ALZHEIMER’S DISEASE

INTRODUCTION

Alzheimer’s disease is a chronic, incurable, condition that causes devastating damage to the brain and nervous system. Nerve cells in the brain become dysfunctional and die and normal functioning becomes very, very difficult and eventually, impossible. People suffering from Alzheimer’s disease (the disease was named after the physician who first identified the condition) have difficulty with memory, language, abstract thinking, and are often confused and disoriented, even in familiar situations and even among people they know. The disease is progressive, no one knows what causes Alzheimer’s, and there is no cure. Eventually, someone with Alzheimer’s will need to be cared for completely. Caring for a patient with Alzheimer’s can be one of the biggest challenges you will ever face in your career as a Certified Nursing Assistant (CNA). And without your assistance, many patients with Alzheimer’s would be basically helpless.

But although it can be a tremendous challenge to provide care for a patient with Alzheimer’s, it can be very rewarding. Also, there is a lot of experience that caregivers of all professions have accumulated working with patient’s with Alzheimer’s disease that you can draw on to help you manage. With a sound basis of knowledge about the disease and with this advice and support, you will be able to effectively make the experience a good one for you and your patient.

OBJECTIVES

When the student has finished this module, he/she will demonstrate familiarity with:

1. Alzheimer’s Disease or Related Disorders
2. Characteristics of Alzheimer’s Disease or Related Disorders
3. Communicating with Residents with Alzheimer’s Disease or Related Disorders
ALZHEIMER’S DISEASE: THE SCOPE OF THE PROBLEM

Alzheimer’s disease is very common; in fact it is the most common cause of dementia (the term dementia will be explained later). Over 5 million people in the United States now suffer from the disease and by the year 2030, the number of people aged 65 years and older who have Alzheimer’s is expected to grow to almost 8 million. More than 14% of all American adults over the age of 65 have Alzheimer’s disease, and it is considered to be a leading cause of death. Women are at greater risk: this may be because the amount of estrogen they produce after menopause decreases significantly for the disease. It was thought for many years that the African American population has a higher incidence of Alzheimer’s disease, but this is no longer thought to be the case.

THE BRAIN, THE NERVOUS SYSTEM, AND ALZHEIMER’S DISEASE

Alzheimer’s is a disease that affects the nervous system, so to understand Alzheimer’s disease you must understand the purpose of the nervous system, how it is organized, and how it works.

- Purpose of the nervous system: The purpose of the nervous system is to initiate and control our involuntary behaviors such as breathing, circulation, and digestion, and to initiate and control our voluntary behaviors such as abstract thinking, memory, planning, solving problems, etc. Everything we do essentially starts and is controlled by the nervous system.

- Organization of the nervous system: The nervous system is basically comprised of the brain, the spinal cord, and the nerve fibers. In one sense the brain could be considered the power plant, and the spinal cord and the nerve fibers are the wiring that carry the energy and the messages generated by the brain to the different parts of the body. The nerve fibers and the spinal cord also carry information and messages back to the brain, as well.

- How the nervous system works: The nervous system initiates and controls behavior by receiving and sending information. For example, when someone is standing in front of you, the image of that person is transmitted to an area of the brain that stores information (memory). When the image reaches the cortex, you search your memory, recognize (or not recognize) that person and depending on who they are you respond in a particular way. In this situation, the visual image is carried to the brain by the nerve fibers and the spinal cord to the brain, the brain receives this information and after searching the memory, the brain sends a message to the body through the spinal cord and the nerve fibers for you to speak, or ask a question, etc. The information our nervous system sends and receives is carried by tiny electrical impulses and chemicals called neurotransmitters. The brain is the “command center” and the spinal cord, the nerve cells, and the nerve fibers are the “wiring” that carry information to and from the brain. However,
there are short breaks in the connections (the wiring) between the nerve fibers, the nerve cells, the spinal cord, and the brain. These breaks are called synapses and when an electrical impulse reaches a synapse, a neurotransmitter chemical is released and carries the impulse (the message) across the synapse to the next part of the nervous system.

The nervous system initiates and controls involuntary and voluntary behavior, and different areas of the brain are responsible for specific behaviors. Alzheimer’s disease causes damage to a part of the brain called the cortex. The cortex is involved in memory, problem solving, and abstract thinking – things that we typically refer to as the higher mental activities – and people with Alzheimer’s develop plaques and tangles in the cortex. The plaques and tangles are clumps of abnormal proteins that form inside the cells of the cortex and in the synapses, and they damage nerve and brain cells, interrupt normal nervous system functioning, and cause an immune response that damages and eventually destroys the cortex. Since the cortex can no longer function and the transmission of information to and from the brain is abnormal and disrupted, the person with Alzheimer’s disease cannot perform the higher mental activities that allow us to function and survive, the activities that we use to communicate, remember, etc.

**WHAT CAUSE ALZHEIMER’S DISEASE?**

There has been a tremendous amount of research directed towards discovering the causes – or causes – of Alzheimer’s disease, but at this point no one can say with certainty why it happens. Some cases appear to be inherited. If someone in your family has developed Alzheimer’s disease, your risk will be higher, but genetics seems to account for only a small part of all cases. There are probably many causes for Alzheimer’s disease, and factors such as obesity, advanced age, high blood pressure, and metabolic problems could possibly contribute to the development of the disease.

People with Alzheimer’s disease live an average of eight years after the diagnosis is confirmed, but some people may survive up to 20 years. Life expectancy and the speed with which the disease progresses depends on the general health of the individual and how early in life they develop Alzheimer’s: if you get Alzheimer’s early, the outlook is generally poor. Some people have a slow, almost imperceptible progression of the signs and symptoms; other people become debilitated very rapidly and dramatically.

**MYTHS ABOUT ALZHEIMER’S DISEASE**

Although Alzheimer’s is relatively common, there are many misconceptions about the disease:

- **Only older people develop Alzheimer’s disease:** Alzheimer’s disease is more common among people aged 65 years and older, but people in their 30s and 40s can develop Alzheimer’s disease.

- **Alzheimer’s disease is very debilitating but it is not fatal:** Alzheimer’s is one of the leading causes of death.
• **Using aluminum cookware or being exposed to aluminum in deodorants can cause Alzheimer’s**: There is no evidence that being exposed to aluminum by using pots and pans made of aluminum causes Alzheimer’s disease.

• **The memory loss of Alzheimer’s disease is a normal part of aging**: There is still no definite evidence that memory loss is inevitable as we age. And the memory loss that is part of Alzheimer’s disease is definitely not normal.

• **People with Alzheimer’s disease are not aware that they are forgetful**: Some people, in the early stages of Alzheimer’s disease, are aware that their mental faculties are getting worse.

• **Alzheimer’s disease has been linked with certain foods, the flu vaccine, and dental fillings**: There have been rumors that certain foods, the flu vaccine, and dental fillings with mercury can cause Alzheimer’s, but these rumors have been disproved.

**HOW IS ALZHEIMER’S DISEASE DIAGNOSED?**

Alzheimer’s disease is diagnosed using a computerized tomography (CT) scan or a magnetic resonance (MR) scan of the brain, and by a physician’s exam. There are no laboratory tests that can be used to confirm a diagnosis of Alzheimer’s disease. The exam by the physician should look for:

- Multiple deficits in mental and physical functioning such as: impaired memory; the inability to recognize familiar objects despite normally functioning senses; inability to speak or inability to speak clearly and coherently; inability to perform simple manual tasks despite normally functioning motor capacity; and inability to perform higher mental activities.

- These deficits should be causing serious difficulties in day-to-day living.

- The deficits should start gradually and get worse over time.

- Other causes of the deficit such as a brain tumor, medication side effect, and infection, etc. have been investigated and ruled out.

- The patient’s mental and physical deficits do not occur during a period of delirium.

**SIGNS AND SYMPTOMS OF ALZHEIMER’S DISEASE**

Alzheimer’s disease is a progressive condition, and patients who have Alzheimer’s typically move through stages of impairment as they get older.
• Stage 1: The patient has Alzheimer’s but she/he does not yet have any signs or symptoms of the disease. The disease is starting, and cannot be detected by family/friends or an exam by a physician.

• Stage 2: Very mild decline: The patient has some mild signs and symptoms. The patient may *occasionally* forget a name or a familiar word, but there are no signs or symptoms of Alzheimer’s disease that are very obvious or that can be detected by a medical professional.

• Stage 3: Mild decline: In this stage of Alzheimer’s disease, the patient’s family and friends may notice that the patient is having difficulties with memory, concentration, etc, and a physician may be able to find some mental deficits with an examination. At this stage, the patient with Alzheimer’s disease may easily lose an important object such as house keys, may have difficulty function socially or at work, may not be able to remember important words, may not be able to plan or organize very well, *and these problems are happening frequently.*

• Stage 4: Moderate decline: Patients with Alzheimer’s disease who are in Stage 4 will have many of the same problems listed in the description of Stage 3, but he/she will also begin to experience mood swings, and may become inappropriate and withdrawn in social situations. Mental arithmetic – counting backward from 100 to 1 – becomes very difficult, and the patient has great difficulty in planning activities and managing complex tasks. *At this stage, a physician should be able to make a diagnosis of Alzheimer’s disease.*

• Stage 5: Moderately severe decline: The patient’s mental faculties and ability to function worsen. *At this stage, the patient will need help with day-to-day activities*, because she/he will not be able to remember a home address, a home telephone number, and may become confused and uncertain about what day it is and where they are. However, the patient should not require assistance to eat and use the toilet.

• Stage 6: Severe cognitive decline: Memory and higher mental faculties continue to decline, *and the patient may now need help with dressing, eating, and toilet activities.* Sleep disorders become common (sleeping during the day and staying awake at night), bladder and bowel incontinence may happen, and the patient may have significant mood swings and personality changes.

• Stage 7: Very severe decline: At this stage of the disease, the patient is severely impaired. The patient cannot converse, cannot control movement, has no bladder or bowel control, and cannot eat, dress, etc, independently.

There are many causes of decreased mental function in the elderly and not all people who are over the age of 65 and have memory lapses or confusion have Alzheimer’s. *The earliest evidence of Alzheimer’s disease is often a slow, progressive memory loss,* but there are other neurological signs and symptoms that can be warning signs of
Alzheimer’s. **Specific** examples of the signs and symptoms of Alzheimer’s disease may include:

- Asking for the same information again and again, forgetting important names, dates, and events.

- Difficulty in balancing a checkbook, following a simple set of instructions such as a recipe, adjusting a thermostat, using a microwave oven, or finding the way to store.

- Trouble with vision and depth perception while driving or walking.

- Constantly misplacing things.

- Social withdrawal: People with Alzheimer’s will frequently begin to interact less and less and avoid people and places they used to frequent.

- Changes in mood and personality: Confusion, depression, anger, and suspicion that are intense and unusual may be a sign of Alzheimer’s.

**Learning Break:** For people with Alzheimer’s, the behaviors listed above will be persistent, unusual for them, very dramatic, will get worse over time. These behaviors will seriously interfere with their ability to safely and competently care for themselves.

One thing that is obvious from this list is that some of these behaviors can’t be easily measured and seen. Many people – young and old – have mood swings, forget where they put their glasses, and/or need occasional reminders to help them through the day, but these people do not have Alzheimer’s disease. So what is the difference? Where is the dividing line between occasional memory lapses and behavior changes and Alzheimer’s? One way to determine this is the Mini-mental state exam (MMSE). This is a quick test the physician or a mental health professional can administer if they suspect a patient may have Alzheimer’s disease. Examples of question from the test include:

- Ask the patient to state the year, the season, the day of the week, and the month.

- Ask the patient to count backwards from 100 using intervals of 7.

- Name two familiar objects in the room such as a lamp or a chair when the examiner points to them.

- Say out loud a short list of simple objects, wait a few minutes, then ask the patient to repeat the list.

- Say a short, common phrase, wait a few minutes, then ask the patient to repeat the phrase.

Some of us might have difficulty performing all of these tasks perfectly if we were tired, anxious, etc., yet we would get most of them right. But for the patient with
Alzheimer’s disease, these memory/mental challenges would be far too difficult and confusing.

**WHAT ARE THE DIFFERENCES BETWEEN ALZHEIMER’S DISEASE, DEMENTIA, AND THE NORMAL AGING PROCESS?**

The terms dementia and Alzheimer’s are often used as if they were one and the same. Many people are confused about the differences and definitions of Alzheimer’s disease and dementia, and many people are confused about the differences between the signs and symptoms of the normal aging process and the signs and symptoms of Alzheimer’s.

Dementia is simply a word that refers to a group of signs and symptoms – many of which are seen in patients who have Alzheimer’s disease. However, there are lots of causes of dementia such as Parkinson’s disease, dementia associated with HIV/AIDS, dementia caused by abnormal blood vessels in the brain, and dementia caused by infections, and metabolic problems, and Alzheimer’s disease is simply one cause of dementia.

The differences between memory loss and changes in mental functioning that happen as we age and the changes that are seen in Alzheimer’s disease can be easily summed up: the mental deficits that are seen in a patient with Alzheimer’s are much more serious, they cannot be easily corrected, and they get worse over time. For example, someone who is elderly may forget what day it is, or have a hard time learning something new. However, with a little help, that person will quickly remember the day or be able to learn the new task. If someone has Alzheimer’s diseases, that person may forget what day it is but also the year and the time of day, and no amount of reminding will help. The person with Alzheimer’s disease will not be able to learn something new, regardless of how much help is given.

**TREATMENT FOR ALZHEIMER’S**

Currently, there is no cure for Alzheimer’s disease. The treatment focuses on using medications that can help the signs and symptoms caused by the disease, and providing a safe and supportive environment for the patient. Medications such as Aricept® and Namenda® can help by affecting the levels of neurotransmitters in the brain. Also, antipsychotic drugs, antidepressants, and sedatives can be helpful in treating the mood swings and erratic behavior of Alzheimer’s patients. Encouraging social activity and mentally challenging activities – within the patient’s capabilities and with good support – may be helpful.

**WORKING WITH THE ALZHEIMER’S DISEASE PATIENT**

Working with a patient who has Alzheimer’s disease can be very difficult. The patient’s ability to understand the world around him/her is severely compromised. The ability to communicate is also deeply damaged. Because of these problems, the patient simply does not have the tools needed to function normally, and as a result the behavior of a patient with Alzheimer’s can be frightening and/or harmful to the patient and the caregiver. Some of these behaviors may include:
• Aggression
• Anxiety
• Agitation
• Confusion
• Repetition
• Suspicion
• Wandering

What is difficult for the caregiver of a patient with Alzheimer’s disease is that these behaviors are often very extreme, they are unpredictable, they happen without warning: from the standpoint of a family member or a caretaker, there is no apparent cause for the patient to act out. However if you look carefully at what the patient is doing and what happened immediately before, you can often determine why the patient is behaving in a particular way.

The key is to remember that the patient with Alzheimer’s disease has very diminished mental capacity, and many times the patient with Alzheimer’s patient will act out because she/he cannot cope with stress: this is the basic cause for many of the disturbing behaviors that can be seen in patients with Alzheimer’s disease. Stress is a normal part of life, but because these patients have such diminished mental capacities, even simple, non-threatening situations are beyond their abilities to deal with. Situations that most of us would easily understand and problems that most of us would easily solve are overwhelming for the patient with Alzheimer’s disease. Specifically, these patients can be disturbed by:

• Physical discomfort: The Alzheimer’s patient may be uncomfortable or in pain, but will be unable to identify this fact, be unable to tell someone, or be unable to help themselves.

• Over-stimulation: Loud noises or an exceptionally active environment can confuse and frighten the patient with Alzheimer’s disease.

• Unfamiliar surroundings: If the surroundings are unfamiliar, this too can cause fear, anxiety, and confusion.

• Complicated tasks: A patient with Alzheimer’s is often unable to perform complicated tasks. They can be easily frustrated and then act out.
- Complex interpersonal interactions: A patient with Alzheimer’s disease can get overwhelmed by long conversations and for them, complex social situations are incomprehensible.

We all experience these types of situations from time to time. We are physically uncomfortable, we are over-stimulated, or we are involved in complex personal interactions. We have the abilities and experience to cope – most of the time – but everyone can remember a situation that seemed too challenging, a situation that made us confused, anxious, etc.

When that is considered, the reactions of an Alzheimer’s patient to stress – aggression, anxiety, agitation, confusion, repetition, and suspicion – begin to make sense. When you are in a new, unfamiliar situation, it is normal to feel anxious and confused. And if you are frightened, you may even feel and act a little aggressively. However, most of us can assess a new situation and plan an appropriate behavior that will help us cope. But the patient with Alzheimer’s disease simply has a much, much lower level of tolerance for these stressors and an extremely diminished ability to adjust to them. The result? They act out.

However, with patience and planning, you can successfully manage situations in which the Alzheimer’s patient is agitated, confused, suspicious, etc. You can also adjust the environment so that these patients do not become confused or frightened. The Alzheimer’s Association (www.alz.org) recommends this step by step approach:

- Identify and examine the behavior: First, identify the behavior and determine whether or not it may be harmful to the patient or others.

- Try and identify the cause: Look for the “trigger” that might have caused the behavior. Remember, for the patient with Alzheimer’s disease, small changes or disruptions in the environment or the daily routine can be disorienting and upsetting.

- Look for solutions: This can be challenging, because it is difficult to put yourself on the place of a patient with Alzheimer’s. But be flexible; look for new ways to solve the problem and effuse the situation.

The Alzheimer’s Association also recommends some specific approaches to the difficult behaviors, e.g., suspicion, aggression, etc. that can be seen with these patients.

Learning Break: A patient with Alzheimer’s may behave in a way that is dangerous to themselves and others. There are situations in which physical restraint is necessary to stop this behavior, but using physical restraint can be very risky for the patient and the staff. Where ever you work, there should be some clear-cut policies and procedures that explain when and how to use physical restraint. Make sure you are familiar with them.

In a general sense, it is always best to remain flexible, patient, and calm. Do not get angry or confrontational. Do not argue with the patient; he/she simply cannot understand logic or common sense when upset. Be gentle and make your instructions simple to
understand. And above all, don’t take the behavior personally. The patient with Alzheimer’s disease who is acting aggressively or anxiously in a way that seems inappropriate is simply responding as best they can to what they find confusing and anxiety-provoking.

The following are some tools that will help you work with an Alzheimer’s patient who is under stress, and they can also be used for any patient who has Alzheimer’s disease. As always, look for the source; it may be a lack of sleep, a medication side effect, or simply a change in surroundings.

- Aggression: First, make sure that the patient will not hurt themselves or others. Do not be confrontational or argumentative. Do not become aggressive yourself. Try and gently remove the patient from the situation and distract them, if possible, with something familiar and comforting.

- Anxiety: Look for the source of the patient’s anxiety and change the environment or remove the anxiety stimulus. Gently and consistently reassure the patient that they are in familiar surroundings and with familiar people.

- Agitation: Look for the cause. Change the environment or remove the stimulus and gently and consistently reassure the patient that they are in familiar surroundings and with familiar people.

- Confusion: If you need to explain something to a patient with Alzheimer’s disease who is confused, make your explanations simple and short. Stay calm. Try and find reminders and cues that are familiar, cues that will orient the patient to time, place, and people.

- Repetition: Understand that the patient with Alzheimer’s disease who is repeating behavior or repeating a conversation is trying to comfort themselves. Allow the patient to express themselves while you look for the source of the patient’s anxiety or fear.

- Suspicion: This behavior is almost always triggered by change. It can also be triggered by the fact that the patient with Alzheimer’s may not remember who someone is, even if it is a relative or a long-term caregiver. Don’t be offended, and don’t try and use arguing, logic, or common sense to “make the patient understand.” Simply, gently, and consistently try and reassure the patient that they are in a familiar environment with people they know and that they are safe.

- Wandering. This is very common behavior in patient with Alzheimer’s disease, and it can be very dangerous. Wandering can be reduced by encouraging physical activity and providing the patient with appropriate stimulation. Make sure the patient has MedicAlert bracelet.

What about the patient who has Alzheimer’s disease who is non-communicative or non-responsive? In these situations, the best approach can be summarized with two
words: slow and predictable. You must, as with any patient who has Alzheimer’s disease, make sure the uncommunicative/unresponsive patient is physically comfortable, is not over-stimulated, and is not confronted with unfamiliar surrounding or new situations, and is not asked to do anything complex. Anything you do with, or say to these patients must be done slowly and carefully, and it is best to establish routines. Organize the day and the activities of daily living so that everything is done slowly and predictably and always allow for lots of extra time – far more time than you imagine you might need.