If doctors suddenly discovered a disease with devastating consequences that was almost always preventable, we’d all probably sit up and take notice, and resolve to prevent it no matter what. In fact, doctors have already identified such a disease: stroke. And since an astonishing 80 percent of strokes are preventable, it’s critical that every person (including you!) take a new look at how we can safeguard ourselves.

What Is a Stroke?
Blood carries oxygen to all cells in the body. Stroke occurs when the brain suddenly loses its blood supply (and therefore its oxygen too), which results in cell death and brain damage. There are two types of stroke, ischemic and hemorrhagic. Ischemic stroke is the most common kind, accounting for about 80 percent of all strokes; it occurs when a blood clot blocks blood flow to the brain. Hemorrhagic stroke, occurring in about 20 percent of stroke cases, involves a breakage or leak in a blood vessel (a hemorrhage), which causes damage to the brain.

Some strokes are small and the patient recovers completely, but in other cases people have serious consequences, such as being paralyzed on one side of the body.

What’s My Risk?
According to the American Stroke Association, stroke can occur in anyone, but there are several known risk factors. Certain risk factors can’t be controlled, but you should be aware that you’re at greater risk for stroke if...

- you’re older than 55;
- you’re male;
- you’re black, Hispanic, or Asian/Pacific Islander;
- you have a family history of stroke;
- you’ve had a previous stroke (this may include transient ischemic attacks, or TIsAs, also called “mini-strokes”).

Other risk factors that can and should be controlled include:

- high blood pressure
- high cholesterol
- diabetes
- atherosclerosis
- heart disease (atrial fibrillation)
- smoking
- alcohol consumption
- lack of exercise
- obesity

Warning Signs
Symptoms of stroke include the sudden onset of any of the following: weakness or numbness in the face or an arm or leg (often on only one side of the body), confusion or difficulty speaking, vision problems, or difficulty walking or balancing, and severe headache. It’s critical to get help quickly, but don’t do it yourself. Rocco urges, “If you experience one or more of these symptoms, call 911. You do not want to drive yourself to the Emergency Department when it comes to a stroke. These symptoms can progress very rapidly. You can have some mild arm weakness for a few minutes, and very quickly it progresses to one side of the body.”

A stroke on the right side of the brain will affect functions that occur on the left side of the body, and vice versa. Depending on where the brain damage occurs, patients may have various problems with spatial reasoning, behavior changes, visual problems, loss of short-term memory, partial paralysis, speech and language problems, and poor coordination.

Remember: 80% Are Preventable!
It bears repeating that the vast majority of strokes are preventable. These measures are thought to reduce your risk:

- Control your blood pressure. Know what your blood pressure is and have it checked periodically. A reading higher than 120/80 could be a warning sign.
- Have a doctor check you for atrial fibrillation. This condition involves an irregular heartbeat that can cause blood clots.
- Stop smoking now! Smoking doubles the risk of stroke. Even if you have smoked for years, quitting will immediately decrease your risk.
- Drink only in moderation. Although some studies have shown beneficial effects of moderate drinking, more than two drinks per day can increase your risk of stroke.
- Lower your cholesterol intake. If your total cholesterol—the sum of your LDL (bad cholesterol) and HDL (good cholesterol)—is greater than 200, you should change your diet and increase your exercise.
- Properly manage diabetes. This will involve a healthy diet, adequate exercise, and compliance with medical and/or insulin therapy.
- Limit your salt and fat intake. High-fat foods in particular increase the risk of stroke by causing plaques (fatty build-up) in the arteries, resulting in a condition called atherosclerosis.
- Exercise. Engage in moderate activity on most days of the week.
- Discuss with your doctor whether you have any circulatory problems that may raise your risk of stroke, such as atherosclerosis.

Know the Symptoms of Stroke
All of the medical risk factors above can be treated, including high blood pressure, diabetes, atrial fibrillation, and heart disease. Patients should discuss all of their medical conditions with their doctor to obtain proper treatment, says Dev Raj Gupta, MD, Chief of Neurology. For example, he says, “If you have hypertension, you should be discussing your condition with your physician and taking medications as prescribed.”

This means that patients with diabetes should manage their diet and blood sugar, patients with atrial fibrillation should take anticoagulants (blood thinners) as prescribed, and patients with elevated cholesterol may need drug treatment as well.
Even smoking can be treated medically today; many options are available both over the counter and by prescription to help you quit. The importance of quitting cannot be overemphasized. “According to the CDC, 12 hours after quitting, your carbon monoxide level in your blood drops to normal,” explains Rocco. “Two to three months after quitting, your heart attack risk begins to improve. Over the next five to 15 years after quitting, your risk of stroke is decreased to that of a nonsmoker. Ten years after quitting, your lung cancer death rate is about half of a smoker, and 15 years after quitting, your risk of coronary artery disease is back to that of a nonsmoker. That’s why we say if you smoke, quit.”

What About Treatment?

Early treatment of stroke is critical. In the typical case (that is, an ischemic stroke), there is an area of “stunned” tissue that has just enough blood flow to be alive temporarily but is not fully functional. “Very shortly after the initial symptoms, patients will start to develop a permanent stroke that’s irreversible, where you have cell death,” explains Daniel Walzman, MD, Chief of Endovascular Neurosurgery at HUMC. “There’s typically a larger area of what we call the ischemic penumbra, which has decreased blood flow to the point where if more flow is not restored in a certain amount of time, that area will also die. As more time goes on, the smaller the ischemic penumbra gets, and the larger the infarcted zone gets. The later we do our therapy, typically, the less the ischemic penumbra will be aspirated or suctioned out.”

Other treatments for ischemic stroke include anticoagulants and the surgical insertion of stents to open the blood vessel. For hemorrhagic stroke, the goal of therapy is the opposite because the cause of the problem is excessive bleeding. In a subset of these patients, a common treatment is the insertion of coils or clips in the artery to slow the bleeding.

Long-Term Outcomes

About 85 percent of stroke patients survive, but most have residual problems. People may require long-term rehabilitation after stroke to relearn such basic skills as eating, dressing, and walking so that they can live independently again, to the fullest extent possible. Rehabilitation will start as soon as possible in the hospital. The purpose of this, says Rocco, is to get patients moving and allow them to try to regain use of the affected part of the body. “By mobilizing the affected part as quickly as possible, you’re increasing the chances of regaining function,” he explains. Early activity also helps stave off depression, which is common in stroke patients. Rehabilitation will be continued in a rehab unit of the hospital, in a rehab hospital, in a long-term nursing-care facility, on an outpatient basis, or at home.

Prevention still applies—perhaps even more so—if you have already had a stroke. The risk of another stroke within five years is 40 percent, so stroke survivors can decrease their risk by using the same strategies that can help prevent a stroke in the first place. Warns Gupta, “If you’ve had a previous stroke and you don’t manage your risk factors, studies show that you will have another stroke.”

Be Informed & Act Quickly

Very few people should have to have a stroke, so do your best to prevent it. “Know your risk factors, and manage them as advised by your physician,” Rocco urges. Be aware of the warning signs, he says, and “if you notice one or more of the symptoms, call 911 immediately.” Prompt action is critical in the event of a stroke. “Any time that anyone has a sudden onset of a new neurological deficit, they should seek immediate medical attention in order to maximize the therapies available to them, as well as the potential for functional recovery by administering any of the therapies in a timely fashion,” adds Walzman. “Time is brain.”

Rocco concurs. “Time is one of the biggest factors for better outcomes for stroke. The faster we restore blood flow to the brain, the lesser the effects of stroke.”