American Stroke Association®
A division of the American Heart Association.
Together to End Stroke®

THINGS YOU SHOULD KNOW

Your Risk for Stroke and How to Be Prepared

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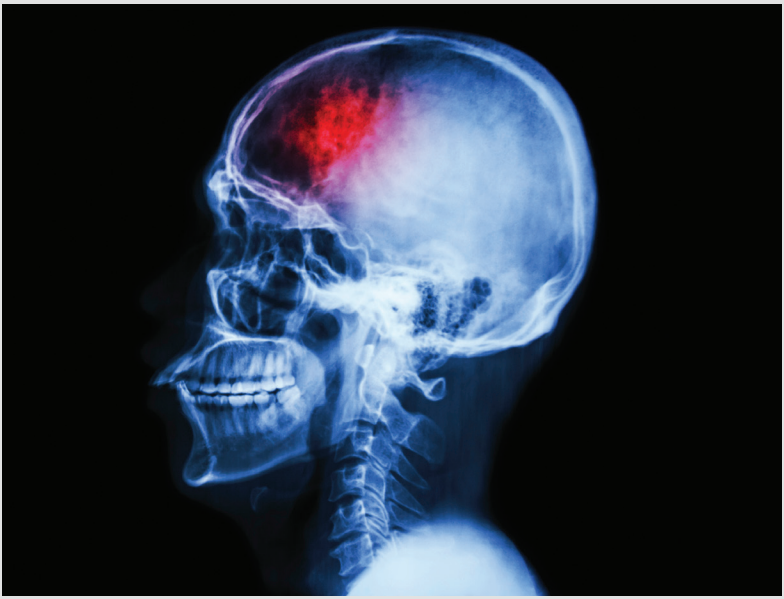
STROKE EDUCATION IS IMPORTANT

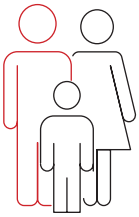
If you are reviewing this brochure, your medical professionals feel that you may be at-risk for stroke.

This brochure was developed to give you a better understanding of the causes of stroke, ways to prevent one and how to be prepared if one occurs.

- *In most cases, managing your risk factors can help prevent a stroke.*
- ***Up to 80% of all strokes in adults may be preventable.***
- *There are certain risk factors and/or lifestyles that can make you more likely to have a stroke.*



STROKE: THE NO. 5 CAUSE OF DEATH IN THE U.S.



About

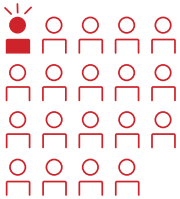
795,000

Americans will have a new or recurrent stroke.

More than

690,000

U.S. strokes are caused when a clot cuts off blood flow to a part of the brain–this is called an ischemic stroke.



Stroke kills more than

142,000

people a year. That's 1 in every 19 deaths.

Sources: 1) Heart Disease and Stroke Statistics-2019 Update: A Report from the American Heart Association 2) Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2016 on CDC WONDER Online Database, released December, 2017. Data are from the Multiple Cause of Death Files, 1999-2016, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/ucd-icd10.html on Jan 2, 2018 10:31:09 AM

IS STROKE PREVENTABLE?

There are some things you can do to prevent a stroke.

These are called controllable factors. If lifestyle changes are made, like eating healthy or not smoking, a person's risk of stroke can be reduced.

Controllable Factors:


High blood pressure


Cigarette smoking


Diabetes


Carotid or other artery disease


Peripheral artery disease


Atrial fibrillation


Other heart disease


Sickle cell disease (also called sickle cell anemia)

High blood cholesterol


Poor diet


Physical inactivity and obesity

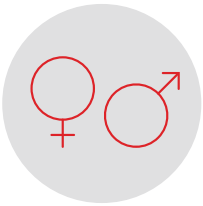
Sources: 1) https://www.stroke.org/en/about-stroke/stroke-risk-factors/stroke-risk-factors-you-can-control-treat-and-improve 2) http://stroke.ahajournals.org/content/28/7/1507.full#ref-13 3) http://stroke.ahajournals.org/content/31/5/1013.full

STROKE RISK FACTORS THAT CANNOT BE CHANGED

Some risk factors for stroke are simply not controllable. But knowing what they are is still important in determining your overall risk for stroke.

Uncontrollable Factors:

Age



Gender

Race

Heredity

Prior stroke, TIA or heart attack

To learn more about how to prevent a stroke, go to **stroke.org/Prevention**

Sources: 1) https://www.stroke.org/en/about-stroke/stroke-risk-factors/stroke-risk-factors-not-within-your-control 2) http://stroke.ahajournals.org/content/28/7/1507.full#ref-13 3) http://stroke.ahajournals.org/content/31/5/1013.full

BEING PREPARED

If you are at risk for a stroke, knowing the signs of a stroke can help you be prepared. Most often it's family and bystanders who call 9-1-1 when a stroke occurs. Educating your family can save your life or someone else's.

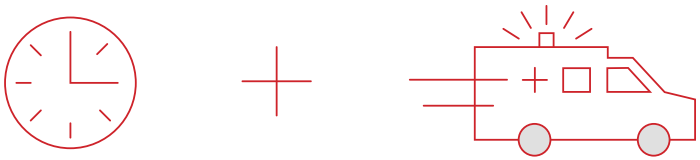
KNOW THE WARNING SIGNS OF STROKE

Learn and share the warning signs of stroke and be able to spot a stroke F.A.S.T.!

F	FACE DROOPING	*Does one side of the face droop or is it numb?*
A	ARM WEAKNESS	*Is one arm weak or numb?*
S	SPEECH DIFFICULTY	*Is speech slurred, are they unable to speak, or are they hard to understand?*
T	TIME TO CALL 9-1-1	*If the person shows any of these symptoms, even if the symptoms go away, call 9-1-1 and get to the hospital immediately.*

WHEN A STROKE OCCURS

Quick decisions and timely treatment may improve recovery.



QUICK TREATMENT = LESS BRAIN DAMAGE

Call 9-1-1 at the first sign of stroke so you can be evaluated and receive treatment in time. Stroke treatment begins in the ambulance. Calling 9-1-1 can help patients get treated more quickly and get them to a hospital that specializes in stroke care.

Sources: 1) Adeoye, O, et al. Geographic Access to Acute Stroke Care in the United States. Stroke. 2014;45:3019-3024. Accessed online at: http://stroke.ahajournals.org/content /45/10/3019.short.

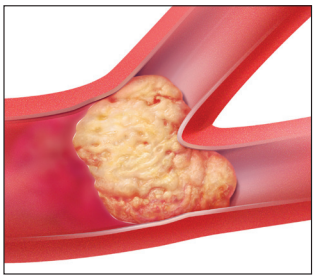
THERE ARE TWO TYPES OF STROKES

Hemorrhagic

- *A hemorrhagic stroke occurs when a weakened blood vessel ruptures and spills blood into brain tissue.*
- *The most common cause for the rupture is uncontrolled hypertension (high blood pressure).*
- *Two types of weakened blood vessels usually cause hemorrhagic stroke: aneurysms and arteriovenous malformations (AVMs).*

Ischemic

- *An ischemic stroke occurs when a clot cuts off blood flow to a part of the brain.*
- *Ischemic strokes account for 87% of all stroke cases, and are largely treatable if you get to the hospital in time.*



ACUTE ISCHEMIC STROKE TREATMENT

IV alteplase, the Gold Standard

- *Tissue plasminogen activator (tPA, also known as alteplase (IV r-tPA), given through an IV in the arm) is an FDA-approved treatment for ischemic strokes.*
- *Alteplase (IV r-tPA) works by dissolving the clot and improving blood flow to the part of the brain being deprived of blood flow.*
- *If administered as quickly as possible within up to 4.5 hours in certain eligible patients, alteplase (IV r-tPA) may improve the chances of recovering from a stroke.*
- ***A significant number of stroke patients don't get to the hospital in time for alteplase (IV r-tPA) treatment; this is why it's so important to identify a stroke immediately.***

ACUTE ISCHEMIC STROKE TREATMENT

Dissolve clot with tissue plasminogen activator alteplase (IV r-tPA).

Benefits

- *For patients who can be treated within 3 hours of stroke onset, alteplase (IV r-tPA) can lead to better recovery after stroke.*
- *For select patients who are eligible to be treated up to 4.5 hours after stroke onset, alteplase (IV r-tPA) can also improve outcomes.*
- *Treatment may improve survival rates.*

Risks

- *Bleeding of the brain, gums or other tissues are major risks.*

ACUTE ISCHEMIC STROKE TREATMENT

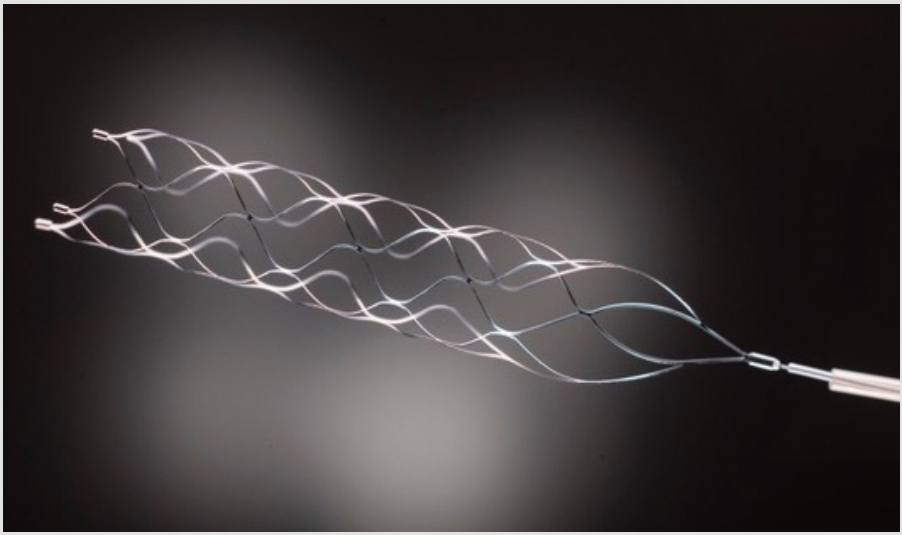
Endovascular Procedures

- *Another strongly recommended treatment option is an endovascular procedure* called mechanical thrombectomy, in which trained doctors try to remove a large blood clot by sending a wire-caged device called a stent retriever to the site of the blocked blood vessel in the brain.*

- *To remove the clot, doctors thread a catheter through an artery in the groin up to the blocked artery in the brain. The stent opens and grabs the clot, allowing doctors to remove the stent with the trapped clot. Special suction tubes may also be used.*

- ***In select patients, the procedure must be done as soon as possible within up to 24 hours of stroke symptom onset and only after the patient has received alteplase (IV r-tPA), if eligible.***

  **Note: Patients must meet certain criteria to be eligible for this procedure.*



ACUTE ISCHEMIC STROKE TREATMENT

Remove larger clots with a stent retriever (eligible patients only).

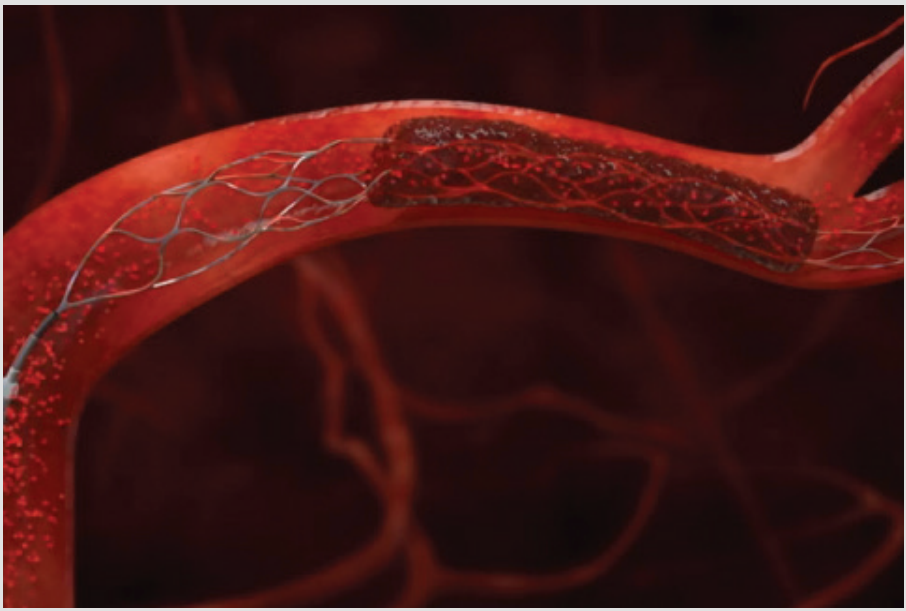
Patients should receive alteplase (IV r-tPA) and a large clot should be present before being considered for mechanical thrombectomy treatment.

Benefits

- *High success rates (improved recovery and outcomes) in removing large clots/severe strokes.*

Risks

- *Bleeding (the most common associated risk).*
- *Tearing of the inner lining of the blood vessel.*



Your medical professional can tell you which treatment options you are eligible for, and address any concerns you may have.

POST-STROKE REHABILITATION

Structure and Organization of Stroke Rehabilitation Care in the U.S.

An inpatient rehabilitation facility can be a separate unit of a hospital or a free-standing building that provides hospital-level care to stroke survivors who need intensive rehab. Best evidence for post-stroke rehabilitation has been found in inpatient rehab facilities.

SETTING	ADMISSION	MEDIAN LENGTH OF STAY	SPECIALIST INVOLVEMENT
HOSPITAL	Near onset	4 days (ischemic stroke) 7 days (hemorrhagic stroke)	Major: MD, RN More limited: OT, PT, SLT, SW
INPATIENT REHABILITATION FACILITY (IRF)	5–7 days	15 days (range, 8–30 days)	Major: MD, RN, OT, PT, SLT More limited: SW
SKILLED NURSING FACILITY	5–7 days	Highly variable (maximum, 100 days)	Major: LPN/LVN, NA, OT, PT, SLT More limited: MD, RN
LONG-TERM CARE (NURSING HOME)	Highly variable	Prolonged and highly variable	Major: LPN/LVN, NA More limited: RN, OT, PT, SLT, MD
LONG-TERM CARE HOSPITAL	Variable	25-days average (required)	Major: RN, MD More limited: OT, PT, SLT
HOME HEALTHCARE AGENCY	Variable (typically 5–30 days)	Maximum 60-days	Major: NA, RN More limited: OT, PT, SLT, MD
OUTPATIENT OFFICE	Variable (typically 5–30 days)	Variable	Major: OT, PT, SLT, MD

LPN/LVN, *licensed practical or vocational nurse;* ***MD,*** *medical doctor;* ***NA,*** *nurse assistant;* ***OT,*** *occupational therapist;* ***PT,*** *physical therapist;* ***RN,*** *registered nurse (preferably with training in rehabilitation);* ***SLT,*** *speech-language therapist;* ***SW,*** *social worker.*

Source: 1) American Stroke Association Guidelines for Adult Stroke Rehabilitation and Recovery

POST-STROKE REHABILITATION

What happens next can make all the difference.

Stroke rehab should include:

Training to improve mobility and ability to do daily tasks

Individually tailored post-stroke exercise program

Access to cognitive/engagement activities (books, games, computer)

Speech therapy, if stroke caused difficulty speaking

Eye exercises, if stroke causes a loss of vision

Balance training for those with poor balance or fall risk

Adaptive strategies to help you function within a "new normal"

BEFORE INPATIENT DISCHARGE, A STRUCTURED FALL PREVENTION PROGRAM IS A MUST!

Sources: 1) American Stroke Association Guidelines for Adult Stroke Rehabilitation and Recovery 2) http://www.strokeassociation.org/idc/groups/stroke-public/@wcm/@hcm/@sta/documents/downloadable/ucm_494286.pdf

NOTES

NOTES

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For more information on
Acute Ischemic Stroke treatment options,
visit: **stroke.org/AISToolkit**