Arteries carry blood that contains oxygen to the brain. The flow of blood through the arteries can stop if the artery is blocked or bleeds. This is called a stroke. It is also known as a cerebrovascular accident or CVA. This handout looks at what occurs when a stroke happens in the left middle cerebral artery in the brain.

**Effects**

The middle cerebral artery divides into a right middle cerebral artery and a left middle cerebral artery.

The left middle cerebral artery provides blood to a large part of the left side of the brain. The artery divides into smaller artery branches.

Based on where the blockage occurs in the artery or in the branches, the effects will vary. Damage most often can cause changes in:

- Movement and sensation
- Attention, memory, and judgement
- Perception
- Speech
- Vision

Rarely, this type of stroke can cause hearing problems.

If the stroke is in this artery, many of the problems will show up on the right side of the body.

**Changes in Movement**

- The loss of movement or weakness occurs on the right side of the body.
- Often the muscles of the mouth, the tongue, and throat may be affected, making it hard to speak or swallow.
- Based on where the stroke occurred, the amount of loss may be spread evenly over the entire right side of the body, or it may be worse further away from the truck of the body.
  - For instance, moving the knee or foot may be more difficult than moving the hip.
Changes in Sensation
The person may have changes in sensation, including:

- Not feeling when they are being touched or knowing where the touch is.
  - For example, something touching their foot may feel a touch on the leg.
- Not being able to tell what an object is by touching it.
- Not feeling pain or temperature in that area.
- Not knowing where their body is and how it is moving.
- Problems looking to the right side, moving the eyes toward the right, or moving the head to the right.

Problems with the Right Side
A less common effect is a problem called right neglect. Because the part of the brain that controls the right side is not working, the person may not remember it is there, or not be able to move it.

With right neglect, the person may do things such as:

- Only eat food that is on the left side of the plate
- Only brush the hair on the left side of their head.
- Have trouble paying attention to anything that happens on their right side, including someone standing to the right and speaking.

Changes in Attention, Memory, and Thinking

- A person that had a stroke on the left side may have problems with attention. They may not be able to focus to complete a task, even when it is something they wish to do.
- Problems with memory and motivation are common and it can be hard to form new memories.
- Problems with reading, writing, and doing math are common.
- The person with this stroke may confuse left and right.

Changes in Coordination
Motor planning is often a problem for people with this type of stroke. Our brains store plans of how to do tasks, like standing up from a chair or brushing our hair. This person may not be able to use these plans, making the movements hard to do correctly.

- For example, walking is often very hard because the body is not able to plan to pick up their foot and take a step, even though the muscles may be strong enough to do it. This can make movements look jerky and strange.

Changes in Vision
The person may lose part of the field of vision on the right side in one or both eyes.
Changes in Speech

Most people have two parts of the brain that control language on the left side of their brain. Both of these areas are supplied by different parts of the middle cerebral artery.

Problems with speech and understanding language, called **aphasia**, are common with this type of stroke. There are two broad groups of aphasia, with several types within these groups:

- **Non-fluent aphasia** – The most common problems of non-fluent aphasia range from finding the right word to being able to say that word. A person with non-fluent aphasia may sound hesitant while searching for the right word to say. It can be frustrating for the person affected because he or she usually understands better than he or she is able to express.

- **Fluent aphasia** – A person with fluent aphasia does not have trouble saying words, but the words spoken may be nonsense or real words that are used incorrectly. The person with fluent aphasia may be unaware that his or her speech is not meaningful. This can lead to frustration and anger toward the listener for not understanding.