



Cerebral Vascular Disease

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Resource: National Stroke Association www.stroke.org

What is a Stroke? .

Stroke is a Brain Attack!

Types of Strokes

Ischemic = Clot (most common)

- Lack of blood flow to the brain
 - Thrombus
 - Embolus

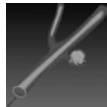


Embolus



Thrombotic

Hemorrhagic
- Bleeding affecting brain tissue



Stroke Facts in America

- Third leading cause of death in the United States
- 750,000 Americans suffer strokes each year
- 150,000 deaths each year
- 6,000,000 stroke survivors



National Stroke Association
www.stroke.org

More Stroke Facts in America

- A leading cause of adult disability
- Every 45 seconds, someone suffers a stroke
- Up to 80% or 600,000 strokes are preventable



National Stroke Association www.stroke.org

African Americans & Stroke

- Incidence is nearly double that of Caucasians
- African Americans suffer more extensive physical impairments
- Twice as likely to die from stroke
- High incidence of risk factors for stroke
 - Hypertension
 - Diabetes
 - Obesity
 - Smoking
 - Sickle cell anemia



Women & Stroke

- Stroke kills more than twice as many American women every year as breast cancer
- More women than men die from stroke
- Women over age 30 who smoke and take high-estrogen oral contraceptives have a stroke risk 22 times higher than average



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Risk Factors

- Hypertension
- Diabetes
- Atherosclerosis/hyperlipidemia



Risk Factors for Stroke

- **Non-modifiable:**
 - ✓ Age
 - ✓ Gender
 - ✓ Race/ethnicity
 - ✓ Family history
 - ✓ Rare genetic origins
- **Modifiable**
 - ✓ Previous stroke or TIA hx
 - ✓ Hx of Cardiovascular Disease
 - ✓ Atrial fibrillation
 - ✓ Valvular dysfunction
 - ✓ CAD (MI)
 - ✓ Heart failure
 - ✓ Smoking
 - ✓ Poor nutrition
 - ✓ Inactivity/ obesity
 - ✓ Alcohol and drug abuse

How it Feels to Have a Stroke



Jill Bolte Taylor
Neuroscientist

[HTTP://WWW.YOUTUBE.COM/WATCHPV-UYyIU8FZEYU](http://www.youtube.com/watch?v=UYyIU8FZEYU)

Stroke Symptoms

- Severe headache
- Trouble seeing in one or both eyes
- Sudden dizziness
- Sudden confusion
- Trouble speaking
- Sudden numbness

If you see someone having any of these symptoms, Get to the Hospital Fast!
or
Call 911: Every Minute Counts

The Perceptions of Stroke

Myth

Reality

- | | |
|---|--|
| <ul style="list-style-type: none"> • Stroke is not preventable • Stroke cannot be treated • Stroke only strikes the elderly • Stroke happens in the heart • Stroke recovery ends after 6 months | <ul style="list-style-type: none"> • Up to 80% percent of strokes are preventable • Stroke requires emergency treatment • Anyone can have a stroke • Stroke is a "Brain Attack" • Stroke recovery can last a lifetime |
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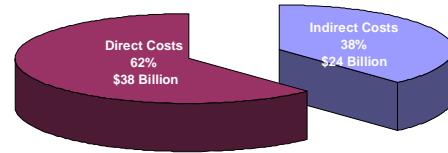


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TIA or Mini-Stroke

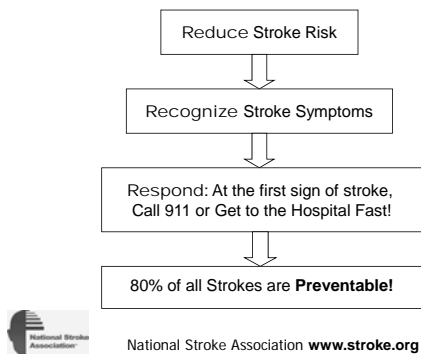
- Transient ischemic attacks (TIAs) are a warning sign of stroke
- Symptoms of TIAs are same as stroke
- Symptoms resolve within minutes to hours
- More than 1/3 of TIA patients will have a stroke

The Cost of Stroke



More than \$62 Billion Annually

The 3 R's of Stroke



Reasons Patients Don't Seek Immediate Treatment

- Don't recognize symptoms
- Denial
- Think nothing can be done
- Worry about cost
- Think symptoms will disappear
- Fear hospitals

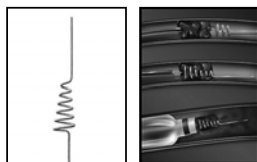
Acute Stroke Treatment

Ischemic stroke (Brain Clot)

- 10% mortality rate within 30 days

Clot Buster:
Tissue Plasminogen
Activator (t-PA)

Devices: Merci Retriever

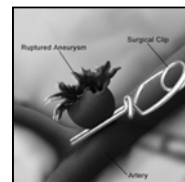


Acute Stroke Treatment

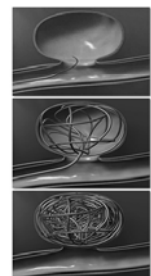
Hemorrhagic Stroke (Brain Bleed)

- 40% mortality rate within 30 days

Clipping



Coiling



Stroke Recovery

- 10% of stroke survivors recover almost completely
- 25% recover with minor impairments
- 40% experience moderate to severe impairments requiring special care
- 10% require care within either a skilled-care or other long-term care facility
- 15% die shortly after the stroke



- 25-50% experience subsequent strokes

Types of Stroke Rehabilitation

- Physical Therapy (PT) - Walking, range of movement
- Occupational Therapy (OT) - Taking care of one's self
- Speech Language Therapy - Communication skill, swallowing, cognition
- Recreational Therapy - Cooking, gardening, etc.

Life at Home for Stroke Survivors and Family

- Behavior
- Depression & Anger
- Emotional Liability
- One-sided Neglect
- Memory Loss
- Communication Problems

Recovery Services

- Rehabilitation Unit in the Hospital
- In-patient Rehabilitation Facility
- Home Bound Therapy
- Home with Outpatient Therapy
- Long-term Care Facility
- Community-based Programs



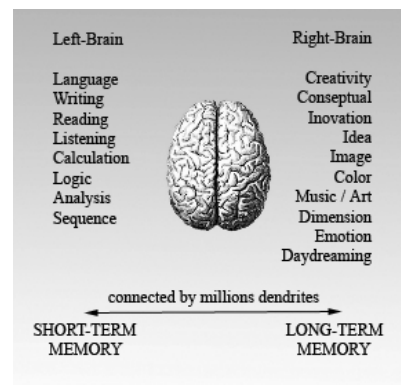
*Brain
Function:*

Right side

Versus

Left side

http://www.guidespot.com/guides/right_brain_vs_left



*Brain
Function:*

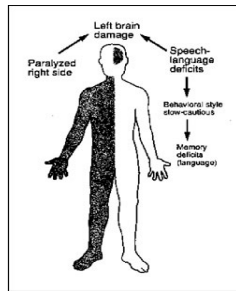
Right side

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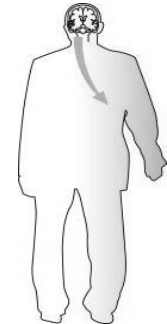
Left CVA -Right Hemiplegia Manifestations

- Weakness or paralysis on the right side of the body.
- Speaking or speech difficulties
- Confusion or sounding as if drunk.
- More cautious behavior.
- Afraid to try something new.
- Problems with math.
- Problems telling right from left
- Problems naming objects.



Right CVA -Left Hemiplegia Manifestations

- Difficulty with the left side of the body.
- May ignore everything on the left side.
- Behavioral style is impulsive.
- Problems
 - chewing, swallowing, and talking.
 - recognizing familiar faces.
 - dressing
 - reading and doing simple math
 - paying attention or staying alert
 - making decisions or remembering
- Emotionally liable



Functional Expectations



LCVA

- Usually some aphasia
- Anxious, slow, cautious
- Patient respond better to demonstrations than verbal instructions
- Easy to underestimate patients ability
- Ask questions that can be answered by yes or no

RCVA

- Strong verbally
- Impulsive, overconfident, unaware of limitations
- Learns best by verbal instructions w/ patient demonstrating what was learned.
- Easy to overestimate patients abilities
- Difficulty with spatial – perceptual tasks

Management of Visual Impairment

- Stay on the patient's good side
- Present demonstrations from the good side



Managing Abilities for OH



- How to do things with one hand.
- How to work with the non-dominant hand
- May neglect to brush affected side of the mouth
- May need to spend extra time teaching care of all the mouth.
- Patient may have trouble with quality.
- May forget what you said last time.

Medications

- Anti-hypertensives
- Anti-coagulants
- Anti-seizure meds
- Other meds for systemic disease

