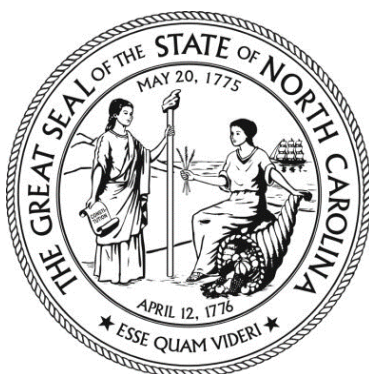


# State-approved Curriculum Nurse Aide I Training Program

## MODULE I Body Mechanics

### Student Manual 2024 Version 2.0



## NC DEPARTMENT OF **HEALTH AND HUMAN SERVICES**

Division of Health Service Regulation



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**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 I – Body Mechanics**

### **Definition List**

**Alignment** (of the body) – how the head, shoulders, spine, hips, knees and ankles line up with each other when the back is straight; how the body works.

**Angle** – formed when two straight lines meet at a common endpoint.

**Base of Support** – foundation that supports an object.

**Body Mechanics** – actions that promote safe, efficient movement by using the correct muscles and movements to avoid straining muscles or joints.

**Center of Gravity** – point where most weight is concentrated for an object or body.

**Fowler's Position** – resident reclined in a sitting position at 45 to 60 degrees.

**Full-sling Mechanical Lift** – mechanical device that uses a sling to transfer residents who cannot assist or are too heavy for the staff to transfer themselves.

**High Fowler's Position** – resident sitting up almost straight at 60 to 90 degrees.

**Lateral Position** – resident positioned on the right or left side.

**Logrolling** – turning the resident as a unit while maintaining the head, back, and legs in a straight line.

**Mechanical Lift** – mechanical devices used to transfer residents from one area to another, such as to and from bed, to and from chairs.

**Posture** – the position in which someone holds their body when standing or sitting; how the body looks.

**Prone Position** – resident positioned on abdomen.

**Protractor** – a measurement device used to measure angles.

**Sims Position** – resident positioned in left side-lying position.

**Stand-assist lift** – mechanical device used to transfer residents who can bear some weight, follow directions, sit on the side of the bed, and bend hips, knees, and ankles.

**Supine Position** – resident positioned flat on back.

Module I – Body Mechanics	
<p><b>(S-1) Title Slide</b></p> <p><b>(S-2) Objectives</b></p> <ol style="list-style-type: none"> <li>1. Describe principles of body mechanics that help prevent injury to the resident and the nurse aide</li> <li>2. Identify measures to assist a falling person to the floor safely</li> <li>3. Describe the correct positioning of residents</li> </ol>	
Content	Notes
<p><b>(S-3) Body Mechanics</b></p> <p>Body mechanics are actions that promote safe, efficient movement of the body by using the correct muscles and movements to avoid straining muscles or joints</p>	
<p><b>(S-4) Body Mechanics – Importance to Nurse Aide</b></p> <p>Due to the nature of their duties, nurse aides are subject to back and other injuries to the body, so practicing correct body mechanics is critically important</p>	
<p><b>(S-5) Proper Body Mechanics</b></p> <ul style="list-style-type: none"> <li>• Maximize strength, minimize fatigue, avoid muscle strain and injury, and assure nurse aide and resident safety</li> <li>• Empower the nurse aide to fulfill the job requirements of lifting, moving, and carrying objects</li> <li>• Reduce costs to the resident and facility</li> <li>• Reduce employee absences due to back injuries</li> <li>• Reduce liability for the facility due to workman's compensation</li> </ul> <p>By not using proper body mechanics even picking up a piece of paper from the floor can cause back injury</p>	
<p><b>(S-6) Body Mechanics – ABCs</b></p> <ul style="list-style-type: none"> <li>• Follow the ABCs of correct body mechanics <ul style="list-style-type: none"> <li>– Alignment</li> <li>– Base of Support</li> <li>– Coordination</li> </ul> </li> </ul>	
<p><b>(S-7) Alignment and Posture of a Car</b></p> <p>Remove the painted outside of the car and you will see the parts are joined together. If all the parts are in alignment, the car runs well</p> <ul style="list-style-type: none"> <li>• Add the painted outside of the car to see how the car looks. Color, style, design, make, model, etc. are subjective personal preferences</li> </ul>	

<b>Module I – Body Mechanics</b>	
<ul style="list-style-type: none"> <li>The same ideas can be applied when thinking about the human body</li> </ul>	
<b>(S-8) ABCs of Correct Body Mechanics – Alignment</b> <ul style="list-style-type: none"> <li>Alignment is how something works and is objective and scientific</li> <li>Alignment of the body is how the head, shoulders, spine, hips, knees, and ankles line up with each other</li> <li>Alignment is the layout of all the parts that allow everything to work the way it's supposed to work with the least amount of damage</li> </ul>	
<b>(S-9) ABCs of Correct Body Mechanics – Posture</b> <ul style="list-style-type: none"> <li>The position in which someone holds their body when standing or sitting</li> <li>Posture is how something looks and is subjective and can be affected by cultural customs</li> </ul>	
<b>(S-10) ABCs of Correct Body Mechanics – Alignment and Posture</b> <ul style="list-style-type: none"> <li>Correct body alignment allows the body to move and function efficiently and with strength</li> <li>When you stand up straight, a line can be drawn straight down through the center of your body, and the two sides of your body are mirror images of each other, with body parts lined up naturally, arms at the side, palms directed forward, and feet pointed forward and slightly apart (also called anatomic position)</li> <li>It's important to maintain correct body alignment when sitting and lying down</li> </ul>	
<b>(S-11) ABCs of Correct Body Mechanics – Base of Support</b> <ul style="list-style-type: none"> <li>The base of support is a foundation that supports an object</li> <li>Good base of support needed for balance</li> <li>A wide base of support is more stable than a narrow base of support</li> </ul>	
<b>(S-12) ABCs of Correct Body Mechanics – Center of Gravity</b> <ul style="list-style-type: none"> <li>Point where the most weight is concentrated for an object or body</li> <li>For a standing person, the pelvis is the center of gravity</li> </ul>	

<b>Module I – Body Mechanics</b>	
<ul style="list-style-type: none"> <li>• A low center of gravity gives you a more stable base of support, and balance is increased</li> </ul>	
<b>(S-13) Body Mechanics – Changing Linen</b> <ul style="list-style-type: none"> <li>• Raise bed to about waist height when changing linen</li> </ul>	
<b>(S-14) ABCs of Correct Body Mechanics – Bending</b> <ul style="list-style-type: none"> <li>• By bending knees to lift an object, instead of at the waist <ul style="list-style-type: none"> <li>– Center of gravity lowered</li> <li>– Stability increases</li> <li>– Less likely to strain muscles</li> </ul> </li> <li>• When moving or transferring a resident, the center of gravity includes the resident, so the resident needs to be as close to your body as possible</li> </ul>	
<b>(S-15) Lifting an Object off the Floor – Preparation</b> <ul style="list-style-type: none"> <li>• Face object</li> <li>• Bend hips/knees and get close to the object before lifting</li> <li>• Grip the object firmly with both hands</li> </ul>	
<b>(S-16) Lifting an Object off the Floor – Action</b> <ul style="list-style-type: none"> <li>• Lift by pushing up with strong leg muscles</li> <li>• Use a wide base of support</li> <li>• Get help when needed</li> </ul>	
<b>(S-17) ABCs of Correct Body Mechanics – Lifting and Carrying an Object</b> <ul style="list-style-type: none"> <li>• Maintain correct body alignment when lifting/carrying an object <ul style="list-style-type: none"> <li>– Keep the object close to the body</li> <li>– Point feet and body in the direction you are moving</li> <li>– Do not twist at the waist</li> </ul> </li> </ul>	
<b>(S-18) Points to Remember When Lifting</b> <ul style="list-style-type: none"> <li>• When given a choice, push or slide objects rather than lifting them</li> <li>• Use large muscles of upper arms and thighs to lift</li> <li>• Keep movements smooth when lifting</li> <li>• Avoid quick movements with heavy objects</li> <li>• Face object or person when moving</li> <li>• Use both arms and hands when lifting, pushing, or carrying objects</li> </ul>	
<b>(S-19) A Resident Who Is Falling</b>	

<b>Module I – Body Mechanics</b>	
<ul style="list-style-type: none"> <li>• Control the direction of the fall by easing the resident to the floor while protecting the head</li> <li>• Keep the resident still until the nurse can check them</li> <li>• DO NOT try to hold the resident up: <ul style="list-style-type: none"> <li>– It can injure the nurse aide and resident</li> <li>– Both may lose balance and sustain injuries</li> </ul> </li> </ul>	
<b>(S-20) Angles</b> <ul style="list-style-type: none"> <li>• An angle is formed when two straight lines meet at a common endpoint</li> <li>• Angles are measured in degrees or abbreviated as °</li> <li>• The bed frame and head of the bed are the two lines used to determine the angle of the bed</li> </ul>	
<b>(S-21) Measuring Bed Angles</b> <ul style="list-style-type: none"> <li>• Angles used to describe positions in a bed that are measured in degrees ranging from 0° – 90° <ul style="list-style-type: none"> <li>– 0° = supine and prone positions (or a flat bed).</li> <li>– 45° – 60° = Fowler's position</li> <li>– 60° – 90° = High Fowler's position</li> </ul> </li> <li>• As the head of the bed is being raised, the angle area is the area between the bottom of the mattress at the head end of the bed and the bed frame</li> <li>• As the head of the bed is raised, the angle increases</li> </ul>	
<b>(S-22) Positioning the Resident</b> <ul style="list-style-type: none"> <li>• Resident must always be properly positioned and correctly aligned</li> </ul>	
<b>(S-23) Position Changes and Correct Alignment</b> <ul style="list-style-type: none"> <li>• Regular position changes and correct alignment <ul style="list-style-type: none"> <li>– Promote well-being and comfort, easier breathing, and circulation</li> <li>– Prevent pressure ulcers and contractures</li> </ul> </li> </ul>	
<b>(S-24) Repositioning the Resident</b> <ul style="list-style-type: none"> <li>• Reposition in bed or chair at least every two hours and more frequently according to the care plan</li> <li>• Use good body mechanics</li> <li>• Ask a co-worker for assistance as needed</li> <li>• Use pillows for support and correct positioning</li> <li>• Recognize the correct alignment for a variety of positions while the resident is in bed</li> </ul>	

<b>Module I – Body Mechanics</b>	
<b>(S-25) Positioning the Resident (Supine)</b> <ul style="list-style-type: none"> <li>Lies flat on back with arms and hands at the side</li> <li>Use pillows for support under the head and shoulders to maintain the correct body position</li> <li>Use pillows, rolled towels or washcloths to support arms or hands</li> <li>To create floating (or elevated) heels, place a pillow under the calves</li> <li>Place pillows or a padded board (footboard) against the feet to keep the feet positioned correctly</li> <li>Remember – facing UP (sUPine)</li> </ul>	
<b>(S-26) Positioning the Resident (Prone)</b> <ul style="list-style-type: none"> <li>Lying on the abdomen</li> <li>Not a comfortable position for many people</li> <li>Never leave the resident in a prone position for long</li> </ul>	
<b>(S-27) Positioning the Resident (Fowler’s)</b> <ul style="list-style-type: none"> <li>Reclined sitting position</li> <li>45 to 60 degrees</li> </ul>	
<b>(S-28) Positioning the Resident (High Fowler’s)</b> <ul style="list-style-type: none"> <li>Sitting up almost straight</li> <li>60 to 90 degrees</li> </ul>	
<b>(S-29) Positioning the Resident (Lateral)</b> <ul style="list-style-type: none"> <li>Lying on the right or left side</li> </ul>	
<b>(S-30) Positioning the Resident (Sims)</b> <ul style="list-style-type: none"> <li>Left side-lying position</li> </ul>	
<b>(S-31) Logrolling</b> <ul style="list-style-type: none"> <li>Positioning a resident on the side with problems with the neck or back, spinal cord injury, or surgery of the back or hip requires a special technique called logrolling</li> <li>As the resident is turned, the resident must be turned as a unit; the head, back, and legs must remain in a straight line</li> <li>It is best to have two people perform the logroll together using a draw sheet and a count of three</li> </ul>	
<b>(S-32) Mechanical Lifts</b> <ul style="list-style-type: none"> <li>Used to transfer residents to/from beds, chairs, wheelchairs, stretchers, tubs, shower chairs, and commodes</li> </ul>	



<b>Module I – Body Mechanics</b>	
<ul style="list-style-type: none"> <li>• Helps prevent injury to staff and residents</li> <li>• Use of a lift requires special training</li> <li>• Never use a lift if you are unsure of the operation of a lift; always ask questions if further explanation is needed</li> <li>• Never operate a lift alone if the lift requires more than one person for operation, i.e., one person to operate the lift and a second person to attend to the resident</li> </ul>	
<p><b>(S-33) Follow Facility Policy for Mechanical Lifts</b></p> <ul style="list-style-type: none"> <li>• Different types of lifts available <ul style="list-style-type: none"> <li>– Those used to lift dependent residents</li> <li>– Those used with residents who have some weight-bearing capability</li> </ul> </li> <li>• Use of a mechanical lift may be mandatory if the facility has a “no lift” policy for staff members</li> <li>• Follow the care plan and supervisor’s directive regarding which mechanical lift to use and how many people are required to use it</li> <li>• Notify the supervisor if the lift is not working right or needs repair</li> <li>• Always explain the procedure to the resident and what is happening throughout the procedure</li> <li>• The nurse aide must be at least 18 years old to use the lift</li> <li>• The nurse aide must receive instructions on how to use each type of lift in a facility. Just because the nurse aide knows how to use one type of lift does not mean the nurse aide knows how to use all types of lifts</li> </ul>	
<p><b>(S-34) Many Types of Mechanical Lifts</b></p> <ul style="list-style-type: none"> <li>• Realize that just because the nurse aide knows how to use one type of lift does not mean the nurse aide knows how to use all types of lifts</li> </ul>	
<p><b>(S-35) Full-sling Mechanical Lift</b></p> <ul style="list-style-type: none"> <li>• Used for residents who <ul style="list-style-type: none"> <li>– Cannot assist during transfers</li> <li>– Are heavy</li> <li>– Have physical limits that do not allow for other methods of transfer</li> </ul> </li> <li>• Before use, nurse aide needs to know the following from the care plan or supervisor <ul style="list-style-type: none"> <li>– Resident’s level of function or dependency</li> </ul> </li> </ul>	

Module I – Body Mechanics	
– What type and size of the sling to use	
<b>(S-36) Stand-Assist Lift</b> <ul style="list-style-type: none"> <li>• Used when resident can           <ul style="list-style-type: none"> <li>– Bear some weight on legs, can stand, has some arm strength</li> <li>– Can bend hips, knees, and ankles</li> <li>– Can sit on the side of the bed</li> <li>– Can follow directions</li> </ul> </li> </ul>	