Medical Aspects of a Stroke

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Understanding a Stroke

- Stroke kills approx. 140,000 Americans each year (1 in 20 deaths)
- Occurs every 40 seconds
- 87% of strokes are ischemic strokes (blood flow to the brain is blocked)
- Stroke is a leading cause of serious long-term disability

* Centers for Disease Control and Prevention
What is a Stroke?

A stroke is a “brain attack”.

- Occurs when blood flow to an area of brain is cut off.
- When this happens, brain cells are deprived of oxygen and begin to die.
- When brain cells die during a stroke, abilities controlled by that area of the brain such as memory and muscle control are lost.

There are two types of stroke: hemorrhagic and ischemic.
Hemorrhagic Stroke

A hemorrhagic stroke is either a brain aneurysm burst or a weakened blood vessel leak. Blood spills into or around the brain and creates swelling and pressure, damaging cells and tissue in the brain.

Two types of hemorrhagic stroke:

- Intracerebral
- Subarachnoid
Ischemic Stroke

Ischemic stroke occurs when a blood vessel carrying blood to the brain is blocked by a blood clot and cannot reach the brain. High blood pressure is the most important risk factor.

An ischemic stroke can occur in two ways:

- **Embolic:** a blood clot or plaque fragment forms somewhere in the body (usually the heart) and travels to the brain.
- **Thrombotic:** caused by a blood clot that forms inside one of the arteries supplying blood to the brain.

Ischemic strokes account for approx. 87% of all strokes.
What is TIA?

Transient Ischemic Attack.

When blood flow to part of the brain stops for a short period of time, also called transient ischemic attack (TIA), it can mimic stroke-like symptoms.

- Symptoms appear and last less than 24 hours
- Do not cause permanent brain damage
- There are many medications that help prevent blood clots from forming - reducing the risk of full-blown stroke
TIA by the Numbers

TIAs are typically caused by:

- Low blood flow
- A blood clot in another part of the body
- Narrowing of the smaller blood vessel in the brain

**IMPORTANT FACTS**

- **40%** who have a TIA will have an actual stroke
- **50%** of strokes occur within the first few days after a TIA
- Symptoms for TIA are the same as a stroke

*Physicians of Southwest Washington*
TIA Management

**GOAL:**
to prevent future strokes

- **Medication & Therapy:** to treat high blood pressure, high cholesterol, or heart disease.
- **Lifestyle Changes:** diet, physical activity, limiting alcohol intake, and not smoking.
Myth vs Fact

**MYTH**
- Stroke cannot be prevented.
- There is no treatment for stroke.
- Stroke only affects the elderly.
- Stroke happens in the heart.
- Stroke recovery only happens for the first months after a stroke.
- Strokes are rare.
- Strokes are hereditary.
- If stroke symptoms go away, you don’t need to see a doctor.

**FACT**
- Up to 80% of strokes are preventable.
- At any sign of stroke, call 911.
- Stroke can happen to anyone - at any time.
- Stroke is a “brain attack”.
- Stroke recovery is a lifelong process.
- There are nearly 7 million stroke survivors in the U.S.
- Stroke is the 5th leading cause of death in the U.S.
- Family history of stroke increases your chance for stroke.
- Temporary stroke symptoms are called transient ischemic attacks (TIA).
Recognizing Stroke

Act FAST.

Additional Symptoms

- **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
Preventing a Stroke

Certain risk factors can increase the chance of a stroke. Once risk factors have been identified, work with a healthcare provider to reduce personal risk. Prevent stroke by following these guidelines:

- **Identify.** Review the risk factors and identify your personal risk.
- **Reduce your risk factors.** Work to reduce your stroke risk through lifestyle changes and if necessary medication.
- **Recognize and respond.** Learn to recognize the signs and symptoms of a stroke by memorizing FAST. Respond to the first sight of stroke and help save lives.
Lifestyle Risk Factors

Lifestyle risk factors such as diet and exercise are part of controllable risk factors. Lifestyle risk factors are habits or behaviors people choose to engage in.

- **DIET AND NUTRITION**
  A healthy diet can help you reduce the risk of chronic diseases, improve your overall health, and help you reach or maintain a healthy weight.

- **PHYSICAL ACTIVITY**
  A recent study showed that people who exercise five or more times per week have a reduced stroke risk.

- **TABACCO USE AND SMOKING**
  Smoking doubles the risk of stroke when compared to a nonsmoker. Smoking increases clot formation, thickens blood, and increases the amount of plaque buildup in the arteries.

- **ALCOHOL USE**
  Drinking too much alcohol can increase blood pressure and the risk of stroke.
Medical Risk Factors

High blood pressure, atrial fibrillation (AFib), high cholesterol, diabetes and circulation problems are all medical risk factors.

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>130/80 or unknown</td>
<td>120-129/80</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>Physical Activity</td>
<td>None</td>
<td>1-2 times a week</td>
<td>3-4 times a week</td>
</tr>
<tr>
<td>Weight</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>
Uncontrollable Risk Factors

Some risk factors are not controllable. Knowing what they are is important to understand the risk for stroke.

- Age
- Gender
- Race and Ethnicity
- Family History
- Previous Stroke
- Fibromuscular dysplasia (FMD)
- Patent Foramen Ovale (PFO)
- Transient Ischemic Attack (TIA)
Impact of a Stroke

By 2030, 72 million people will be 65 and older.

WOMEN

Stroke is the 3rd leading cause of death
Each year, 55K more women have a stroke than men
Have a worse recovery after stroke
More likely to live in a long term health care facility after a stroke

MINORITIES

Minorities have higher stroke risk
Stroke occurs at an earlier age
More severe strokes
Stroke Rehabilitation

Rehabilitation helps stroke survivors relearn skills that are lost when part of the brain is damaged.

- **Motor-skill exercises.** These exercises can help improve your muscle strength and coordination. You might have therapy to strengthen your swallowing.

- **Mobility training.** You might learn to use mobility aids, such as a walker, canes, wheelchair or ankle brace. The ankle brace can stabilize and strengthen your ankle to help support your body's weight while you relearn to walk.

- **Constraint-induced therapy.** An unaffected limb is restrained while you practice moving the affected limb to help improve its function. This therapy is sometimes called forced-use therapy.

- **Range-of-motion therapy.** Certain exercises and treatments can ease muscle tension (spasticity) and help you regain range of motion.
References

- American Stroke Association
- stroke.org
- medlineplus.gov