What is a stroke?

Brain cell function requires a constant delivery of oxygen and glucose from the bloodstream. A stroke, or cerebrovascular accident (CVA), occurs when blood supply to part of the brain is disrupted, causing brain cells to die. Blood flow can be compromised by a variety of mechanisms.

Blockage of an artery

- **Narrowing of the small arteries within the brain** can cause a lacunar stroke, (lacune means "empty space"). Blockage of a single arteriole can affect a tiny area of brain causing that tissue to die (infarct).
- **Hardening of the arteries (atherosclerosis) leading to the brain.** There are four major blood vessels that supply the brain with blood. **The anterior circulation** of the brain that controls most motor activity, sensation, thought, speech, and emotion is supplied by the carotid arteries. **The posterior circulation**, which supplies the brainstem and the cerebellum, controlling the automatic parts of brain function and coordination, is supplied by the vertebrobasilar arteries.

If these arteries become narrow as a result of atherosclerosis, plaque or cholesterol, debris can break off and float downstream, clogging the blood supply to a part of the brain. As opposed to lacunar strokes, larger parts of the brain can lose blood supply, and this may produce more symptoms than a lacunar stroke.

- **Embolism to the brain from the heart.** In some instances blood clots can form within the heart and the potential exists for them to break off and travel (embolize) to the arteries in the brain and cause a stroke.

Rupture of an artery (hemorrhage)

- **Cerebral hemorrhage** (bleeding within the brain substance). The most common reason to have bleeding within the brain is uncontrolled high blood pressure. Other situations include aneurysms that leak or rupture or arteriovenous malformations (AVM) in which there is an abnormal collection of blood vessels that are fragile and can bleed. Read more...

http://www.medicinenet.com/stroke/article.htm#what_is_a_stroke