



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**  
Division of Health Service Regulation

# **State-approved Curriculum Nurse Aide I Training Program**

## **MODULE R Cognitive Changes Due to Aging**

### **Teaching Guide 2024 Version 2.0**



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**



North Carolina Department of Health and Human Services  
Division of Health Service Regulation  
North Carolina Education and Credentialing Section

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## **Module R – Cognitive Changes Due to Aging Teaching Guide**

### **Objectives**

1. Discuss the healthy aging brain
2. Identify cognitive changes that occur due to aging
3. Describe the importance of pacing and patience while delivering care to the older adult

### **Advance Preparation – In General**

- Review curriculum and presentation materials
- Add examples or comments in Notes Section
- Set up computer
- Establish Internet Connection

### **Supplies – Optional**

### **Handouts**

- **#2R Progression Test-** Refer to Activity #1R Pacing and Patience Simulation Instructor Guide

### **Instructional Resources/Guest Speakers – Optional**

### **Advance Preparation – Teaching Tips**

- **#R6 Games:** Familiarize self with the following links -  
[Sharp Brains: Brain Games and Teasers](#)  
[Brain Gym](#)

### **Advance Preparation – Activities**

- **#R11-1 Progression Test (Pacing and Patience Simulation):** The purpose of this activity is for the students to experience how a fast, or rushed pace affects the older resident by simulating a first-hand, fast-paced experience of being rushed.
- **#R11-2 An Alternative for Activity #R11-1:** The instructor may use a different activity that allows the students to experience how a fast, or rushed, pace affects the older resident by simulating a first-hand fast-paced experience of being rushed. One experience would be to have students draw a picture with their non-dominant hand. The picture would need to be complicated enough that no student would finish it in the allotted time. The instructor could bring in a picture and tell them to copy it. Adapt the instructions to the activity you choose. Below are a few examples for adapting the instructions.
  - 15 minutes may be too long. Adjust based on number of students in the cohort.
  - If students ask if this counts toward their grade, your response should be neutral or vague.

**If you use the alternative activity, take the time to adapt the instructions to your activity prior to class.**

## **Module R – Cognitive Changes Due to Aging**

### **Definition List**

**Cognition** – the mental processes involved in thinking, learning, understanding, and remembering. The manner in which messages from the five senses are changed, stored in memory, recovered from memory, and later used to answer questions, respond to requests, and perform tasks

**Learning** – the gaining of information, skills, and knowledge measured by an improvement in some obvious response

**Memory** – involves the storing of information in the brain for later use and the ability to recall the information when needed

**Pacing** – the awareness and adjustment of nursing care based on how slow or how fast a person is functioning

**Patience** – the ability to deal with slowness, delay, or boredom without complaining or appearing rushed

**Reaction Time** – the time it takes for a person to begin an answer or a movement after someone asks him/her a question or makes a request

Module R – Cognitive Changes due to Aging	
<b>(S-1) Title Slide</b>	
<b>(S-2) Objectives</b> <ol style="list-style-type: none"> <li>1. Discuss the healthy aging brain</li> <li>2. Identify cognitive changes due to aging</li> <li>3. Describe the importance of pacing and patience while delivering care to the older adult</li> </ol>	
<b>(S-3) Cognition</b> Cognition refers to the mental processes involved in thinking, learning, understanding, and remembering <ul style="list-style-type: none"> <li>• Messages sent to the brain from the five senses are changed, stored in memory, recovered from memory, and later used to answer questions, respond to requests, and perform tasks</li> <li>• Cognitive function is related to use</li> </ul>	<b>Notes:</b>
<b>(S-4) The Healthy Aging Brain</b> Healthy older adults do not have notable decreases in cognitive ability and are able to learn new information <ul style="list-style-type: none"> <li>• Cognitive function is related to use for healthy older adults.</li> <li>• Ability to think or problem-solve remains sharp, especially for usual situations and familiar experiences</li> <li>• Generally, remains as intelligent and creative as ever</li> </ul>	<b>Notes:</b>
<b>(S-5) Learning in the Older Adult</b> <ul style="list-style-type: none"> <li>• Learning refers to: <ul style="list-style-type: none"> <li>– The gaining of information, skills, and knowledge measured by an improvement in some obvious response</li> <li>– The ability to learn remains throughout life</li> </ul> </li> <li>• Older adults learn easier and better when they can set their own pace</li> <li>• Learning is dependent on memory</li> <li>• Memory involves the storing of information in the brain for later use and ability to recall the information when needed</li> </ul>	<b>Notes:</b>
<b>(S-6) “Use It or Lose It”</b> <b>TEACHING TIP #R6: Games</b> Tell students: Games help exercise our brains. For some people, playing certain types of games might be beneficial for things like mood, memory, concentration, reasoning, and imagination. Games might be especially helpful for the brain if they require learning something new. The older adult brain can benefit from games such as puzzle, tile, or board games, card games, dice games, word and number games, and	<b>Notes:</b>

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<p>indoor and outdoor games. Video games can benefit the aging brain as well.</p> <p>Click on the links below:  <i>Brain Game and Top Teasers</i>  <a href="#">Sharp Brains: Brain Games and Teasers</a>  <i>Brain Gymmer</i> <a href="#">Brain Gym</a></p> <p>Ask students:          What type of brain games do you enjoy doing during your spare time?</p>	
<p><b>(S-7) Cognitive Changes Due to Aging (1)</b></p> <ul style="list-style-type: none"> <li>• Size of neurons (brain cells) progressively decrease</li> <li>• Total brain mass decreases             <ul style="list-style-type: none"> <li>– Physiological and psychological responses slow down</li> <li>– Increased learning time needed for new activities</li> <li>– More difficulty in learning motor skills</li> <li>– Decrease processing, response time and reaction time, making fast-paced instruction more challenging</li> </ul> </li> </ul>	Notes:
<p><b>(S-8) Cognitive Changes Due to Aging (2)</b></p> <ul style="list-style-type: none"> <li>• Mild short-term memory loss often occurs with age</li> <li>• Motivation to learn decreases</li> <li>• Feels threatened more when declining cognitive abilities may be publicly demonstrated</li> <li>• Challenged by more than one task or more than one request at a time</li> <li>• Unable to ignore external stimuli while performing basic tasks</li> <li>• Forgetting names, misplacing items, poor recall of recent conversations</li> <li>• More deliberate, less frequent responses and less effective performance when pace is fast particularly in stressful or unfamiliar surroundings</li> <li>• Slow with tasks when a quick response is needed</li> <li>• Difficulties adapting, especially with impaired senses</li> <li>• Easily confused with multiple changes or when losses happen, or when moved to a different environment</li> </ul>	Notes:
<p><b>(S-9) Understanding Reaction Time</b></p> <ul style="list-style-type: none"> <li>• Reaction time – the time it takes for a person to begin an answer or a movement after someone asks him or her a question or makes a request.</li> <li>• It may take longer for an older adult to begin with an answer or to start a movement, especially when the older adult must make a choice or change movement from one direction to another</li> </ul>	Notes:

<b>Module R – Cognitive Changes due to Aging</b>	
<ul style="list-style-type: none"> <li>• Changes in reaction time vary from person to person</li> <li>• Reaction time decreases gradually after age 60</li> <li>• May be impaired by aging process, sensory deficits, or chronic disease</li> </ul>	
<b>(S-10) Reaction Time in Older Adults (1)</b> <ul style="list-style-type: none"> <li>• Responses slow down</li> <li>• Increased time for learning new activities</li> <li>• More difficulty in re-learning motor skills</li> <li>• Decreased ability to process conversation</li> <li>• Decreased reaction time</li> </ul>	<b>Notes:</b>
<b>(S-11) Reaction Time in Older Adults (2)</b> <ul style="list-style-type: none"> <li>• More deliberate, less frequent responses</li> <li>• Less effective performance when pace is fast</li> <li>• Easily confused in new environment</li> </ul>	<b>Notes:</b>
<b>ACTIVITY #R11-1: Progression Test Pacing and Patience Simulation (Individual)</b>  <p>The purpose of this activity is for the students to experience how a fast, or rushed pace affects the older resident by simulating a first-hand, fast-paced experience of being rushed.</p> <p>The instructor is critical to the success of this activity.</p> <b>TEACHING TIP #R11 Self-reflection</b> Ask students: <ul style="list-style-type: none"> <li>• To share how feeling rushed to complete the test affected their ability to complete the test?</li> <li>• Ask how it felt to be rushed to complete the test?</li> </ul>	<b>Notes:</b>
<b>(S-12) Workload of the Nurse Aide</b> <ul style="list-style-type: none"> <li>• Nurse aides have multiple tasks to accomplish in a short period of time.</li> <li>• When collaborating with residents, nurse aides may be inclined to quicken pace and expectations as they get pressed for time</li> </ul>	<b>Notes:</b>
<b>(S-13) Effects of a Fast Pace on an Older Adult</b> <ul style="list-style-type: none"> <li>• Resident's ability to learn, perform a task, or maintain motivation can be negatively affected in a fast-paced environment</li> <li>• Residents often are more cautious and less willing and able to respond quickly</li> <li>• Residents may be less willing to complete task due to fear of failure</li> </ul>	<b>Notes:</b>

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<b>(S-14) Social Breakdown Syndrome (1)</b> <ul style="list-style-type: none"> <li>Occurs if a resident is rushed or not allowed enough time to complete tasks</li> <li>Blames self for not being able to keep up</li> <li>Begins to feel incompetent with decrease in self-esteem, and will likely <ul style="list-style-type: none"> <li>keep quiet and not ask for a slower pace</li> <li>blame self for not being able to keep up</li> <li>become frustrated</li> </ul> </li> </ul>	<b>Notes:</b>
<b>(S-15) Social Breakdown Syndrome (2)</b> <ul style="list-style-type: none"> <li>Society becomes impatient with those who cannot keep up</li> <li>Older adults may give up doing things leading to dependence and helplessness</li> <li>Older adults are often labeled as slow and unable to keep up in society</li> <li>By living in an advanced, high technological society, where everything and everyone is functioning at a high rate of speed, older adults will often have lower self-esteem</li> </ul>	<b>Notes:</b>
<b>(S-16) Effective Responses by the Nurse Aide</b> <ul style="list-style-type: none"> <li>Pacing and patience can be used to offset effects of a resident's slowed reaction time</li> <li>Pacing is the awareness and adjustment of resident care based on how slow or how fast they are functioning</li> <li>Patience is the ability to accept slowness, delay, or boredom without complaining or appearing rushed, while assisting the resident</li> <li>Be aware of changes in reaction time and pace accordingly</li> <li>Develop an understanding of ways to help residents make up for slowed reaction time</li> </ul>	<b>Notes:</b>
<b>(S-17) Pacing and Patience</b> Residents who are encouraged to set their own pace: <ul style="list-style-type: none"> <li>Are better able to perform or learn new things</li> <li>Will establish enough time to use assets to the best of their abilities</li> <li>Feel better about themselves, competent, and in control</li> </ul>	<b>Notes:</b>
<b>(S-18) Role of the Nurse Aide (1)</b> <ul style="list-style-type: none"> <li>Inform resident of the task ahead of time</li> <li>Relate new information or task with the past</li> <li>Identify supplies and equipment needed to complete a task</li> </ul>	

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<ul style="list-style-type: none"> <li>Demonstrate for the resident what is to be done</li> </ul>	
<p><b>(S-19) Role of the Nurse Aide (2)</b></p> <ul style="list-style-type: none"> <li>Ensure hearing aid(s) are in place; glasses are clean and properly worn</li> <li>Slow down pace when working with residents</li> <li>Allow the resident to set the pace</li> <li>Provide time for the resident to focus</li> </ul> <p><b>Praise Resident When Tasks Are Done</b>  Tell them exactly what you liked about the job they did or say, good job. Depending on how up-to-date with current gestures a hug, a high-five, fist bump, etc., could be used</p> <p><b>TEACHING TIP #R19: Fast Pace</b>  Ask students:  How does a fast pace affect the older resident?  Recall how you felt when you were rushed during the test you took earlier.</p>	



## #1 Activity

## Activity #R11 Pacing and Patience Simulation Instructor Guide

Before class, read the activity carefully. The activity includes several components. The instructor will need to make duplicate copies of materials for the students. The simulated test should be copied using a light setting of the copier.

Duplicate the test, front and back.

### **Do not tell the students the test is part of an activity.**

During the administration of the test, be natural with comments you make and do not use the instruction sheet as a prompt.

In a hurried manner, instruct the students they must:

- Clear their desks except for a pencil or pen
- Take a test on previously learned material
- Complete the test in 15 minutes

Distribute the test and observe reactions.

As the students attempt to complete the test, do, and say the following throughout the time:

- “You’d better hurry up because you don’t have much time!”
- “You are a lot slower than the last class that took the test.”
- “Obviously, you have not paid attention during class.”
- Pace the floor and look at their work
- Shake your head in a manner as if you cannot answer questions, if you observe students looking in your direction.
- After about 5 minutes, look at your watch and state, “I thought you’d be done by now!”

After about 6 minutes, state, “Oops, time is up! Everyone, please give me your test.”

### **Reflection Time:**

- Ask students, “Well, how did you think you did with the test?”  
Instruct student to raise their hands if they passed the test.
- Ask, “Why do you think you did not pass the test?”
- Ask, “Do you think the test was fair?”
- Ask, “How would you change the look of the test?”
- Ask, “How did I make you feel?”
- Ask students to suggest ways the instructor can help them to do better on the next test.
- Ask, “Were any of you tempted to just say, “FORGET IT! I do not care what I make on this test”
- Ask, “How did you feel about me and what I was saying to you during the test?”

After the students have discussed their answers, inform them of the following relative to the testing situation:

- The test will not count.
- The test was written in small print with an odd font and copied using a light setting. The purpose was for the students to understand how difficult it is to do something well if one has difficulty with seeing.
- During the test, the pace was rushed, and instructions were given with the knowledge students were unprepared and would have difficulty completing the test successfully.
- The pace was rushed which added an element of competition to the activity.
- The test was a simulation of the concepts of pacing and patience which you will learn in the remainder of the module.

## #2 Activity

### Activity #R11 Progression Test (Pacing and Patience Simulation)

Name \_\_\_\_\_

1. List the 6 links of the Chain of Infection, in order that they were presented during class:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

2. List the 6 links of the Chain of Infection, in alphabetical order:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

3. On the first day of class, you learned about two important websites that every student needs to know. They are

- 1.
- 2.

4. Two examples of basic nursing skills are \_\_\_\_\_  
and \_\_\_\_\_.
5. Two examples of personal care skills are \_\_\_\_\_  
and \_\_\_\_\_.
6. Examples of harmful germs include \_\_\_\_\_ and  
\_\_\_\_\_.
7. \_\_\_\_\_ is point where most weight is  
concentrated for a standing person.
8. The foundation that supports an object is  
\_\_\_\_\_.
9. The definition of a hazard is \_\_\_\_\_.  
Three examples of hazards are
- 1.
  - 2.
  - 3.
10. PASS stands for
11. What is the difference between a physical restraint and a chemical restraint?
12. An example of a physical restraint is \_\_\_\_\_.
13. When cells are combined and perform a special function, they form  
\_\_\_\_\_.
14. When tissues are combined and continue a specific function, they form an  
\_\_\_\_\_.

15. When several organs function together, they form a \_\_\_\_\_.

16. Urine is made up of \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

17. Muscle atrophy means that muscle mass \_\_\_\_\_ in size.

18. \_\_\_\_\_ disease is a progressive nervous disease due to destruction of brain cells.

19. Upper GI structures include the \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

20. Define gastroenteritis.

21. List four ways the integumentary system changes with aging:

- 1.
- 2.
- 3.
- 4.

22. What is the difference between the respiratory system and the endocrine system?

23. Describe the function of the endocrine system.

24. Name 4 principles of body mechanics.

- 1.
- 2.
- 3.
- 4.

25. The brain is located in the \_\_\_\_\_ and is made up of three parts:

- 1.
- 2.
- 3.

26. List five changes of the neurological system occur because of aging:

- 1.
- 2.
- 3.
- 4.
- 5.