Lightning doesn't strike twice...
Am I at risk for Stroke?

Gene Latorre, MD, MPH
Medical Director
Upstate Comprehensive Stroke Center
Chest pain or sudden shortness of breath

Heart Attack

BRAIN ATTACK

Spot a stroke F.A.S.T.

F - Face drooping.
A - Arm weakness.
S - Speech difficulty.
T - Time to call 911.

StrokeAssociation.org
Types of stroke:

Ischemic stroke:
A clot blocks blood flow to an area of the brain.

Hemorrhagic stroke:
Bleeding occurs inside or around brain tissue.

There’s nothing mini about

Mini-stroke or TIA
(Transient Ischemic Attack)
DID YOU KNOW?
STROKES CAN HAPPEN AT ANY AGE

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Together to End Stroke™
Stroke Facts

- A stroke happens every 40 seconds (more likely woman)
- Death from stroke every 4 minutes

Heart Disease and Stroke Statistics - 2015 American Heart Association
Women and Stroke

FACT:

Stroke kills TWICE as many women as breast cancer does every year.
What are the signs of Stroke?
STROKE warning signs

- **SUDDEN** numbness or weakness of face, arm or leg, especially on one side of the body
- **SUDDEN** confusion, trouble speaking, or understanding
- **SUDDEN** trouble seeing in one or both eyes
- **SUDDEN** trouble walking, dizziness, loss of balance or coordination
- **SUDDEN** severe headache with no known cause
**Estimated Pace of Neural Circuitry Loss in Typical Large Vessel, Supratentorial Acute Ischemic Stroke**

<table>
<thead>
<tr>
<th></th>
<th>Neurons Lost</th>
<th>Synapses Lost</th>
<th>Myelinated Fibers Lost</th>
<th>Accelerated Aging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Stroke</td>
<td>1.2 billion</td>
<td>8.3 trillion</td>
<td>7140 km/4470 miles</td>
<td>36 y</td>
</tr>
<tr>
<td>Per Hour</td>
<td>120 million</td>
<td>830 billion</td>
<td>714 km/447 miles</td>
<td>3.6 y</td>
</tr>
<tr>
<td>Per Minute</td>
<td>1.9 million</td>
<td>14 billion</td>
<td>12 km/7.5 miles</td>
<td>3.1 wk</td>
</tr>
<tr>
<td>Per Second</td>
<td>32,000</td>
<td>230 million</td>
<td>200 meters/218 yards</td>
<td>8.7 h</td>
</tr>
</tbody>
</table>
1.9 MILLION BRAIN CELLS DIE EVERY MINUTE AFTER STROKE
Stroke – there’s treatment if you act FAST.

Face: Face look uneven?
Arm: One arm hanging down?
Speech: Slurred speech?
Time: Call 911 NOW!
What should you do?

Do not ignore the symptoms, even if they go away!

Check the time. When did the first symptom start?

Act quickly! Call 911. Stroke is a medical emergency.
Acute Stroke Treatment

Target treatment time

=  

Less than 60 minutes from patient arrival

Upstate CSC median time to treatment

=  

37 minutes
New Stroke Treatment:

**Mechanical Clot Removal**
Could you be at risk for STROKE?

Do you have high blood pressure? High cholesterol? Diabetes? Excess weight? Heart problems? A family history of stroke or aneurysms? Do you smoke?

All of these factors put you at a higher risk for stroke.

A stroke occurs when blood circulation to the brain fails due to either a blocked or ruptured blood vessel. The resulting lack of oxygen to brain cells can impair brain function. **STROKE IS THE THIRD LEADING CAUSE OF DEATH IN THE UNITED STATES.** Of the roughly 600,000 new and recurrent cases of stroke each year, 160,000 are fatal. **CURRENTLY, THERE ARE 4 MILLION STROKE SURVIVORS, MANY OF WHOM HAVE SIGNIFICANT DISABILITIES.**

**STROKE RISK FACTORS**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Estimated Increase in Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATRIAL FIBRILLATION</td>
<td>17 times</td>
</tr>
<tr>
<td>HYPERTENSION</td>
<td>2 TO 4</td>
</tr>
<tr>
<td>CARDIAC DISEASE</td>
<td>2 TO 4</td>
</tr>
<tr>
<td>NO EXERCISE</td>
<td>1.8 TO 3.5</td>
</tr>
<tr>
<td>DIABETES</td>
<td>1.5 TO 2.5</td>
</tr>
<tr>
<td>SMOKING</td>
<td>1.5 TO 2.5</td>
</tr>
<tr>
<td>HEAVY ALCOHOL USE</td>
<td>1 TO 3</td>
</tr>
</tbody>
</table>
# Stroke Risk Scorecard

Each box that applies to you equals 1 point. Total your score at the bottom of each column and compare with the stroke risk levels on the back.

<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>HIGH RISK</th>
<th>CAUTION</th>
<th>LOW RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Pressure</td>
<td>$&gt;140/90$ or unknown</td>
<td>$120-139/80-89$</td>
<td>$&lt;120/80$</td>
</tr>
<tr>
<td>Atrial Fibrillation</td>
<td>Irregular heartbeat</td>
<td>I don’t know</td>
<td>Regular heartbeat</td>
</tr>
<tr>
<td>Smoking</td>
<td>Smoker</td>
<td>Trying to quit</td>
<td>Nonsmoker</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>$&gt;240$ or unknown</td>
<td>200-239</td>
<td>$&lt;200$</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Yes</td>
<td>Borderline</td>
<td>No</td>
</tr>
<tr>
<td>Exercise</td>
<td>Couch potato</td>
<td>Some exercise</td>
<td>Regular exercise</td>
</tr>
<tr>
<td>Diet</td>
<td>Overweight</td>
<td>Slightly overweight</td>
<td>Healthy weight</td>
</tr>
<tr>
<td>Stroke in Family</td>
<td>Yes</td>
<td>Not sure</td>
<td>No</td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td>High Risk</td>
<td>Caution</td>
<td>Low Risk</td>
</tr>
</tbody>
</table>

## Risk Scorecard Results

- **High Risk ≥3**: Ask about stroke prevention right away.
- **Caution 4-6**: A good start. Work on reducing risk.
- **Low Risk 6-8**: You’re doing very well at controlling stroke risk!
Risk Factors You Can Not Control

- Increasing age
  - Although stroke can happen at any age
- Gender
- Heredity
- Ethnicity
  - African Americans
  - Hispanic Americans
Risk Factors You Can Control

- High blood pressure
- Atrial fibrillation
- Smoking
- High cholesterol
- Diabetes
- Diet
- Physical inactivity
- Obesity
THE MULTIPLIER

1 RISK FACTOR DOUBLES YOUR RISK

2 RISK FACTORS QUADRUPLES YOUR RISK

3 OR MORE RISK FACTORS CAN INCREASE YOUR RISK MORE THAN TENFOLD
80% of STROKES are preventable

Things you can do on your own

- Exercise
- Quit smoking
- Eat healthy

Things you can do with your Doctor

- Treat diabetes and cholesterol
- Get treated for irregular heart rhythm
- Keep your blood pressure low
THE AMERICAN HEART ASSOCIATION’S “LIFE’S SIMPLE 7” STEPS

Get Started Now

- Get Active
- Control Cholesterol
- Eat Better
- Manage Blood Pressure
- Lose Weight
- Reduce Blood Sugar
- Stop Smoking
5 LIFESTYLE CHANGES TO MAKE HEALTH LAST

- BE MORE PHYSICALLY ACTIVE
- LIMIT YOUR ALCOHOL INTAKE
- EAT A BALANCED & HEALTHY DIET
- DON'T SMOKE
- REDUCE YOUR STRESS LEVELS
The Mediterranean-type diet

The foods at the bottom of the pyramid must be consumed daily, while those at the top must be eaten less frequently and in smaller quantities.
## Top 5 Foods to Lower Cholesterol

Here are the Top 5 foods or food groups that can lower your cholesterol and protect your heart, as suggested by the experts at Mayo Clinic.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Serving Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oatmeal, oat bran and high-fiber foods</td>
<td>5-10 grams/day</td>
</tr>
<tr>
<td>2</td>
<td>Fish and Omega-3 fatty acids</td>
<td>2 servings/week</td>
</tr>
<tr>
<td>3</td>
<td>Walnuts, almonds and other nuts</td>
<td>1.5 ounces/day</td>
</tr>
<tr>
<td>4</td>
<td>Olive Oil</td>
<td>23 grams/day</td>
</tr>
<tr>
<td>5</td>
<td>Foods with added plant sterols or stanois</td>
<td>2 grams/day</td>
</tr>
</tbody>
</table>
CONTROLLING HIGH CHOLESTEROL

**Facts**

- **High Cholesterol**
  - > 240 or above

- **Borderline-High**
  - > 200 to 239

- **Best**
  - < less than 200

- **LDL**
  - "Bad" Cholesterol

- **HDL**
  - "Good" Cholesterol

**What Causes High Cholesterol?**

- The Foods You Eat
- Being Overweight
- Being Inactive

- Age
- Family History
- Overall Health

**How is it Treated?**

- Eat A Heart-Healthy Diet
- Lose Weight
- Get Regular Exercise
- Don't Smoke!

**Source**

https://www.cardiosmart.org/Heart-Conditions/High-Cholesterol
A single stroke can leave you helpless.

SMOKING CAUSES STROKE
QUIT SMOKING TODAY
CALL 311 OR 1-866-NYQUITS
www.nysmokefree.com

JUST DO IT.
Atrial fibrillation and the risk of stroke

NORMAL HEART  ATRIAL FIBRILLATION

x5

Stroke
High
Systolic 140 or above OR
Diastolic 90 or above

Pre-High
Systolic between 121-139 OR
Diastolic between 81-89

Normal
Systolic 120 or less AND
Diastolic 80 or less

When your blood pressure is high:
You are 4x more likely to die from a stroke
You are 3x more likely to die from heart disease

CONTROL YOUR BLOOD PRESSURE
CUT YOUR RISK OF HEART ATTACK AND STROKE
World Health Day 2013
Winning the War Against Type 2 Diabetes

Unhealthy Habits

Develop Healthy Habits: Education

Pre-Diabetes

Reverse Pre-Diabetes: Healthy Food & Exercise

Diabetes

War of Attrition: Medications

Allied Forces
Healthcare Providers
- Corporations
- Consumers
- Restaurants
- Government

Current Focus
Extended Focus
Diabetes Control Chart

<table>
<thead>
<tr>
<th>HbA1c test Score</th>
<th>Excellent</th>
<th>Good</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>8.0</td>
<td>9.0</td>
<td>10.0</td>
<td>11.0</td>
</tr>
<tr>
<td>12.0</td>
<td>13.0</td>
<td>14.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean Blood mg/dL</th>
<th>Excellent</th>
<th>Good</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>80</td>
<td>115</td>
<td>150</td>
</tr>
<tr>
<td>180</td>
<td>215</td>
<td>250</td>
<td>280</td>
</tr>
<tr>
<td>315</td>
<td>350</td>
<td>380</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glucose mmol/L</th>
<th>Excellent</th>
<th>Good</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6</td>
<td>4.7</td>
<td>6.3</td>
<td>8.2</td>
</tr>
<tr>
<td>10.0</td>
<td>11.9</td>
<td>13.7</td>
<td>15.6</td>
</tr>
<tr>
<td>19.3</td>
<td>21.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MAY IS
NATIONAL STROKE AWARENESS MONTH
ACT FAST for Stroke
www.stroke.org
The best stroke is…

The stroke you never had!
ACTIVATE YOUR SUPERPOWER.
BE A
STROKE HERO
5 THINGS EVERY STROKE HERO SHOULD KNOW!

1. Even **SUPERHEROES** are in **DANGER**
   STROKE RISK increases with age, but young adults, children, and even unborn babies can suffer strokes. If one of your parents had an ischemic stroke before 65, you are at 3X THE RISK of suffering one yourself.

2. **HIGH** blood pressure is stroke’s public **ENEMY #1**.
   3 OUT OF 4 PEOPLE who suffer first strokes have high blood pressure.

3. **STROKE** targets by **COLOR**
   **BLACKS** have nearly 2x the risk for a first-ever stroke as whites.

4. **STROKE** is largely **TREATABLE**.
   Clot-busting drugs and medical devices have made stroke largely treatable, but every second counts. The faster you are treated, the more likely you are to recover without permanent disability.

5. **FRIENDS** usually **SAVE** friends from **STROKE**
   Learn to recognize the warning signs of stroke:
   - FACE drooping
   - ARM weakness
   - SPEECH difficulty
   - TIME to call 911!
THANK YOU FOR YOUR TIME

MEET MEMBERS OF THE REGION'S LARGEST NEUROSCIENCE TEAM
1. Rodolfo Khaw, MD
2. Victoria Caspec, FNP
3. Antionio Galindo, MD
4. Anna Marie Salter, FNP
5. Kyle Choppette, RN
6. Naples Arms, NP
7. Janet Gage, FNP
8. Katherine Mitchell, RN, MSN, ANP Stroke Program Manager
9. Erin Butts, RN, BSN, MS, Stroke Program Manager
10. Elizabeth El Nano, MD
11. Carmen Martinez, MD
12. Catherine Stumpone, RN, MSN, CNRN, NEA-BC, Stroke Program Administrator
13. Lisa Kincsey, RN
14. Sat-Arjun Verma, MD, PhD
15. Selah Krishnamurthy, MD

ON THE COVER
Margaret Turk, MD, Physical Medicine and Rehabilitation
Gene Latorre, MD, MPA, Medical Director, Stroke Center
Jennifer Curry, DNP, RN, CCRN, Stroke Program Outreach Coordinator
Lawrence Chin, MD, Chair, Neurosurgery
Anwar Swaniker, MD, Director of Neuroradiology

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