

### Your professional healthcare staff

Primary Nurse: \_\_\_\_\_

Home Health Aide: \_\_\_\_\_

Physical Therapist: \_\_\_\_\_

Occupational Therapist: \_\_\_\_\_

Speech Therapist: \_\_\_\_\_

Social Worker: \_\_\_\_\_

### Important Phone Numbers *(Patient to complete)*



Ambulance/Police/Fire

911 or \_\_\_\_\_



Poison Control

911 or \_\_\_\_\_



Hospital



Medical Equipment (Oxygen)



Doctor



Electric Company



Doctor



Phone Company



Non-Emergency Transportation



Water Company



Pharmacy



Family



# Stroke Education Guide





## SECTION II. Incidence of Stroke

Stroke is the third largest cause of death in the United States and one of the leading causes of serious, long-term disability. Studies have shown approximately 700,000 people suffer a new or recurrent stroke each year. 80% of strokes are new strokes and 20% are strokes suffered by persons who have had a previous stroke.

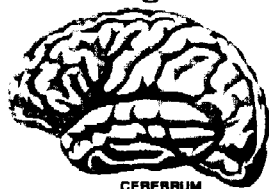
Strokes are more common in men than in women but more women die from strokes than men. Stroke can occur at any age; however, over two-thirds of all strokes occur in persons age 65 and over.



Stroke costs our country over \$71 billion per year. The annual cost is estimated to be \$43 billion for the direct costs of medical care/therapy and another \$28 billion in indirect costs from lost productivity and other factors.

### WHAT IS STROKE?

During a heart attack, a person suffers a loss of blood flow to the heart. During a stroke a person has a loss of blood flow to the brain or sudden bleeding in the brain. This is a "brain attack" or stroke.



Stroke is a type of brain injury. Brain injury occurs within minutes of a stroke and can become irreversible within as little as an hour. Brain damage begins from the minute the stroke begins and often continues for days afterward.

A stroke occurs when a blood vessel bringing oxygen and nutrients to the brain:

- is clogged by a blood clot or some other particle or becomes too narrow for blood to get through (*called an ischemic stroke and accounts for 80% of all strokes*); or
- bursts causing bleeding into or around the brain (*called a hemorrhagic stroke*).

When a blood vessel in the brain ruptures or is blocked, part of the brain doesn't get blood flow or oxygen. The nerve cells in that part of the brain can't function and the cells die within minutes. When brain cells die, function of the body parts they control is decreased or lost. Since dead brain cells can't be replaced, the effects of a stroke are often permanent.

When a blood vessel in the brain bursts, pressure from the blood also compresses part of the surrounding brain tissue and interferes with how the brain functions. Severe or mild symptoms can result, depending on the amount of pressure. The increased pressure in the brain may prove fatal for some people. However, if the person survives, the pressure gradually goes away and the brain may regain some of its former function.

PATIENT NAME: \_\_\_\_\_ PATIENT ID: \_\_\_\_\_

Check what was taught and who received instruction: patient or caregiver (CG). If both patient and caregiver received instruction, check both areas. Record date instruction was provided. Write initials of staff member providing instruction.

	PATIENT	CAREGIVER	DATE	INITIALS
1. What is stroke				
2. Stroke symptoms & warning signs				
3. How your heart works				
4. Stroke risk factors				
5. Effects of stroke				
6. Treating stroke				
7. Medications				
8. Diet and nutrition				
9. Stroke rehabilitation				
10. Paralysis				
11. Aphasia				
12. Other speech disorders				
13. Life at home				
14. Family/Caregivers and stroke				
15. Handling emergencies				
16. Medical intervention/followup				
17. Other:				
18. Other:				
19. Other:				

Item Number	Comments

SIGNATURE	TITLE	INITIAL	SIGNATURE	TITLE	INITIAL	SIGNATURE	TITLE	INITIAL
_____	_____	_____	_____	_____	_____	_____	_____	_____
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**THREE DAY DIET DIARY**

DAILY: \_\_\_ Milk \_\_\_ Fruit \_\_\_ Bread \_\_\_ Meat \_\_\_ Vegetable \_\_\_ Fat

Date: \_\_\_\_\_ Was this a usual day? \_\_\_\_\_

BREAKFAST		LUNCH		DINNER		SNACK	
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Date: \_\_\_\_\_ Was this a usual day? \_\_\_\_\_

BREAKFAST		LUNCH		DINNER		SNACK	
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BREAKFAST		LUNCH		DINNER		SNACK	
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Time: _____		Time: _____		Time: _____		Time: _____	
						Time: _____	
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Stroke symptoms depend on the part of the brain that is affected. A stroke can cause:

- paralysis or muscle weakness on one side of the body;
- pain;
- numbness and odd sensations;
- problems with balance and coordination;
- speech and language problems;
- memory, thinking, attention, learning and reasoning problems;
- trouble swallowing;
- problems with bowel and bladder control;
- problems with vision and visual perception;
- trouble in controlling emotions;
- depression;
- coma;
- death.

**STROKE SYMPTOMS & WARNING SIGNS**

**STROKE IS A MEDICAL EMERGENCY. IF YOU NOTICE ONE OR MORE OF THE FOLLOWING STROKE SIGNS/SYMPTOMS, DON'T WAIT! GET TO A HOSPITAL RIGHT AWAY! CALL 911 OR YOUR EMERGENCY MEDICAL SERVICES.**

The warning signs of stroke include:

- 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; and/or
- Sudden, severe headache with no known cause.



Not all the warning signs occur in every stroke. Don't ignore signs of stroke, even if they go away! If you notice any of the warning signs, check the time the first warning sign started since it is important for medical personnel to know this information. Effective therapies for stroke are now available that must be administered at a hospital within the first three (3) hours after stroke symptoms appear. **Every minute counts!**

It is not unusual for a person to deny they may be having a stroke; however, insist on taking fast action and don't take "no" for an answer. Call 911 or EMS immediately if you or if you are with someone who is having stroke symptoms.



## SECTION III. Stroke Risk Factors

Several factors are known to increase the risk of having a stroke. The more risk factors, the greater the chance for stroke. You obviously can't change or eliminate some risk factors for a stroke: family history, age, gender and race. But knowing you're at risk can motivate you to change your lifestyle to reduce other risks.

### RISK FACTORS YOU CANNOT CHANGE

- **AGE** - The older you are, the greater your risk for stroke. Although stroke can occur at any age, the risk of stroke doubles for every ten years of age after the age of 55.
- **GENDER** - Stroke is more common in men than in women.
- **HEREDITY (family history)** - If your parent, grandparent, sister or brother has had a stroke, your stroke risk is greater. Keep in mind, some families may have a common lifestyle that contributes to familial stroke.
- **RACE** - The risk for stroke varies among different ethnic and racial groups. African-Americans have almost twice as many strokes as white Americans. High blood pressure, cigarette smoking, diabetes, sickle cell anemia and obesity are more common in the African-American population and all of these factors increase the risk of stroke. Hispanic, Native American and Asian-American populations have a similar risk of stroke to that of white Americans.
- **PRIOR STROKE OR HEART ATTACK** - The risk of having another stroke is much higher for someone who has had a previous stroke or previous heart attack. The risk is greatest right after a stroke; however, as time goes by the risk decreases. About 25 percent of people who recover from their first stroke will have another stroke within 5 years.
- **LOCATION**- People living in the "**stroke belt**" (*southeastern United States*) have the highest rate of stroke in the country. The primary reasons for the higher stroke rate are felt to be: a higher percentage of African-Americans population; overall lower socioeconomic status leading to a lower standard of health care; regional differences in lifestyle, including a higher rate of cigarette smoking; and a regional preference for salty, high-fat foods. North Carolina, South Carolina and Georgia have a higher stroke rate than other states in the "stroke belt".



## THREE DAY DIET DIARY

DAILY: \_\_\_ Milk \_\_\_ Fruit \_\_\_ Bread \_\_\_ Meat \_\_\_ Vegetable \_\_\_ Fat

Date: \_\_\_\_\_ Was this a usual day? \_\_\_\_\_

BREAKFAST	LUNCH	DINNER	SNACK
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Time: _____	Time: _____	Time: _____	Time: _____
			Time: _____
			Time: _____

## SECTION XII. Medical Intervention/Follow-up



After a stroke survivor returns home, regular follow-up visits to the doctor's office or rehabilitation facility are needed to check on the stroke survivor's medical condition, how well the stroke survivor and family are adjusting and the ability to use the skills learned in rehabilitation.

- Be sure to keep your doctor appointments. The home health nurse/therapist(s) is ordered to work with your doctor, not replace him/her. Your doctor is the only one who can make changes in your medication and order tests that may be needed. Make the most of the appointments by asking questions, raising concerns and sharing your observations and feelings with your doctor.
- It's a good idea to keep a notebook or use this booklet to record changes you have noticed.
- Prepare a list of questions in advance so you don't forget to ask them. Write down the doctor's response to your questions.
- Don't withhold information that you think would be minor. It may be very important to your treatment and condition.
- Make sure the doctor knows all the medication (*prescribed and over-the-counter drugs, vitamins and herbal preparations*) you are taking.
- Don't leave the doctor's office until you understand all of the doctor's instructions and don't hesitate to call the doctor later if something comes to mind that you forgot to ask or report.

Your family and/or caregiver are also part of your health care team. Don't hesitate to ask them to help monitor your condition. They should know what new symptoms or changes in symptoms to report to your doctor or home health care nurse/therapist.

When you or your family/caregiver call the health care provider's office, make sure to say you are a stroke survivor, describe your symptoms, tell your health care provider what has already been done to bring relief or comfort; and give the names and amounts of medicines you take.

As with any relationship, it is important to be open, honest and communicate with your doctor and home health care nurse/therapist(s).

They will rely on you to follow their recommendations about your medication, diet, exercise and lifestyle. They will also depend on you and/or your family/caregiver to report back on the progress you make, as well as any problems you encounter. They will depend on you and/or your family/caregiver for information about your symptoms and any changes in your condition. Your input will effect decisions regarding your treatment.

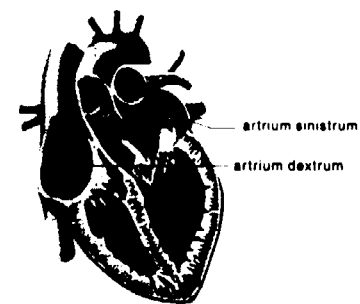
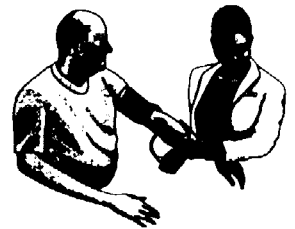
We are a health care team and must work together so you can have a better quality life.

- **SPECIAL RISKS FOR WOMEN** - Pregnancy, childbirth and menopause are stroke risk factors that apply only to women. These risk factors are tied to the fluctuation of hormones and changes that affect a woman in different stages of life. Studies have shown that women who took high-dose estrogen birth control pills (*the kind used in the 1960s and 1970s*) have an increased risk of stroke. Safer, more effective birth control pills are now prescribed with lower doses of estrogen. This has helped to decrease the risk of stroke in women. Studies also suggest that hormone replacement therapy lowers the risk of stroke.



### RISK FACTORS THAT CAN BE CHANGED/TREATED/CONTROLLED

- **HIGH BLOOD PRESSURE (hypertension)** - **It's the most important risk factor for stroke.** If you have high blood pressure, you are four to six times more likely to have a stroke than someone with normal blood pressure. Recent studies suggest that treating high blood pressure can lower the rate of stroke by 38 percent and decrease the stroke death rate by 40 percent.
- **HEART DISEASE** - The second most powerful risk factor for stroke is heart disease, especially a condition known as **atrial fibrillation**. About 15 percent of stroke patients have atrial fibrillation before they experience a stroke. In atrial fibrillation, the two upper chambers of the heart (*the atria*) quiver instead of beat effectively. Blood is not pumped completely out of the upper chambers of the heart. This causes blood to pool and form blood clots. If a blood clot enters the blood stream and blocks an artery of the brain, a stroke occurs. The risk of developing atrial fibrillation increases with age; therefore, the risk of stroke from this condition greatly increases with age. (*Atrial fibrillation causes 25% of the strokes in persons over 80 years of age.*)
- **DIABETES** - If you have diabetes mellitus, you have a three times greater risk of stroke than people without diabetes. People with diabetes often have high blood pressure, high blood cholesterol and obesity, all increasing their risk for stroke. The risk of stroke from diabetes is highest in persons 50 to 60 years of age.



- **TRANSIENT ISCHEMIC ATTACK (TIA)** - A transient ischemic attack (TIA) is also called a "mini-stroke." It starts just like a stroke, may last for a few minutes to an hour, but then goes away, leaving no lasting damage. Over 30% of the people who have had one or more TIAs will later have a major stroke. Therefore, it is very important to recognize and treat TIAs in order to lower the risk of a major stroke. All stroke symptoms signal an emergency and it is important not to wait to see if they go away. Since a TIA is an important predictor of stroke, don't ignore it! Call 911 and get medical help immediately.
- **ARTERY DISEASE** - The **carotid arteries** are the arteries in the neck that supply blood to the brain. When a carotid artery becomes narrow due to fatty deposits (*atherosclerosis*), it may become blocked by a blood clot. People with peripheral artery disease (*the narrowing of blood vessels carrying blood to leg and arm muscles*) also have a higher risk of carotid artery disease. This increases their risk of stroke.
- **OTHER HEART DISEASE** - People with coronary heart disease or heart failure have more than twice the risk of stroke as those without heart disease. An enlarged heart, heart valve disease, congenital (*present since birth*) heart defect or malformed heart muscle greatly increase the risk for stroke.
- **CARDIAC SURGERY** - Cardiac surgery to correct heart malformations or reverse the effects of heart disease increases a person's risk of stroke by only about one (1) percent. Usually, a stroke that results from cardiac surgery is caused by plaque breaking loose from the aorta. Plaque travels through the bloodstream to the arteries in the neck and head, causing stroke.
- **HIGH BLOOD CHOLESTEROL** - A high blood cholesterol level (*more than 240mg/dL*) increases the risk for stroke and heart disease. When too much cholesterol starts circulating in the blood, it builds up along the inside walls of the arteries, hardens (*turns into plaque*), leading to narrowing (*stenosis*) and atherosclerosis. The plaque blocks blood vessels and blood clots can form. A healthy diet and regular exercise are the best ways to lower your total cholesterol. Cholesterol-lowering medication may also be ordered by your doctor.
- **BLOOD DISORDERS** - A high red blood cell count thickens the blood and makes clots more likely. This raises the risk of stroke. Doctors may treat this problem by removing blood cells or prescribing "blood thinners."
- **SICKLE CELL ANEMIA** - A genetic disorder that mainly affects African-Americans. The "sickled" red blood cells (*cells shaped like a sickle*) can't carry oxygen to the body's tissues and organs very well. The sickled cells also tend to stick to the walls of blood vessels. This can block the arteries to the brain and cause a stroke.

## Stroke Care Plan

START DATE	MEDICATION NAME	DOSAGE	ROUTE	FREQUENCY	DISC. DATE

**HOME EXERCISE PROGRAM:**

**Physical Therapy:**  No  Yes: Frequency \_\_\_\_\_

Additional Instructions: \_\_\_\_\_

**Occupational Therapy:**  No  Yes: Frequency \_\_\_\_\_

Additional Instructions: \_\_\_\_\_

**Speech-Language Pathology:**  No  Yes: Frequency \_\_\_\_\_

Additional Instructions: \_\_\_\_\_

**ACTIVITY RESTRICTIONS:**  No  Yes: ( If yes, list restrictions) \_\_\_\_\_

**DIETARY RESTRICTIONS:**  No  Yes: ( If yes, list restrictions) \_\_\_\_\_

**FLUID RESTRICTIONS:**  No  Yes: ( If yes, list restrictions) \_\_\_\_\_

**NEXT DOCTOR'S APPOINTMENT:** \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_

**BLOOD WORK:**  No  Yes: (If yes, date to be drawn) \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_

**ADDITIONAL INFORMATION/INSTRUCTIONS:** \_\_\_\_\_



## SECTION XII. Medical Intervention/Follow-up



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We are a health care team and must work together so you can have a better quality life.

## RISK FACTORS REQUIRING A LIFESTYLE CHANGE

- **TOBACCO USE - Cigarette smoking is the #1 preventable and the most significant modifiable risk factor for stroke.** The risk of stroke is double in smokers, even when not combined with other risk factors. The nicotine and carbon monoxide in tobacco smoke:
  - reduce the amount of oxygen in the blood;
  - damage the walls of blood vessels; and
  - cause clots to form; and
  - weakens the endothelial wall (*a flat layer of cells that make up the innermost lining of a blood vessel*) of the cerebrovascular system which increases the damage from stroke.



Smoking is directly responsible for a greater percentage of strokes in young adults than in older adults. Heavy smokers are at greater risk for stroke than light smokers. The risk of stroke also increases in women who smoke and use certain kinds of birth control pills. **When you quit smoking, the risk of stroke starts to decrease immediately.** The risk decreases greatly after quitting smoking for two to four years. However, it may take years for a former smoker's risk to drop to the level of someone who never smoked.

If you have been smoking for years you may think you will never be able to quit. This will have to be your decision. You may ask yourself, "Why stop now...the damage is already done?" Keep in mind, the minute you quit smoking, your body goes to work to repair the damage.

Quitting smoking is a process. Sometimes it takes several attempts to quit before you are successful. (*Most smokers try at least three times.*) Don't give up! Practice makes perfect! There are numerous "aids" available on the market today to help you stop smoking; however, you have to be committed to quitting smoking.

Smokers report they smoke for stimulation, handling the cigarette, relaxation, help for tension, craving and habit. You will need to find substitutes for cigarettes if you use them for relaxation, stimulation or simply something to do with your hands and find new ways to cope with tension, craving and habit.

**To quit smoking you must:**

- Make up your mind to quit for **you!**
- Change your smoking pattern (*change brands, where and when you smoke and how much you smoke*).
- Keep a written record of when, why and where you smoke a week before quitting and start thinking of substitutes.
- Be positive and tell yourself that you can do this!
- Pick a day to quit and stick to it.
- Avoid friends and/or family members who smoke.
- Use coping techniques such as exercise, deep breathing, etc.

**You may need a nicotine replacement if you:**

- Smoke more than a pack a day;
- Smoke higher nicotine cigarettes;
- Smoke within 30 minutes of waking up;
- Smoke at least every two hours;
- Have withdrawal symptoms when smoking is delayed; and/or
- Smoke when you have a medical problem that is made worse by continued smoking.

- **PHYSICAL INACTIVITY AND OBESITY** - The risk of high blood pressure, high blood cholesterol, diabetes, heart disease and stroke increases when you are inactive, obese or both. It is important to be active and watch your weight.

- **EXCESSIVE ALCOHOL** - More than one alcoholic drink a day for women



or more than two drinks a day for men can raise blood pressure and lead to stroke. However, studies have found that drinking a small amount of alcohol every day may decrease the risk of stroke. Alcohol decreases the clotting ability of platelets in the blood (*much like aspirin*); but drinking too much alcohol can reduce the number of platelets so drastically that clotting is

affected and hemorrhage occurs. Heavy drinking or binge drinking can lead to the opposite effect. Once the alcohol leaves the body, blood can thicken and platelet levels skyrocket, increasing the risk for stroke.

## SECTION XI. Handling Emergencies

The home health agency has an on-call nurse available seven days a week, 24 hours a day to provide necessary care. If you have a change in condition, please contact the office during regular office hours, if possible. We can determine if a visit needs to be made and communicate with your physician, if necessary. We do not provide emergency care, do not carry medications with us and cannot give anything unless ordered by the physician. Your home medical equipment provider also has qualified personnel available to meet your needs after hours.

Even though a change in your symptoms is not expected, notify your doctor and/or the home health nurse if any of the following happens:

- 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; and/or
- Sudden, severe headache with no known cause.

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## WHERE TO GET HELP

Many kinds of help are available for stroke survivors, their families and caregivers. Some of the most important are:

- **Information about stroke** - A good place to start is with the books and pamphlets available from national organizations that provide information on this subject. Many of their materials are available free of charge.
- **Local stroke clubs or other support groups** - These are groups where stroke survivors and family members can share their experiences, help each other solve problems and expand their social lives.
- **Home health services** - These services are available from some public health departments, private home health agencies, visiting nurse associations and hospital home care departments. Services may include nursing care, rehabilitation therapies, personal care (*for example, help with bathing or dressing*), respite care (*staying with the stroke survivor so that the caregiver can take a vacation or short break*), homemaker services and other kinds of help.
- **Meals on Wheels** - Hot meals are delivered to the homes of people who cannot easily shop and cook.
- **Adult day care** - People who cannot be completely independent sometimes spend the day at an adult day care center. Meals, social activities, some health care and rehabilitation services are generally available.
- **Companion services** - A paid or volunteer companion makes regular visits or phone calls to a person with disabilities.
- **Transportation services** - Most public transportation systems have buses that a person in a wheelchair can board. Some organizations and communities provide vans to take wheelchair users and others on errands such as shopping or doctor's visits.

Many communities have service organizations that can help. Some free services may be available or fees may be on a "sliding scale" based on income. It takes some work to find out what services and payment arrangements are available. A good way to start is to ask the social worker in the home health agency providing your home care services. Also, talk to the local United Way or places of worship. Another good place to look is the Yellow Pages of the telephone book, under "Health Services," "Home Health Care," "Senior Citizen Services," or "Social Service Organizations." Just asking friends may turn up useful information. The more you ask, the more you will learn.



- **ILLEGAL DRUG ABUSE** - Intravenous (IV) drug abuse causes a high risk of stroke. Cocaine and crack cocaine can cause strokes and heart attacks, even in first-time users. Cocaine decreases blood flow in the brain by up to 30%. It causes the veins and arteries to narrow (*constrict*) and not relax and causes the heart to beat rapidly in an abnormal rhythm. This can cause blood clots to form. Marijuana smoking may also cause a stroke by damaging blood vessels and causing blood pressure to go up and down (*fluctuate*). Amphetamines (*speed*), heroin, anabolic steroids and even some common, legal drugs such as caffeine and pseudoephedrine (*found in over-the-counter decongestants*) may also increase the risk of stroke, since they can constrict the blood vessels and cause blood pressure to rise.



## OTHER RISK FACTORS

- **HEAD AND NECK INJURIES** - Injuries to the head or neck (*sudden and severe extension of the neck, neck rotation or pressure on the artery*) may damage the cerebrovascular system and cause a stroke. Neck calisthenics, "bottoms-up" drinking and improperly performed chiropractic manipulation of the neck can also put strain on the arteries of the neck (*vertebral and carotid arteries*) and lead to stroke.
- **INFECTIONS** - A recent viral or bacterial infection may act with other risk factors to add a small risk for stroke. The immune system responds to infection by increasing the infection-fighting properties of the blood. This process increases the number of clotting factors in the blood which increases the risk of blood clots.
- **CHILDREN/YOUNG ADULTS** - Young adults may have many of the risk factors mentioned above, such as drug use, alcohol abuse, pregnancy, head and neck injuries, heart disease or heart malformations and infections. Medical complications such as intracranial infection, brain injury, malformed or blocked blood vessels and genetic disorders such as sickle cell anemia can lead to stroke in children.



## SECTION IV. The Effects of Stroke

Although stroke is a disease of the brain, it can affect the entire body. Stroke affects people in different ways. The amount of brain injury will depend on the type of stroke, the severity, and the area of the brain affected. As a rule, children who have a stroke will do better than most adults after treatment and rehabilitation. Since their brain is immature, it has greater ability to adapt to deficits and injury.

### PARALYSIS

A common disability that results from stroke is paralysis on one side of the body (*called hemiplegia*) or one-sided weakness (*called hemiparesis*). The paralysis or weakness may affect only the face, an arm or a leg or may affect one entire side of the body and face. Because of the way our nervous system is developed, an injury to one side of the brain affects the opposite side of the body. A person will show right-sided paralysis or weakness when the stroke has injured the left side of the brain. When the stroke has injured the right side of the brain, the paralysis and weakness will be on the person's left side of the body.

### THINKING (COGNITIVE) SKILLS

Stroke can affect the ability to think clearly and to concentrate. Even simple activities may be hard to plan and carry out. Stroke survivors may not know how to start a task or may confuse the order of steps needed to complete a task. It is not uncommon to forget how to do tasks they've done many times before. Recent memory is affected in some stroke survivors, making it difficult to learn new things.

Stroke may also cause problems with awareness, attention and judgment. A stroke survivor may not be aware of their surroundings or may not be aware of the mental deficits that have resulted from the stroke.

Distractions (*noise, etc.*) may make it difficult for a stroke survivor to concentrate. The stroke survivor may have to repeat/rehearse incoming messages to make sure important information has been understood. It may be helpful to slow the rate of speech when talking to a stroke survivor in order to assist their processing needs.

The location of the stroke (*usually a stroke on the right side of the brain*) and severity of the damage will determine the seriousness of these problems.

- Standing up for the rights of the stroke survivor.
- Relaxing together while playing cards, watching television, listening to the radio, or playing a board game.
- Participating in education offered for stroke survivors and their families. Learning as much as you can and how you can help.
- Finding out what the stroke survivor can do alone, what they can do with help and what they 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.

### TIPS FOR REDUCING STRESS

Caregivers and stroke survivors may both find the following tips helpful in reducing stress:



- 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 to 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 feel irritated sometimes, this is natural and you don't need to blame yourself or "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 don't look back. Avoid comparing life as it is now with how it was before the stroke.

## SECTION X. Family/Caregivers and Stroke

Caregivers are usually family members such as a husband, 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.

The primary caregiver must make adjustments for the physical and emotional challenges involved in caring for the stroke survivor. The caregiver has many new responsibilities, must be available to provide needed care and must understand the stroke survivor's safety, physical and emotional needs. The caregiver also needs support, understanding and some time to rest. It is important for caregivers to take care of themselves by eating well, getting enough rest and taking time to do things that they enjoy.

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.

### PREPARING CAREGIVERS

Since every stroke is different, each caregiver will have different responsibilities, such as:

- Keeping notes on discharge plans and instructions and asking about anything that is not clear.
- Making sure the stroke survivor takes all prescribed medicines and following suggestions from the rehab team about diet, exercise, rest and other health practices.
- Encouraging and helping the stroke survivor practice skills learned in rehabilitation.
- Making suggestions to the home care rehab staff for activities that fit the patient's needs and interests.
- Helping the person solve problems and discover new ways to do things.
- Helping the person with activities performed before the stroke. These could include using tools, buttoning a shirt, household tasks, leisure or social activities.
- Helping with personal care, if the person cannot manage alone.
- Helping with communication, if the person has speech problems. Include the stroke survivor in conversations even when the person cannot actively participate.
- Arranging for needed community services.



### EMOTIONS



Stroke survivors may cry easily, show inappropriate emotions and have sudden mood swings. They may laugh when something isn't funny or cry for no apparent reason. This is more common in the early recovery process. Stroke survivors may also seem very self-absorbed. They may display a great need for a structured, unchanging routine.

Depression is also very common and is generally treated with antidepressant medications and therapy. Depression can hinder recovery and rehabilitation and may even lead to suicide if it is not treated.

### LOSS OF AWARENESS

Stroke often causes people to lose mobility and/or feeling in an arm and/or leg, or suffer dimness of sight on one side. The loss of feeling or visual field results in a loss of awareness, so stroke survivors may forget about or ignore their weaker side. This problem is called "neglect." As a result, they may ignore items on their affected side, have trouble reading, or dress only one side of their body and think they're fully dressed. Bumping into furniture or door jambs is also common. One-sided neglect is most common when there is damage to the right side of the brain.

### PERCEPTION



A stroke can also affect seeing, touching, moving and thinking. Stroke survivors may not be able to recognize familiar objects. When vision is affected, objects may look closer or farther away than they really are, causing spills at the table or collisions when walking. A person may be able to see objects in only certain parts of his or her field of vision.

### SPEECH/HEARING & COMMUNICATION

Stroke usually doesn't cause hearing loss, but people may have problems understanding speech and communicating. Stroke survivors often have trouble saying what they're thinking and have language deficits that greatly affect their ability to communicate. This is called aphasia. Aphasia affects the ability to talk, listen, read and write. It's most common when a stroke damages the left side of the brain, weakening the right side of the body.

Stroke can also affect the muscles in the tongue, palate and lips that are used in talking. As a result, speech can be slowed, slurred or distorted (*dysarthria*). This makes it hard for stroke survivors to be understood.

Problems with "social" communication skills may affect the stroke survivor's ability to take turns in a conversation, keep their "train-of-thought" (*may switch topics in the middle of a conversation*), use a proper tone of voice or keep up with others in fast paced conversation. A stroke survivor may overreact, be impulsive or show very little emotion (*flat affect*). Things the stroke survivor says or does during a conversation may not be appropriate and they may be unaware of their inappropriate actions.

Breathing muscles may be weaker. This affects the stroke survivor's ability to speak or to speak loud enough to be heard in conversation. The stroke survivor may need another way to communicate in order to express themselves (*e.g., communication board*).

Frustration, anger and depression can result from being unable to communicate effectively.

## CHEWING AND SWALLOWING FOOD

A stroke can leave one or both sides of the mouth weak and lack feeling. This can affect chewing, swallowing and increase the risk of choking (*called dysphagia*).

## PAIN

Stroke survivors may have uncomfortable numbness, strange sensations or pain after a stroke. Pain can result from any of the following:

- The weight of a paralyzed arm can cause pain in the shoulder;
- Discomfort caused by braces, slings or special shoes that are not fitted properly;
- Nerve damage, bed sores or an immobilized joint; and/or
- Lying or sitting in one position too long causes the body and joints to stiffen and ache.

**MediAlert** provides its subscribers with a bracelet or necklace tag engraved with medical data, a personal code number and a phone number that's linked to a 24-hour hotline. When called, operators can quickly access information on an individual: conditions, medications, and the physician's name and phone number. Additional MediAlert information can be obtained by calling (800) 432-5378. You can also visit their website at [www.medalert.com](http://www.medalert.com).

**Technology's MediBand** is made of a lightweight metal alloy and wraps around the wearer's watchband. The band offers concise medical identification and refers to a wallet card for more details. Bands come in gold and silver tones. For additional information call (410) 602-1911.

**GoldWare Medical Jewelry** makes sterling silver and 14 karat gold bracelets and pendants that are custom-engraved, usually with the wearer's name, medical condition and required medication. Additional information can be obtained by calling (800) 669-7311 or on their website at [www.goldware-ID.com](http://www.goldware-ID.com).

**SOS America's Emergency Medical ID** offers a locket containing a 12-inch accordion-folded strip of paper on which the user lists personal data, medical facts and other life-saving information. The product is available as a wrist or ankle bracelet, pendant, pin and watch, and comes in chrome, stainless steel, gold tone, sterling silver and 14 karat gold. Additional information may be obtained by calling (800) 999-1264 or on their website at [www.sosamerica.com](http://www.sosamerica.com).

## YOUR RESPONSIBILITIES

As a member of your health care team, you should:

- Monitor your general health and report any changes in how you feel to your doctor or home health care nurse/therapist.
- Report any changes in your symptoms.
- Take your medications as prescribed and report any side effects.
- Follow the guidelines for your activities and exercise. Report when you are not able to do an exercise or activity easily.
- Follow your prescribed diet.
- Be aware of the signs and symptoms of recurrent stroke, such as:
  - 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; and/or
  - Sudden, severe headache with no known cause.
- Prevent infection - avoid crowds during flu and cold season, avoid close contact with others who are sick.

## STROKE SUPPORT GROUPS



A stroke can be very isolating for the stroke survivor and the caregiver. Many communities have formed Stroke Clubs, support groups that meet regularly and are made up of stroke survivors and their family members, friends, etc. Stroke Clubs can help everyone learn that they're not alone and can be a place for stroke survivors and caregivers to make friends, socialize, gain realistic feedback, help others and find meaning in their lives.

The Stroke Club can also help those who want to:

- learn more about stroke;
- share their experiences regarding stroke;
- help one another face and overcome common challenges; and
- become inspired to move forward after their stroke.

For information about stroke support groups, ask your home care provider. You can also call the Stroke Family Support Network at 1-800-553-6321 or e-mail at: [strokeconnection@heart.org](mailto:strokeconnection@heart.org).

## LIFESAVING JEWELRY



The stroke survivor should have a medical identification tag. Such identification can save time in an emergency and may save your life since medical identifications provide emergency personnel with important information that allows them to act quickly. Keep in mind that sometimes a stroke survivor who has speech, balance and mobility problems can also be mistaken for a person who has had too much to drink unless they are aware that you have had a stroke.

Medical identifications need to be easily seen. Medical identifications may be a wrist or ankle bracelet, necklace pendants or neck chains with dog tags, watch charms, shoe tags, iron on tags or wallet cards. When selecting a medical identification, select something that you normally would wear all the time.

Necklaces, neck chains with pendants, and wrist bracelets are the first things emergency personnel look for, then watch charms and shoe tags. You should wear one medical identification and also keep a medical ID card in your wallet. The medical identifications should include your name, medical condition and an emergency phone number for information.

There are several companies which specialize in medical identification jewelry. Some of those are listed below. You can also check with your local jeweler or pharmacy.

## SECTION V. Treating Stroke

Today, doctors have a wide range of therapies to choose from when deciding the best plan of treatment for the stroke survivor. Stroke therapy will now focus on:

- **PREVENTING A RECURRENT STROKE** - by treating the stroke survivor's underlying risk factors for stroke, such as hypertension, atrial fibrillation, diabetes; and/or preventing the widespread formation of blood clots that can cause ischemic stroke in everyone, whether or not risk factors are present.
- **POST-STROKE REHABILITATION** - to overcome disabilities that result from stroke damage. Therapies include but are not limited to medications, disease process education, rehabilitation therapies and/or surgery.

## TESTS

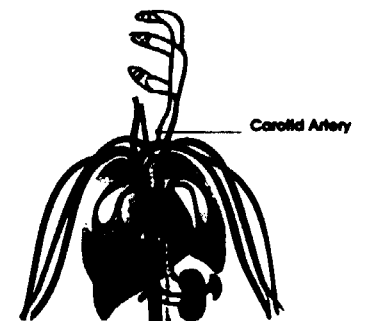
Tests are now available that doctors can use to let them:

- see how the brain looks (*e.g.*, CAT Scan, MRI);
- see the function, activity and underlying problems in the brain (*e.g.*, EEG), how the brain gets its blood supply, detects blockages (*e.g.*, blood flow tests, phonoangiography); and
- identify and localize the source of the stroke and outline the part of the brain affected by the stroke (*e.g.*, angiography).

## SURGERY

Surgery may be used to prevent stroke, to treat acute stroke, or to repair damaged or malformed blood vessels in and around the brain. The following procedures are examples of two surgeries used to treat narrowing (*stenosis*) of the carotid arteries:

- **CAROTID ENDARTERECTOMY** - Fatty deposits (*plaque*) are removed from the inside of the carotid artery(ies), (*located in the neck and supply most of blood to the brain*) to remove the blockage. This procedure is a safe and effective stroke prevention therapy for most people with greater than 50% stenosis (*narrowing*) of the carotid arteries.



- **STENTING** - This procedure involves inserting a long, thin catheter (*tube*) into an artery in the leg and threading the catheter into the narrow area of the carotid artery in the neck. Once the catheter is in place, the stent is expanded with a balloon on the tip of the catheter, increasing the blood flow through the artery.

Other surgical procedures may be performed to repair damaged or malformed blood vessels in and around the brain and to restore blood flow to a blood-deprived area of brain tissue.

## MEDICATIONS



Medications may be prescribed to decrease risk factors such as medicine for high blood pressure. Antithrombotics (*antiplatelet agents and anticoagulants*) are also commonly used in the treatment or prevention of stroke.

**ANTITHROMBOTICS** - These drugs prevent blood clots from being formed and reduce the risk of stroke (*ischemic stroke*):

- Antiplatelet drugs are used mainly for prevention since they prevent clotting by decreasing the activity of platelets (*blood cells that contribute to the clotting property of blood*). The most widely known and used antiplatelet drug is aspirin. Other antiplatelet drugs include clopidogrel and ticlopidine.
- Anticoagulants (*blood thinners*) are prescribed to reduce the risk of stroke by reducing the clotting property of the blood. The most commonly used anticoagulants include warfarin (*also known as Coumadin*) and heparin. (*See anticoagulant precautions below.*)

## ANTICOAGULENT PRECAUTIONS

Anticoagulants (*blood thinners*) can control many conditions; however, they do not cure them. It is important to take your medication exactly as ordered and to keep your appointments with your doctor. If you are on anticoagulants, you will have your blood drawn on a regular basis (*i.e., weekly, twice a month or monthly*) to monitor the medication dosage. Since blood will not clot effectively, the following precautions must be followed:



- Tell all medical doctors, dentists and pharmacists that you are taking a blood thinner (*anticoagulant*);



- Call your doctor right away if you notice any of the following signs of bleeding or overdose: bleeding gums when brushing teeth; blood in the urine; nosebleeds; pinpoint red spots on the skin; unusual bleeding or bruising; unusually heavy bleeding or oozing from cuts or wounds; unusual or unexpected menstrual bleeding.



- Report the following signs and symptoms that could indicate internal bleeding immediately to your doctor: abdominal or stomach pain or swelling; back pain or backaches; black tarry stools; blood in vomit or vomitus that looks like coffee grounds; blood in urine; blurred vision or bleeding in eyes; chest pain; confusion; constipation; coughing up blood; sudden and severe diarrhea; dizziness or fainting; continuing or severe headache;

## SEXUAL HEALTH

The quality of a couple's sexual relationship following a stroke differs from couple to couple. While most couples find their sexual relationship has changed, not all find this to be a problem. The closeness that a couple shares before a stroke is the best indicator of how their relationship will evolve after the stroke. It is important to remember that sexual satisfaction, both giving and receiving, can be accomplished in many ways. Whatever is comfortable and acceptable between partners is normal sexual activity.



## SPECIAL EQUIPMENT

If the stroke survivor has trouble walking, balancing or performing certain activities of daily living, special equipment is available that can be helpful. Here are some examples of equipment that are available and may be ordered by your doctor(s) and/or recommended by your home care nurse or therapist(s):

- **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.



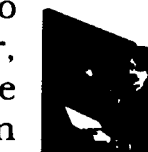
- **Ankle-foot orthotic devices (braces)** - Braces help a person to walk by keeping the ankle and foot in the correct position and providing support for the knee.

- **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.



- **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.





There are many emotional problems you will have to overcome on a daily basis. You will need help and encouragement from caregivers, family and friends.

Depression is quite common among people who have had a stroke because of the numerous and often devastating effects of stroke. If you find yourself severely depressed, you have a reason to feel that way, but ... **DO SOMETHING ABOUT IT TO MAKE IT BETTER!** Make your home care staff and doctor aware of your feelings.

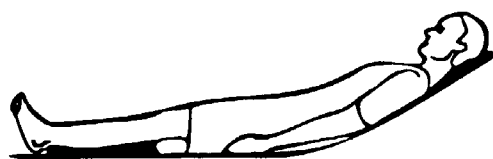
The stroke survivor's depression may dampen the family's enthusiasm for helping with recovery or drive away others who want to help. This deprives the stroke survivor of the social contacts which could help lessen depression, and creates a vicious cycle.

It is possible as time goes by for a stroke survivor's deficits to improve and the depression may lift by itself. Family can help by trying to stimulate interest in other people, encouraging leisure activities and providing opportunities to participate in spiritual activities. If necessary, chronic depression can be treated with individual counseling, group therapy or antidepressant drugs.

Stroke survivors may also experience what is known as emotional lability. They may have episodes of sudden laughing or crying for no apparent reason and difficulty controlling their emotions. The emotional display will end as quickly as it started.

## SKIN CARE

If the stroke survivor spends a great deal of time in bed or sitting for long periods of time in a wheelchair, decubitus ulcers (*sometimes called bed sores*) can be a serious problem. The sores usually appear on the elbows, buttocks or heels.



To prevent bed sores, caregivers should make sure the stroke survivor does not sit or lie in the same position for long periods of time. Pillows should be used to support the impaired arm or leg. The feet can hang over the end of the mattress so that the heels don't rest on the sheet, or pillows can be put under the knees to prop them so that the soles of the feet rest flat on the bed. Sometimes, a piece of sheepskin placed under the elbows, buttocks or heels can be helpful. Special mattresses or cushions reduce pressure and help prevent decubitus ulcers.



pain, stiffness or swelling in the joints; loss of appetite; numbness or tingling of hands, feet or face; paralysis; shortness of breath or fever or chills; skin rash with or without itching; blue or purple toes; swelling of the eyelids, face or lips; blurred vision; or sudden weakness. Other side effects not listed above could occur. Check with your doctor if you notice any other effects.



- Avoid cutting yourself. Brush and/or floss your teeth gently. Use a soft toothbrush. It is best to use an electric razor rather than a blade when shaving.



- Avoid contact sports or any activity where there is a risk of injury. Report any falls, blows to the body or head, or other injuries since bleeding can occur internally without you knowing it.



- Avoid any over-the-counter (OTC) products that contain aspirin, other salicylates or drugs that may interact with anticoagulants.



- Do not make any dietary changes that would greatly increase or decrease the level of Vitamin K in your diet without first consulting your doctor. Foods high in Vitamin K include green leafy vegetables (*broccoli, spinach, cabbage, collard greens, kale, lettuce*) and some vegetable oils.



- Check with your doctor before drinking alcohol. Alcohol may affect the way anticoagulants affect your body.

If you miss a dose of this medicine, take it as soon as possible, then go back to your regular schedule. However, if you do not remember until the next day, **DO NOT** take the missed dose at all and **DO NOT** double the next one. Doubling the dose may cause bleeding. Go back to your regular schedule and make sure you keep a record of each dose you take to avoid mistakes. Be sure to give your home health nurse or doctor a record of any doses that you miss.

## MEDICATION SAFETY

The guidelines below will assist you in working with your health care team:

- Any medication may cause an unplanned result. Always report any side effect to your health care provider. They will know what to do about the side effects.
- Always take your medicines at the correct time.
- Take the amount of medicine prescribed by your doctor.
- Do not stop a medication without first discussing it with your doctor.
- Do not reduce the medication dose unless ordered to do so by your doctor.

- Tell your doctor health care provider about all other medicines that you are taking (*even non-prescription medicines such as aspirin, antacids, cold medicines and herbal remedies*).
- If the doctor orders a new medicine, ask your doctor or pharmacist if this will affect the other medicines you may be taking.
- Use a chart or container system (*egg carton or med-planner*) to help you remember what kind, how much, and when to take medicine.
- Take your medicines with you any time you go to the doctor, hospital or emergency room so they will know what you are taking.

### MEDICATION COST



It is not uncommon for patients to have trouble paying for medicines. Don't hesitate to let your doctor, home health nurse or social worker know if this is a problem for you. Sometimes financial assistance can be obtained through social services agencies or through programs provided by drug manufacturers.

The home health nurse or social worker can help you apply for any available assistance.

The cost of your medicine can vary greatly from one pharmacy to another. It pays to compare the different prices among pharmacies (*or mail-order prescription services*). Sometimes, there is an acceptable generic form of your medicine available that is much less expensive. Ask your pharmacist if a generic form of your medicine is available.

## DIET AND NUTRITION

Any illness or trauma will change normal nutritional requirements. After a stroke, it may be necessary to modify your diet in order to meet your daily energy and basic nutritional needs. This is due to but not limited to the following stroke related problems:

**ABILITY TO EAT** - Chewing or swallowing problems can affect the ability to eat. It is important for you to eat a variety of foods and not eat the same easy-to-eat foods (*mashed potatoes, pudding, etc.*) time after time.

**POOR APPETITE** - After a stroke, food and eating may not be appealing due to:

- lack of desire for food;
- lack of taste sensation;
- fear of choking due to swallowing and chewing problems;
- mouth discomfort from ill-fitting dentures; and/or
- medication.

Constant encouragement may help increase the desire to eat and improve health.

## SECTION IX. Life at Home

Stroke survivors who can go home to a healthy spouse or other companion are more likely to become independent and productive again. Encouragement and early treatment are important.

It is not unusual for the stroke survivor and the family to feel apprehensive about being on their own at home. Among the common concerns are fear that:

- a stroke might happen again;
- the stroke survivor may be unable to accept the disabilities;
- the survivor might be placed in a nursing home;
- the caregiver may not be prepared to face the responsibility of caring for the stroke survivor;
- friends and family will abandon them.

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 at the hospital, rehab center or nursing facility to a new location. As the person tries to go back to their old activities, more problems caused by the stroke may become more apparent. During this time, the stroke survivor and family can learn how the stroke will affect daily life and can make the necessary adjustments.

The stroke survivor needs an orderly environment and a home that supports continuing recovery. If the stroke survivor has poor judgment, they must be guided when making important decisions. However, the stroke survivor should not live in a world so quiet and simple that there is little to react to.

It is important to have a safe home. If the person needs a new or safer place to live, a social worker can help find the best place. They may suggest changes to make the current home safer, such as changing rooms around so that a stroke survivor can stay on one floor, removing scatter rugs or small pieces of furniture that could cause falls, and putting grab bars and seats in tubs and showers.

## MANAGING YOUR EMOTIONS



It is not unusual for stroke survivors to experience fear, anxiety, depression, anger, resentment, frustration and loss of self-esteem. There should be no shame attached to feeling these emotions.

- Keep your own communication simple, but adult. Reduce your own rate of speech and keep your voice at a normal volume level, emphasizing key words.
- Use gestures and visual aids to help speech, whenever possible.
- When necessary, repeat a statement.
- Encourage independence and avoid being overprotective. If necessary, speak for the person but ask permission to do so.
- Keep things as normal as possible (*i.e., dinner with family, company, going out*). Try to involve the person with aphasia in group conversation and family decision-making as much as possible. Keep them informed about what is going on but avoid the day to day details.

### OTHER SPEECH DISORDERS

There are many other possible combinations of deficits that do not exactly fit into the above types of aphasia. There are also several other communication disorders that may be due to paralysis, weakness or incoordination of the speech muscles or to cognitive impairment. Such impairment may accompany aphasia or occur independently and be confused with aphasia. It is important to distinguish these speech problems from aphasia since they are treated differently.

**Apraxia** - Apraxia of speech is a disorder of the nervous system that affects the ability to sequence and say sounds, syllables and words. It is not due to muscular weakness or paralysis. The problem is in the brain's planning to move the body parts needed for speech. The person knows what he or she wants to say, but the brain is not sending the correct instructions to move the body parts of speech correctly. As a result, words like *constitutional* may come out sounding like *botfipitu*. The person with apraxia recognizes the mistake once the word is tried, and may try saying the word again and again without success or may say a completely different combination of sounds. Words with more than one syllable are harder than one syllable words.

The person with apraxia has difficulty imitating speech and may appear to be groping for the right sound when attempting to speak. In some cases, the person has trouble with purposeful movement of the lips, tongue, and jaw not only for speech but also for non-speech movements (*licking the lips, pursing the lips, sticking out the tongue, etc.*)

**Dysarthria** - Dysarthria is a disorder of speech production not language (*e.g., use of vocabulary and/or grammar*). Muscles of the lips, tongue, and other body parts used for speech may be weaker or less coordinated (*dysarthria*), affecting the patient's ability to speak clearly. Breathing muscles may be weak and affect the stroke survivor's ability to speak loud enough to be heard in conversation or he/she may be so weak the person is unable to speak at all.

**VISUAL PERCEPTION** - Food intake can be affected by stroke related vision problems. For instance, a stroke survivor may not eat food items on a plate or tray that is out of their field of vision. It may be necessary to remind the stroke survivor to look for all the food in order to finish all their meal.

**PORTION SIZE** - The stroke survivor may tire easily and it may take more time to eat after a stroke. Smaller portions of foods high in nutritional value can be offered more often.

**OTHER DIET CONSIDERATIONS** - The diet may have to be modified if the stroke survivor has other medical conditions such as high blood pressure, diabetes, bowel and bladder problems, obesity, etc.

### NUTRITIONAL CARE PLAN

Managing the stroke survivor's dietary needs is an important part of caregiving. Since eating meals are an essential part of health care, the nutritional plan must be realistic. Some stroke survivors will consider mealtime the highlight of their day, while others will not be interested in eating. Changing the survivor's eating habits may be difficult. It is important to teach and encourage good eating habits rather than trying to force or demand them.

In order to help prevent a recurrent stroke, a low-salt, low-fat, low-cholesterol diet is usually recommended. It is important to eat plenty of fruits and vegetables. These foods contain nutrients (*i.e., potassium, foliate and antioxidants*) that help protect against stroke.



If you have high blood pressure, avoid salty foods and put away your salt shaker. Excess sodium may increase blood pressure and reduce the potency of many blood pressure drugs.


Those with high cholesterol or hardening of the arteries should avoid foods containing high levels of saturated fats (*i.e., animal fats*). People with diabetes need to follow their doctor's advice on diet. Diet controls can increase the benefits of the drugs which may have been prescribed.

The dietician and/or home care nurse can help caregivers and family members develop a nutritional care plan. The plan should include:

- individual needs since no standard menu or diet will apply to everyone; and
- the survivor's preferences and eating habits. Take into consideration any social or cultural factors, when at all possible.

Because it takes so much effort to buy groceries and prepare meals, the stroke survivor who lives alone could try to skip meals. Nutrition programs, such as Meals on Wheels or hot lunches offered through community centers may be available to provide meals in your area. Your home care staff will assist you in obtaining meals, when available.

There are also many special aids available to help the stroke survivor at the table if their arms and hands are physically impaired.

 These include:

- flatware with built-up handles making it easier to grasp;
- rocker knives for cutting food with one hand; and
- plate guards (*attachable rings*) to keep food from being accidentally pushed off the plate.



If the stroke survivor has trouble swallowing, they will need to be observed while eating so that they do not choke on their food. The same is true of those with memory loss since they may forget to chew or to swallow. Tougher foods should be cut into small pieces to prevent choking.

Weight control is also important, since obesity can make it difficult to perform daily tasks.

### LOW SALT DIET



#### LIMITING SALT IN YOUR DIET:

Salt (*sodium*) may cause your body to hold too much water and affect your blood pressure. It is important to decrease salt without sacrificing the enjoyment you get from eating.

Your doctor will specify how much salt you can have on a daily basis. Since making the changes in your diet can be confusing and complicated, your home health nurse or dietician can provide you with specific dietary instructions and counseling.

They can suggest ways to prepare foods and ways to modify your favorite recipes to lower the salt content in your diet. Your current likes and dislikes, and foods that you can afford, should be considered when planning your diet.

Low sodium foods include fresh fruits and vegetables (*except celery*), most hot cereals, puffed rice or wheat cereal, rice, pasta (*noodles, spaghetti, macaroni*), and special low salt and salt free foods.

#### TIPS ON CUTTING DOWN ON SALT:

Since you have probably been eating a lot more salt than what you can now have, it is important to start making diet changes now. Many foods have "hidden" salt. There are numerous forms of sodium, so be alert for anything that has the word sodium with it, for example, sodium hydroxide.

**Technology** - Thanks to technology, a huge range of new options for rehabilitation have become available, including computers for at-home language practice, devices to enhance communication and products to help people adapt their environments for daily activities, work and leisure. However, research has not shown that any form of technology is better than individualized therapy designed by qualified clinicians. Combining some forms of technology with the individual needs and abilities of the client may prove to be very beneficial in many cases.



**Augmentative Communication Device** - is a phrase used to describe all sorts of aids to communication. It can mean something as low tech as an alphabet board or it can mean something as high tech as a computer driven by the eye blinks of its user. It is very important to match the abilities and communication needs of the user to the right device. The American Speech/Language and Hearing Association (ASHA) has produced a booklet to outline the process for deciding when an augmentative communication device would be helpful in enhancing communication. To get a free copy of "Augmentative Communication for Consumers" write American Speech-Language-Hearing Association, Consumer Information, 10801 Rockville Pike, Rockville, MD 20852. You may also call 800-638-8255 or 301-987-5700 or go to their internet website [www.asha.org](http://www.asha.org).

### COMMUNICATING WITH A PERSON WHO HAS APHASIA

The following communication tips may prove helpful when communicating with a person with aphasia:

- Do not talk down to the person. Talk to the person with aphasia as an adult and not as a child.
- During conversation, limit or eliminate background noise (*i.e., television, radio, other people*) whenever possible.
- Make sure you have the person's attention before communicating.
- Praise all attempts to speak; make speaking a pleasant experience and provide stimulating conversation. Encourage and use all types of communication (*speech, writing, drawing, yes/no responses, choices, gestures, eye contact, facial expressions*).
- Give them time to talk and permit a reasonable amount of time to respond.
- Accept all communication attempts (*speech, gesture, writing, drawing*) rather than demanding speech.
- Downplay errors and avoid frequent criticisms/corrections.
- Avoid insisting that each word be produced perfectly.

**Wernicke's aphasia** - In this form of aphasia, mainly the ability to grasp the meaning of spoken words is impaired, while the ease of producing connected speech is not much affected. Therefore, Wernicke's aphasia is referred to as a "fluent aphasia." However, speech is far from normal. Sentences do not hang together and irrelevant words intrude, sometimes to the point of jargon in severe cases. Reading and writing are often severely impaired.

**Anomic aphasia** - This term is applied to persons who are left with a persistent inability to supply the words for the very things they want to talk about, particularly the significant nouns and verbs. They understand speech well, and in most cases, read adequately. Difficulty finding words affects writing as well as speech.

### SOCIAL EFFECTS OF APHASIA

Aphasia can cause tremendous personal and social adjustments. It can severely disrupt families and friends, as well as those who have it. People with persistent aphasia often find themselves isolated and ignored. Friends may stop inviting them places, calling or visiting due to difficult conversation.

Few people with aphasia return to the lives they had before. They may not be able to do the jobs they did before and may be forced to retire. This may cause feelings of isolation, frustration and worthlessness. Many people with aphasia are lonely, desperate and even suicidal.

### TREATMENT

**Speech-Language Pathology** - The speech-language pathologist:

- works on drills and exercises to improve specific language skills affected by damage to the brain;
- teaches the stroke survivor ways to make use of stronger language skills to compensate for weaker language skills;
- may teach how to use both writing and gestures to help remember words for conversation.

Group therapy sessions may be recommended in order to practice conversational skills with other persons with aphasia. Eventually, persons may participate in individual or group outings to practice their use of communication strategies in real life situations. Later on in recovery, the speech-language pathologist may work with a vocational specialist to help the person return to work or school, if appropriate.

If there is weakness of speech muscles, the speech-language pathologist teaches exercises to strengthen these muscles. In order to compensate for the muscle weakness, the person is also taught how to make their speech more easily understood.

The following list will assist you in decreasing your intake of table salt (*sodium*):

- Remove the salt shaker from the stove and cook without salt. This can reduce your salt intake by 30%.
- Remove the salt shaker from your eating table. This can reduce your salt intake by up to another 30%.
- Salt substitutes can be used, but since these contain extra potassium, check with your doctor first on which ones, if any, are appropriate for you.
- Avoid salty seasonings such as bouillon cubes, meat tenderizer, soy sauce, steak sauce, chili sauce, Worcestershire sauce, seasoned salts, etc.
- Use low salt seasonings such as vinegar, herbs and lemon juice.
- Use fresh vegetables and fruits or low-sodium canned and processed foods instead of regular canned fruits and vegetables.
- Use plain or brown rice instead of chicken/meat-flavored rice that comes in a packet and has a flavor packet.
- Avoid high-sodium foods such as:
  - buttermilk;
  - canned soups/dry soup mixtures;
  - canned meats and fish (*buy water packed tuna or salmon instead*);
  - ham, bacon, or sausage;
  - processed meats (*deli meats, hot dogs*);
  - salted nuts or peanut butter;
  - instant cooked cereals;
  - salted margarine or butter;
  - prepared cornbread, pancake, muffin mixes, etc.;
  - prepackaged frozen dinners with over 400 milligrams of sodium per serving;
  - snack foods like potato chips, pretzels, olives, pickles;
  - cheese (*except low sodium or cottage cheese*);
  - salad dressings, and;
  - preseasoned mixes for tacos, chili, sauces, gravies, etc.
- Avoid fast foods since most are very high in sodium.
- Avoid headache or heartburn medications that contain sodium (*sodium carbonate or sodium bicarbonate*).



### LOW SATURATED FAT/LOW CHOLESTEROL DIET


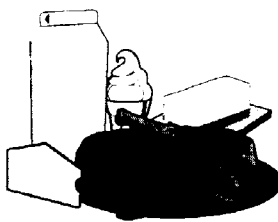
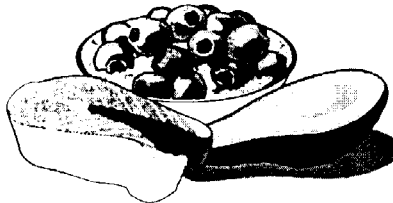
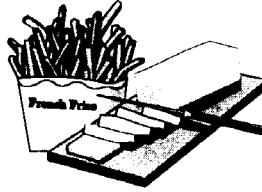
Most people in the United States eat too much saturated fat. Some fat is needed in the food you eat for energy and essential fatty acids that help absorb the fat-soluble vitamins (A, D, E, K) and carotenoids. Some kinds of fat, especially saturated fats, increase the risk for coronary heart disease by raising the blood cholesterol; however, unsaturated fats (*found mainly in vegetable oils*) do not increase blood cholesterol. It is important to choose foods low in saturated fat and cholesterol. This means we must eat fewer foods of animal origin, such as meat and whole-milk dairy products, and eat more plant foods such as vegetables and grains.

The U.S. Department of Agriculture and the U.S. Department of Health and Human Services advise consumers to:

- Reduce total dietary fat intake to 30% or less of total calories.
- Reduce saturated fat intake to less than 10% of calories.
- Reduce cholesterol intake to less than 300 milligrams daily.

### KNOW THE DIFFERENT TYPES OF FAT

It is important for you to know the different types of dietary fat.

<p><b>Dietary Cholesterol</b></p> 	<p>Foods that are high in cholesterol also tend to raise blood cholesterol. These foods include liver and other organ meats, egg yolks, and dairy fats.</p>
<p><b>Saturated Fats</b></p> 	<p>Foods high in saturated fats tend to raise blood cholesterol. These foods include high-fat dairy products (like cheese, whole milk, cream, butter, and regular ice cream), fatty fresh and processed meats, the skin and fat of poultry, lard, palm oil, and coconut oil. Keep your intake of these foods low.</p>
<p><b>Unsaturated Fats</b></p> 	<p>Unsaturated fats (<i>oils</i>) do not raise blood cholesterol. Unsaturated fats occur in vegetable oils, most nuts, olives, avocados, and fatty fish like salmon. Unsaturated oils include both monounsaturated fats and polyunsaturated fats.</p> <p>Olive, canola, sunflower, and peanut oils are some of the oils high in monounsaturated fats. Vegetable oils such as soybean oil, corn oil, cottonseed oil and many kinds of nuts are good sources of polyunsaturated fats. Some fish, such as salmon, tuna, and mackerel, contain omega-3 fatty acids that are being studied to determine if they offer protection against heart disease. Use moderate amounts of food high in unsaturated fats, taking care to avoid excess calories.</p>
<p><b>Trans Fatty Acids</b></p> 	<p>Foods high in trans fatty acids tend to raise blood cholesterol. These foods include those high in partially hydrogenated vegetable oils, such as many hard margarines and shortenings. Foods with a high amount of these ingredients include some commercially fried foods and some bakery goods.</p>

The stroke survivor may speak only in single words or in short, fragmented phrases. Smaller words may be omitted, words may be put in the wrong order, incorrect grammar may be used, sounds and/or words may be switched or they words may be made up. In some cases, nonsense (*or real*) words are strung together quite fluently, but make no sense to the listener.

A person with aphasia may need extra time to process and understand what is being said and it may also be hard to follow very fast speech (*e.g., radio or television news*). These problems lead to communication breakdowns and are frustrating for both the person with aphasia and the listener. In some cases, people with aphasia will say completely inappropriate things like counting to 10, swearing without reason or they may laugh or cry at inappropriate times. The person's speech may also become slurred with many mispronounced words, and sound as if the person is "drunk."

Family support is a key factor in a good recovery from stroke. Therefore, it is important for family members and caregivers to have the information needed to effectively understand and cope with aphasia.

### TYPES OF APHASIA

There are different types or patterns of aphasia. The type depends on the location of the brain injury in the individual case. The common types of aphasia are listed below:

**Global aphasia** - This is the most severe form of aphasia. Persons with this type aphasia can produce a few recognizable words and understand little, if any, spoken language and are unable to read or write. This type of aphasia is often seen immediately after the patient has suffered a stroke. If the brain damage is not too severe, it may improve quickly; however, if the damage is severe, the global aphasia may last.

**Broca's aphasia** - This is a form of aphasia in which speech output is severely reduced and is limited mainly to short utterances of less than four words. Vocabulary access is limited in persons with Broca's aphasia, and their formation of sounds is often laborious and clumsy. The person may understand speech relatively well and be able to read, but be limited in writing. Broca's aphasia is often referred to as a "non fluent aphasia" because of the halting and effortful quality of speech.

**Mixed non-fluent aphasia** - This term is applied to patients who have sparse and effortful speech, resembling severe Broca's aphasia. However, unlike persons with Broca's aphasia, they remain limited in their comprehension of speech and do not read or write beyond a grade school level.

## SECTION VIII. Aphasia

Aphasia is a disorder that results from damage to language centers of the brain. It effects the person's ability to produce or comprehend speech and the ability to read or write. As a result, persons who were previously able to communicate through speaking, listening, reading and writing become more limited in their ability to do so.

The most common cause of aphasia is stroke; however, aphasia can also result from head injury or other neurological disorders such as brain tumor or Alzheimer's Disease. Aphasia can occur in people from all races, educational and socio-economic backgrounds. The effects of aphasia differ from person to person. Damage to the left side of the brain will cause aphasia for almost 100% of persons who are right-handed and for about 50% of left-handers.

Aphasia can be temporary. More than 50% of those persons who initially show symptoms of aphasia recover completely within the first few days. Since the condition is determined by the location and size of the area of damage in the brain, aphasia can't be prevented.

So far, there are no medicines or drugs known to cure aphasia and surgery is not useful in cases of aphasia following stroke. Speech therapy will usually help a person with aphasia but it is not a cure. However, speech therapy helps by having the stroke survivor fully utilize their remaining skills and/or develop ways to communicate non-verbally (*without words*).

Language includes talking, understanding, reading and writing. Some people with aphasia primarily have problems with expressive language (*what is said*), some have primary problems with receptive language (*what is understood*) and some have problems with both. Typically, reading and writing are more impaired than oral communication.

There are degrees of aphasia. A person with **mild aphasia** may be able to carry on normal conversations in many settings. However, they may have trouble understanding language when it is long or complex, or they may have some trouble finding the words they need to express an idea or to explain themselves verbally or in writing. Persons with **severe aphasia** may understand almost nothing of what is said to them and say little or nothing. Their communication may be limited to "yes" or "no" or common words like "hi" or "thanks." People with aphasia commonly experience word finding problems (*anomia*). This is like the common experience of having a word "on the tip of your tongue" but not being able to remember it.

## FOOD CHOICES LOW IN SATURATED FAT AND CHOLESTEROL AND MODERATE IN TOTAL FAT

Avoid fried foods! Bake, broil, or roast vegetables and meat. Get most of your calories from plant foods (*grains, fruits, vegetables*). If you eat foods high in saturated fat for a special occasion, eat foods that are low in saturated fat the next day.



### Fats and Oils (*Some fats are healthier than others.*)

Olive or canola oil are best for cooking. Avoid saturated fats like butter, lard, meat fat, bacon and shortening. If you need fewer calories, decrease the amount of fat you use in cooking and at the table.



### Meat, Poultry, Fish, Shellfish, Eggs, Beans, and Nuts

Eat more fish and poultry! Choose 2 to 3 servings of fish, shellfish, lean poultry, other lean meats, beans or nuts daily. Choose lean cuts of meat and trim fat from meat. Take skin off poultry. Choose dry beans, peas or lentils often.



Limit your intake of high-fat processed meats such as bacon, sausages, salami, bologna and other cold cuts. Try the lower fat varieties (*check the Nutrition Facts Label*).



Limit your intake of liver and other organ meats. Use egg yolks and whole eggs in moderation. Use egg whites and egg substitutes freely when cooking since they contain no cholesterol and little or no fat. Limit the number of "whole" eggs you eat to three or four a week.



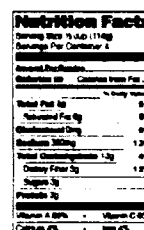
### Potatoes/Pasta/Rice

Choose white or sweet potatoes, rice, grits, macaroni, spaghetti and low fat (*air-popped*) popcorn. Avoid potato chips, egg noodles, commercial popcorn and pork and beans.



### Dairy Products

Choose fat-free or low-fat milk, fat-free or low-fat yogurt and low-fat cheese. Try switching from whole to fat-free or low-fat milk. This decreases the saturated fat and calories but keeps all other nutrients the same. Use lower fat versions of saturated fats like sour cream and cream cheese and a diet margarine instead of butter.



### Prepared Foods

Check the Nutrition Facts Label to see how much saturated fat and cholesterol are in a serving of prepared food. Choose foods lower in saturated fat and cholesterol.



### Desserts

Select fruits, homemade puddings made with skim milk, fat free ice cream, frozen yogurt, sorbet or sherbet. Avoid commercial cakes, pies, cookies and doughnuts.

## A COMPARISON OF SATURATED FAT IN SOME FOODS

Different forms of the same food may be very different in their content of saturated fat (*see examples below*). Try to frequently choose the forms of food that are lower in saturated fat most often.

FOOD CATEGORY	PORTION	SATURATED FAT CONTENT IN GRAMS
<b>Cheese</b>		
Regular Cheddar cheese	1 oz	6.0
Low-fat Cheddar cheese*	1 oz	1.2
<b>Ground Beef</b>		
Regular ground beef	3 oz. Cooked	7.2
Extra lean ground beef*	3 oz. Cooked	5.3
<b>Milk</b>		
Whole milk	1 cup	5.1
Low-fat (1%) milk*	1 cup	1.6
<b>Breads</b>		
Croissant	1 medium	6.6
Bagel*	1 medium	0.1
<b>Frozen Desserts</b>		
Regular ice cream	1/2 cup	4.5
Frozen yogurt*	1/2 cup	2.5
<b>Table Spreads</b>		
Butter	1 tsp.	2.4
Soft margarine*	1 tsp.	0.7

\* Best choices to select.

### EATING OUT

It is possible to continue eating out, even at "fast-food" restaurants. Fast food used to mean fried food; however, today there are more low fat items to choose from (*salads, grilled chicken, frozen yogurt, etc.*). The following suggestions can help you stay on a low fat diet.

- Order first to lessen your chances of being influenced by your dining partner's choices.
- If you order an appetizer, try a broth-based soup instead of cream soup or fried appetizers.
- If you go to a salad bar, avoid foods high in fat (*e.g., shredded cheese, eggs, creamy dressings, etc.*). Try lemon juice as a dressing for salad.
- NO FRIED FOODS! Lean meat, chicken (*remove the skin if present since it is high in fat*) or seafood that has been broiled, baked, grilled, steamed or poached are the best choices. Limit ground meat and fatty processed meats and marbled steaks. If you see any fat on your meat, remove it!
- Limit your intake of foods with creamy sauces. Add little or no butter to your food.
- Don't hesitate to ask your server how a certain dish is prepared. Ask your server to see if your selection can be prepared using a low fat ingredient.

## PSYCHOLOGICAL/PSYCHIATRIC THERAPY

Many stroke survivors require psychological or psychiatric help in order to eliminate the mental and emotional problems that result from a stroke. It is not unusual for stroke survivors to experience depression, anxiety, frustration and anger. Therapy, counseling and appropriate medication are usually helpful. Family members may also find it helpful to seek psychological help as well.

### SECTION VII. Paralysis

Stroke may result in paralysis on one side of the body (*called hemiplegia*) or one-sided weakness (*called hemiparesis*). The paralysis or weakness may affect only the face, an arm or a leg or may affect one entire side of the body and face. Because of the way our nervous system is developed, the weakness or paralysis is on the side of the body opposite the side of the brain affected by the stroke. A person will show right-sided paralysis or weakness when the stroke has injured the left side of the brain. When the stroke has injured the right side of the brain, the paralysis and weakness will be on the person's left side of the body.

The paralysis shows up as weakness along with rigidity or spasticity (*abnormal tone*). When standing, the leg may be unstable. The knee may buckle or it may be hyperextended. This makes walking unsafe, tiring and/or painful. The lack of feeling or sensation, poor balance, lack of muscle control and/or pain may cause a loss of balance and resulting fall. This causes the stroke survivor to have anxiety when walking.

Physical therapy is very beneficial for stroke survivors experiencing hemiplegia or hemiparesis. Special braces may be necessary to support weak ankles, feet and knees. A walking aid(s) may be recommended and the therapist will teach the stroke survivor how to use the device(s). The stroke survivor may have to use a wheelchair until their muscle strength, endurance, balance and mobility improves.

It is very important to prevent falls. The following tips will be helpful:



- Reduce obstacles in your home. Get rid of clutter, loose rugs and unsecured wires and cords.
- Good lighting and furniture placement can prevent mishaps.
- Be aware of the side effects of certain medicines since they can cause dizziness, drowsiness and slower reflexes that can cause a fall.
- Exercise to improve your strength, balance, endurance and flexibility.



## REHABILITATION NURSING

Nurses specializing in rehabilitation help stroke survivors relearn the basic activities of daily living. They also educate survivors about routine health care, such as how to:

- follow a medication schedule,
- care for the skin,
- manage transfers between a bed and a wheelchair,
- care for special needs (*i.e., people with diabetes*)
- reduce risk factors that may lead to a second stroke, and
- provide training for caregivers.

Nurses are closely involved in helping stroke survivors manage personal care issues, such as bathing and controlling incontinence. Most stroke survivors regain their ability to control their bowel and bladder by strengthening pelvic muscles through special exercises and following a timed voiding schedule. If problems with incontinence continue, nurses can help caregivers learn to insert and manage catheters and to take special hygienic measures to prevent other incontinence-related health problems from developing.







## VOCATIONAL THERAPY

Approximately one-fourth of all strokes occur in people between the ages of 45 and 65. For most people in this age group, returning to work is a major concern. Vocational therapists perform many of the same functions that ordinary career counselors do. They can help people with residual disabilities:

- identify vocational strengths;
- develop resumés that highlight those strengths;
- identify potential employers;
- assist in specific job searches; and
- provide referrals to stroke vocational rehabilitation agencies.

Vocational therapists can provide education to disabled individuals about their rights and protections as defined by the Americans with Disabilities Act of 1990. This law requires employers to make "reasonable accommodations" for disabled employees. Vocational therapists frequently act as mediators between employers and employees to negotiate the provision of reasonable accommodations in the workplace.

## FAST FOOD

- Avoid fatty toppings like cheese, special sauces, mayonnaise and bacon. Instead, select pickles, onions, lettuce, tomato and/or mustard.
- Select a baked potato instead of french fries. Eat it plain or with a vegetable, yogurt or low fat cottage cheese.  
- Try a bagel instead of Danish.
- Select a grilled chicken sandwich instead of a cheeseburger.  
- Avoid fried chicken, fried chicken pieces or tacos. Select grilled chicken, a salad bar (*watch out for high fat foods*) or chicken fajita pitas.
- Select pretzels instead of potato chips.  
- Order juice or low fat (*1% or fat free*) milk instead of a milkshake.

## SECTION VI. Stroke Rehabilitation

Stroke is the number one cause of serious adult disability in the United States. Fortunately, home health care and rehabilitation services are available to help rehabilitate stroke survivors at home.

Home rehabilitation allows for greater flexibility so that patients can tailor their specific program of rehabilitation and follow individual schedules. Stroke survivors may participate in an intensive level of therapy several hours per week or follow a less demanding regimen.

One disadvantage of home-based rehabilitation programs may be a lack of certain specialized equipment. However, undergoing treatment at home gives people the advantage of practicing skills and developing compensatory strategies in the context of their own living environment.

Rehabilitation is a very important part of recovery for most stroke survivors. While rehabilitation doesn't always reverse the effects of a stroke, it can help the stroke survivor change, relearn or redefine how they live. Rehabilitation therapy can help build strength, endurance and confidence so you can continue your daily activities despite the effects of your stroke. It can help the stroke survivor return to independent living.

Your rehabilitation program will start when your doctor decides that your condition is stable and that you can benefit from rehabilitation. If your rehabilitation program was started in the acute care hospital, rehabilitation hospital or long-term care facility, it will generally be continued at home or at an outpatient facility, depending on your needs and what type of rehabilitation program will be best for you.

Your rehabilitation program will depend on what areas you need to work on in order to regain independence, such as:



self-care skills (*feeding, grooming, bathing and dressing*);



mobility skills (*transferring, walking or self-propelling a wheelchair*);



communication skills in speech and language;



cognitive skills (*memory or problem-solving*);



social skills for interacting with other people.

## REHABILITATION GOALS

Rehabilitation goals will depend on the effects of the stroke, what the stroke survivor was able to do before the stroke and the stroke survivor's wishes. A joint effort by the patient, family and rehabilitation program staff is required to set goals.

The stroke survivor will not be able to reach goals that are set too high. However, if goals are set too low, the stroke survivor may not get all the services that would help. Goals should be realistic and match the stroke survivor's interest. When setting goals it is very important to know what the stroke survivor wants to be able to do.

Realistic rehabilitation goals may include:

- Being able to walk, at least with a walker or cane (*for most stroke survivors*).
- Being able to take care of yourself with some special equipment (*for most stroke survivors*).
- Being able to drive a car (*for some stroke survivors*).
- Having a job (*for some stroke survivors who were working before the stroke*). For some, the old job may no longer be possible but another job or a volunteer activity may be realistic.

Rehabilitation can be mentally exhausting for you and the people closest to you. Recovering from a stroke can be frustrating, so tell your family members and friends not to take it personally if you become emotional or angry.

Keep in mind that recovery does not end just because treatment goals have been reached. It means the stroke survivor and their family are now ready to continue recovery on their own.

## SPEECH & LANGUAGE PATHOLOGY (SPEECH THERAPY)

Speech and language pathology (*speech therapy*) helps the stroke survivor relearn language and speaking skills or learn other forms of communication. A speech therapist can train the stroke survivor to use the language skills that remain intact more effectively. They help the stroke survivor help themselves by developing coping skills to deal with the frustration of not being able to communicate fully. With time and patience, a stroke survivor should be able to regain some, if not all, language and speaking abilities. Many experts feel the sooner speech therapy begins after a stroke, the more effective it will be. It is very important for the person to communicate as successfully as possible from the very beginning of the recovery process.

The speech-language pathologist will work on specific drills and methods to improve language skills. The stroke survivor may also participate in group therapy sessions to practice conversational skills with other stroke survivors. The treatment program will focus on improving the skills that have been affected by the stroke.

If speech muscles are weak, the speech-language pathologist may teach exercises to strengthen these muscles. It is important to practice the exercises during therapy and at home between therapy visits. The stroke survivor may also be taught strategies for making speech more intelligible and ways to compensate for the muscle weakness.

If swallowing is a problem, the speech-language pathologist may teach exercises to strengthen or improve the coordination of swallowing muscles, or may teach strategies to compensate for muscle weakness and improve the safety of swallowing. The speech-language pathologist works closely with doctors, nurses and the dietitian to recommend the safest, most appropriate food consistencies that will meet the stroke survivor's needs. As the stroke survivor gains more strength and coordination in swallowing muscles, the speech-language pathologist may recommend upgrading your diet from a pureed/blended consistency to a chunky consistency.

If the stroke survivor is learning how to use an augmentative or alternative communication aid, treatment will focus on teaching use of the aid in structured conversation with other stroke survivors, with family, and eventually in the community.

Stroke survivors may find that completing simple tasks that were taken for granted before the stroke are now extremely difficult or impossible to perform. Occupational therapy exercises and training can help the stroke survivor relearn or learn new ways to perform everyday activities such as eating, drinking and swallowing, dressing, bathing, cooking, reading, writing and toileting.

Occupational therapy can help you find ways to cope with disability, manage stress, increase your physical strength, endurance and mobility and compensate for any loss of sensation and/or vision. The therapist can assist you in developing the skills needed to perform household tasks, community activities and return to work skills.

In order for you to become more independent, your occupational therapist may suggest changes to your home that would remove hazards to walking or using a wheelchair. Special assistive equipment is available to help you function more independently. Bathroom aids, such as grab bars, raised toilet seat, tub bench, hand-held shower head, no-slip pads, long-handled brush, washing mitt with pockets for soap, soap-on-a-rope, electric toothbrush and electric razor, make personal care much easier and allow the stroke survivor to be more independent.

Getting dressed can be difficult. However, there are many aids available to help the stroke survivor dress independently or dress with less assistance. Tight-fitting sleeves, armholes, pant legs and waistlines, as well as clothes which must be put on over the head should be avoided. Buttons, zippers and shoe laces can be replaced with velcro. A long-handled shoe horn and an aid to help pull on stockings are also very useful.

It is possible for the stroke survivor to participate in meal preparation by modifying the kitchen. There are also many small electric appliances that can be purchased which can make meal preparation much easier.

The occupational therapist can identify special devices, aids and equipment to help you perform home and work tasks or other activities of daily living, recommend where to obtain the items and teach you how to use the equipment.

Family members can help by assisting and encouraging the stroke survivor to practice skills and by helping the therapist select activities that meet the stroke survivor's needs and interests. Caregivers can also learn safe techniques for moving or assisting the stroke survivor.

The occupational therapist may recommend devices or techniques that will make mobility in your home or community easier and safer. Furniture and other items may need to be rearranged. The home can usually be modified if narrow doorways or if stairs or the bathtub interferes with the stroke survivor's ability to care for personal needs and move about the home.

## REHABILITATION PROGRAM TEAM

Since every stroke is different, treatment is not the same for each stroke survivor. Your doctor and rehabilitation team will develop a specific treatment program based on your specific needs. Your rehabilitation may be provided by one or more of the following professionals:

**Physician** - All stroke survivors will have one or more physicians involved in their care. Your doctor(s) may be your family physician, internists (*primary care doctors*), geriatricians (*specialists in working with older patients*), neurologists (*specialists in the brain and nervous system*) and physiatrists (*specialists in physical medicine and rehabilitation*).



**Rehabilitation Nurse** - The rehabilitation nurse provides direct care, education for patients/families and helps the doctor to coordinate your care.

**Physical Therapist** - The physical therapist evaluates and treats 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 the stroke survivor with exercises, to transfer and walk, if needed.



**Occupational Therapist** - An occupational therapist provides exercises and practice to help stroke survivors do things they could do before the stroke such as eating, bathing, dressing, writing or cooking. Sometimes the old way of doing an activity is no longer possible, so the therapist will teach a new technique.

**Speech-Language Pathologist** - Speech-language pathologists help stroke survivors regain language skills and learn other ways to communicate. They teach families how to improve communication and work with stroke survivors with swallowing problems.

**Social Worker** - Social workers help stroke survivors and families make decisions about rehabilitation; plan the return to the home or a new living place; help with insurance questions and other financial issues; arrange for a variety of support services; and provide or arrange for counseling to help the stroke survivor and family cope with any emotional problems.

**Psychologist** - Psychologists are concerned with the mental and emotional health of the stroke survivor. Interviews and tests may be used to identify and understand problems. The psychologist may treat thinking or memory problems or provide advice to other professionals caring for the stroke survivor.



**Recreational Therapist** - Recreational therapy helps the stroke survivor return to activities they enjoyed before the stroke, such as playing cards, gardening, bowling or community activities. Recreational therapy helps the rehabilitation process and encourages the stroke survivor to practice skills.

**Other Professionals** - Other professionals may also help with the stroke survivor'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 stroke survivor has a healthy diet during rehabilitation. They also educate the family about proper diet after the stroke survivor leaves the program. **Vocational Counselors** may help stroke survivors go back to work or school.

The stroke survivor, family and the rehabilitation professionals must all work together to make the rehabilitation program work. However, keep in mind that you, the stroke survivor, are the most important person in your treatment. Sometimes the stroke survivor may just want to sit back and let others take charge of making decisions. Don't let this happen. Make sure others understand that you want to help make decisions about your care. Speak up, ask questions and be a partner in your care. If you have speech problems, making your wishes known is hard. However, the speech-language pathologist can help you communicate your ideas and needs to family and other staff members.

Rehabilitation is usually hard work and it is normal to feel tired. Things that used to be easy to do before the stroke are now difficult. This can be discouraging at times. It is important for you to take pride in your progress and each step you achieve along the road to recovery.

## PHYSICAL THERAPY



Physical therapy (PT) is known as the "cornerstone" of the rehab process for most stroke survivors since it focuses on the motor and sensory impairments, with emphasis on movement. The goal of PT is to have the stroke survivor relearn simple motor activities, such as walking, sitting, standing, lying down and the process of switching from one type of movement to another. A physical therapist uses training, exercises and physical manipulation of the stroke survivor's body to restore movement, balance and coordination.

The physical therapist will assess the stroke survivor's strength, endurance, range of motion, gait abnormalities and sensory deficits. They will design an individualized rehabilitation programs aimed at regaining control over motor functions.

Physical therapists help stroke survivors regain the use of stroke-impaired limbs; teach ways to compensate for or reduce the effects of remaining deficits and establish an ongoing exercise program to help the stroke survivor retain their newly learned skills. Disabled people tend to avoid using impaired limbs. This behavior is called learned non-use. However, the repetitive use of impaired limbs will help reduce disabilities.

Strategies used by physical therapists to encourage the use of impaired limbs include selective sensory stimulation (*like tapping or stroking*), active and passive range-of-motion exercises and temporary restraint of healthy limbs while practicing motor tasks. Some physical therapists may use a technology called transcutaneous electrical nerve stimulation (TENS) that encourages brain reorganization and recovery of function. TENS involves using a small probe that generates an electrical current to stimulate nerve activity in stroke-impaired limbs.

In general, physical therapy emphasizes practicing isolated movements, repeatedly changing from one kind of movement to another, and practicing complex movements that require a great deal of coordination and balance, such as walking up or down stairs or moving safely between obstacles.

Stroke survivors may be too weak to bear their own weight but they can still practice repetitive movements during hydrotherapy (*water therapy which provides sensory stimulation as well as weight support*) or while being partially supported by a harness. Goal-directed activities, such as playing games, have proven to be effective therapy in promoting coordination.

## OCCUPATIONAL THERAPY

Occupational therapy is important when you are recovering from stroke. Its goal is to help the stroke survivor become independent or as independent as possible in their daily lives. In spite of the problems that result from stroke, many people are able to return to their homes and live independent, productive lives and fully participate in family and community life. The occupational therapist, working with you, your caregiver and other health care team members, can assist in making this happen.

The temporary or permanent weakness of one side of the body, problems with vision and reading and difficulties with memory or speech that may result from stroke can hinder the stroke survivor's ability to:

- care for personal needs (*e.g., bathing and dressing*);
- prepare meals and care for your home;
- move about in the community (*e.g., drive a car or use public transportation*); and/or
- participate in work, educational or leisure activities.