 630-355-4111

<http://www.hcr-manorcare.com/manorcare/NAPERVILLE>

AMENITIES

Private & semi-private rooms, Wi-Fi, internet café, iPads, direct phone lines, state-of-the-art therapy gym with Omni-VR, complimentary guest meal, coffee shop with Starbucks coffee, hair salon, outdoor patios, insurance contracts

GENERAL PROGRAMS

Skilled nursing, post-acute rehab, therapy service-7 day/week (physical, occupational, recreational & speech), respiratory therapy, respite care, comfort care, palliative care, hospice care, 24/7 direct admissions, nurse liaison program

CLINICAL SPECIALTIES

Nurse practitioner, cardiologist, gastroenterologist, gerontologist, infectious disease physician, nephrologist, neuropsychologist, physiatrist, podiatrist, psychiatrist, psychologist, pulmonologist, wound care physician, registered dietitian

St. Patrick's Residence
Nursing and Rehabilitation
Served by the Carmelite Sisters for the Aged and Infirm
"The Difference is Love"

1400 Brookdale Road
Naperville, IL 60563
P 630-416-6565
www.stpatrickresidence.org

AMENITIES

Private & semi-private rooms, satellite TV, Wi-Fi, direct phone lines, home cooked meals, coffee shop, complimentary daily happy hour, hair salon, gift shop, chapel with daily mass served by Carmelite Sisters

GENERAL PROGRAMS

Skilled nursing, post-acute rehab, therapy services (physical, occupational, & speech), memory care (Alzheimer/dementia), respite care, comfort care, palliative care, hospice care, restorative care program, Admissions 7day/week

CLINICAL SPECIALTIES

Nurse practitioner, gerontologist, primary care physician, neuropsychologist, psychiatrist, psychologist, wound Care physician, registered dietitian

Tabor Hills



1347 Crystal Avenue
Naperville, IL 60563
P 630-778-6677
www.taborhills.com

AMENITIES

Private and semi-private rooms, Wi-Fi, direct phone line, state-of-the-art therapy gym, buffet-style dining with personalized table service, ice cream parlor, hair salon, complementary laundry service, therapeutic gardens

GENERAL PROGRAMS

Skilled nursing, post-acute rehab, therapy services; in-house & outpatient (physical, occupational, & speech), memory care (specialized mid-stage dementia unit), independent & supportive (affordable assisted) living, palliative care, hospice care

CLINICAL SPECIALTIES

Nurse practitioner, gerontologist, neuropsychologist, ophthalmologist, physiatrist, podiatrist, psychiatrist, psychologist, psychotherapist, wound care physician, dentist



720 Raymond Drive
Naperville, IL 60563
P:(630) 355-0220

AMENITIES

On-site ownership, private rooms, flat screen TVs, complimentary Wi-Fi, direct phone lines, state-of-the-art therapy gym, fine dining & menu options for each meal, ice cream parlor, hair salon, library, spacious common areas, outdoor patio and private gardening area

PROGRAMS

Physician driven post-acute care programs including, cardiac, pulmonary, wound care, nephrology, infectious disease, and palliative care, onsite hemodialysis, respite care, memory care, palliative care and hospice services are provided, physical therapy, occupational therapy, speech therapy, and restorative therapy - 7 days a week. All programs are under the direction of an Edward Medical Group physician and are closely monitored by our interdisciplinary team of clinical professionals including but not limited to, registered nurses, a registered dietician, licensed clinical social worker and therapists

CLINICAL SPECIALTIES

Weekly Rounds include an Edward Medical Group physician along with a variety of primary care physicians and specialists including a board certified cardiologist, pulmonologist, wound care physician, infectious disease physician, nephrologist and a palliative care physician. On site nurse practitioner - 5 days a week. Other services available are psychiatry, dentistry, podiatry, ophthalmology, and a VitalStim Certified Speech Therapist

If you wish to speak with a liaison from any of the facilities listed above, please call your

Social Worker : _____

Phone: _____



Edward Hospital Acute Rehab Facility List:

Federal law requires Edward Hospital to provide patients who require post acute care a list of service providers. The inclusion or exclusion of any agency on this list does not imply endorsement by Edward Hospital and Health Services. This list is a resource guide only and not a recommendation of facilities.

Facility Name	Address	City	Phone	Additional Information
Marionjoy Rehab Hospital	26W171 Roosevelt Rd	Wheaton, IL 60187	P: 630-909-8882 F: 630-909-8888	Physiatrist consult required Liaison: 630 532-8610
Rush Copley Hospital	2000 Ogden Ave	Aurora, IL 60504	P: 630-978-6846 F: 630-898-6481	Physiatrist consult required
Adventist LaGrange Hospital (Connected with Marianjoy)	5101 Willow Springs Rd.	LaGrange, IL 60525	P: 708 245-5292 F: 708 245-4681	No physiatrist consult Admission by 11:30 am
Silver Cross Hospital	1200 Maple Rd	Joliet, IL 60432	P: 815 300-5971 F: 815 462-6918	No physiatrist consult required
Provena St. Joseph Hospital	333 N. Madison	Joliet, IL 60432	P: 815 773-7426 F: 815 773-7405	No physiatrist consult required
Alexian Brothers Hospital (Affiliated with RIC)	800 Biesterfeld Rd	Elk Grove Village, IL	P: 847 956-5422 F: 847 437-5991	No physiatrist consult required Bed Coord. 847 437-5500 est. 5422
Loyola Hospital Rehab Unit	2160 S. First Ave	Maywood, IL 60153	P: 708 216-0560	No physiatrist consult required Bed coord. 708 216-0560
Lutheran General Rehab Unit	1772 Dempster Ave	Park Ridge, IL	P: 847 723-8224 F: 847 723-8075	
Rehabilitation Institute of Chicago (RIC)	345 E. Superior	Chicago, IL 60611	P: 312 238-1369	No physiatrist consult required Bed Coord. 312 238-1112
Oak Park Hospital Rehab Unit	520 S. Maple Ave	Oak Park, IL 60304	P: 708 383-9300	No physiatrist consult required Liaison pager: 630 722-1661
Schwab Rehabilitation	1401 S. California Blvd	Chicago, IL 60608	P: 773 522-5854	Physiatrist consult required Referral line: 773-522-5895
Van Matre HealthSouth	950 S. Mulford Rd	Rockford, IL 61108	P: 815 381-8500 F: 815 484-0974	Referrals will be reviewed by physiatrist
Vista Health System Rehab Unit	2615 Washington St	Waukegan, IL 60085	P: 847 360-2170	No physiatrist consult required Referral line: 847 360-2765

Agency	Address	City	Zip	Phone	Fax	Medicare	Medicaid	Aenta Better Health	Illinicare	Psy RN	Wound care RN	Telehealth	Wound vacs	Vent care	Arrange DME	Peds services	Heart failure program	CABG program	Diabetic program	Pneumonia program	Other info
Midwest Healthcare Providers Inc.	5200 Main St. Ste: 200	Skokie	60077	847-679-4387	847-679-4437	x		x			x		x		x		x	x	x		
Northwestern Medicine Home Health and Hospice	690 E. North Ave	Carol Stream	60188	630-665-7000		x							x		x		x	x	x		
Nightingale Home Healthcare	920 N. York Rd Ste: 300	Hinsdale	60521	866-344-7777	866-878-0094	x	x	x	x	x		x	x		x		x	x	x		
Northshore Home Health Care, Inc.	719 Gold Rd	Schaumburg	60173	847-490-1112	847-490-1113	x						x			x		x	x	x		
Omni Home Care	19416 S. 88th Ave	Mekena	60448	708-532-4466	708-532-4477	x					x	x	x		x		x	x	x		
Omnicare Home Health, Inc.	13242 S. Rt 59 Ste: 202	Plainfield	60585	630-972-0668	630-972-0669	x					x		x		x						
Peak Home Health; Newsome	920 Essington Rd	Joliet	60453	815-744-4770	815-744-4755	x		x			x		x		x		x	x	x		
Platinum Healthcare Services	7330 N. Cicero Ave Ste: 220	Lombard	60712	224-251-7930	773-306-0185	x	x						x				x	x	x		
Quality Plus Care, Inc.	7250 N. Cicero Ave Ste: 104	Lincolnwood	60712	847-677-4100	847-677-4104	x	x	x	x		x		x								
Rainbow Healthcare	101 Royce Rd Ste: 200	Bolingbrook	60402	630-759-6400	630-759-9654	x				x	x		x		x		x	x	x		
Resilience Home Health, Corp	75 Executive Dr. Ste: 106	Aurora	60504	630-236-8800	630-236-8802	x				x	x		x		x		x	x	x		
Serenity Home Healthcare, Inc.	6677 N. Lincoln Ave Ste: 320	Lincolnwood	60712	773-888-4000	773-888-4005	x	x	x	x	x	x		x		x		x	x	x	IV infusion limited Peds services	
Shay Health Care	5730 W. 159th St.	Oak Forest	60452	708-535-4300	708-535-7520	x	x	x	x	x	x		x		x					Palliative care	
Vital Wellness Home Health	651 Ameracle Dr. Ste: 105	Naperville	60540	630-369-8450	630-369-6984	x						x	x		x		x	x	x		
VNA Healthtrends	200 E. Howard St	DesPlaines	60645	847-803-0774	224-612-5817	x	x				x		x		x		x	x	x		

Facility	Address	City	Zip	Phone	Medicare	Medicaid	APN on staff	Vents	Dialysis :on site	Secured Dementia	Psych Care
Alden of Waterford	2021 Randi Dr.	Aurora	60540	630 851-7266	x						
Aurora Rehabilitation	1601 N. Farnsworth Ave	Aurora	60505	630 898-1180	x					x	
Countryside Care Center	2330 W. Galena Blvd	Aurora	60506	630 896-4689	x					x	
Elmwood Terrace	1017 W. Galena Blvd	Aurora	60506	630 897-3105	x						
Jennings Terrace	275 S. Lasalle St	Aurora	60505	630 897-6947	x						
Provena McAuley Manor	400 W. Sullivan Rd	Aurora	60506	630 859-3700	x						
Meadowbrook Manor Bolingbrook	431 W. Remington Blvd	Bolingbrook	60440	630 759-1112	x			x		x	
Ballard Healthcare	9300 Ballard Rd	Des Plaines	60016	847 294-2300	x			x			
Oak Trace Health	250 Village Dr	Downers Grove	60516	630 769-6000	x					x	
Providence Healthcare	3450 Saratoga Ave	Downers Grove	60515	630 969-2900	x						
Elmwood Care Center	7733 W. Grand Ave	Elmwood Park	60707	708 452-9200							
Manor Care- Hinsdale	600 W. Ogden Ave	Hinsdale	60521	630 325-9630	x						
Symphony of Joliet	306 N. Larkin Ave	Joliet	60435	815 744-5560	x				x	x	x
Alden Estates of Naperville **	1525 Oxford Ln	Naperville	60565	630 983-0300	x					x	
Community Nursing and Rehab **	1136 N. Mill St	Naperville	60563	630 355-3300	x				x	x	
Manor Care- Naperville **	200 W. Martin Ave	Naperville	60540	630 355-4111	x						
Meadowbrook Manor Naperville **	720 Raymond Dr.	Naperville	60563	630 355-0220	x					x	
St. Patrick's Residence **	1400 Brookdale Rd	Naperville	60563	630 416-6565	x					x	
Tabor Hills **	1347 Crystal Ave	Naperville	60563	630 778-6677	x					x	
The Springs At Monarch Landing **	2308 N. Rt 59	Naperville	60563	630 300-1200	x					x	
Holly Family Villa	1220 S. Will -Cook Rd	Palos Park	60464	630 257-2291	x						
Lakewood Care Center	14716 E. Eastern	Plainfield	60544	815 436-3400	x						
Sandwich Nursing and Rehab	902 E Arnold St	Sandwich	60548	815 786-8409	x						
Willow Crest Nursing Pavilion	515 N. Main St	Sandwich	60548	815 786-8426	x						
Alden Estates of Shorewood	710 W. Black Rd	Shorewood	60404	815 230-8700	x						
Bria of Westmont	6501 S. Cass Ave	Westmont	60559	630 960-2026	x						x
Burgess Square	5801 S. Cass Ave	Westmont	60559	630 971-2645	x					x	
Manor Care Westmont	512 E. Ogden Ave	Westmont	60559	630 323-4400	x					x	
DuPage Convalescent Center **	400 N. County Farm Rd	Wheaton	60187	630 665-6400	x				x	x	
Wheaton Care Center	1325 Manchester Rd	Wheaton	60187	630 668-2500	x						x
Wynscape Nursing and Rehab	2180 Manchester Rd	Wheaton	60178	630 665-4330	x						
Chateau Center	7050 Madison St	Willowbrook	60527	630 323-6380	x					x	
Hillside Rehab and Care Center	1308 Game Farm Rd	Yorkville	60560	630-563-2740	x						

**Indicates Edward Partnership facility

This information is provided as a courtesy by Edward-Elmhurst Health. The inclusion or exclusion of any agency on this list does not imply endorsement by Edward-Elmhurst Health. This is a resource guide--it is not a list of recommended facilities. You may contact the facility of your choice if you desire a tour. Access www.medicare.gov or call 1-888-MEDICARE for details of inspections. For consumer information you may call the Illinois Citizens for Better Care at 312-663-5120 or log onto the website for the Better Government Association at www.illinoiscare.org.

This list is sorted by



Facility

Facility	Address	City	Zip	Phone	Medicare	Medicaid	APN on staff	Vents	Dialysis on site	Secured Dementia	Psych Care
Alden Estates of Naperville **	1525 Oxford Ln	Naperville	60565	630 983-0300	X	X	X			X	
Alden Estates of Shorewood	710 W. Black Rd	Shorewood	60404	815 230-8700	X						
Alden of Waterford	2021 Randi Dr.	Aurora	60540	630 851-7266	X						
Aurora Rehabilitation	1601 N. Farnsworth Ave	Aurora	60505	630 898-1180	X	X				X	
Ballard Healthcare	9300 Ballard Rd	Des Plaines	60016	847 294-2300	X	X		X			
Bria of Westmont	6501 S. Cass Ave	Westmont	60559	630 960-2026	X	X					X
Burgess Square	5801 S. Cass Ave	Westmont	60559	630 971-2645	X	X				X	
Chateau Center	7050 Madison St	Willowbrook	60527	630 323-6380	X	X				X	
Community Nursing and Rehab **	1136 N. Mill St	Naperville	60563	630 355-3300	X	X	X		X	X	
Countryside Care Center	2330 W. Galena Blvd	Aurora	60506	630 896-4689	X	X				X	
DuPage Convalescent Center **	400 N. County Farm Rd	Wheaton	60187	630 665-6400	X	X	X			X	
Elmwood Care Center	7733 W. Grand Ave	Elmwood Park	60707	708 452-9200							
Elmwood Terrace	1017 W. Galena Blvd	Aurora	60506	630 897-3105	X	X					
Hillside Rehab and Care Center	1308 Game Farm Rd	Yorkville	60560	630-553-2740	X	X					
Holly Family Villa	1220 S. Will -Cook Rd	Palos Park	60464	630 257-2291	X	X					
Jennings Terrace	275 S. Lasalle St	Aurora	60505	630 897-6947	X	X					
Lakewood Care Center	14716 E. Eastern	Plainfield	60544	815 436-3400	X	X					
Manor Care- Hinsdale	600 W. Ogden Ave	Hinsdale	60521	630 325-9630	X	X					
Manor Care- Naperville **	200 W. Martin Ave	Naperville	60540	630 355-4111	X	X	X				
Manor Care Westmont	512 E. Ogden Ave	Westmont	60559	630 323-4400	X	X				X	X
Meadowbrook Manor Bolingbrook	431 W. Remington Blvd	Bolingbrook	60440	630 759-1112	X	X			X	X	
Meadowbrook Manor Naperville **	720 Raymond Dr.	Naperville	60563	630 355-0220	X	X				X	
Oak Trace Health	250 Village Dr	Downers Grove	60516	630 769-6000	X	X				X	
Provona McAuley Manor	400 W. Sullivan Rd	Aurora	60506	630 859-3700	X	X					
Providence Healthcare	3450 Saratoga Ave	Downers Grove	60515	630 969-2900	X	X					
Sandwich Nursing and Rehab	902 E Arnold St	Sandwich	60548	815 786-8409	X	X					
St. Patrick's Residence **	1400 Brookdale Rd	Naperville	60563	630 416-6565	X	X	X			X	
Symphony of Joliet	306 N. Larkin Ave	Joliet	60435	815 744-5560	X	X			X	X	X
Tabor Hills **	1347 Crystal Ave	Naperville	60563	630 778-6677	X	X	X			X	
The Springs At Monarch Landing **	2308 N. Rt 59	Naperville	60563	630 300-1200	X					X	
Wheaton Care Center	1325 Manchester Rd	Wheaton	60187	630 668-2500	X	X					X
Willow Crest Nursing Pavilion	515 N. Main St	Sandwich	60548	815 786-8426	X	X					
Wynscape Nursing and Rehab	2180 Manchester Rd	Wheaton	60178	630 665-4330	X						

**Indicates Edward Partnership facility

This information is provided as a courtesy by Edward-Elmhurst Health. The inclusion or exclusion of any agency on this list does not imply endorsement by Edward-Elmhurst Health. This is a resource guide--it is not a list of recommended facilities. You may contact the facility of your choice if you desire a tour. Access www.medicare.gov or call 1-888-MEDICARE for details of inspections. For consumer information you may call the Illinois Citizens for Better Care at 312-663-5120 or log onto the website for the Better Government Association at www.illinoiscare.org.



Care to Live Better

residential
home health

Market-Leader of Home Nursing & Therapy Services

Residential Home Health's Clinical Team Includes:

- + Registered Nurses
- + Physical and Occupational Therapists
- + Speech Language Pathologists
- + Telehealth Nurses
- + Medical Social Workers
- + Certified Home Health Aides

Residential's Innovative Clinical Programs

CHAMP CHAMP stands for Cardiopulmonary Hospital Admit Management Program and incorporates Philips telehealth, cardiac rehab, and behavior modification to prevent hospital readmissions.

Joint Replacement Home Therapy Orthopedic therapy program helps patients recover faster after surgery

StepWise Fall awareness and prevention program increases independence and safety by improving mobility, balance, and strength.

MindCare Dementia care program increases patient participation in everyday activities and reduces caregiver stress.

LSVT® BIG & LOUD Intensive therapy programs help patients with Parkinson's and other neurological disorders walk and talk to their fullest potential.

Residential's Industry-Leading Technology

Electronic Medical Records & Physician Portal Residential uses electronic medical records ensuring efficient and immediate communication with the patient's care team. Through the physician portal, physicians can access the patient's electronic medical record and electronically send new referrals, review and approve all orders, and access billing information.

Philips Telehealth Residential nurses remotely monitor the patient's vital signs and evaluate short surveys about the patient's health status helping prevent unnecessary hospitalizations.

HemoSense PT/INR Monitor HemoSense PT/INR monitors provide Residential nurses with instant and accurate results to ensure proper dosing of Coumadin and other anticoagulants.

Solaris Light Therapy Residential therapists use Solaris Light Therapy to alleviate pain and inflammation caused by soft-tissue injuries.

Medicare covers 100% of services for eligible patients



Call a Home Care Specialist today at
866-902-4000 to find out how Residential Home Health
can provide the *Care to Live Better*.

(866) 902-4000
fax (866) 903-4000
www.residentialhomehealth.com

UNDERSTANDING YOUR POST STROKE/TIA REHABILITATION

While you are recovering from your Stroke/TIA in the hospital, you will meet your rehabilitation team. Your team consists of Physical, Occupational, and Speech Therapy, as well as Cardiac Rehabilitation Nurses.

THE IMPORTANCE OF EARLY REHABILITATION

A stay in the hospital can cause physiological complications. Often, these are due to immobility, especially if prolonged. Consequences of immobility include:

- Decreased balance
- Decreased muscle strength
- Decreased active range of motion of joints
- Impaired bowel function
- Pneumonia
- Edema
- Blood clots/pulmonary embolism
- Urinary Tract Infections (UTI)
- Bed Sores
- Postural hypotension
- Cardiovascular Deconditioning

Other complications can be due to mechanical ventilation. Some of these include:

- ✿ Ventilator associated pneumonia Malnutrition
- ✿ Psychological Burden (i.e.-stress, anxiety, pain, depression)
- ✿ Delirium
- ✿ Post-Traumatic Stress Disorder (PTSD)

It *is* important to be aware of potential consequences because they can be prevented and better managed with improved awareness from the patient, family, friends, and caregivers. If you have a concern about any of these issues, please discuss with any member of your interdisciplinary team member at Edward.

Part of the role of the Edward Inpatient Rehab Team is to help decrease the risk and/or prevent the consequences of immobility by encouraging mobility. Mobility has many positive outcomes including:

- Promoting joint and bone health
- Preventing joint contractures and increases active range of motion
- Improving lung function
- Stimulating bowel and bladder function
- Improving circulation
- Decreasing effects of constipation
- Decreasing spasticity
- Lowering risk for pressure sores
- Improving cognition by encouraging environmental exploration
- Improving visual awareness
- Improving socio-emotional and psychological well-being
- Promoting a more active lifestyle

The Edward Physical and Occupational Therapy Team will work to progress mobility in a safe environment while assisting in minimizing the negative effects of illness and immobility. The ultimate goal for rehabilitation is to return the patient to their prior level of function while improving strength, balance, endurance, range-of-motion and independence with activities of daily living (ADLs)

Included in this packet of information concerning positioning, sensory stimulation and therapeutic exercises. These additional techniques can be an integral part of the Rehabilitation process and help to improve patient outcomes. Please feel free to consult your Physical and/or Occupational Therapist with questions or concerns.

Positioning

Positioning is an important aspect of patient recovery. Positioning techniques can be used to:

- Prevent pressure sores
- Promote optimal alignment of joints
- Prevent joint contractures/maintain flexibility
- Increase lung volumes
- Decrease the work of breathing
- Minimize the workload on the heart
- Postural drainage (for loosening secretions)

The Edward team participates in a positioning schedule to encourage a change in position about every 2 hours. Upright positioning is optimal, if appropriate. Consider upright position in the hospital bed.

Techniques for Optimal Positioning

- Midline alignment of head
- Arms to sides, elbows bent at 90°, palms down
- Legs in neutral position: knees and toes pointing to the ceiling, knees slightly flexed, ankles at 90°
- Support under head and neck with pillow and/or towel roll
- Inspect areas of body at high risk for pressure sores: Heels, bottom, ears
- Elevate arms/legs on pillows if swelling present

Edward Inpatient Rehabilitation Services

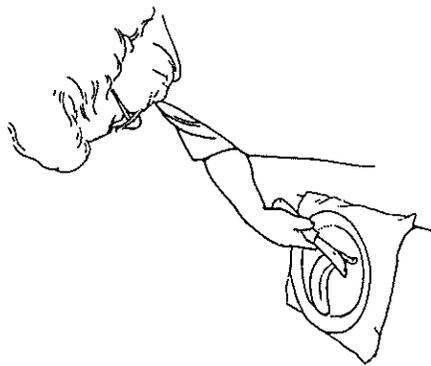
630-527-5371

HEMPARESIS - 11
Eating: Cutting Food

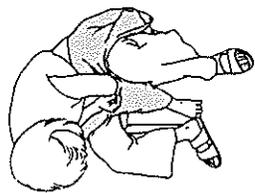
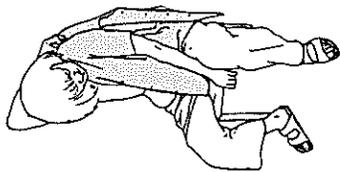
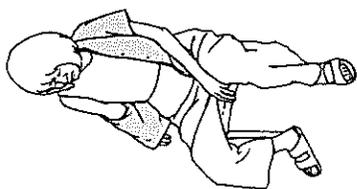
Different styles of one-handed knives are available.

Use rocking movements with downward pressure to cut.

To prevent plate from sliding, use a non-slip pad such as rubberized shelf liner.



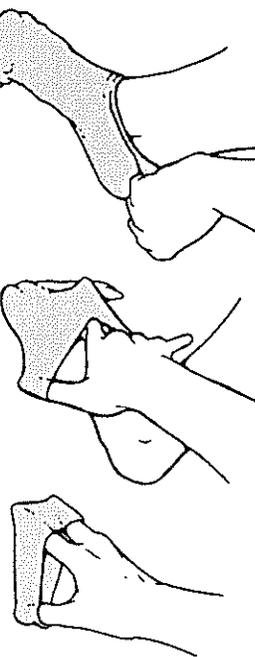
HEMPARESIS - 1
Dressing: Front Opening Shirt



Lean forward to allow affected arm to drop into sleeve.
 Pull up to shoulder and around back.
 Put other arm into sleeve.

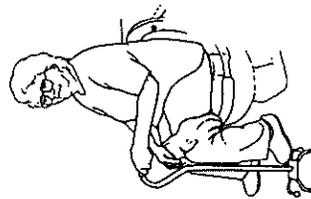
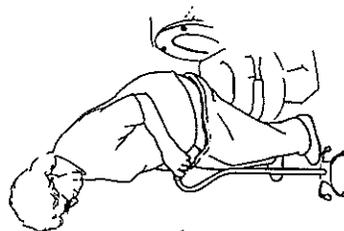
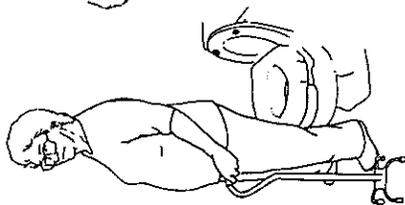
To remove shirt, start with unaffected arm.

HEMPARESIS - 6
Dressing: One-Handed Sock Donning



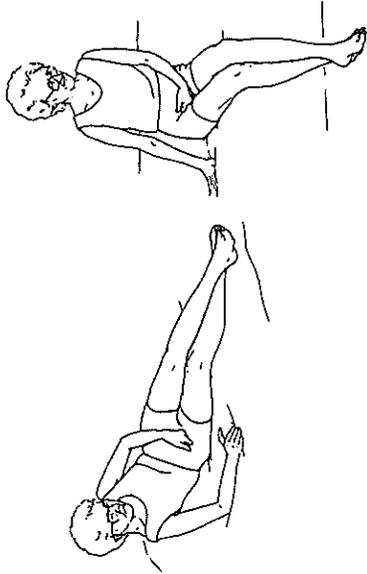
Use socks which have light elastic.
 Prop foot on opposite leg, low stool or chair.
 Use fingers to spread sock open. Slide over all toes.
 Pull over heel and up.

HEMPARESIS - 26 Transfer: Toilet



Back up till legs touch toilet. Ease pants down.
 Bend forward at waist to sit down.
 Use counter, safety bar, or walking device for support. A raised toilet seat makes transfers easier.

HEMIPARESIS - 22 Mobility: Supine / Sit



Cross leg under ankle of affected foot. Push up onto elbow.
 Swing legs over edge of bed.
 Push up to sit by straightening elbow.
 Reverse steps to lie down.

HEMIPARESIS - 23

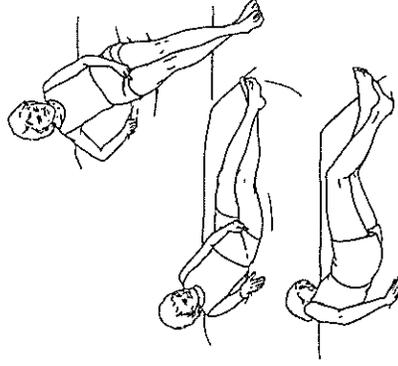
Mobility: Sit / Supine / Roll / Scoot

Cross leg under ankle of affected side.

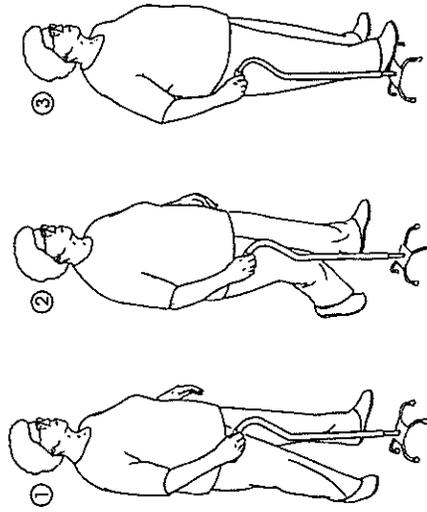
Lower onto elbow and swing legs up.

Roll toward affected side.

Push with arm and leg to scoot into place.



HEMIPARESIS - 25 Mobility: Quad Cane (Two Point Gait)



1. Advance weak leg and cane at the same time.
 2. Then step forward with strong leg.
 Repeat sequence.

IMPAIRED BALANCE - 6

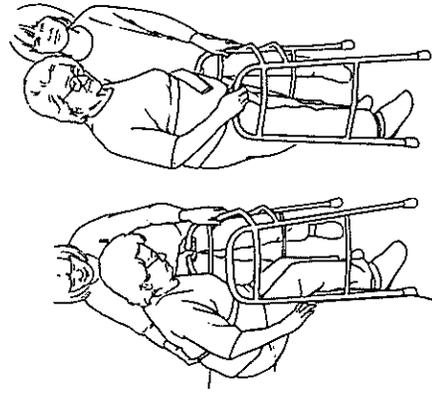
Transfer: Sit to Stand Using Walker (Assisted)

Place walker centered and close.

Stabilize walker and assist to stand.

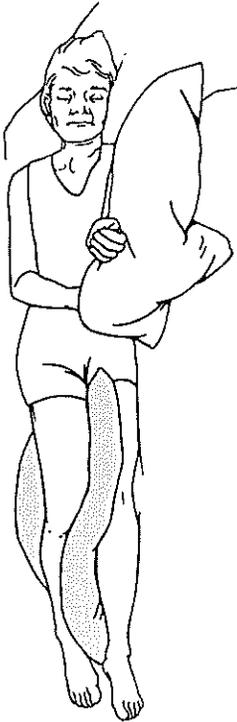
Allow patient time to gain standing balance before stepping forward.

Reversing procedure, assist to back up close and bend forward to sit.



HEMIPARESIS - 19

Positioning: Lying on Affected Side



Elevate affected arm:

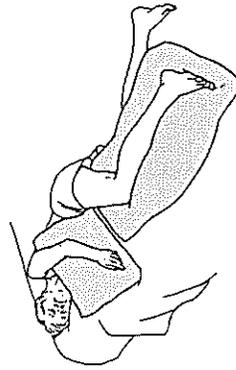
- Shoulder is positioned forward.
- Elbow out and palm turned upward.

Position affected leg:

- Hip and knee slightly bent.
- Place other leg on pillow to support weight.
- May place pillow behind back

HEMIPARESIS - 18

Positioning: Lying on Unaffected Side



Elevate affected arm:

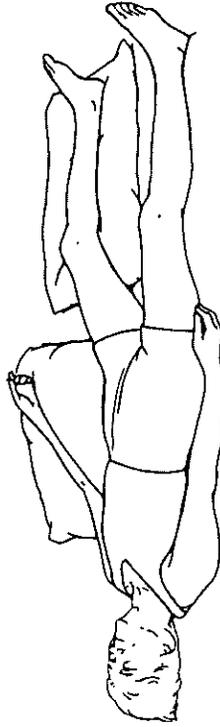
- Shoulder is positioned forward. Elbow straightened as able. Hand with palm down.

Position affected leg:

- Hip and knee slightly bent. Toes pointing forward.
- May place another pillow behind back to support trunk position.

HEMIPARESIS - 17

Positioning: Lying on Back



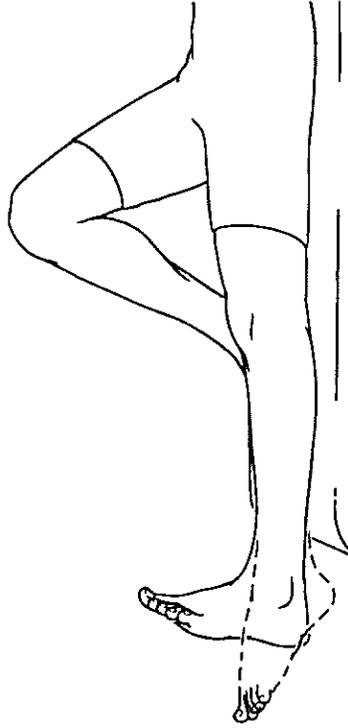
Elevate affected arm:

- Shoulder is positioned forward, arm out to side.
- May use folded towel under shoulder blade.
- Palm is turned upward as able.

Position affected leg:

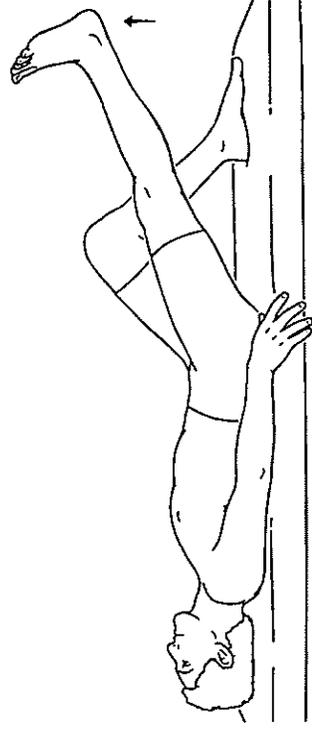
- Hip and knee slightly bent. Toes pointing up as able.
- Avoid tight tucking sheets.
- May use footboard or cradle.

ANKLE / FOOT - 18 ROM: Plantar / Dorsiflexion



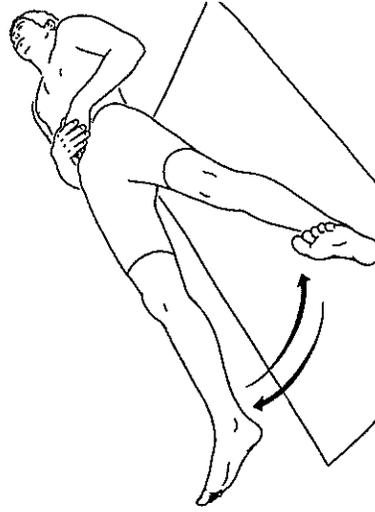
With leg relaxed, gently flex and extend ankle. Move through full range of motion. Avoid pain. Repeat ___ times per set. Do 1 sets per session. Do 2 sessions per day.

HIP / KNEE - 17 Strengthening: Straight Leg Raise (Phase 1)



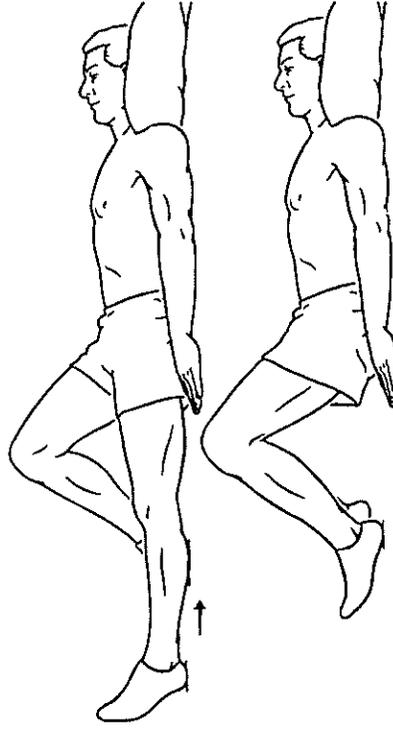
Tighten muscles on front of thigh, then lift leg 12 inches from surface, keeping knee locked. Repeat 20 times per set. Do 1 sets per session. Do 2 sessions per day.

HIP / KNEE - 50 Hip Abduction / Adduction: with Extended Knee (Supine)



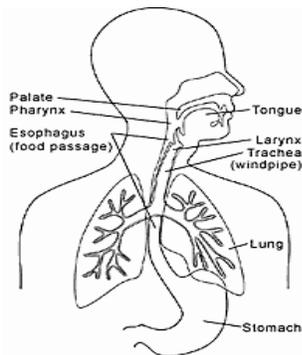
Bring leg out to side and return. Keep knee straight. Repeat 20 times per set. Do 1 sets per session. Do 2 sessions per day.

HIP / KNEE - 65 Self-Mobilization: Heel Slide (Supine)



Slide heel toward buttocks until a gentle stretch is felt and then return to a straight position. Repeat 20 times per set. Do 1 sets per session. Do 2 sessions per day.

DYSPHAGIA



WHAT IS DYSPHAGIA?

People with dysphagia have difficulty swallowing and may also experience pain while swallowing. Some people may be completely unable to swallow or may have trouble swallowing liquids, foods, or saliva. Eating then becomes a challenge. Often, dysphagia makes it difficult to take in enough calories and fluids to nourish the body.

HOW DOES DYSPHAGIA OCCUR?

Dysphagia occurs when there is a problem with any part of the swallowing process. Weak tongue or cheek muscles may make it hard to move food around in the mouth for chewing. Food pieces that are too large for swallowing may enter the throat and block the passage of air.

Other problems include not being able to start the swallowing reflex (a stimulus that allows food and liquids to move safely through the pharynx) because of a stroke or other nervous system disorder. People with these kinds of problems are unable to begin the muscle movements that allow food to move from the mouth to the stomach. Another difficulty can occur when weak throat muscles cannot move all of the food toward the stomach. Bits of food can fall or be pulled into the windpipe (trachea), which may result in lung infection.

HOW IS DYSPHAGIA TREATED?

There are different treatments for various types of dysphagia. First, doctors and speech-language pathologists who test for and treat swallowing disorders use a variety of tests that allow them to look at the parts of the swallowing mechanism. One test, called a fiber optic laryngoscopy, allows the doctor to look down the throat with a lighted tube. Other tests, including video fluoroscopy, which takes videotapes of a patient swallowing, and ultrasound, which produces images of internal body organs, can painlessly take pictures of various stages of swallowing.

Once the cause of the dysphagia is found, surgery or medication may help. If treating the cause of the dysphagia does not help, the doctor may have the patient see a speech-language pathologist who is trained in testing and treating swallowing disorders. The speech-language pathologist will test the person's ability to eat and drink and may teach the person new ways to swallow.

Treatment may involve muscle exercises to strengthen weak facial muscles or to improve coordination. For others, treatment may involve learning to eat in a special way. For example, some people may have to eat with their head turned to one side or looking straight ahead. Preparing food in a certain way or avoiding certain foods may help other people. For instance, those who cannot swallow liquids may need to add special thickeners to their drinks. Other people may have to avoid hot or cold foods or drinks.

For some, however, consuming foods and liquids by mouth may no longer be possible. These individuals must use other methods to nourish their bodies. Usually this involves a feeding system, such as a feeding tube, that bypasses the part of the swallowing mechanism that is not working normally.

Fit For Life

Inside this section you will find information to assist you on your road to recovery following your stroke. Your physician may recommend that you participate in some type of rehabilitation.

It is important to remember that strokes can occur in any region of the brain, impacting many different parts of your body. The residual effects vary greatly from person to person. Rehabilitation is highly individualized to accommodate your specific needs.

A variety of healthcare workers are involved in the rehabilitation process. This section will provide information on this phase of your recovery. If you have questions regarding your individual plan of care, write them down and speak with your doctor.

Recovering from stroke

The process of recovering from a stroke usually includes treatment, spontaneous recovery, rehabilitation, and the return to community living. Because stroke survivors often have complex rehabilitation needs, progress and recovery are different for each person. Treatment for stroke begins in a hospital with "acute care." This first step includes helping the patient survive, preventing another stroke, and taking care of any other medical problems.

Spontaneous recovery happens naturally to most people. Soon after the stroke, some abilities that have been lost usually start to come back. This process is quickest during the first few weeks, but it sometimes continues for a long time. Rehabilitation is another part of treatment. It helps the person keep abilities and gain back lost abilities to become more independent. It usually begins while the patient is still in acute care. For many patients, it continues afterward, either as a formal rehabilitation program or as individual rehabilitation services. Many decisions about rehabilitation are made by the patient, family, and hospital staff before discharge from acute care.

The last stage in stroke recovery begins with the person's return to community living after acute care or rehabilitation. This stage can last for a lifetime as the stroke survivor and family learn to live with the effects of the stroke. This may include doing common tasks in new ways or making up for damage to or limits of one part of the body by greater activity of another. For example, a stroke survivor can wear shoes with Velcro closures instead of laces or may learn to write with the opposite hand.

How stroke affects people

Each stroke is different depending on the part of the brain injured, how bad the injury is, and the person's general health. Some of the effects of stroke are:

- Weakness (hemiparesis) or paralysis (hemiplegia) on one side of the body. This may affect the whole side or just the arm or the leg. The weakness or paralysis is on the side of the body opposite the side of the brain injured by the stroke. For example, if the stroke injured the left side of the brain, the weakness or paralysis will be on the right side of the body.
- Problems with balance or coordination. These can make it hard for the person to sit, stand, or walk, even if muscles are strong enough.
- Problems using language (aphasia and dysarthria). A person with aphasia may have trouble understanding speech or writing. Or, the person may understand but may not be able to think of the words to speak or write. A person with dysarthria knows the right words but has trouble saying them clearly.
- Being unaware of or ignoring things on one side of the body (bodily neglect or inattention). Often, the person will not turn to look toward the weaker side or even eat food from the half of the plate on that side.
- Pain, numbness, or odd sensations. These can make it hard for the person to relax and feel comfortable.
- Problems with memory, thinking, attention, or learning (cognitive problems). A person may have trouble with many mental activities or just a few. For example, the person may have trouble following directions, may get confused if something in a room is moved, or may not be able to keep track of the date or time.
- Being unaware of the effects of the stroke. The person may show poor judgment by trying to do things that are unsafe as a result of the stroke.
- Trouble swallowing (dysphagia). This can make it hard for the person to get enough food. Also, care must sometimes be taken to prevent the person from breathing in food (aspiration) while trying to swallow it.
- Problems with bowel or bladder control. These problems can be helped with the use of portable urinals, bedpans, and other toileting devices.
- Getting tired very quickly. Becoming tired very quickly may limit the person's participation and performance in a rehabilitation program.
- Sudden bursts of emotion, such as laughing, crying, or anger. These emotions may indicate that the person needs help, understanding, and support in adjusting to the effects of the stroke.
- Depression. This is common in people who have had strokes. It can begin soon after the stroke or many weeks later, and family members often notice it first.

Disabilities after stroke

A "disability" is difficulty doing something that is a normal part of daily life. People who have had a stroke may have trouble with many activities that were easy before, such as walking, talking, and taking care of "activities of daily living" (ADLs). These include basic tasks such as bathing, dressing, eating, and using the toilet, as well as more complex tasks called "instrumental activities of daily living" (IADLs), such as housekeeping, using the telephone, driving, and writing checks. Some disabilities are obvious right after the stroke. Others may not be noticed until the person is back home and is trying to do something for the first time since the stroke.

What happens during acute care?

The main purposes of acute care are to:

- Make sure the patient's condition is caused by a stroke and not by some other medical problem
- Determine the type and location of the stroke and how serious it is
- Prevent or treat complications such as bowel or bladder problems or pressure ulcers (bed sores).
- Prevent another stroke
- Encourage the patient to move and perform self-care tasks, such as eating and getting out of bed, as early as medically possible. This is the first step in rehabilitation

Stroke survivors and family members may find the hospital experience confusing. Hospital staff are there to help, and it is important to ask questions and talk about concerns. Before acute care ends, the patient and family with the hospital staff decide what the next step will be. For many patients, the next step will be to continue rehabilitation.

SOURCE: U.S. Department of Health and Human Services HealthGate

Who are the rehabilitation specialists?

Because every stroke is different, treatment will be different for each person. Rehabilitation is provided by several types of specially trained professionals. A person may work with any or all of these:

- **Physician**
All patients in stroke rehabilitation have a physician in charge of their care. Several kinds of doctors with rehabilitation experience may have this role. These include family physicians and internists (primary care doctors), geriatricians (specialists in working with older patients), neurologists (specialists in the brain and nervous system), neurosurgeons (specialists in brain surgery), and physiatrists (specialists in physical medicine and rehabilitation)
- **Rehabilitation nurse**
Rehabilitation nurses specialize in nursing care for people with disabilities. They provide direct care, educate patients and families, and help the doctor to coordinate care
- **Physical therapist**
Physical therapists evaluate and treat problems with moving, balance, and coordination. They provide training and exercises to improve walking, getting in and out of a bed or chair, and moving around without losing balance. They teach family members how to help with exercises for the patient and how to help the patient move or walk, if needed
- **Occupational therapist**
Occupational therapists provide exercises and practice to help patients do things they could do before the stroke such as eating, bathing, dressing, writing, or cooking. The old way of doing an activity sometimes is no longer possible, so the therapist teaches a new technique
- **Speech-language pathologist**
Speech-language pathologists help patients get back language skills and learn other ways to communicate. Teaching families how to improve communication is very important. Speech-language pathologists also work with patients who have swallowing problems (dysphagia)

- **Social worker**
Social workers help patients and families make decisions about rehabilitation and plan the return to the home or a new living place. They help the family answer questions about insurance and other financial issues and can arrange for a variety of support services. They may also provide or arrange for patient and family counseling to help cope with any emotional problems
- **Psychologist**
Psychologists are concerned with the mental and emotional health of patients. They use interviews and tests to identify and understand problems. They may also treat thinking or memory problems or may provide advice to other professionals about patients with these problems
- **Therapeutic recreation specialist**
These therapists help patients return to activities that they enjoyed before the stroke such as playing cards, gardening, bowling, or community activities. Recreational therapy helps the rehabilitation process and encourages the patient to practice skills
- **Other professionals**
Other professionals may also help with the patient's treatment. An orthotist may make special braces to support weak ankles and feet. A urologist may help with bladder problems. Other physician specialists may help with medical or emotional problems. Dietitians make sure that the patient has a healthy diet during rehabilitation. They also educate the family about proper diet after the patient leaves the program. Vocational counselors may help patients go back to work or school.

Rehabilitation professionals, the patient, and the family are vitally important partners in rehabilitation. They must all work together for rehabilitation to succeed.

*SOURCE: U.S. Department of Health and Human Service. Copyright © 2004
<<http://community.healthgate.com/getcontent.asp? SiteID=ehosp&DocID=/choice/copyright/index&DocType=4>>
HealthGate Data Corp. <<http://www.healthgate.com>> All rights reserved.*

Deciding about rehabilitation

Some people do not need rehabilitation after a stroke because the stroke was mild or they have fully recovered. Others may be too disabled to participate. However, many patients can be helped by rehabilitation. Hospital staff will help the patient and family decide about rehabilitation and choose the right services or program.

Types of rehabilitation programs

There are several kinds of rehabilitation programs:

- Hospital programs. These programs can be provided by special rehabilitation hospitals or by rehabilitation units in acute care hospitals. Complete rehabilitation services are available. The patient stays in the hospital during rehabilitation. An organized team of specially trained professionals provides the therapy. Hospital programs are usually more intense than other programs and require more effort from the patient
- Nursing facility (nursing home) programs. As in hospital programs, the person stays at the facility during rehabilitation. Nursing facility programs are very different from each other, so it is important to get specific information about each one. Some provide a complete range of rehabilitation services; others provide only limited services

- Outpatient programs. Outpatient programs allow a patient who lives at home to get a full range of services by visiting a hospital outpatient department, outpatient rehabilitation facility, or day hospital program
- Home-based programs. The patient can live at home and receive rehabilitation services from visiting professionals. An important advantage of home programs is that patients learn skills in the same place where they will use them
- Individual rehabilitation services. Many stroke survivors do not need a complete range of rehabilitation services. Instead, they may need an individual type of service, such as regular physical therapy or speech therapy. These services are available from outpatient and home care programs

Choosing a rehabilitation program

The doctor and other hospital staff will provide information and advice about rehabilitation programs, but the patient and family make the final choice. Hospital staff know the patient's disabilities and medical condition. They should also be familiar with the rehabilitation programs in the community and should be able to answer questions about them. The patient and family may have a preference about whether the patient lives at home or at a rehabilitation facility. They may have reasons for preferring one program over another. Their concerns are important and should be discussed with hospital staff.

Things to consider when choosing a rehabilitation program:

- Does the program provide the services the patient needs?
- Does it match the patient's abilities or is it too demanding or not demanding enough?
- What kind of standing does it have in the community for the quality of the program?
- Is it certified and does its staff have good credentials?
- Is it located where family members can easily visit?
- Does it actively involve the patient and family members in rehabilitation decisions?
- Does it encourage family members to participate in some rehabilitation sessions and practice with the patient?
- How well are its costs covered by insurance or Medicare?
- If it is an outpatient or home program, is there someone living at home who can provide care?
- If it is an outpatient program, is transportation available?

A person may start rehabilitation in one program and later transfer to another. For example, some patients who get tired quickly may start out in a less intense rehabilitation program. After they build up their strength, they are able to transfer to a more intense program.

What happens during rehabilitation?

In hospital or rehabilitation programs, the patient may spend several hours a day in activities such as physical therapy, occupational therapy, speech therapy, recreational therapy, group activities, and patient and family education. It is important to maintain skills that help recovery. Part of the time is spent relearning skills (such as walking and speaking) that the person had before the stroke. Part of it is spent learning new ways to do things that can no longer be done the old way (for example, using one hand for tasks that usually need both hands).

Setting rehabilitation goals

The goals of rehabilitation depend on the effects of the stroke, what the patient was able to do before the stroke, and the patient's wishes. Working together, goals are set by the patient, family, and rehabilitation program staff. Sometimes, a person may need to repeat steps in

striving to reach goals. If goals are too high, the patient will not be able to reach them. If they are too low, the patient may not get all the services that would help. If they do not match the patient's interests, the patient may not want to work at them. Therefore, it is important for goals to be realistic. To help achieve realistic goals, the patient and family should tell program staff about things that the patient wants to be able to do.

Getting the most out of rehabilitation

What the patient can do

If you are a stroke survivor in rehabilitation, keep in mind that you are the most important person in your treatment. You should have a major say in decisions about your care. This is hard for many stroke patients. You may sometimes feel tempted to sit back and let the program staff take charge. If you need extra time to think or have trouble talking, you may find that others are going ahead and making decisions without waiting. Try not to let this happen.

Make sure others understand that you want to help make decisions about your care. Bring your questions and concerns to program staff. State your wishes and opinions on matters that affect you. Speak up if you feel that anyone is "talking down" to you; or, if people start talking about you as if you are not there.

Remember that you have the right to see your medical records. To be a partner in your care, you need to be well informed about your treatment and how well you are doing. It may help to record important information about your treatment and progress and write down any questions you have. If you have speech problems, making your wishes known is hard. The speech-language pathologist can help you to communicate with other staff members, and family members may also help to communicate your ideas and needs.

Most patients find that rehabilitation is hard work. They need to maintain abilities at the same time they are working to regain abilities. It is normal to feel tired and discouraged at times because things that used to be easy before the stroke are now difficult. The important thing is to notice the progress you make and take pride in each achievement.

How the family can help

If you are a family member of a stroke survivor, here are some things you can do:

- Support the patient's efforts to participate in rehabilitation decisions.
- Visit and talk with the patient. You can relax together while playing cards, watching television, listening to the radio, or playing a board game.
- If the patient has trouble communicating (aphasia), ask the speech-language pathologist how you can help.
- Participate in education offered for stroke survivors and their families.
- Learn as much as you can and how you can help. Ask to attend some of the rehabilitation sessions. This is a good way to learn how rehabilitation works and how to help. Encourage and help the patient to practice skills learned in rehabilitation.
- Make sure that the program staff suggests activities that fit the patient's needs and interests.
- Find out what the patient can do alone, what the patient can do with help, and what the patient can't do. Then avoid doing things for the patient that the patient is able to do. Each time the patient does them, his or her ability and confidence will grow.

- Take care of yourself by eating well, getting enough rest, and taking time to do things that you enjoy.
- To gain more control over the rehabilitation process, keep important information where you can find it.

When rehabilitation is not recommended

Some families and patients may be disappointed if the doctor does not recommend rehabilitation. However, a person may be unconscious or too disabled to benefit. For example, a person who is unable to learn may be better helped by maintenance care at home or in a nursing facility. A person who is, at first, too weak for rehabilitation may benefit from a gradual recovery period at home or in a nursing facility. This person can consider rehabilitation at a later time. Hospital staff are responsible for helping plan the best way to care for the patient after discharge from acute care. They can also provide or arrange for needed social services and family education. This is not the only chance to participate in rehabilitation. People who are too disabled at first may recover enough to enter rehabilitation later.

SOURCE: U.S. Department of Health and Human Services. Adapted from the US Dept. of Health and Human Services by HealthGate Editorial Staff GetContent.asp?siteid=ehosp&docid=/healthy/living/edstaff>

Getting behind the wheel

After your doctor okays you to drive, the first step is to get an evaluation by a driver rehabilitation specialist (DRS). The DRS is a person trained to work with drivers who have disabilities. The evaluation will include:

- a vision exam
- a perception test to see if you can react in a timely manner

To find a DRS in your area, contact:

- Association of Driver Educators for the Disabled @ 608-884-8833
- American Occupational Therapy Association @ 800-377-8555 or www.aota.org on the internet

Unable to drive?

You may not be able to drive after suffering a stroke. You may have trouble turning the steering wheel or thinking clearly about the cars around you. Don't worry. You can still maintain your independence and get to the places you want to go. There are several alternatives to driving. Consider these options for getting around:

- Ride with family and friends
- Take a taxi, shuttle bus or van
- Use public transportation such as buses, trains and subways
- Try a scooter
- Walk

Redefining sexuality

Part of getting back into a normal routine involves resuming a healthy sex life. The need to love and be loved and to have the physical and mental release sex provides is important. But, having sex after stroke can present problems or concerns for you and your partner. Stroke can change your body and how you feel. Both can affect sexuality.

Stroke survivors often report a decrease in sexual desire and how often they have sexual relations. Women report a strong decrease in vaginal lubrication and the ability to have an orgasm. Men often have weak or failed erections and ejaculations.

Communication is key

Talking about sex is hard for many people – more so if you are unable to understand or say words or if you have uncontrollable crying or laughing (a common problem after stroke). But it is critical to talk openly and honestly with your partner about your sexual needs, desires and concerns.

Fear of having another stroke during sex is common. It is unlikely that a stroke will occur during sexual activity. Again, talk to your partner about this. It may make both of you feel better. Counseling may also help.

Getting started

Start by re-introducing familiar activities such as kissing, touching and hugging. Create a calm, non-pressure environment where both of you will feel comfortable.

Depression, medicines, pain

It is common for stroke survivors and/or their partners to suffer from depression. When you are depressed, you tend to have less interest in sexual intimacy. The good news is that depression can be treated with medicines. The medicines may increase your interest in sexual activity but also may have side effects that interfere with your ability to enjoy sex.

The same can be said for anxiety, high blood pressure, spasticity (stiffness or uncontrolled jerking), sleeping problems and allergies. Problems in these areas can be treated with medicines but medicines may decrease your ability to enjoy sex. If your ability to enjoy sex has decreased since your stroke, talk with your doctor about medicines that have fewer sexual side effects.

After stroke, many survivors have problems with pain. The pain can contribute to loss of sexual desire, impotence and the ability to have an orgasm. Talk to your doctor about ways to manage your pain.

Incontinence and impotence

If you are having trouble with controlling your bladder or bowel, you may be afraid that you will have an accident while making love. One tip is to go to the bathroom – if you can – before having sex.

If you have a catheter (small, flexible tube) placed in your bladder or urethra, you can ask your doctor's permission to remove it and put it back in afterwards. A woman with a catheter can tape it to one side. A man with a catheter can cover it with a lubricated condom. Using a lubricant or gel will make sex more comfortable. Other suggestions:

- Do not drink liquids before sexual activity
- Place plastic covering on the bed or use an incontinence pad to help protect the bedding
- Store cleaning supplies close in case of accidents
- Avoid positions that put pressure on the bladder

Impotence refers to problems that interfere with sexual intercourse, such as a lack of sexual desire, being unable to keep an erection, or trouble with ejaculation. Today, there are many options available to men with this problem. For most, the initial treatment is an oral medicine. If this does not work, options include penile injections, penile implants or the use of vacuum devices. Men who are having problems with impotence should check with their doctor about corrective medicines. This is especially true if you have high blood pressure or are at risk for heart attack.

Tips for enjoying sex

- Communicate your feelings honestly and openly.
- If you have trouble talking, use touch to communicate. It is a very intimate way to express thoughts, needs and desires.
- After stroke, your body and appearance may have changed. Take time for you and your partner to get used to the change.
- Maintain grooming and personal hygiene, to feel attractive not only for yourself but your partner.
- Explore your body for sexual sensations and areas of heightened sensitivity.
- Have intercourse when you are rested and relaxed and have enough time to enjoy each other.
- Try planning for sex in advance so you can fully enjoy it.
- Be creative, flexible and open to change.
- The side of the body that lacks feeling or that causes you pain needs to be considered. Do not be afraid to use gentle touch or massage in these areas.
- Use pillows to prop your self up on one side. You can lie on that side or have your partner take the position on top.
- If you are not able to make thrusting motions, your partner may want to perform that part of intercourse.
- If intercourse is too hard, remember there are other pleasurable forms of lovemaking, including touching and caressing, hugging, massage, oral sex, self touching and using a vibrator.

If not in a relationship

If you are not in a relationship, you may be able to fulfill your needs and desires through masturbation (the act of self-stimulation). This is a perfectly normal activity. You should not feel shame or guilt about it.

This practice can help you focus on the touch that is most pleasing and comfortable to you. It allows you to go at your own pace to re-familiarize yourself with your sexual needs. In fact, self-pleasuring can help you relax and become accepting of your feelings. You can focus on yourself and not worry about someone else.

What can help

- Ask your doctor about changes to expect when having sex and for advice on how to deal with them. Be sure to discuss when it is safe to have sex again.
- Focus on being loving, gentle and caring with each other. Be romantic with soft music and candlelight dinners.
- Speak honestly with your partner about your sexual changes. They will be glad you did and, together, you can often work out the best solution.
- Get information on stroke recovery from the National Stroke Association. Visit www.stroke.org or call 1-800-787-6537.
- Contact your local stroke association.
- Join a stroke support group. Other survivors will understand, validate your issues, and offer encouragement and ideas.

Professionals who can help

- A general physician or doctor.
- A urologist who specializes in urinary functions as well as the male reproductive system, and can help answer questions and provide solutions.
- A gynecologist who specializes in the female reproductive system and sexual problems.
- A licensed counselor can help you or your partner talk about uncomfortable feelings about sex, the effects of stroke on the relationship/individual or any other issues.

National Stroke Association 2006, IP9 2/06

Other treatments for stroke

Treatment for the acute episode of a stroke is either medical or surgical, but medical therapies are much more common. Once the acute period is over and your condition has stabilized, the process of rehabilitation begins.

For managing speech deficit

Your ability to speak or understand the spoken word may be affected by your stroke. Speech therapy will assist you in regaining this important ability. It may take considerable time and effort.

For managing gait disturbance or other gross motor deficits

You may have trouble with walking, and perhaps even just sitting up may require extensive retraining of major muscle groups and coordination. You may need to use walking aids such as a cane or braces to compensate for weakened muscles. A physical therapist can teach you how to move about after a stroke that has caused leg or body weakness.

For managing finer motor deficits

Hands and arms may also suffer from a stroke. You may have to learn how to do things that you once felt were simple, such as writing or feeding yourself, all over again. Occupational therapists have a number of assistive devices to improve these functions when damaged by a stroke.

For managing dependency

For the first time in your life, you may have to depend on others to feed you, move you, dress you, get you to the bathroom, even just to stay alive. This is the most difficult aspect of stroke for most people. In addition to family and friends, there are many professional caregivers with the skills to help you with your daily living activities. Your physician and other members of your health care team will connect you with the help you'll need. Recovery may happen within days or it may take months. Along with your treatment team, set reasonable goals and determine to put out your best effort to achieve them.

Special considerations

Your improvement may continue for many months. As it does, your needs will change. Play an active part in deciding what is best for you at each stage. Be part of the treatment team.

When to contact your health care provider

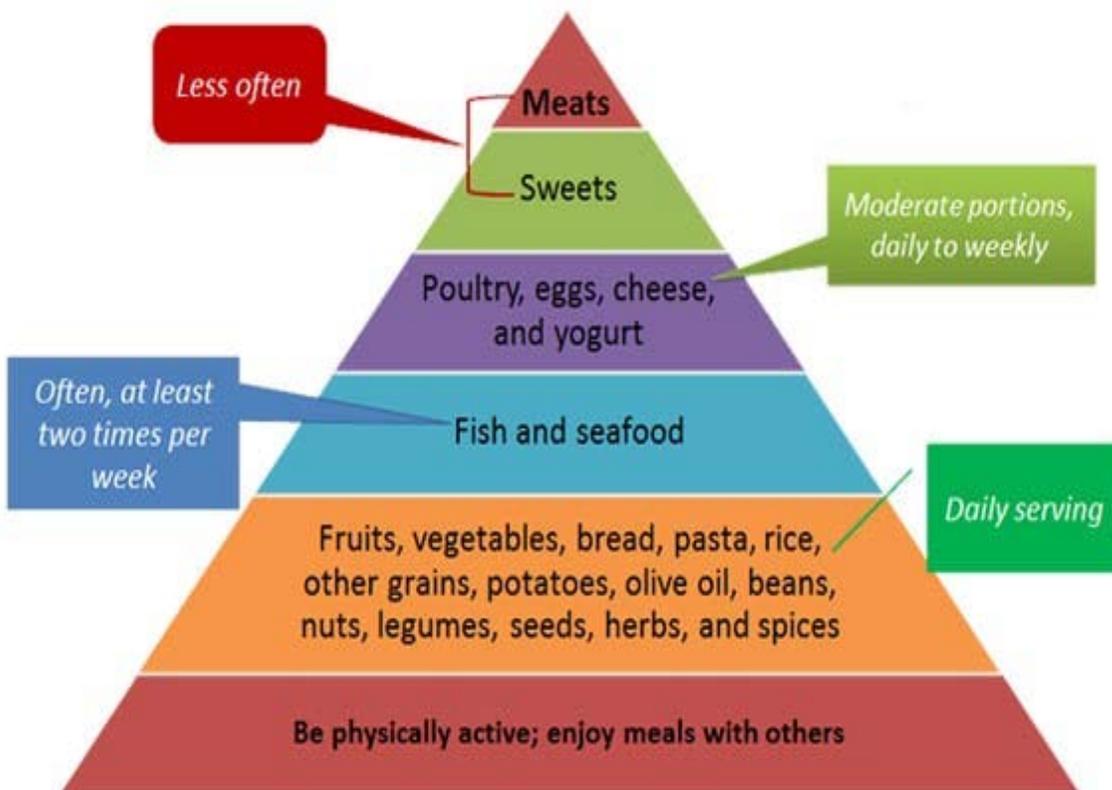
From the moment you arrive in the emergency room, you will be in constant touch with health care providers for the duration of your symptoms. They will give you a list of events that require you to contact them and an indication of how urgent each event is. At the top of the list will be any new or recurrent neurological symptoms. Once you have had a stroke, your chance of having another is much greater. As you improve, make sure your physician knows of your progress, so that treatment can be modified accordingly.

SOURCES: Harrison's Principles of Internal Medicine, 14th ed. McGraw-Hill, 1998. National Stroke Association, American Occupational Therapy Association, American Physical Therapy Association, American Speech-Language-Hearing Association. Last reviewed January 2003 by Andrew Wilner, MD, FACP<GetContent.asp?siteid= ehosp&docid= /healthy/living/mrb> HealthGate
SOURCE: U.S. Department of Health and Human Services. Copyright © 2004. HealthGate

NUTRITION

According to the American Stroke Association's 2013 Guidelines:

- Sustaining nutrition is important because dehydration or malnutrition may slow recovery
- Mediterranean diet is recommended



SODIUM COUNTS

LUNCH FOODS	SODIUM (mg)	SODIUM(mg)	
Ham & Cheese Sandwich	772	Chicken noodle soup (low sodium, 1 cup)	36
Roast Beef Sandwich	792	Vegetable beef soup (1 cup)	957
Tuna Salad (1 cup)	434	Vegetable soup (low sodium, 1 cup)	38
Cottage cheese, low-fat (1 cup)	918	Tomato; whole (1)	10
Fruit Salad (1 cup)	9	Dill pickle (1 medium)	928
Chef's salad, ham & cheese (1 cup)	1134	Potato chips (14 chips)	131
Green salad, tossed (1 cup)	53	Corn chips (1 oz)	164
Hamburger, fast food	500	Coleslaw (1/2 cup)	16
Cheeseburger, fast food	750	Potato salad (1 cup)	1323
Cheese pizza (1 slice)	261	French Fries (20 fries), unsalted	30
Hot dog on bun	671	Cola (12 oz)	12
Chicken Noodle Soup (1 cup)	1107	Diet cola (12 oz)	24
DINNER FOODS	SODIUM (mg)	SODIUM(mg)	
Roast turkey breast, without skin 1C	89	Beef or pork chop suey, homemade (1 cup)	1052
Broiled sirloin steak (4 oz)	74	Macaroni and cheese, homemade (1cup)	1086
Fried chicken breast	385	Rice, cooked (1 cup)	4
Roast chicken breast	138	Potato, peeled & boiled	7
Broiled codfish (1 fillet)	141	Dinner roll	144
Fish sticks (4 oz)	651	Broccoli, raw/boiled (1 cup)	16
Broiled pork chop	49	Peas & carrots, frozen/boiled (1cup)	110
Spaghetti with tomato-meat sauce (1 cup)	1009	Green beans, frozen/French (1 cup)	17
Fettuccine Alfredo, frozen(1 portion)	1195	Red wine (4 oz)	76
Chili con carne (1 cup)	1354	White wine (4 oz)	72
Beef burrito, fast food	746	Beer (12 oz)	24
Chicken chow mein, homemade (1 cup)	717	Light beer (12 oz)	12
DESSERT FOODS	SODIUM (mg)	SODIUM (mg)	
Brownie with nuts (1)	50	Orange sherbet (1/2 cup)	44
Angel food cake (1 slice)	142	Hot fudge sundae (2 scoops)	190
Cheesecake (1 slice)	189	Apple pie (1 slice)	207
Devil's food cake with chocolate icing (1)	180	Lemon meringue pie (1 slice)	223
Yellow cake with white icing (1 slice)	191	Chocolate pudding (1 cup)	335
Pound cake (1 slice)	58	Rice pudding with raisins (1 cup)	188
Chocolate chip cookies (2)	76	Fresh strawberries (1 cup)	2
Oatmeal-raisin cookies (2)	74	Fresh pineapple (1 cup)	1
Vanilla ice cream (1/2 cup)	58	Banana	1
CONDIMENTS	SODIUM mg)	SODIUM (mg)	
Mustard, prepared (1 tbsp)	195	Hollandaise sauce (1/4 cup)	284
Catsup (1 tbsp)	156	Barbecue sauce (1/4 cup)	508
Mayonnaise (1 tbsp)	104	Pancake syrup (2 tbsp)	70
Italian dressing (1 tbsp)	116	Parmesan cheese (1 tbsp)	116
Italian dressing (lo cal, 1 tbsp)	118	Soy sauce (1 tbsp)	1029
Thousand Island Dressing (1 tbsp)	109	Worcestershire sauce (1 tbsp)	147
Thousand Island dressing (lo cal 1 tbsp)	153	Butter, regular (1 pat)	41
White sauce (1/4 cup)	199	Butter, unsalted (1 pat)	<1
Brown gravy (1/4 cup)	31	Margarine (1 pat)	47
Mushroom gravy (1/4 cup)	340	Cream cheese (1 tbsp)	85

Adapted from Nutritionist III® software program ©1990 N² Computing, Inc.
 ER Squibb & Sons © 1991 E.R. Squibb & Sons, Inc., Princeton, NJ 521-033A-R Issued July 1991
 G:\ecipub\Prevention-Education\Workshops\Blood pressure\Sodium Count-Handout.doc

Delicious Meets Nutritious 2019

What is good for your heart can also be great for your taste buds

This two-part series focuses on flavorful food choices you can make while still maintaining a well-balanced diet. Learn smart shopping secrets and the best choices for snacking and restaurant eating. Also included is a recipe demonstration with a registered dietitian. All classes are located in the Edward Heart Hospital conference room.

Week 1

Heart Healthy Meal Planning & Shopping Savvy

- ▶ Learn American Heart Association dietary recommendations and healthy lipid levels
- ▶ Learn tips for reducing fat, cholesterol and sodium in the diet
- ▶ Learn tips for lowering LDL and triglycerides
- ▶ Learn heart healthy foods and healthy portion sizes
- ▶ Review meal planning
- ▶ Review components of a heart healthy meal plan
- ▶ Learn to read food labels and understand food label claims
- ▶ Aisle-by-aisle examples of heart healthy foods to choose at the grocery store

Week 2

Eating on the Run & Heart Smart Cooking

- ▶ Learn healthy alternatives at fast food restaurants
- ▶ Learn healthy vs. high fat foods at restaurants
- ▶ Learn tips on nutritious ethnic food selections
- ▶ Learn healthy substitutions for lower fat and lower sodium cooking
- ▶ Learn heart healthy cooking techniques
- ▶ Learn how to stock your pantry
- ▶ Recipe makeover with preparation of a low fat dish including samples to taste

The two-part series is offered on the following dates:

Tuesday Series 10 – 11:30 a.m.

February 5 and 12
April 2 and 9
June 18 and 25
August 6 and 13
October 1 and 8
December 3 and 10

Thursday Series 7 – 8:30 p.m.

January 3 and 10
March 7 and 14
May 2 and 9
July 11 and 18
September 5 and 12
November 7 and 14

\$40.00 for the two-part series (Classes are free to Heart Hospital patients when scheduled within 30 days of discharge.)

Call (630) 527-6363 to register.



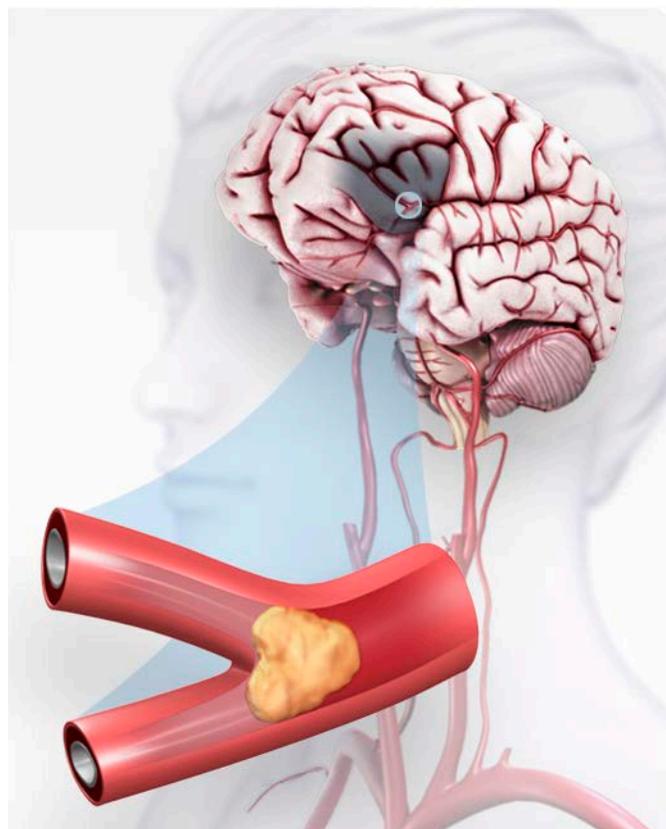
let's talk about

Stroke, TIA and Warning Signs

Stroke occurs when a blood vessel bringing blood and oxygen to the brain gets blocked by a clot or ruptures. When this happens, brain cells don't get the blood and oxygen that they need to survive. This causes nerve cells stop working and die within minutes. Then, the part of the body they control are affected.

The effects of stroke may be permanent depending on how many cells are lost, where they are in the brain, and other factors. Strokes can cause weakness (paralysis), affect language and vision, and cause other problems.

Stroke is the No. 5 cause of death and a leading cause of serious, long-term disability in America.



What is a TIA?

TIA, or transient ischemic attack, is a “minor or mini stroke” that occurs when a blood clot blocks an artery for a short time. The symptoms of a TIA are the same as those of a stroke, but they usually last only a few minutes. About 15 percent of major strokes are preceded by TIAs, so don't ignore a TIA. **Call 9-1-1 or seek emergency medical attention immediately!**

Is stroke preventable?

Yes. Stroke is largely preventable. You can reduce your stroke risk by living a healthy lifestyle — controlling high blood pressure; not smoking; eating a healthy diet low in saturated and *trans* fats; being physically active; maintaining a healthy body weight; managing diabetes; and drinking alcohol moderately or not at all.

Can stroke be treated?

If you're having a stroke, time is critical. Immediate treatment may minimize the long-term effects of a stroke

and even prevent death. Treatment will vary depending on what type of stroke you had.

There is a clot-dissolving drug called IV Alteplase (tPA) to treat stroke. It can stop a stroke in progress and reduce disability from stroke by breaking up a blood clot that might be stopping the flow of blood to the brain. To be eligible for Alteplase, you must seek emergency treatment right away and have a clot-caused stroke. It must be given within 3 to 4.5 hours after symptoms start. The sooner it is given, the greater the possibility of a better outcome.

Another treatment option is called a **mechanical thrombectomy**. In this procedure, specially trained doctors try to remove the blood clot by using a wire-cage device called a **stent retriever**. To remove the clot, doctors thread a catheter (thin tube) with a stent through an artery in the groin up to the blocked artery in the brain. The stent opens and grabs the clot. The doctors then remove the stent with the trapped clot.

(continued)



This must be done within six hours to 24 hours of the first symptoms of stroke and only after the patient has received IV Alteplase. Patients must meet certain criteria to be eligible for this procedure.

What are warning signs of stroke?

You and your family should recognize the warning signs of stroke. You may have some or all of these signs. Note the time when symptoms start and call 9-1-1 or the emergency medical number in your area immediately. Stroke is a medical emergency!

Don't ignore these warning signs, even if they go away.

Stroke Warning Signs:

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache with no known cause



F.A.S.T. is an easy way to remember how to recognize a stroke and what to do. Spot a stroke FAST. **F**ace drooping. **A**rm weakness. **S**peech Difficulty. **T**ime to call 9-1-1.



HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get Stroke Connection magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Which facility close to me is best equipped to treat me if I am having stroke symptoms?

How can I reduce my risk for stroke?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.

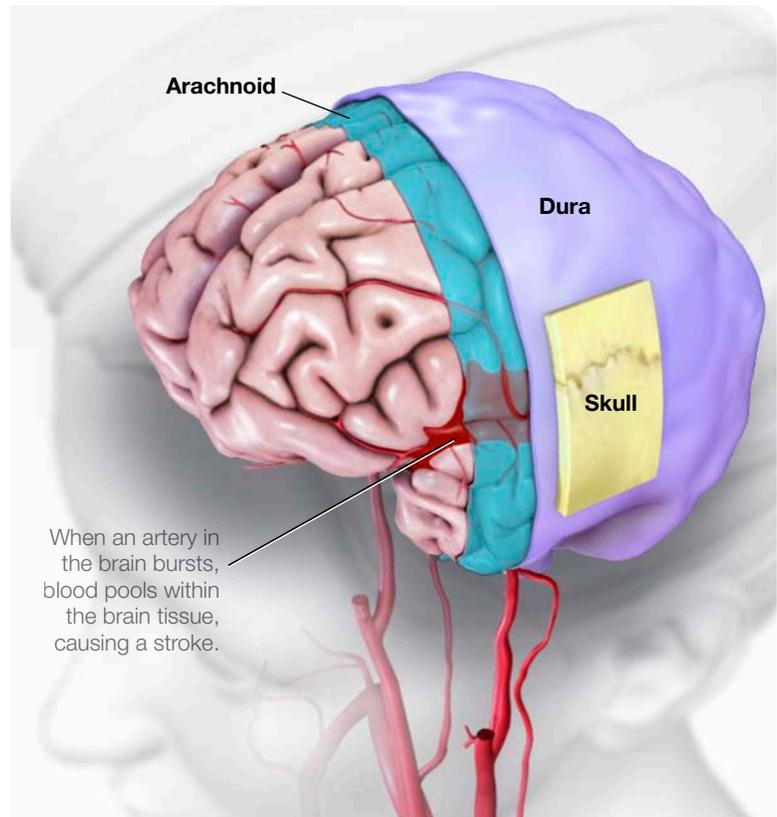


let's talk about

Hemorrhagic Stroke

About 13 percent of strokes happen when a blood vessel ruptures in or near the brain. This is called a hemorrhagic stroke as shown at right.

When a hemorrhagic stroke happens, blood collects in the brain tissue. This is toxic for the brain tissue causing the cells in that area to weaken and die.



A type of hemorrhagic stroke, known as a subarachnoid hemorrhage, can occur when an aneurysm (a blood-filled pouch that balloons out from an artery) on or near the surface of the brain ruptures, flooding the space between the skull and the brain with blood.

Are all hemorrhagic strokes the same?

There are two kinds of hemorrhagic stroke. In both, a blood vessel ruptures, disrupting blood flow to part of the brain.

Intracerebral hemorrhages (most common type of hemorrhagic stroke):

- Occur when a blood vessel bleeds or ruptures into the tissue deep within the brain.
- Are most often caused by chronically high blood pressure or aging blood vessels.
- Are sometimes caused by an arteriovenous malformation (AVM). An AVM is a cluster of abnormally formed blood vessels. Any one of these vessels can rupture, also causing bleeding into the brain.

Subarachnoid hemorrhages:

- Occur when an aneurysm (a blood-filled pouch that balloons out from an artery) on or near the surface of the brain ruptures and bleeds into the space between the brain and the skull.
- Are often caused by high blood pressure.

In addition to high blood pressure, factors that increase the risk of hemorrhagic strokes include:

- cigarette smoking
- use of oral contraceptives (particularly those with high estrogen content)
- excessive alcohol intake
- use of illegal drugs

(continued)



How are hemorrhagic strokes diagnosed?

When someone has shown symptoms of a stroke or a TIA (transient ischemic attack), a doctor will gather information and make a diagnosis. He or she will review the events that have occurred and will:

- get a medical history
- do a physical and neurological examination
- have certain laboratory (blood) tests done
- get a CT or MRI scan of the brain
- study the results of other diagnostic tests that might be needed

Diagnostic tests examine how the brain looks, works and gets its blood supply. They can outline the injured brain area. Diagnostic tests fall into three categories.

- Imaging tests give a picture of the brain similar to X-rays.
- Electrical tests record the electrical impulses of the brain (also called an EEG).
- Blood flow tests show any problem that may cause changes in blood flow to the brain.

How are hemorrhagic strokes treated?

Because hemorrhages may be life-threatening, hospital care is required. Medication is used to control high blood pressure. Other medicine may be given to reduce the brain swelling that follows a stroke.

Surgery may be needed depending on the cause and type of the hemorrhage. Surgery is often recommended to either place a metal clip at the base of an aneurysm or to remove the abnormal vessels that make up an AVM.

Some procedures are less invasive and use of a catheter that goes in through a major artery in the leg or arm. The catheter is guided to the aneurysm or AVM where it places a device, such as a coil, to prevent rupture.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get Stroke Connection magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What can I do to help prevent another stroke?

How can I control high blood pressure?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.

NIMODIPINE

Nimodipine is used to decrease problems due to subarachnoid hemorrhage caused by a ruptured aneurysm.

Nimodipine is calcium channel blocker. The body naturally responds to bleeding by narrowing the blood vessel to slow blood flow. However, when the bleeding is in the brain, blood flow needs to continue in order to provide oxygen and nutrients to the rest of the brain. Nimodipine works by relaxing narrowed blood vessels in the brain near the area of injury so blood flow can continue. This effect helps reduce further damage to the brain.

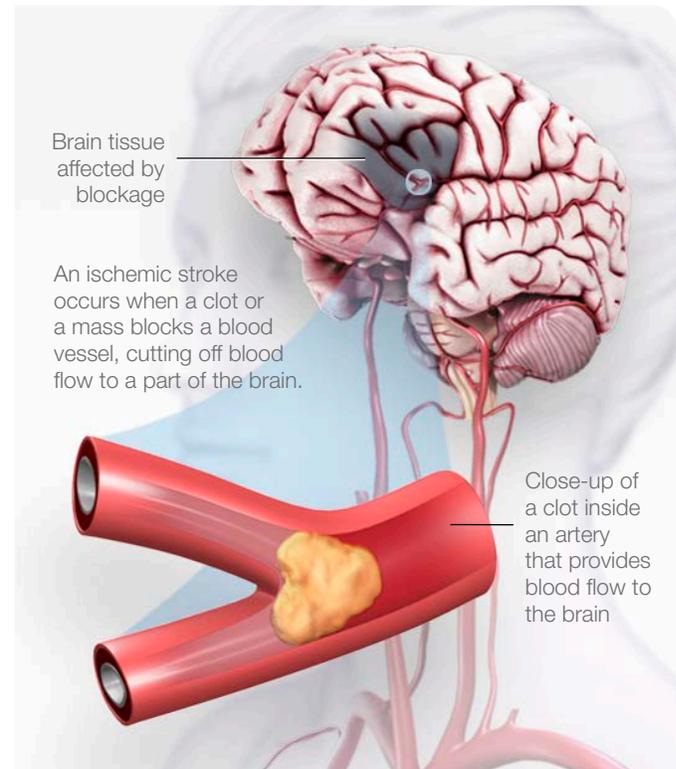
Nimodipine is usually started as soon as possible after the start of the bleeding and is taken every 4 hours, if tolerable. Nimodipine is typically taken for 21 days and should be taken for full course as prescribed by your healthcare provider. If unable to complete full course of medication, your healthcare provider needs to be informed immediately.



let's talk about

Ischemic Stroke

The majority of strokes occur when blood vessels to the brain become narrowed or clogged with fatty deposits called plaque. This cuts off blood flow to brain cells. A stroke caused by lack of blood reaching part of the brain is called an ischemic stroke. High blood pressure is a leading risk factor for ischemic stroke that you can change.



Are all ischemic strokes the same?

There are two types of ischemic strokes.

- **Thrombotic strokes** are caused by a blood clot (thrombus) in an artery going to the brain. The clot blocks blood flow to part of the brain. Blood clots usually form in arteries damaged by plaque.
- **Embolic strokes** are caused by a wandering clot (embolus) that's formed elsewhere (usually in the heart or neck arteries). Clots are carried in the bloodstream and block a blood vessel in or leading to the brain.

How are ischemic strokes diagnosed?

When someone has shown symptoms of a stroke or a TIA (transient ischemic attack), a doctor will gather information and make a diagnosis. He or she will review the events that have occurred and will:

- get a medical history from you or a family member.
- do a physical and neurological examination.
- have certain lab (blood) tests done.
- get a CT (computed tomography) or MRI (magnetic

resonance imaging) scan of the brain.

- study the results of other diagnostic tests that might be needed.

How are ischemic strokes treated?

Acute treatment is the immediate treatment given by the healthcare team when a stroke happens. The goal of acute treatment is to keep the amount of brain injury as small as possible. This is done by restoring blood flow to the part of the brain where the blockage was quickly.

There is a clot-dissolving drug called IV Alteplase (tPA) to treat stroke. It can stop a stroke in progress and reduce disability from stroke by breaking up a blood clot that might be stopping the flow of blood to the brain. To be eligible for Alteplase, you must seek emergency treatment right away and have a clot-caused stroke. It must be given within 3 to 4.5 hours after symptoms start. Medication may also be used to treat brain swelling that sometimes occurs after a stroke.

For people with blood clots in larger arteries, Alteplase may not dissolve them completely. In this case, a

(continued)



procedure, called **mechanical thrombectomy**, should be done within six to 24 hours of the first symptoms of stroke. In most cases this is done only after the patient receives IV Alteplase. To remove the clot, doctors thread a catheter (thin tube) with a stent through an artery in the groin up to the blocked artery in the brain. The stent opens and grabs the clot. The doctors then remove the stent with the trapped clot. If necessary, other devices may also be used. Patients must meet certain criteria to be eligible for this procedure.

When someone has a stroke, they are at risk of another. Once the medical team identifies what caused the stroke, they may prescribe treatments or procedures to reduce the risk of a second stroke, such as:

- Antiplatelet agents, such as aspirin and clopidogrel, and anticoagulants interfere with the blood's ability to clot. This can play an important role in preventing a stroke.
- Carotid endarterectomy is a procedure in which blood vessel blockage (blood clot or fatty plaque) is surgically removed from the carotid artery in the neck. This reopens the artery and the blood flow to the brain. This is only done in people who have a large blockage.
- Doctors sometimes use balloon angioplasty and



Aspirin can play an important role in preventing stroke because it helps keep blood from clotting.

implantable steel screens called stents to treat and reduce fatty buildup clogging a vessel that may make it easy for clots to form in the bloodstream.

Sometimes a stroke is the first sign a person has of other health conditions, such as high blood pressure, diabetes, atrial fibrillation (a heart rhythm disorder), or other vascular disease. If any of these are diagnosed, the healthcare team will prescribe appropriate treatment.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What can I do to help prevent another stroke?

What medications may I be given?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Risk Factors for Stroke

Knowing your risk factors for stroke is the first step in preventing a stroke. You can change or treat some risk factors, but others you can't. By having regular medical checkups and knowing your risk, you can focus on what you can change and lower your risk of stroke.



What risk factors can I change or treat?

- **High blood pressure.** This is the single most important risk factor for stroke because it's the leading cause of stroke. Know your blood pressure and have it checked every year. Normal blood pressure is below 120/80. If you have been told that you have high blood pressure, work with your healthcare provider to reduce it.
 - **Smoking.** Smoking damages blood vessels. This can lead to blockages within those blood vessels, causing a stroke. Don't smoke and avoid second-hand smoke.
 - **Diabetes.** Having diabetes more than doubles your risk of stroke. Work with your doctor to manage diabetes.
 - **High cholesterol.** High cholesterol increases the risk of blocked arteries. If an artery leading to the brain becomes blocked, a stroke can result.
 - **Physical inactivity and obesity.** Being inactive, obese, or both, can increase your risk of heart disease and stroke.
 - **Carotid or other artery disease.** The carotid arteries in your neck supply most of the blood to your brain.
- A carotid artery damaged by a fatty buildup of plaque inside the artery wall may become blocked by a blood clot. This causes a stroke.
- **Transient ischemic attacks (TIAs).** Recognizing and treating TIAs can reduce the risk of a major stroke. TIAs produce stroke-like symptoms but most have no lasting effects. Know the warning signs of a TIA and seek emergency medical treatment immediately.
 - **Atrial fibrillation (AFib) or other heart disease.** In AFib the heart's upper chambers quiver (like a bowl of gelatin) rather than beating in an organized, rhythmic way. This can cause the blood to pool and clot, increasing the risk of stroke. AFib increases risk of stroke five times. People with other types of heart disease have a higher risk of stroke, too.
 - **Certain blood disorders.** A high red blood cell count makes clots more likely, raising the risk of stroke. Sickle cell anemia increases stroke risk because the "sickled" cells stick to blood vessel walls and may block arteries.
 - **Excessive alcohol intake.** Drinking an average of more than one drink per day for women or more than two drinks a day for men can raise blood pressure. Binge drinking can lead to stroke.

(continued)



- **Illegal drug use.** Drugs including cocaine, ecstasy, amphetamines, and heroin are associated with an increased risk of stroke.
- **Sleep apnea.** Sleep disordered breathing contributes to risk of stroke. Increasing sleep apnea severity is associated with increasing risk.

What are the risk factors I can't control?

- **Increasing age.** Stroke affects people of all ages. But the older you are, the greater your stroke risk.
- **Gender.** Women have a higher lifetime risk of stroke than men do. Use of birth control pills and pregnancy pose special stroke risks for women.
- **Heredity and race.** People whose close blood relations have had a stroke have a higher risk of stroke. African Americans have a higher risk of death and disability from stroke than whites. This is because they have high blood pressure more often. Hispanic Americans are also at higher risk of stroke.
- **Prior stroke.** Someone who has had a stroke is at higher risk of having another one.



Age, gender, heredity and race are among the stroke risk factors that you can't control.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What are my risk factors for stroke?

What are the warning signs of TIAs and stroke?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

High Blood Pressure and Stroke

What is high blood pressure (HBP)?

High blood pressure means that the force of the blood pushing against the sides of your arteries is consistently in the high range. This can lead to stroke, heart attack, heart failure or kidney failure.

Two numbers represent blood pressure. The higher (systolic) number shows the pressure while the heart is beating. The lower (diastolic) number shows the pressure when the heart is resting between beats. The systolic number is always listed first. Blood pressure is measured in millimeters of mercury (mm Hg).

Normal blood pressure is below 120/80 mm Hg. If you're an adult and your systolic pressure is 120 to 129, and your diastolic pressure is less than 80, you have elevated blood pressure. High blood pressure is a pressure of 130 systolic or higher, or 80 diastolic or higher, that stays high over time.

How does high blood pressure increase stroke risk?

High blood pressure is the single most important risk factor for stroke because it's the leading cause of stroke.

HBP adds to your heart's workload and damages your arteries and organs over time. Compared to people whose blood pressure is normal, people with HBP are more likely to have a stroke.

About 87 percent of strokes are caused by narrowed or clogged blood vessels in the brain that cut off the



blood flow to brain cells. This is an **ischemic stroke**. High blood pressure causes damage to the inner lining of the blood vessels. This adds to any blockage that is already within the artery wall.

About 13 percent of strokes occur when a blood vessel ruptures in or near the brain. This is a **hemorrhagic stroke**. Chronic HBP or aging blood vessels are the main causes of this type of stroke. HBP puts more pressure on the blood vessels until they can no longer maintain the pressure and the blood vessel ruptures over time.

Am I at higher risk for HBP?

There are risk factors that increase your chances of developing HBP. Some you can control, and some you can't.

Those that can be controlled are:

- Smoking and exposure to secondhand smoke
- Diabetes
- Being obese or overweight
- High cholesterol
- Unhealthy diet (high in sodium, low in potassium, and drinking too much alcohol)

(continued)



- Physical inactivity

Factors that cannot be modified or are difficult to control are:

- Family history of high blood pressure
- Race/ethnicity
- Increasing age
- Gender (males)
- Chronic kidney disease
- Obstructive sleep apnea

Socioeconomic status and psychosocial stress are also risk factors for HBP. These can affect access to basic living necessities, medication, healthcare providers, and the ability to adopt lifestyle changes.

How can I control high blood pressure?

- Don't smoke and avoid secondhand smoke.
- Lose weight if you're overweight.
- Eat a healthy diet that's low in sodium (salt), saturated fat, and *trans* fat.
- Eat fruits and vegetables, whole grains and low-fat dairy products. Include foods rich in potassium.



The only way to know if your blood pressure is high is to check it regularly. Know what your blood pressure should be and try to keep it at that level.

- Enjoy regular physical activity.
- Limit alcohol to no more than two drinks a day if you're a man and one drink a day if you're a woman.
- Take all medicines as prescribed to control your blood pressure.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What should my blood pressure be?

How often should my blood pressure be checked?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Lifestyle Changes To Prevent Stroke

You can do plenty to make your heart and blood vessels healthy, even if you've had a stroke. A healthy lifestyle plays a big part in decreasing your risk for disability and death from stroke and heart attack.



How can I make my lifestyle healthier?

Here are steps to take to be healthier and reduce your risk of stroke:

- Don't smoke and avoid second-hand smoke.
- Improve your eating habits. Eat foods low in saturated fat, *trans* fat, sodium and added sugars.
- Be physically active.
- Take your medicine as directed.
- Get your blood pressure checked regularly and work with your healthcare provider to manage it if it's high.
- Reach and maintain a healthy weight.
- Decrease your stress level.
- Seek emotional support when it's needed.
- Have regular medical checkups.

How do I stop smoking?

- The first and more important step is making a decision to quit — and commit to stick to it.

- Ask your healthcare provider for information, programs and medications that may help.
- Fight the urge to smoke by going to smoke-free facilities. Avoid staying around people who smoke.
- Keep busy doing things that make it hard to smoke, like working in the yard.
- Remind yourself that smoking causes many diseases, can harm others and is deadly.
- Ask your family and friends to support you.

How do I change my eating habits?

- Ask your doctor, nurse or a licensed nutritionist or registered dietician for help.
- Be aware of your special needs, especially if you have high blood pressure, high cholesterol or diabetes.
- Avoid foods like fatty meats, butter and cream, which are high in saturated fat.
- Eat moderate amounts of food and cut down on saturated fat, *trans* fat, sugar and salt.
- Bake, broil, roast and boil foods instead of frying.

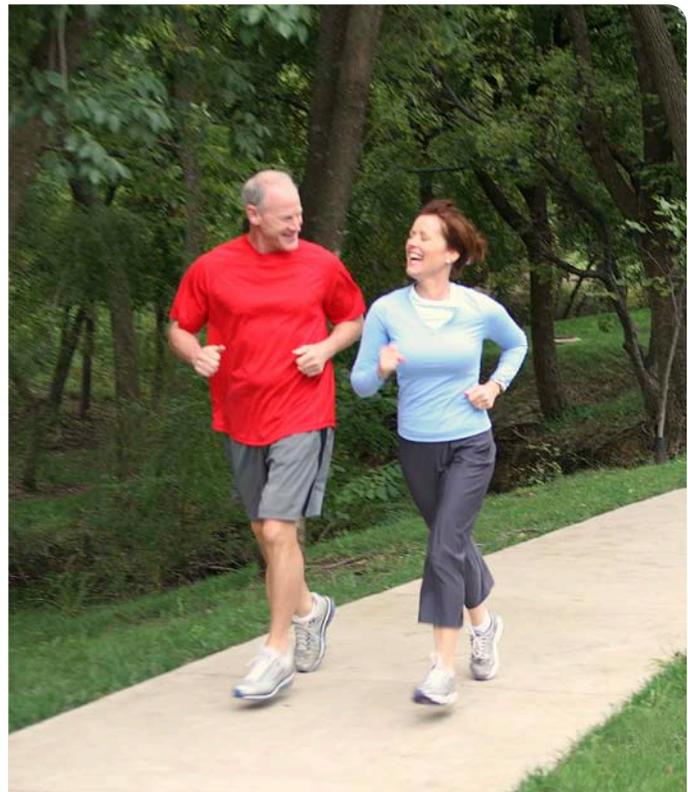
(continued)



- Read nutrition labels on packaged meals. Many are very high in sodium.
- Limit alcohol to one drink a day for women; two drinks per day for men.
- Eat more fruit, vegetables, whole-grains, dried peas and beans, pasta, fish, poultry and lean meats.

What about physical activity?

- If you have a chronic medical condition, check with your doctor before you start.
- Start slowly and build up to at least 150 minutes of moderate physical activity (such as brisk walking) a week. Or, you can do 75 minutes of vigorous-intensity physical activity, or a combination of the two, to improve overall cardiovascular health.
- Look for even small chances to be more active. Take the stairs instead of an elevator and park farther from your destination.



If you have a chronic medical condition, check with your doctor before starting an exercise program.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What is the most important change I can make?

What kind of physical activity can I do safely?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.

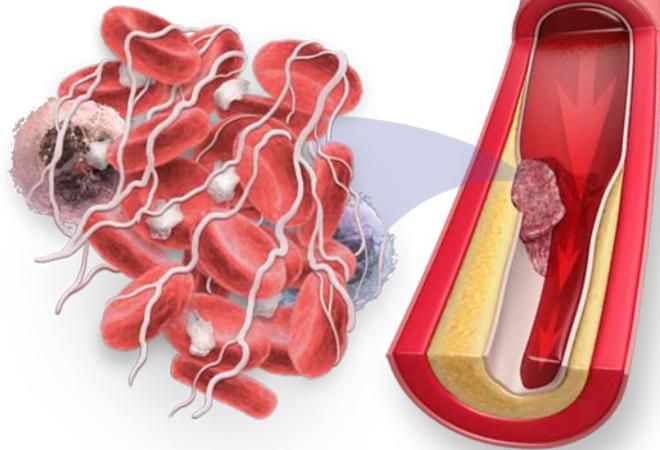


let's talk about

Anticoagulants and Antiplatelet Agents

Anticoagulants and antiplatelet agents are medicines that reduce blood clotting in an artery, vein or the heart. Blood clots can block the blood flow to your heart muscle and cause a heart attack. They can also block blood flow to your brain, causing a stroke. Doctors use these medicines to help patients prevent strokes caused by a blood clot.

Blood clots are made up of red blood cells, platelets, fibrin, and white blood cells (shown below). Anticoagulants and antiplatelets prevent these components from sticking together and forming a clot.



What should I know about anticoagulants?

Anticoagulants (sometimes known as “blood thinners”) are medicines that delay the clotting of blood. Examples are heparin, warfarin, dabigatran, apixaban, and rivoraxaban.

Anticoagulants make it harder for clots to form or keep existing clots from growing in your heart, veins or arteries. Treatment should be managed by your healthcare provider.

- Follow your doctor’s (or other healthcare provider’s) instructions.
- If you take warfarin or heparin, have regular blood tests so your doctor can tell how the medicine is working.
 - The test for people on warfarin is called a prothrombin time (PT) or International Normalized Ratio (INR) test.
 - The test for persons on heparin is called an activated partial thromboplastin time (PTT) test.
- Never take aspirin with anticoagulants unless your doctor tells you to.
- You must tell other healthcare providers that you’re taking anticoagulants.

- Always check with your doctor before taking other medicines or supplements, such as aspirin, vitamins, cold medicine, pain medicine, sleeping pills or antibiotics. These can affect the way anticoagulants work by strengthening or weakening them.
 - Let your doctor know if you have been started on any new medications that might interfere with the action of warfarin.
- Discuss your diet with your healthcare providers. Foods rich in Vitamin K can reduce the effectiveness of warfarin. Vitamin K is found in leafy, green vegetables, fish, liver, lentils, soybeans, and some vegetable oils.
- Tell your family that you take anticoagulant medicine and carry your emergency medical ID card with you.

Could anticoagulants cause problems?

If you do as your doctor tells you, there probably won’t be problems. But you must tell your doctor right away if:

- Your urine turns pink or red. This could be a sign of urinary tract bleeding.

(continued)



- Your stools turn red, dark brown or black. This could be a sign of intestinal bleeding.
- You bleed more than normal when you have your period.
- Your gums bleed.
- You have a very bad headache or stomach pain that doesn't go away.
- You get sick or feel weak, faint or dizzy.
- You think you're pregnant.
- You often find bruises or blood blisters.
- You have an accident of any kind.

What should I know about antiplatelet agents?

Antiplatelet medicines keep blood clots from forming by preventing blood platelets from sticking together. They are used to treat patients with atherosclerosis or with increased clotting tendencies. In atherosclerosis deposits of cholesterol (plaque) form along inner walls of blood vessels, creating the conditions for blood clots to form on top of the plaque, blocking the blood vessel.

Many heart attack and stroke patients — and people seeking to avoid these events — are treated with two types of antiplatelet agents to prevent blood clotting; aspirin and a P2Y₁₂ inhibitor. This is called dual antiplatelet therapy (DAPT).

Almost everyone with coronary artery disease, including those who have had a heart attack, stent, or CABG, are treated with aspirin for the rest of their lives. Aspirin can help prevent an ischemic stroke. It can also help if you have had a TIA or if you have heart problems.

P2Y₁₂ inhibitors are usually prescribed for months or years in addition to the aspirin therapy. You may be prescribed one of three of these medications — clopidogrel, prasugrel, or ticagrelor. Prasugrel should not be prescribed if you have had a stroke or a transient ischemic attack (TIA). Which one of these your doctor prescribes will be based on what he or she feels is best for you, based on your risk of blood clots and bleeding.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What kind of aspirin or other antiplatelet agent should I take?

What is the right dose for me?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



What are Cholesterol-Lowering Medications?

If your doctor has decided that you need to take medicine to reduce high cholesterol, it's because you're at high risk for heart disease or stroke. Usually the treatment combines healthy lifestyle changes including diet, physical activity and medicine.

Most heart disease and many strokes are caused by a buildup of fat, cholesterol and other substances called plaque in the inner walls of your arteries. The arteries can become clogged and narrowed, and blood flow is reduced. If a blood clot forms and blocks blood flow to your heart, it causes a heart attack. If a blood clot blocks an artery leading to or in the brain, a stroke results.

By following your doctor's advice, you can help prevent these diseases.



What medicine may I be prescribed?

Various medications can lower blood cholesterol levels. Statins are recommended for most patients because they are the only cholesterol-lowering drug class that has been directly associated with reduced risk for heart attack and stroke.

Statins (HMG-CoA reductase inhibitors) prevent the production of cholesterol in the liver. Their major effect is to lower LDL cholesterol. Some names are lovastatin, pravastatin, simvastatin, fluvastatin and atorvastatin.

You should talk to your doctor about the risks and benefits of statin therapy if you fall into one of the following groups:

- Adults with known cardiovascular disease, including stroke, caused by atherosclerosis
- Adults with diabetes, aged 40 – 75 years with an LDL

(bad) cholesterol level 70 – 189 mg/dL

- Adults with LDL (bad) cholesterol level of greater than or equal to 190 mg/dL
- Adults, aged 40 – 75 years, with LDL (bad) level of 70 – 189 mg/dL and a 7.5% or greater 10-year risk of developing cardiovascular disease from atherosclerosis

Some people who do not fall into these four major categories may also benefit from statin therapy.

What other drugs may be prescribed?

Your healthcare provider will monitor your progress with your statin therapy and recommended lifestyle changes. If you are having serious side effects or don't have the desired response to statin therapy and lifestyle changes alone, he or she may consider other medications as well.

Bile acid binders (resins) cause the intestine to get rid of more cholesterol. Some names are cholestyramine,

(continued)



cholestipol and colesevelam.

Fibrates are especially good for lowering triglyceride (blood fat) levels and, to a lesser extent, raising HDL (good) cholesterol levels. Some names are gemfibrozil, clofibrate and fenofibrate.

Niacin (nicotinic acid) is a B vitamin that limits the production of blood fats in the liver. Take this only if your doctor has prescribed it. It can lower total cholesterol, LDL (bad) cholesterol and triglyceride (blood fat) levels. It can also raise HDL (good) cholesterol levels.

PCSK9 inhibitors bind to and inactivate a protein in liver in order to lower LDL (bad) cholesterol. They can be given in combination with a statin. Some names are alirocumab and evolocumab.

Selective cholesterol absorption inhibitors, like ezetimibe, work by preventing cholesterol from being absorbed in the intestine.

Your doctor will work with you to decide which medicine, or combination of medicines, is best for you.



Always follow your doctor's instructions carefully, and let the doctor know if you have any side effects. Never stop taking your medicine on your own!

How do I know if my medicine is working?

Your doctor will test your blood cholesterol level when needed. Together with your doctor, set a goal and ask how long it may take to reach that goal.

HOW CAN I LEARN MORE?

- 1 Call **1-800-AHA-USA1** (1-800-242-8721), or visit **heart.org** to learn more about heart disease and stroke.
- 2 Sign up to get *Heart Insight*, a free magazine for heart patients and their families, at **heartinsight.org**.
- 3 Connect with others sharing similar journeys with heart disease and stroke by joining our Support Network at **heart.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What if I forgot a dose?

Should I avoid any foods or other medicines?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **heart.org/answersbyheart** to learn more.



let's talk about

Stroke Diagnosis

It's critical to diagnose a stroke in progress because the treatment for stroke depends on the type of stroke, and, in some cases, the location of the injury to the brain.

Other conditions with similar symptoms to stroke and transient ischemic attack (TIA) will need to be ruled out to diagnose stroke. Some of these include seizures, fainting, migraine headaches, drug overdose, heart problems or other general medical conditions.



A CT or "CAT" scan is usually one of the first tests used to diagnose stroke.

How is a stroke diagnosed?

The type of stroke must be determined. Ischemic strokes are caused by a blocked artery in the brain. A ruptured blood vessel causes a hemorrhagic stroke. Treatment for ischemic stroke is different than it is for a hemorrhagic stroke.

Ischemic strokes may be treated with a clot-busting drug, called IV Alteplase (tPA). So, it's important to receive a correct diagnosis before treatment begins. To receive IV Alteplase, a doctor must diagnose your stroke as an ischemic stroke and treat you within 3 to 4.5 hours of the onset of stroke symptoms. This treatment usually takes place in the hospital emergency department. If more than 4.5 hours passes, it can't be given.

For people with blood clots in larger arteries, Alteplase may not dissolve them completely. In this case, a procedure, called mechanical thrombectomy, should be done within six to 24 hours of the first symptoms of stroke. Patients must meet certain criteria to be eligible for this procedure.

In the emergency room, your doctor or stroke emergency team may:

- Ask you when the symptoms of the stroke started. This is critical in determining what treatment is best for you.
- Ask you about your medical history.
- Do a physical and neurological examination.
- Have certain lab (blood) tests done.
- Do a CT (computed tomography) or MRI (magnetic resonance imaging) brain scan. This determines what kind of stroke a person has had.
- Study the results of other diagnostic tests that might be needed.

What are the types of diagnostic tests?

Diagnostic tests examine how the brain looks, works and gets its blood supply. Most are safe and painless. These tests fall into two categories: 1) imaging tests and 2) blood flow tests.

(continued)



IMAGING TESTS:

- **CT (computed tomography) or CAT scan.** It uses radiation to create a picture (like an X-ray) of the brain. It's usually one of the first tests given to a patient with stroke symptoms. CT test results give valuable information about the cause of stroke and the location and extent of brain injury.
- **MRI (magnetic resonance imaging).** This test uses a large magnetic field to produce an image of the brain. Like the CT scan, it shows the location and extent of brain injury. The image produced by MRI is sharper and more detailed than a CT scan, so it's often used to diagnose small, deep injuries.
- **CTA (computed tomographic angiography).** In CTA, a special contrast material (dye) is injected into a vein and images are taken of the blood vessels to look for abnormalities such as an aneurysm.
- **MRA (magnetic resonance angiography).** In this test, the blood vessels are imaged through a magnetic resonance scanner to locate a cerebral aneurysm.

Additional advanced tests that may be done include CT perfusion, diffusion-weighted MRI or MRI perfusion.



BLOOD FLOW TESTS:

These tests give information about the condition of arteries in your head and neck that supply blood to your brain.

- **Cerebral angiography (or cerebral arteriography).** Special substances are injected into the blood vessels and an X-ray is taken. This test gives a picture of the blood flow through the vessels. This allows the size and location of blockages to be reviewed. This test is very valuable in diagnosing aneurysms and malformed blood vessels.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Do these tests cause any complications?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.

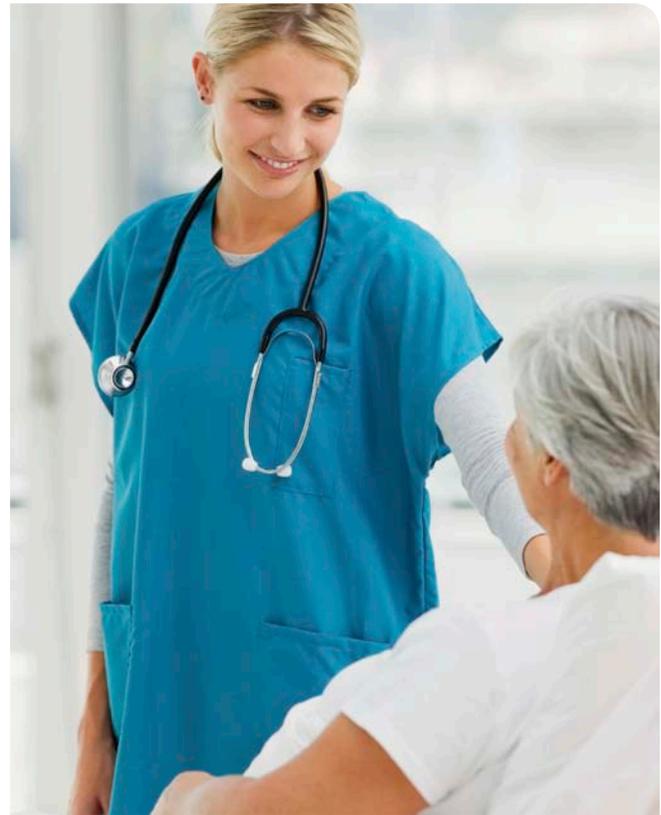


let's talk about

Complications After Stroke

The treating doctor's highest priorities are to prevent complications that can occur as a result from the stroke and to prevent another stroke. Your doctor must determine that you are medically stable and able to resume some self-care activities. This means that all complications must be treated and under control.

Some things happen as a direct result of injury to the brain due to stroke. Others are because of a change in your abilities. For example, being unable to move freely can result in bedsores. Clinical depression can also occur with a stroke.



What are common complications of stroke?

The most common complications of stroke are:

- Brain edema — swelling of the brain after a stroke.
- Pneumonia — causes breathing problems, a complication of many major illnesses. Pneumonia occurs as a result of not being able to move as a result of the stroke. Swallowing problems after stroke can sometimes result in things 'going down the wrong pipe', leading to aspiration pneumonia.
- Urinary tract infection (UTI) and/or bladder control. UTI can occur as a result of having a foley catheter placed to collect urine when the stroke survivor cannot control bladder function.
- Seizures — abnormal electrical activity in the brain causing convulsions. These are common in larger strokes.
- Clinical depression — a treatable illness that often occurs with stroke and causes unwanted emotional

and physical reactions to changes and losses. This is very common after stroke or may be worsened in someone who had depression before the stroke.

- Bedsores — pressure ulcers that result from decreased ability to move and pressure on areas of the body because of immobility.
- Limb contractures — shortened muscles in an arm or leg from reduced ability to move the affected limb or lack of exercise.
- Shoulder pain — stems from lack of support of an arm due to weakness or paralysis. This usually is caused when the affected arm hangs resulting in pulling of the arm on the shoulder.
- Deep venous thrombosis (DVT) — blood clots form in veins of the legs because of immobility from stroke.

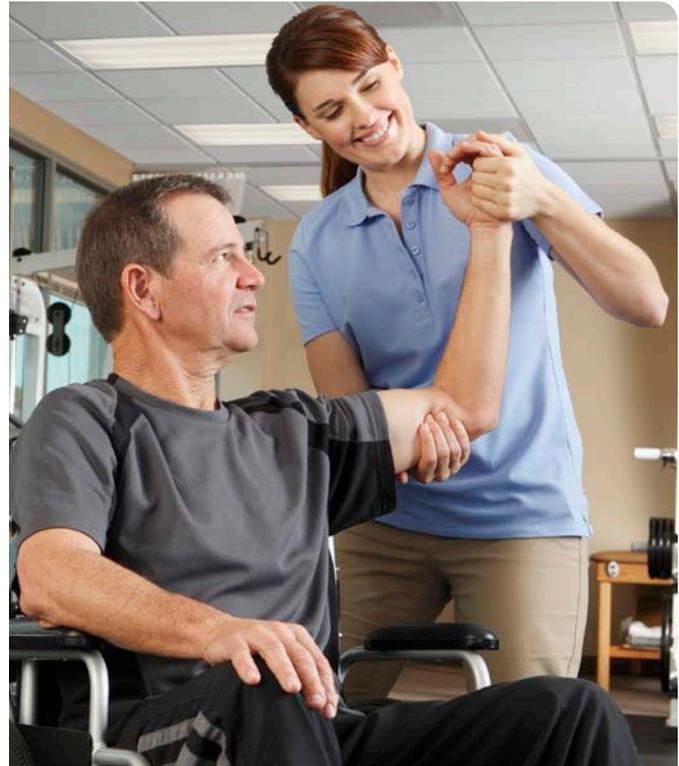
What can be done?

If you need medical treatment, your doctor will prescribe it.

(continued)



- Medical treatment often involves medical supervision, monitoring and drug therapies.
- Physical treatment usually involves some type of activity that may be done by you, a healthcare provider or by both of you working together. Types of treatment may include:
 - Range-of-motion exercises and physical therapy to avoid limb contracture, shoulder pain and blood vessel problems.
 - Frequent turning while in bed to prevent pressure sores and good nutrition.
 - Bladder training programs for incontinence.
- Swallowing and respiratory therapy, and deep-breathing exercises. These all help to decrease the risk of pneumonia.
- Psychological treatment can include counseling or therapy for feelings that result from clinical depression. Types of treatment may include antidepressant medication, psychotherapy or both. You may also be referred to a local stroke support group.



Physical therapy and range-of-motion exercises are effective ways to strengthen limbs and prevent muscular contracture.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What complications am I most at risk for?

What can I do to prevent complications?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



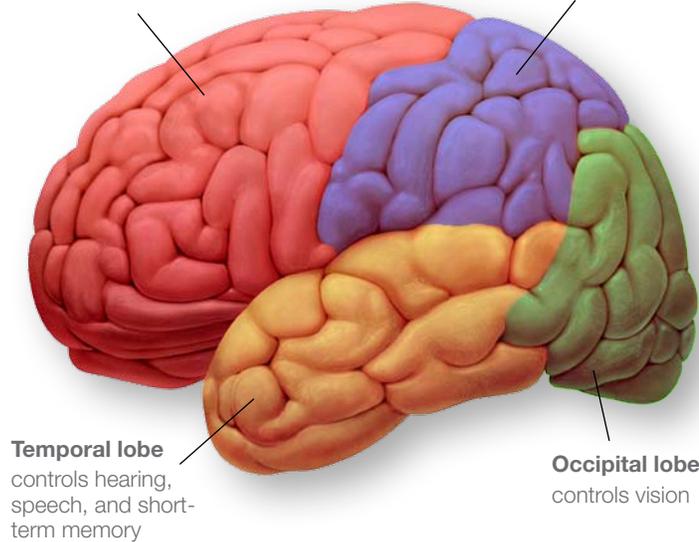
let's talk about

Changes Caused by Stroke

Your brain controls how you move, feel, communicate, think and act. Brain injury from a stroke may affect any of these abilities. Some changes are common no matter which side of the brain the injury is on. Others are based on which side of the brain the stroke injures.

Frontal lobe
controls personality, reasoning, parts of speech, and muscles

Parietal lobe
controls speech and sensation (touch and pressure)



Temporal lobe
controls hearing, speech, and short-term memory

Occipital lobe
controls vision

What are the most common general effects of stroke?

- Hemiparesis (weakness on one side of the body) or hemiplegia (paralysis on one side of the body)
- Dysarthria (difficulty speaking or slurred speech), or dysphagia (trouble swallowing)
- Fatigue
- Loss of emotional control and changes in mood
- Cognitive changes (problems with memory, judgment, problem-solving or a combination of these)
- Behavior changes (personality changes, improper language or actions)
- Decreased field of vision (inability to see peripheral vision) and trouble with visual perception

What are common changes with a left-brain injury?

- Paralysis or weakness on the right side of the body.
- Aphasia (difficulty getting your words out or understanding what is being said).
- Behavior that may be more reserved and cautious than before.

What are common changes with a right-brain injury?

- Paralysis or weakness on the left side of the body.
- One-sided neglect, which is a lack of awareness of the left side of the body. It may also be a lack of awareness of what is going on to the survivor's left. For example, they may only eat from the right side of their plate, ignoring the left side of the plate.
- Behavior may be more impulsive and less cautious than before.
- It may be harder for the survivor to understand facial expressions and tone of voice. They also may have less expression in their own face and tone of voice when communicating.

What are common emotional effects of stroke?

- Depression
- Apathy and lack of motivation
- Frustration, anger and sadness
- Pseudobulbar affect, also called reflex crying or emotional lability (emotions may change rapidly)

(continued)



and sometimes not match the mood)

- Denial of the changes caused by the brain injury

Will I get better?

In most cases people do get better over time. The effects of a stroke are greatest right after the stroke. From then on, you may start to get better. How fast and how much you improve depends on the extent of the brain injury and your rehabilitation.

- Some improvement occurs spontaneously and relates to how the brain works again after it's been injured.
- Stroke rehabilitation (rehab) programs help you improve your abilities and learn new skills and coping techniques.
- Rehab begins after the stroke is over and you're medically stable.
- Depression after stroke can interfere with rehab. It's important to treat depression.
- Improvement often occurs most quickly in the first months after a stroke. Then it continues over years, perhaps at a slower pace, with your continued efforts.



Emotional changes such as depression are common effects of stroke, but most people do get better over time.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Can other areas of the brain help the damaged part of the brain?

How has my stroke affected me?

My Questions:

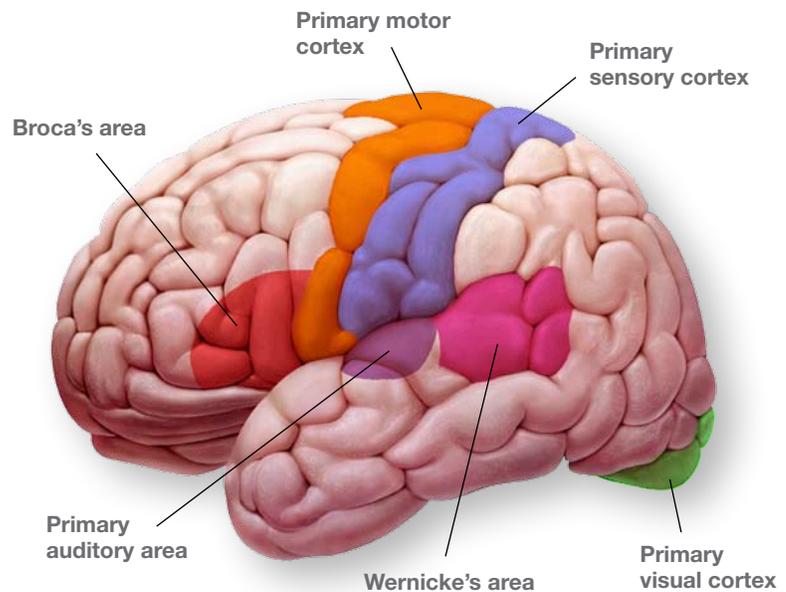
We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Stroke and Aphasia

Aphasia is a language disorder that affects the ability to communicate. It's most often caused by strokes that occur in areas of the brain that control speech and language.



Certain areas of the brain (usually in the left side of the brain) influence one's ability to communicate and understand language. When a stroke occurs in one of these areas, it may result in aphasia.

What are the effects of aphasia?

Aphasia does not affect intelligence. Stroke survivors remain mentally alert, even though their speech may be jumbled, fragmented or impossible to understand. Some survivors continue to have:

- Trouble speaking, like “getting the words out”
- Trouble finding words
- Problems understanding what others say
- Problems with reading, writing or math
- Inability to process long words and infrequently used words

How does it feel to have aphasia?

People with aphasia are often frustrated and confused because they can't speak as well or understand things the way they did before their stroke. They may act differently because of changes in their brain. Imagine looking at the headlines of the morning newspaper and not being able to recognize the words. Or think about trying to say “put the car in the garage” and it comes out “put the train in the house” or “widdle tee car ung

sender plissen.” Thousands of alert, intelligent men and women are suddenly plunged into a world of jumbled communication because of aphasia.

Are there different types of aphasia?

Yes, there are several forms of aphasia. They include:

- **Global aphasia** — People with this aphasia may be completely unable to speak, name objects, repeat phrases or follow commands.
- **Broca's aphasia** — The person knows what they want to say, but can't find the right words (can't get the words out).
- **Wernicke's aphasia** — A person with this aphasia can seldom understand what's being said or control what they're saying.

How can family and friends help?

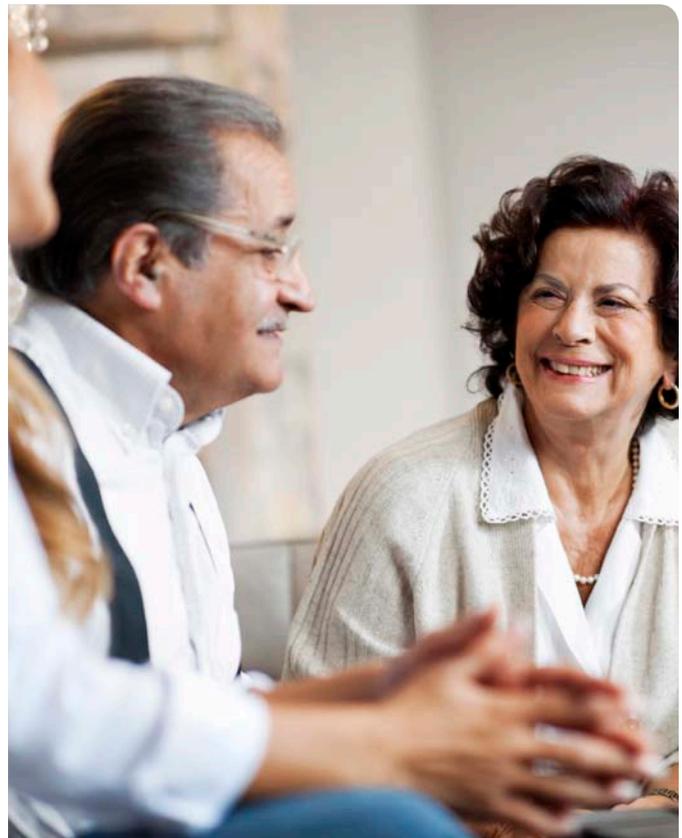
The stroke survivor and their family members will need the help and support of a doctor, counselor and speech pathologist. It's a good idea for family and friends to:

- Be open about the problem so people can understand.

(continued)



- Always assume that the stroke survivor can hear. Check understanding with yes/no questions.
- Set up a daily routine for the person with aphasia that includes rest and time to practice skills.
- Use sentences that are short and to the point.
- Keep the noise level down and stand where the survivor can see you.
- Remember to treat the stroke survivor as an adult and let him or her share in decision-making. No one likes to be ignored. Include the survivor in your conversation.
- Help the stroke survivor cope with feelings of frustration and depression.
- Be patient with the person with aphasia. Give them the time they need to try to speak and get their point across to you. This not only respects their dignity, but makes it less stressful for them when communicating.



HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

How long will I need therapy?

Will my aphasia go away?

How can I find a stroke or aphasia support group?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Feeling Tired After Stroke

After a stroke, almost all stroke survivors feel tired or some type of fatigue at some point. Stroke survivors often must work harder to make up for the loss of normal functions (such as being unable to use an arm or hand). But you'll probably start feeling less tired after a few months. For some people, tiredness may continue for years after a stroke, but they usually find ways to make the most of the energy they have.



Why am I so tired?

It's important to pinpoint what's causing you to be tired. Then you can take action to manage it. Consult with your healthcare provider to rule out any medical conditions that might cause tiredness or make it worse. You may feel tired after a stroke for four major reasons:

- You may have less energy than before because of sleeping poorly, not getting enough exercise, poor nutrition or the side effects of some of the medicine.
- You have as much energy as before, but you're using it differently. Because of the effects of your stroke, things, like dressing, talking or walking, take a lot more effort. Changes in thinking and memory take more concentration. You have to stay "on alert" all the time — and this takes energy.
- You also may feel tired due to emotional changes. Coping with frustration, anxiety, anger and sadness can be draining. Depressed feelings are common

after a stroke. Often, loss of energy, interest or enthusiasm occurs along with a depressed mood.

- You may feel tired because of depression. Depression is very common after a stroke. Clinical depression is a treatable illness that happens to many stroke survivors. Symptoms include significant lack of energy, lack of motivation, and problems concentrating or finding enjoyment in anything. Talk to your doctor about an evaluation for clinical depression if tiredness continues. There is nothing to be ashamed of if you are feeling depressed. It is very common, and the good news is that it is treatable!

How can I increase my energy?

- Tell your doctor how you are feeling and make sure you have had an up-to-date physical. Your doctor can evaluate any medical reasons for your tiredness. He or she can also check to see if your fatigue could be a side effect of your medication.

(continued)



- Celebrate your successes. Give yourself credit when you accomplish something. Look at your progress, not at what's left to be done.
- Try naps, or schedule rest periods throughout the day. Rest as long as you need to feel refreshed.
- Learn to relax. Sometimes the harder you try to do something, the harder it is to do. You become tense, anxious and frustrated. All this takes more energy. Being relaxed lets you use your energy more efficiently.
- Do something you enjoy every day. A positive attitude or experience helps a lot to boost energy levels.
- Be social. It is very important that you get back into the “swing of things” and stay involved with friends and family. Go out into the community and interact with friends, family and other people.
- Physical activity is important. With permission from your doctor, consider joining a health and wellness program.



Being with family and friends may provide that energy boost you need.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What can I do to decrease my tiredness?

Could clinical depression be causing my tiredness?

Are the medicines I take causing my fatigue?

My Questions:

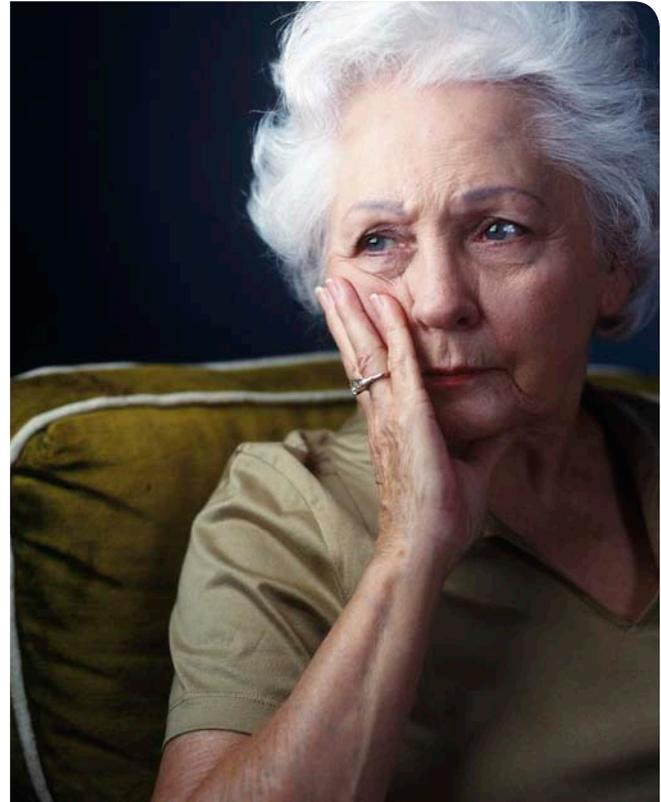
We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Emotional Changes After Stroke

Right after a stroke, a survivor may respond one way, yet weeks later respond differently. Some survivors may react with sadness; others may be cheerful. These emotional reactions may occur because of biological or psychological causes due to stroke. These changes may vary with time and can interfere with rehabilitation.



How does stroke cause emotional changes?

Emotions may be hard to control, especially right after a stroke. Some changes are a result of the actual injury and chemical changes to the brain caused by the stroke.

Others are a normal reaction to the challenges, fears and frustrations that one may feel trying to deal with the effects of the stroke. Often, talking about the effects of the stroke and acknowledging these feelings helps stroke survivors deal with these emotions.

What are some common emotional changes after stroke?

Pseudobulbar Affect, also called “emotional lability,” “reflex crying” or “labile mood,” can cause:

- Rapid mood changes — a person may “spill over into tears” for no obvious reason and then quickly stop crying or start laughing.
- Crying or laughing that doesn’t match a person’s mood.
- Crying or laughing at unusual times or that lasts longer than seems appropriate.

Post-stroke depression is characterized by:

- Feelings of sadness
- Hopelessness or helplessness
- Irritability
- Changes in eating, sleeping and thinking

Treatment for post-stroke depression may be needed. If not treated, depression can be an obstacle to a survivor’s recovery. Don’t hesitate to take antidepressant medications prescribed by your doctor.

Other common emotional reactions include:

- Frustration
- Anxiety
- Anger
- Apathy or not caring what happens
- Lack of motivation
- Depression or sadness

(continued)



How can I cope with my changing emotions?

- Tell yourself that your feelings aren't "good" or "bad." Let yourself cope without feeling guilty about your emotions.
- Find people who understand what you're feeling. Ask about a support group.
- Get enough exercise and do enjoyable activities.
- Give yourself credit for the progress you've made. Celebrate the large and small gains.
- Learn to "talk" to yourself in a positive way. Allow yourself to make mistakes.
- Ask your doctor for help. Ask for a referral to a mental health specialist for psychological counseling and/or medication if needed.
- Stroke may cause you to tire more easily. Rest when you feel fatigued. Make sure you get enough sleep. Sometimes lack of sleep can cause emotional changes and cause you not to cope as well.



Connecting with friends or joining a stroke support group may help you cope with your changing emotions.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit
- 2 **StrokeAssociation.org**. Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What can my family do to help me when I am emotional?

Will these emotional changes improve over time?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Living at Home After Stroke

Most stroke survivors are able to return home and resume many of the activities they did before the stroke. Leaving the hospital may seem scary at first because so many things may have changed. The hospital staff can help prepare you to go home or to another setting that can better meet your needs.



For your safety, you may need to have handrails installed in your bathroom.

How do I know if going home is the right choice?

Going home poses few problems for people who have had a minor stroke and have few lingering effects. For those whose strokes were more severe, going home depends on these four factors:

- **Ability to care for yourself.** Rehabilitation should be focused on being able to perform daily activities such as eating, dressing and bathing.
- **Ability to follow medical advice.** This is a critical step in recovery and preventing another stroke or other complications after stroke. It's important to take medication as prescribed and follow medical advice.
- **A caregiver.** Someone should be available who is willing and able to help when needed.
- **Ability to move around and communicate.** If stroke survivors aren't independent in these areas, they may be at risk in an emergency or feel isolated.

What changes do I need to make at home?

Living at home successfully also depends on how well your home can be adapted to meet your needs.

- **Safety.** Take a look around your home and remove anything that might be dangerous. This might be as simple as taking up throw rugs, testing the temperature of bath water or wearing rubber-soled shoes. Or it may be more involved, like installing handrails in your bathroom or other areas.
- **Accessibility.** You need to be able to move freely within the house. Changes can be as simple as moving the furniture or as involved as building a ramp.
- **Independence.** Your home should be modified so you can be as independent as possible. Often this means adding special equipment like grab bars or transfer benches.

(continued)



What if I can't go home?

Your doctor may advise a move from the hospital to another type of facility that can meet your needs for a short time or permanently. It's important that the living place you choose is safe and supports your continued recovery. Your social worker and case manager at the hospital can give you information about facilities that might work for you. Possibilities include:

- **Nursing facility.** This can be a good option for someone who has ongoing medical problems. This type of facility provides round-the-clock care.
- **Skilled nursing facility.** This is for people who need more than usual medical attention, continued therapy and more care than a caregiver can provide at home. This type of facility also provides round-the-clock care.
- **Intermediate care facility.** This is for people who don't have serious medical problems and can manage some level of self-care.
- **Assisted living.** This is for people who can live somewhat independently but need some assistance with things like meals, medication and housekeeping.



Many stroke survivors who are unable to immediately return home find the support they need at assisted living or nursing facilities.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

What living arrangement would you recommend for me?

Is there a caregiver or stroke support group available in my community?

My Questions:

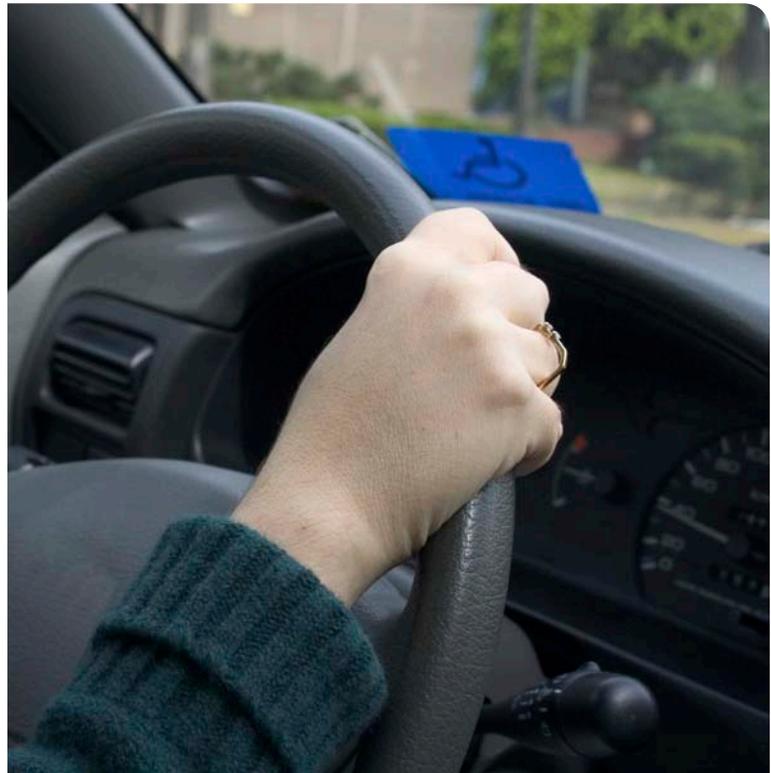
We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Driving After Stroke

Driving is often a major concern after a stroke. It's not unusual for stroke survivors to want to drive. Getting around after a stroke is important — but safety is even more important.



Can I drive after a stroke?

Injury to the brain may change how you do things. Many people who have had a stroke develop some type of cognitive changes. This may include problems with memory, judgment, problem-solving or a combination of these. So before you drive again, think carefully about how these changes may affect safety for you, your family and others.

What are some warning signs of unsafe driving?

Often survivors are unaware of the difficulties in driving that they might have. Some may not realize all of the effects of their stroke. They may feel that they're able to drive even when it's a bad idea. Driving against your doctor's advice can be dangerous and may be illegal. In some cases, your doctor may have to notify your state that you've been advised not to drive.

If you or someone you know has experienced some of these warning signs of unsafe driving, please consider taking a driving test:

- Drives too fast or too slow for road conditions or posted speeds
- Needs help or instructions from passengers
- Doesn't observe signs or signals
- Makes slow or poor distance decisions
- Gets easily frustrated or confused
- Often gets lost, even in familiar areas
- Has accidents or close calls
- Drifts across lane markings into other lanes

How can I tell if I can drive?

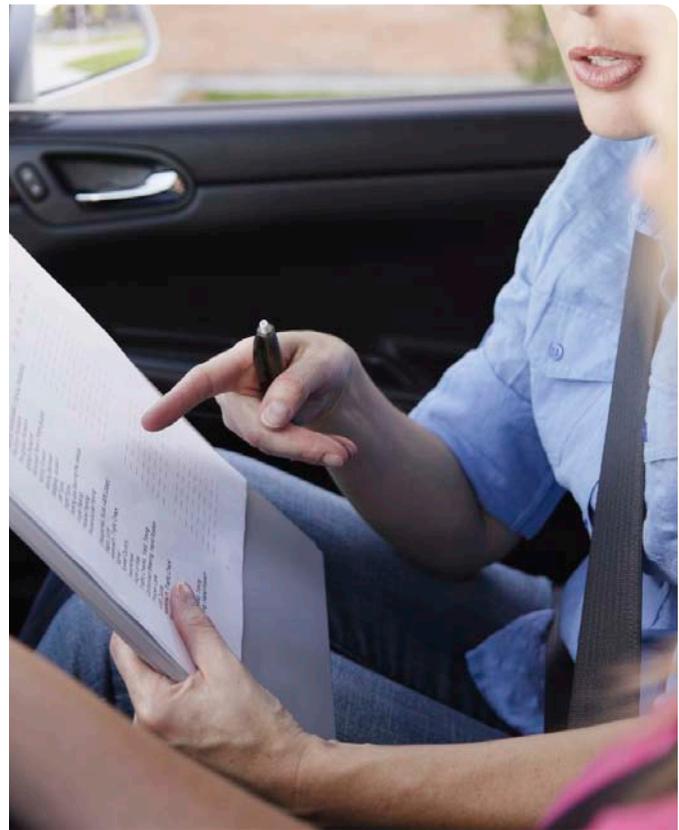
- Talk to your doctor or occupational therapist. They will offer a professional opinion about how your stroke might change your ability to drive. Contact your State Department of Motor Vehicles. Ask for

(continued)



the Office of Driver Safety. Ask what applies to people who've had a stroke.

- Have your driving tested. Professionals such as driver rehabilitation specialists can evaluate your driving ability. You'll get a behind-the-wheel evaluation and be tested for vision perception, functional ability, reaction time, judgment and cognitive abilities (thinking and problem solving). Call community rehabilitation centers or your local Department of Motor Vehicles.
- Enroll in a driver's training program. For a fee, you may receive a driving assessment, classroom instruction and suggestions for modifying your vehicle (if necessary). These programs are often available through rehab centers.
- Ask your family if they have seen changes in your communication, thinking, judgment or behavior that should be evaluated before you drive again. Family often have more opportunities to observe changes than others do.



HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

When should I test my driving ability?

Is my driving restriction permanent?

If not, when might I be able to drive again?

My Questions:

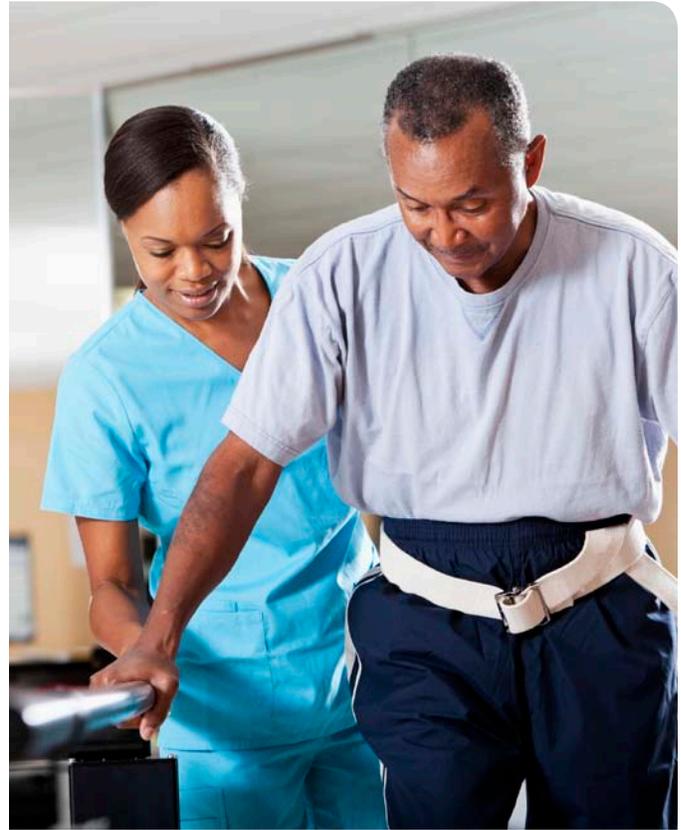
We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

Stroke and Rehabilitation

When the immediate crisis of a stroke has passed and you've been stabilized medically, it's time to consider rehabilitation (rehab) therapy.



What is stroke rehabilitation?

After a stroke, you may have to change or relearn how you live day to day. Rehab may reverse some of the effects of stroke.

The goals of rehab are to increase independence, improve physical functioning, and help you gain a satisfying quality of life after stroke. Another goal is to help you make lifestyle changes to prevent another stroke.

Who will be a part of my rehabilitation program?

Your rehab team may include:

- **Physiatrist** — A medical doctor who specializes in rehab.
- **Physical therapist** — A healthcare provider who specializes in maximizing a stroke survivor's

mobility and independence to improve major motor and sensory impairments, such as walking, balance and coordination.

- **Occupational therapist** — A therapist who focuses on helping stroke survivors rebuild skills in daily living activities such as bathing, toileting and dressing.
- **Rehabilitation nurse** — A nurse who coordinates the medical support needs of stroke survivors throughout rehab.
- **Speech therapist** — A specialist who helps to restore speech and language skills and also treats swallowing disorders.
- **Recreational therapist** — A therapist who helps to modify activities that the survivor enjoyed before the stroke or introduces new ones.
- **Psychiatrist or psychologist** — Specialists who

(continued)



help stroke survivors adjust to the emotional challenges and new circumstances of their lives.

- **Vocational rehabilitation counselor** — A specialist who evaluates work-related abilities of people with disabilities. They can help stroke survivors make the most of their skills to return to work.

What will I do in rehabilitation?

Rehab programs often focus on:

- Activities of daily living such as eating, bathing and dressing.
- Mobility skills such as transferring from bed to chair, walking or self-propelling a wheelchair.
- Communication skills in speech and language.
- Cognitive skills such as memory or problem solving.
- Social skills in interacting with other people.
- Psychological functioning to improve coping skills and treatment to overcome depression, if needed.



Learning how to use a wheelchair is among the many post-stroke skills taught by rehab therapists.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Can you refer me to a psychiatrist?

How can I continue to improve my skills after formal rehab ends?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit **strokeassociation.org/letstalkaboutstroke** to learn more.



let's talk about

The Stroke Family Caregiver

People who provide help for stroke survivors are often called **caregivers**. Everyone involved in helping a stroke survivor is a caregiver. It can be the spouse, family members or friends. Often one person, spouse, adult child or parent, will provide most of the care.

It's important that caregivers and stroke survivors strive to be "care partners" in their efforts. It's often a challenge for both to adjust to their changed roles. The adjustment may be easier if the caregiver and stroke survivor share in decision-making as much as possible and try to share their feelings honestly.



What should a caregiver do?

There is no one "job description" that explains what all caregivers do. Each caregiver's responsibilities vary according to the unique needs of the stroke survivor. Role changes and new skills may need to be learned. Common responsibilities of caregiving include:

- Providing physical help with personal care and transportation.
- Managing financial, legal and business affairs.
- Monitoring behavior to ensure safety.
- Managing housework and making meals.
- Coordinating health care and monitoring or giving medications.
- Helping the survivor maintain learned rehab skills and work to improve them.
- Providing emotional support for the stroke survivor and family members.

- Encouraging the stroke survivor to continue working toward recovery and to be as independent as possible.

Is there assistance for caregivers?

Many people find caring for another person very rewarding. But there may be times when a stroke survivor's needs are too much for any one person. Sometimes a caregiver just needs a break. These breaks are important to not only the caregiver but also to the stroke survivor. These community resources may be helpful:

- **Adult day care** — professional supervision of adults in a social setting during the day.
- **Adult foster homes** — supervised care in approved (licensed) private homes.
- **Meal programs (Meals on Wheels)** — a federally sponsored nutrition program.

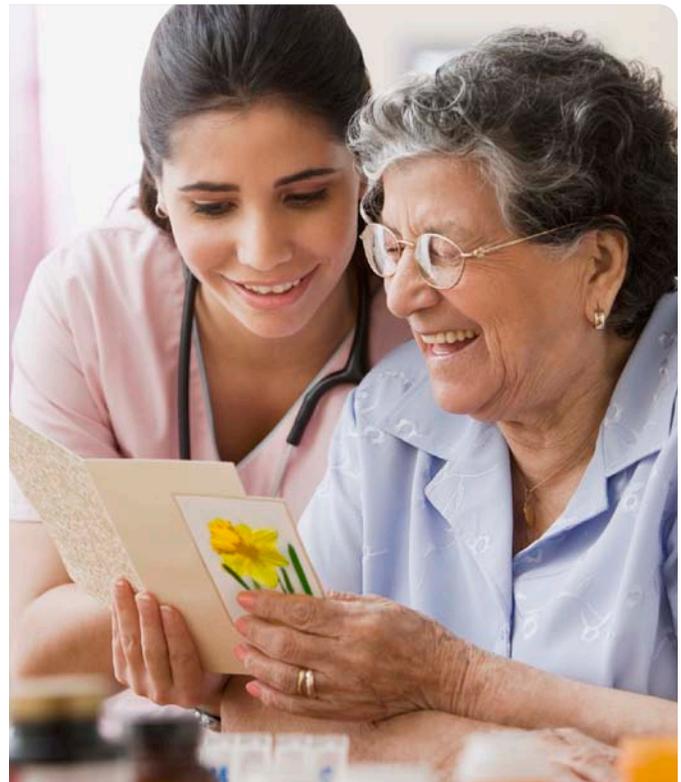
(continued)



- **Home health aide service** — in-home personal care assistance.
- **Homemaker assistance** — supervised, trained personnel who help with household duties.
- **Respite care** — people come into the home for a limited time to give caregivers a break. Some nursing homes also provide short-term respite care.

Is training available for family caregivers?

Finding caregiver training locally can be hit or miss. A good place to start is with your local Area Agency on Aging. Visit eldercare.gov to find an office near you.



Hiring a home health aide is a great way to give yourself a break from the rigors of being the primary caregiver.

HOW CAN I LEARN MORE?

- 1 Call **1-888-4-STROKE** (1-888-478-7653) to learn more about stroke or find local support groups, or visit **StrokeAssociation.org**.
- 2 Sign up to get *Stroke Connection* magazine, a free magazine for stroke survivors and caregivers at **strokeconnection.org**.
- 3 Connect with others sharing similar journeys with stroke by joining our Support Network at **strokeassociation.org/supportnetwork**.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Is there a stroke support group or caregiver support group in my area?

Do you know of any other national organizations that support caregivers?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit strokeassociation.org/letstalkaboutstroke to learn more.

DEPRESSION AND STROKE

Approximately half of all stroke patients become depressed within the first two years of their stroke. A sudden loss of function under any circumstances can precipitate a depressive episode. Patients suffering from serious illnesses are at greatest risk. Often it goes undiagnosed, further delaying the rehabilitation effort to return as much function to the patient as possible. Loved ones worry and often feel helpless. Recognizing the signs and symptoms of depression and seeking early treatment is critical! Many patients feel a loss of self-image and experience role changes with their spouse and family.

Other changes may include:

- Persistent sad or empty mood
- Loss of interest or pleasure in ordinary activities, including sex
- Decreased energy, fatigue, being “slowed down”
- Sleep disturbances (insomnia, early-morning waking or oversleeping)
- Eating disturbances (loss of appetite and/or weight gain)
- Difficulty concentrating, remembering, or making decisions
- Feelings of guilt, worthlessness or helplessness
- Thoughts of death or suicide attempts
- Irritability
- Excessive crying
- Chronic aches and pains that do not respond to treatment

If a person has five or more of these symptoms for more than two weeks, it is important that these symptoms be brought to the attention of the individual’s health care provider. Treatment varies from medications, psychological counseling, or support groups. StrokeSmart, an online publication, contains an article titled **Caregivers at Risk for Depression: Caring for a stroke survivor can command a heavy burden.** Family members account for four out of five caregivers, and loved ones who care for survivors face a high risk of depression. For the complete article, visit <http://www.strokesmart.org/caregivers-depression>

**For additional information on Edward Hospital’s
Stroke Support Group, call 630-527-3388.**

Depression and Anxiety

The relationship between physical and emotional health

There is often a link between how someone is feeling physically and their emotional well-being. It isn't unusual to experience depression or anxiety after a physical illness, major surgery or traumatic situation. It also isn't unusual for someone dealing with anxiety or depression to develop other physical symptoms. The following tables will give you some comparisons between the physical and emotional symptoms of depression and anxiety.

Depression

Mood disorders like depression are quite common. It is not unusual for someone who is depressed to experience both physical and emotional symptoms. A primary care physician may help you understand if your physical symptoms are related to a recent physical illness, stress, emotional turmoil, or an unexpected trauma.

Physical Symptoms:

- ▶ Changes in appetite
- ▶ Changes in sleep patterns
- ▶ Fatigue
- ▶ Persistent unexplained aches and pains
- ▶ Headaches
- ▶ Chest pain
- ▶ Digestive problems

Behavioral Symptoms:

- ▶ Sadness
- ▶ Increased irritability
- ▶ Easily frustrated
- ▶ Low self-esteem
- ▶ Loss of interest in pleasurable activities
- ▶ Poor concentration
- ▶ Suicidal thoughts

Anxiety

Stress and anxiety go hand in hand. From generalized anxiety to phobic disorders and panic attacks, these behavioral issues can cause both physical and emotional symptoms. Your feelings of anxiety could be caused by a recent physical illness, stress, emotional distress or feelings associated with an unexpected trauma. As with other mental illnesses, especially anxiety disorders, allow your physician to determine the cause of your physical health symptoms.

Physical Symptoms:

- ▶ Trouble falling or staying asleep
- ▶ Heart palpitations
- ▶ Trembling
- ▶ Irritability
- ▶ Sweating/flushing
- ▶ Frequent urination or diarrhea
- ▶ Being easily startled

Behavioral Symptoms:

- ▶ Persistent state of apprehension or fear
- ▶ Feelings of dread without valid cause
- ▶ Irritability or edginess
- ▶ Intense/sudden feelings of panic or doom
- ▶ Feelings of detachment and unreality
- ▶ Catastrophic thinking
- ▶ Hyper-vigilance towards signs of danger

We're here to help

Once the cause of your physical symptoms has been determined, your physician may recommend you see a psychiatrist, psychologist or a counselor for additional support. Linden Oaks offers a free and confidential behavioral health assessment and specialized services at our locations in Naperville, Plainfield, St. Charles, Elmhurst and Arlington Heights.

For more information, call the Linden Oaks Help Line, available 24/7, at (630) 305-5027 or visit www.lindenoaks.org.

Healthy Driven™

Linden Oaks
BEHAVIORAL HEALTH

DEPRESSION AFTER STROKE

Information for Patients and Families

Authors: Ying Ying Kan, BSc OT; Chantal Barakat, BSc OT;
Martine Sourdif, BSc OT

Since my stroke I feel sad and depressed. Is that normal?

Mood swings and depression are very common in patients with stroke. At least 1 person out of 4 will feel depressed or moody after a stroke. Some studies have shown that the rate of depression is even higher, as high as 1 person out of 2.

What is depression after a stroke (post-stroke depression)?

Anyone who has experienced a stroke would agree that it is a big life change. Suddenly daily activities like washing and dressing become a challenge. It is a very difficult experience that can affect your emotions.

What are mood swings?

After a stroke, you may experience rapid changes in mood. For example, you may feel happy then suddenly feel very sad. You may feel that it is like your emotions are on a roller coaster. Some people might cry and laugh at inappropriate times.

Just like depression, these mood swings can appear when there is an injury to a specific area of your brain.

When does post-stroke depression appear?

The time that depression can appear after a stroke varies. Some people quickly become depressed from hours to days after the stroke; but some experienced feelings of depression later – even up to 3 years after the stroke.

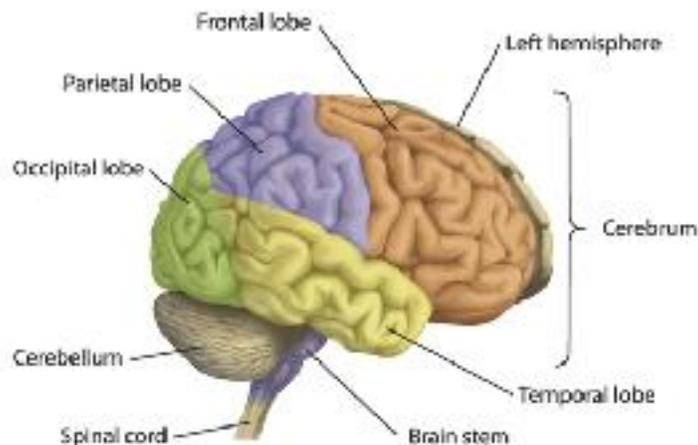
Are my mood swings or depression caused by my stroke?

It is possible that your mood swings or depression are effects of your stroke. There are two possible explanations for why people develop depression after a stroke.

1). Injury to your brain

Some areas of your brain control your mood and emotions. If one of these areas is affected by the stroke, it can lead to mood swings or depression.

There are debates about whether the site of the lesion is related to depression. Some researches suggest that individuals who have a stroke in a specific lobe or area of their brain (the frontal lobe) are more likely to experience depression. Other researchers argue that it is the side of the brain (left or right) where the stroke happened that causes mood swings and depression.



2). Changes in your life skills and abilities

Changes in your physical abilities after a stroke can be very difficult to accept. You may find rehabilitation overwhelming. Everyday tasks now require extra efforts. These feelings of sadness can lead to depression.

The real cause of depression is probably a combination of these two theories. That is, depression is due in part to the damages in the brain area and also due to the changes in your life skills and abilities caused by the stroke.

How do I know if I am depressed? What are the common signs of depression after a stroke?

People who are depressed shared some common traits such as:

- getting angry easily or crying easily
- sleeping too much or too little
- feeling down
- being slow mentally
- feeling guilty
- feeling less hopeful about the future
- not wanting to see friends
- thinking about ending one's life.

Is it easy to detect depression after a stroke?

It is often difficult to detect depression in a person who has had a stroke. After a stroke, most people will have physical and cognitive problems. Often, treatment tends to focus more on these two aspects of recovery and does not always take into account the individual's feelings. Sometimes, people who had a stroke have difficulty talking or understanding words – this makes it difficult for them to share their feelings, which in turn makes it difficult to detect if they are feeling depressed.

Family members and close friends are often the first to detect signs of depression in their loved one. This is because they know the individual better than any health care workers.

How is the diagnosis of post-stroke depression made?

Your clinician may ask you a series of questions or may have you fill out a questionnaire. This will help them to identify any signs of depression.

How can I deal with mood swings or depression without taking medication?

Post-stroke depression is a fairly new topic in research. Some studies have tried to prove whether different treatment options work, without success. However, there are many things that may help people with depression feel better.

Who can help me with my mood swings or depression?

Your health care providers can help you or refer you to the right resource. Your family and friends can also assist you. Use the resources around you and accept help of other people.

There might be some available resources in your community (example: group therapy, meals on wheels). To find more information consult your National stroke association.

Can sleeping and eating well help?

They sure can! Proper meals and good sleep will give you more energy during your recovery. You may feel you are not hungry or you have difficulty sleeping. It is common with people who are depressed.

Should I exercise?

Yes. Exercise is recommended by the Heart and Stroke Foundation of Canada. You can start an exercise class if your doctor agrees. Exercising releases a hormone (endorphin) that will make you feel good.

Should I continue my rehabilitation program (OT/physio/speech and language therapy) if I do not feel like doing it?

Yes. Sometimes you may not feel motivated to go to your rehabilitation sessions. They can be difficult and they need a lot of energy. However, rehabilitation sessions will teach you many things that will help you feel and become more independent. You might feel very proud of yourself afterwards!

Should I try to see other people?

Yes! Research has shown that a social life can help people get better when they are feeling depressed. It is very important that you continue hobbies such as playing cards, doing crosswords or going outside. Your occupational therapist can show you how to adapt your hobbies and interests according to your current abilities.

Is it possible to speak to someone who had a stroke?

Yes. Some regions have support groups for people who have had a stroke. You can meet with other people who have had a stroke and share stories with people who went through an episode like yours.

Consult your National Stroke Association. In Canada this is the Heart and Stroke Foundation.

What is psychotherapy? Can it help me?

Psychotherapy is a treatment for mood swings. The goals of psychotherapy are to reduce mood swings and improve emotional well-being for participation in work, social and day-to-day activities. Psychotherapy encourages people to talk about personal conflicts in order to understand and overcome problems.

Cognitive Behavioural Therapy (CBT) is a particular type of psychotherapy. CBT teaches people how to change their behaviour by changing their thinking. We only have information from one quality study that evaluates the effectiveness of CBT. The study showed that CBT is not effective in treating depression after a stroke.

Go to this website to find out more about CBT: www.nacbt.org/whatiscbt.htm

Can music therapy help me?

Music therapy uses music to help people express their emotions. One study has found that music therapy may help to improve depression after a stroke. More research needs to be done before we will know the value of music therapy for reducing depression after a stroke. Click on this link to find more information about music therapy.

Go to this website to find out more about music therapy:
www.musictherapy.ca/musictherapy.htm#whatis

How does depression impact on my recovery?

Depression can slow recovery. Depression may make you feel less motivated and more tired. It can also make it difficult for you to concentrate. All these traits of depression will slow down your recovery. Many studies have shown that people who experience depression after a stroke will not recover as quickly as people who are not depressed. The extent to which depression can affect recovery from stroke is not really known. It seems that both the physical loss and the depression can affect recovery.

Will the depression ever get better?

Some studies show that people with post-stroke depression can get better.

Sometimes depression can return, so it is important to watch for the signs and symptoms.

How long does it take to recover from depression after a stroke?

Recovery from depression after a stroke takes time. It can vary a lot from one person to another. For example, medications can take a few weeks to work. With treatments, people who are depressed usually get better. On average, the duration of major depression in people who have had a stroke is under 12 months.

Does depression lead to stroke?

Not everybody who is depressed will have a stroke. However, some studies have shown that having depression may increase the chances of having a stroke. When heart diseases, hypertension, diabetes, and tobacco use are all ruled out, people with depression are 2.6 times more likely to have a stroke.

If I had depression before the stroke, am I more likely to experience depression after a stroke?

Yes, if you were depressed before your stroke, it is more likely that you will experience depression after a stroke. This is one of the risk factors linked with post-stroke depression.

I am a carer – what can I do to avoid feeling depressed too?

A carer (or care provider) is the person who takes care of the individual who has had a stroke. This person is usually a family member, a spouse, or a close friend. Often, the care provider will be so devoted to their loved one that they will forget to take care of their own needs.

When your loved one is depressed after a stroke, it is more difficult for both of you to stay positive so it is especially important that you both receive support. It is very important that you, as a care provider, take time for yourself everyday. Find



www.strokengine.ca

a moment during the day to do an activity you like such as reading, shopping or gardening. You should continue to see your friends to share your feelings and refresh your mind.

I would like to know more about depression and stroke.

Understanding what happened can reassure you. There are many resources available on the Internet. Your health care provider can also answer your specific questions.

Information on this web site is provided for informational purposes only and is not a substitute for professional medical advice. If you have or suspect you have a medical problem, promptly contact your professional healthcare provider.

SMOKING

What does smoking do to the body?

Inhaling cigarette smoke or being exposed to significant amounts of second-hand smoke causes different effects on the heart and blood vessels. The cigarette is a “highly engineered nicotine drug-delivery device”. Nicotine rapidly gets into the blood system, immediately increasing the heart rate and blood pressure. With each puff the arteries of the body constrict or tighten as blood pressure rises. Blood sugar also rises, which accounts for the temporary suppression of appetite. The most dangerous side effect of smoking is that the blood becomes “stickier” as platelets (important for blood clotting) cluster together. An average 1 pack per day smoker gets 300 nicotine “hits” a day. These “hits” cause damage to ALL the arteries of the body. Atherosclerosis (hardening of the arteries) or plaque formation is abundant in most smokers. This disease process puts smokers at great risk for heart attacks and stroke! It can lead to a process called peripheral arterial disease (PAD) which may result in loss of limbs.

What are some harmful effects of smoking?

- ◆ Heart attack
- ◆ Stroke
- ◆ Cancer of lung
- ◆ Loss of limbs
- ◆ Sudden death
- ◆ Can't taste food
- ◆ “Hairy” tongue
- ◆ Tooth loss
- ◆ Delayed healing of wounds
- ◆ Cancer of mouth
- ◆ Harms unborn baby
- ◆ Emphysema
- ◆ Smoker's face (dried wrinkly skin)
- ◆ Sores in mouth
- ◆ Gum disease
- ◆ Cancer of throat
- ◆ Hoarse voice
- ◆ Hearing loss
- ◆ Impotence
- ◆ Fatigue
- ◆ Yellow teeth

What are the benefits of living smoke-free?

- ◆ Feel better
- ◆ Have more energy
- ◆ Sense of smell will return
- ◆ No more withdrawal symptoms
- ◆ Save money
- ◆ Food will taste better
- ◆ Mood and temperament will improve
- ◆ The confidence to know that you have conquered a big addiction!

How addicting is smoking?

The nicotine in the cigarettes causes addiction. Addiction is defined as a compulsive drug-seeking behavior to stop cravings even in the face of negative consequences! Nicotine is an addiction just like heroin and cocaine. It stimulates the dopamine center in the brain, producing pleasurable sensations. When withdrawing from nicotine the smoker experiences symptoms such as nervousness, headaches, irritability, and difficulty sleeping. These symptoms can affect mood and temperament. With each “hit” of nicotine the smoker is immediately rewarded and smokes throughout the day to maintain high levels of the drug.

Quitting Smoking takes work, but the rewards are definitely worth the effort—you help to improve your health!

What happens when you quit?

- ◆ 20 minutes after quitting: Blood pressure drops to a level close to that before smoking. Temperature of hands and feet returns to normal.
- ◆ 8 hours after quitting: Carbon monoxide level in blood returns to normal.
- ◆ 24 hours after quitting: Chance of heart attack is reduced.
- ◆ 2 weeks to 3 months after quitting: Circulation improves, lungs improve by 30%.
- ◆ 1 to 9 months after quitting: Coughing, shortness of breath, fatigue, sinus congestion, and cilia (tiny hairs) in lung return to normal function. Mucus is removed and lungs clear more easily.
- ◆ 1 year after quitting: The extra risk of having a heart attack is half that of a smoker.
- ◆ 5 years after quitting: Somewhere between 5-15 years after quitting your risk for a stroke is similar to a non-smoker.
- ◆ 10 years after quitting: Lung cancer death rate is about half that of a current smoker. The risk of throat, esophagus, bladder, kidney, and pancreatic cancer decreases greatly.
- ◆ 15 years after quitting: Risk of a heart attack is that of a non-smoker.

You CAN quit smoking and it is never too late to quit. The sooner you do, the better you will feel.

Plan for success:

- ◆ Talk with a smoking counselor about how to quit smoking.
- ◆ Talk to your doctor about medications to help you with the quitting process.
- ◆ Set a quit date.
- ◆ Have a friend or family member quit with you.
- ◆ Tell everyone you know that you plan to quit smoking and may be irritable at times.

Prior to your quit date:

- ◆ Smoke in a different place/outdoors only.
- ◆ Change smoking to the other hand.
- ◆ Keep your cigarettes in a different place.
- ◆ Don't do anything else while smoking.
- ◆ When you want a cigarette, wait 5 minutes.
- ◆ Chew gum, drink water instead of smoking.
- ◆ Buy one pack of cigarettes at a time.
- ◆ Switch to a brand that you do not like.

On your quit day:

- ◆ Get rid of all your cigarettes.
- ◆ Put ashtrays away.
- ◆ Change your routine and keep busy.
- ◆ When you have a craving, do something else, go for a walk, or call a friend.
- ◆ Carry other things to your mouth: gum, cinnamon hard candy, or a toothpick.
- ◆ Reward yourself each day that you do not smoke.

Staying smoke-free:

- ◆ Get lots of rest, you will feel tired for a while.
- ◆ Keep up the exercise and take long walks.
- ◆ Maintain a positive attitude about the benefits of not smoking.
- ◆ Practice deep breathing techniques and exercise to relieve stress and tension.
- ◆ Eat regular meals. Feeling hungry is mistaken for a need to smoke.
- ◆ Start a money jar with the money you save from not smoking.
- ◆ Seek support and encouragement from family and friends.
- ◆ If you slip, don't get discouraged. It may take a few attempts to stay smoke-free.

The best way to prevent relapse is to be prepared for the chance of it happening. Don't get discouraged, just try quitting again. Avoid the common smoking triggers of hunger, anger, loneliness and fatigue.

Smoking Cessation Medications

The U.S. Public Health Service has found that the seven therapies approved by the U.S. Food and Drug Administration in combination with individual, group or phone cessation counseling are the most effective way to help smokers quit. **Until and unless the FDA approves a specific electronic nicotine delivery system or e-cigarette as safe and effective for use as a tobacco cessation aid, the American Lung Association does not support their use for cessation or any direct or implied claims that e-cigarettes help smokers quit.**

Please speak with your doctor regarding these medications. Some patients may have medical conditions preventing them from using these drugs.

Chantix (Varenicline) (prescription) This is the newest prescription smoking cessation drug. Chantix works in two ways – by cutting the pleasure of smoking and by reducing the withdrawal symptoms that lead smokers to light up again and again. Chantix is started 7 days prior to quit date. During those 7 days the dose is increased to a maintenance dose. Patients are generally on this medication for 3 months. The primary side effect is nausea.

Bupropion SR (Zyban) (prescription) An antidepressant medication which was found to reduce cravings. Smokers taking Zyban tend to gain less weight as well. It should be taken for at least 2 weeks prior to quitting. Patients are generally on this medication for 3 months during the quitting process. It may increase blood pressure slightly and needs to be monitored under the care of your physician. Patients who should not take the medication include:

- ◆ History of seizure disorder
- ◆ Anorexic or bulimic eating disorders
- ◆ Head trauma
- ◆ Taking other antidepressants

Nicotine Replacements (patients must **NOT** smoke while taking a nicotine replacement!)

Nicotine Lozenges (over-the-counter) Patients are directed to slowly dissolve the lozenge in the mouth for 20-30 minutes. Do not eat or drink for 15 minutes before and after using the lozenge. The lozenge may cause some belching or hiccups.

Nicotine Gum (over-the-counter) Patients are directed to chew the gum until tingling occurs, and then pocket the gum in the side of the mouth once craving is gone. Some patients complain about the taste and find it difficult to use.

Nicotine Inhaler (prescription) Patients carry the inhaler in their hand. Many find it comforting to hold a familiar hand-to-mouth device.

Nicotine Nasal Spray (prescription) This spray is an extremely effective substance, especially with people who smoke more than 2 packs per day. It can cause some nasal burning which is eliminated by spraying the medication on a Q-tip and rubbing the nostrils with the drug.

Nicotine patch (over-the-counter) The patch is applied directly to the skin. It takes several hours before the medication is absorbed. It works well for people who smoke less than a pack per day and may not be enough nicotine for heavier smokers.

Source: American Lung Association

Additional Resources:

Edward Nurse Educators offer Freedom From Smoking classes	
For dates and times of upcoming sessions	Call Class Registration 630-527-6363
Tobacco Hotline	1-866 QUIT YES; 1-866-784-8937
American Lung Association	1-800 LUNG USA 1-800-586-4872 (Counselors to help with quitting)
Freedom From Smoking On-line	www.ffsonline.org
Learn How To Quit On-Line Program	www.lungusa.org
EEHealth Smoking Cessation Clinic	Kim Rohan, Nurse Practitioner 630-646-6050

*If you would like more information, please call our Nurse Heartline (630) 527-2825
Appointments are available to help you with smoking cessation*

Take a free, five-minute Health Aware test

Our assessments provide a quick analysis of your health and suggested next steps if you are found to be at risk. In just five minutes, you can gauge your risk of developing diseases or disorders that can weaken your health and affect your lifestyle.

1 Learn. Take the free, confidential assessment and learn if you are at risk.

2 Listen. If eligible, accept the free clinical screening where you'll learn what steps to take to improve your health.

3 Live Healthy Driven. Follow the clinical recommendations and visit your doctor for a longer, healthy-driven life.

Take an assessment today at EEHealth.org

HEART AWARE

Even seemingly healthy people can experience heart disease.

STROKE AWARE

Stroke is the leading cause of adult disability, regardless of age.

ANXIETY AWARE

More than 40 million adults in the U.S. are affected by anxiety disorders.

DEPRESSION AWARE

Depression interferes with everyday life, but the condition is treatable.

ADDICTION AWARE

Alcohol & drugs can take over your life, ruin relationships & damage your health.

DIABETES AWARE

Diabetes can lead to serious complications, like kidney failure, and premature death.

SLEEP AWARE

Snoring could be a sign of something serious - and potentially deadly.

BREAST AWARE

Detect breast cancer at its earliest, most treatable stage.

LUNG AWARE

Early detection of disease like COPD, can save lives.

COLON AWARE

Colon cancer can often be cured if found early.

CPR

Heartsaver CPR/AED Adult/Infant/Child

This American Heart Association Heartsaver CPR course is designed for the non-healthcare individual who requires certification for their workplace. This class will cover signs and symptoms of heart attack and stroke, choking, and CPR for the adult, child and infant victims. Class also includes training and practice on the use of AEDs for the adult and child victim. Participants who successfully complete the skills tests will be awarded a Heartsaver CPR/AED certification card valid for 2 years. This is a 4 hour class.

CPR for Family and Friends

This American Heart Association class will teach adult, child and infant basic rescue techniques such as CPR and choking. Signs and symptoms of stroke and heart attack are covered, along with the hazards which the pediatric population may be exposed to and how to make their environment safer. Participants will be awarded a participation card. This is not a certification course. This is a 3 hour class.

Course available as a variety of choice modules, including:

- Adult
- AED
- Infant & Child

Classes are held on Edward Hospital's campus and at the Plainfield Outpatient facility.
Call class registration at 630-527-6363 to register for an existing class.

Classes may be scheduled at your convenience for your community or work group.
Call 630-527-3596 to schedule a class (minimum of 8 participants required).

Glossary of Stroke Terms

ACUTE STROKE: A stage of stroke starting at the onset of symptoms and lasting for a few hours thereafter.

AGNOSIA: A cognitive disability characterized by ignorance of or inability to acknowledge one side of the body or one side of the visual field.

APHASIA: The inability to understand or create speech, writing or language in general due to damage to the speech centers of the brain.

APRAXIA: A movement disorder characterized by the inability to perform skilled or purposeful voluntary movements, generally caused by damage to the areas of the brain responsible for voluntary movement.

ARTERIOGRAPHY: An x-ray of the carotid artery taken when a special dye is injected into the artery.

ATHEROSCLEROSIS: The deposit of fatty substances (plaque) on the inner arterial wall which results in narrowing or blockage of the artery.

ATRIUM: The upper chamber of each side of the heart which receives blood from the body or the lungs and holds the blood until time to pump it into the lower chamber (ventricle) (plural: atria).

BLOOD PRESSURE: The pressure placed on the walls of your arteries as your heart pumps blood. The top number (systolic) refers to the pressure in your arteries while your heart is contracting, and the bottom number (diastolic) refers to the pressure in your arteries when your heart is relaxed (in between beats).

CARDIAC: Pertaining to the heart.

CARDIOVASCULAR: Pertaining to the heart and blood vessels.

CHOLESTEROL: A fatty substance found in foods of animal origin, such as meats, dairy products, and eggs that can form deposits in the arteries; also manufactured by the body.

CIRCULATORY SYSTEM: Pertaining to the heart, blood vessels, and the circulation of the blood.

COLLATERAL CIRCULATION: The creation of small branches of a coronary artery to improve the blood supply to an area served by a narrowed or blocked artery.

EMBOLI: Floating blood clots, singular embolus.

EXERCISE, AEROBIC: An endurance activity, such as walking or bicycling that involves repeated contracting and relaxing of the large muscle groups.

EXERCISE, ISOMETRIC: An activity such as weightlifting that involves the sustained contraction of a muscle.

HIGH BLOOD PRESSURE (HYPERTENSION): Increased pressure of the blood flow on the inner arterial walls that is great enough to put a strain on both the arteries and the heart; an unstable or persistent elevation of blood pressure above the normal range.

ISCHEMIA: Insufficient blood supply to any body organ, which reduces the amount of oxygen to the organ.

OCCCLUSION: AN ARTERY IN WHICH BLOOD FLOW HAS BEEN IMPAIRED BY A NARROWING OR BLOCKAGE.

PLAQUE: A patchy deposit of fatty material consisting of cholesterol, calcium, and other materials, found on the inner lining of the coronary arteries.

PULMONARY: Pertaining to the lungs.

RISK FACTORS: Conditions that increase the likelihood of developing cardiovascular disease.

RISK FACTORS INCLUDE:

Smoking	Family History	High Cholesterol
High Blood Pressure	Obesity	Diabetes
Sedentary Lifestyle	Stress	Alcohol Abuse

SATURATED FAT: A type of dietary fat, usually of animal origin, which is solid at room temperature and which may raise blood cholesterol levels. Common sources include animal products (butter, chicken skin, marbled meats) and some vegetable products (coconut oil, palm oil, cocoa butter, and hydrogenated vegetable oils).

SEPTUM: The muscular walls dividing the two chambers on the left side of the heart from the two chambers on the right side.

SODIUM: An essential dietary mineral; when taken in excess, it can cause water retention, swell body tissues and create additional work for the heart.

TRIGLYCERIDE: A type of fat in the blood that may contribute to atherosclerosis.

UNSATURATED FATS: Includes polyunsaturated and monounsaturated fats, both of which help to lower the level of cholesterol in the blood. Major sources of polyunsaturated fat include liquid vegetable oils such as corn, sunflower, cottonseed, safflower, and soybean oil. Monounsaturated fats are found in peanuts, peanut oil, olives, and olive oil.

VEIN: A blood vessel that carries oxygen-poor blood back to the heart from the body.

VENTRICLE: The lower chamber of each side of the heart; the left ventricle pumps oxygen-rich blood out to the body; the right ventricle pumps blood to the lungs in order to re-oxygenate it.