Right Middle Cerebral Artery Stroke

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 right middle cerebral artery in the brain.

**Effects**
The middle cerebral artery divides into a right and left side
The right middle cerebral artery provides blood to a large part of the right side of the brain.
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
- Speech
- Vision
Other changes are less common, such as unwanted movements and sweating on the left side of the body.
If the stroke is in this artery, many of the problems will show up on the left side of the body.

**Changes in Movement**
- The loss of movement or weakness occurs on the left side of the body.
- Based on where the stroke occurred, the amount of loss may be spread evenly over the entire left 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.
- The muscles of the mouth, the tongue, and throat may be affected making it hard to speak or swallow. The person’s speech may also sound monotone and flat.

**Changes in Sensation**
The person may have changes in sensation, including:
- Not feeling when they are being touched or know where the touch is.
  - For example, something touching their foot may feel like a touch on the leg.
- Not being able to tell what an object is by touching it.
- Not feeling pain and temperature in that area.
- Not knowing where their body is and how it is moving.
Problems with Left Side

The person may have problems looking to the left side. They may have problems moving their eyes toward the left, and moving the head in that direction. This can be due to the loss of movement or it may also be a problem, called left neglect.

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

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

Changes in Attention, Memory, and Judgement

- The person that had a stroke on the right side may have problems with attention. They may not be able to focus to complete a task.
- They may have problems focusing on the important things, while becoming very concerned about things that are not important.
- Problems with memory are common, and it can be hard to form new memories.
- The person may have problems with motivation, be very impulsive, and have poor judgment.

Changes in Understanding

- A person with this type of stroke may not be able to understand that he or she has had a stroke, or believe that there is no problem.
- The person may not be able to stand because his or her leg is weak, but will insist that he or she is able to walk or run normally. The person may then try to explain the problems with made up answers.
  - For example, “My leg gave out because someone pushed me.”
- Problems understanding where things are and remembering them is common. This makes it hard for the person to recognize where he or she is and how to get around and find things.
  - For example, the person may have problems finding the bathroom in his or her own house, or finding an object that was put down in front of them.
- The person may have problems recognizing people.
- A stroke in the right middle cerebral artery often will cause the person to be confused and not be able to understand what is going on around them.

Changes in Vision

Changes in vision may include:

- Losing part of their field of vision on the left side in one or both eyes.
- Having double vision.
Changes in Speech

Changes in speech are rare in this type of stroke because few people have the language control areas on the right side of the brain. Most people have these parts on the left. Both of these areas are supplied by different parts of the middle cerebral artery.

Problems with speech and understanding language is called aphasia. 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.