

# Case study: parietal lobe analysis



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BUSTER**

Frontal Lobe- to be found at the front of the brain and it is associated with thought, motor skills, memories, emotion and moral behavior.

Parietal Lobe- to be found at the middle section of the brain and it is associated with taste, touch and spatial orientation.

Temporal Lobe- to be found at the bottom section of the brain and it is associated with smell, hearing, memory and emotional expression.

Occipital Lobe- to be found at the back portion of the brain and it is associated with language and visual interpretation.

How does the aging process impact the neurological system?

As people get old, the amount of nerve cells in the brain typically decreases, though the amount of lost varies to each person whether he/she is in a good health condition or not. Aging process may affect brain functions like having a short term memory, decline of verbal abilities, information processes and slow response time and performance to activities. The spinal cord become hard and brittle causing pressure that will result to nerve fibers injury in effect is a decreased sensation, strength and balance. On the other hand, peripheral nerves gets slower in conducting impulses because of myelin sheath degeneration in effect is a decreased sensation, slower reflexes and clumsiness. There is also a slow self-repair process that makes people prone to injury or disease.

Compare and contrast the sympathetic and parasympathetic nervous systems in terms of function.

Sympathetic nervous system is in alert state thus the heart rate, respiratory rate, blood pressure increases, the person experiences constipation, less urination, dilated pupil and a constricted blood vessel.

Parasympathetic nervous system is in relax state hence the heart rate, respiratory rate, blood pressure decreases, the person experiences diarrhea, excessive urination, constricted pupil and a dilated blood vessel.

## **Web Output**

Research a neurological article investigating pathologic changes that affect motor control and those that affect the sensory pathways. Write a one-page paper summarizing your reading. (font 12, times new roman, single space)

Alzheimer's is a brain disease that causes problems with memory, thinking and behavior. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks.

Alzheimer's is the most common form of dementia, a general term for memory loss and other intellectual abilities serious enough to interfere with daily life. Alzheimer's disease accounts for 50 to 70 percent of dementia cases.

Alzheimer's is not a normal part of aging, although the greatest known risk factor is increasing age, and the majority of people with Alzheimer's are 65 and older. But Alzheimer's is not just a disease of old age. Up to 5 percent of people with the disease have early-onset Alzheimer's (also known as younger-onset), which often appears when someone is in their 40s or 50s.

Alzheimer's is not the only cause of memory loss. Many people have trouble with memory – this does NOT mean they have Alzheimer's. In fact, most do not. There are many different causes of memory loss. If you or a loved one is experiencing symptoms, it is best to visit a doctor so the cause can be determined.

Alzheimer's worsens over time. Alzheimer's is a progressive disease, where symptoms gradually worsen over a number of years. In its early stages, memory loss is mild, but with late-stage Alzheimer's, individuals lose the ability to carry on a conversation and respond to their environment.

Alzheimer's is the sixth leading cause of death in the United States. Those with Alzheimer's live an average of eight years after their symptoms become noticeable to others, but survival can range from three to 20 years, depending on age and other health conditions.

Alzheimer's has no current cure, but treatments for symptoms are available and research continues. Although current Alzheimer treatments cannot stop Alzheimer's from progressing, they can temporarily slow the worsening of symptoms and improve quality of life for those with Alzheimer's and their caregivers. Today, there is a worldwide effort under way to find better ways to treat the disease, delay its onset, and prevent it from developing.

Microscopic changes in the brain begin long before the first signs of memory loss. The brain has 100 billion nerve cells (neurons). Each nerve cell connects with many others to form communication networks. Groups of nerve cells have special jobs. Some are involved in thinking, learning and remembering. Others help us see, hear and smell.

To do their work, brain cells operate like tiny factories. They receive supplies, generate energy, construct equipment and get rid of waste. Cells also process and store information and communicate with other cells. Keeping everything running requires coordination as well as large amounts of fuel and oxygen.

Scientists believe Alzheimer's disease prevents parts of a cell's factory from running well. They are not sure where the trouble starts. But just like a real factory, backups and breakdowns in one system cause problems in other areas. As damage spreads, cells lose their ability to do their jobs and, eventually die, causing irreversible changes in the brain.

Two abnormal structures called plaques and tangles are prime suspects in damaging and killing nerve cells.

Plaques are deposits of a protein fragment called beta-amyloid (BAY-tuh AM-uh-loyd) that build up in the spaces between nerve cells.

Tangles are twisted fibers of another protein called tau (rhymes with "wow") that build up inside cells.

Though most people develop some plaques and tangles as they age, those with Alzheimer's tend to develop far more. They also tend to develop them in a predictable pattern, beginning in areas important for memory before spreading to other regions.

Scientists do not know exactly what role plaques and tangles play in Alzheimer's disease. Most experts believe they somehow play a critical role

in blocking communication among nerve cells and disrupting processes that cells need to survive.

It's the destruction and death of nerve cells that causes memory failure, personality changes, problems carrying out daily activities and other symptoms of Alzheimer's disease.

Experts have developed “ stages” to describe how a person's abilities change from normal function through advanced Alzheimer's.

Stage 1: No impairment (normal function)

The person does not experience any memory problems. An interview with a medical professional does not show any evidence of symptoms.

## **Stage 2:**

### **Very mild cognitive decline (may be normal age-related changes or earliest signs of Alzheimer's disease)**

The person may feel as if he or she is having memory lapses – forgetting familiar words or the location of everyday objects. But no symptoms can be detected during a medical examination or by friends, family or co-workers.

Stage 3: Mild cognitive decline (early-stage Alzheimer's can be diagnosed in some, but not all, individuals with these symptoms)

Friends, family or co-workers begin to notice difficulties. During a detailed medical interview, doctors may be able to detect problems in memory or concentration. Common stage 3 difficulties include:

Noticeable problems coming up with the right word or name

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Trouble remembering names when introduced to new people

Having noticeably greater difficulty performing tasks in social or work settings Forgetting material that one has just read

Losing or misplacing a valuable object

Increasing trouble with planning or organizing

### **Stage 4:**

Moderate cognitive decline

(Mild or early-stage Alzheimer's disease)

At this point, a careful medical interview should be able to detect clear-cut problems in several areas:

Forgetfulness of recent events

Impaired ability to perform challenging mental arithmetic -for example, counting backward from 100 by 7s

Greater difficulty performing complex tasks, such as planning dinner for guests, paying bills or managing finances

Forgetfulness about one's own personal history

Becoming moody or withdrawn, especially in socially or mentally challenging situations

### **Stage 5:**

Moderately severe cognitive decline

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(Moderate or mid-stage Alzheimer's disease)

**Gaps in memory and thinking are noticeable, and individuals begin to need help with day-to-day activities. At this stage, those with Alzheimer's may:**

Be unable to recall their own address or telephone number or the high school or college from which they graduated

Become confused about where they are or what day it is

Have trouble with less challenging mental arithmetic; such as counting backward from 40 by subtracting 4s or from 20 by 2s

Need help choosing proper clothing for the season or the occasion

Still remember significant details about themselves and their family

Still require no assistance with eating or using the toilet

### **Stage 6:**

Severe cognitive decline

(Moderately severe or mid-stage Alzheimer's disease)

**At this stage, individuals may:**

Lose awareness of recent experiences as well as of their surroundings

Remember their own name but have difficulty with their personal history

Distinguish familiar and unfamiliar faces but have trouble remembering the name of a spouse or caregiver



Need help dressing properly and may, without supervision, make mistakes such as putting pajamas over daytime clothes or shoes on the wrong feet

Experience major changes in sleep patterns – sleeping during the day and becoming restless at night

Need help handling details of toileting (for example, flushing the toilet, wiping or disposing of tissue properly)

Have increasingly frequent trouble controlling their bladder or bowels

Experience major personality and behavioral changes, including suspiciousness and delusions (such as believing that their caregiver is an impostor) or compulsive, repetitive behavior like hand-wringing or tissue shredding

Tend to wander or become lost

### **Stage 7:**

Very severe cognitive decline

(Severe or late-stage Alzheimer's disease)

In the final stage of this disease, individuals lose the ability to respond to their environment, to carry on a conversation and, eventually, to control movement. They may still say words or phrases.

At this stage, individuals need help with much of their daily personal care, including eating or using the toilet. They may also lose the ability to smile, to

sit without support and to hold their heads up. Reflexes become abnormal. Muscles grow rigid. Swallowing impaired.

Today, Alzheimer's is at the forefront of biomedical research.

Ninety percent of what we know about Alzheimer's has been discovered in the last 15 years. Some of the most remarkable progress has shed light on how Alzheimer's affects the brain. The hope is this better understanding will lead to new treatments. Many potential approaches are currently under investigation worldwide.

## **SUMMARY:**

Alzheimer's is a disease that targets the brain. It affects the capacity of a person to recall past events, think and act. The risk factors are as follows: age (fossil people), history of the family and heredity. We should know that Alzheimer's disease progresses as time goes by and it is irrevocable for the reason that brain cells or neurons decline as the person advances his/her age. The manifestations might be loss of memory, inability to recognize, reason out, wise judgment and uncoordinated body movements. Plaques and Tangles is somehow link to the disease because it is believed that it is the cause of nerve cells death due to the log-jam of communication between nerve cells and processes that cells need to carry out to be able to survive is disrupted. There are seven stages of Alzheimer's disease, the stage one is the stage wherein the body functioning is normal. The stage two is the stage wherein the earliest sign of Alzheimer's occurs for example forgetting simple things like where did the client put his/her reading glasses, a favorite book, it may also be forgetting terminologies that are familiar. The stage three is the

stage wherein symptoms of the disease are well evident by the family, colleagues and significant others. Poor concentration and memory are now manifested by the client. The stage four is the stage wherein symptoms increases that even his/her own personal history is forgotten. The stage five is the stage wherein the client starts to become dependent for he tends to forget his/her home address or landline, also the family and significant others should orient the client to time and place because they also forgets it. The stage six is the stage wherein the clients' memory continues to deteriorate and the behavior changes, hence the client continues to become dependent. The last stage is the stage wherein the client need a full time help to family or significant others because they already lose the ability to interact with others and to the things that surrounds him/her and unable to control his/her motor movement. Hopefully researchers will be able to discover new treatments to cure Alzheimer's disease.