



# NC Department of Health and Human Services NC Nurse Aide I Curriculum

## Module I Body Mechanics

July 2019

# Objectives

- **Describe principles of body mechanics that help prevent injury**
- **Identify measures to safely assist a falling person to the floor**
- **Describe correct positioning of residents**

# Body Mechanics

**Efficient and safe use of the body by the coordination of:**

- **Body alignment,**
- **Balance and**
- **Movement**



# Body Mechanics – Importance (1)

**Due to nature of their duties, nurse aides are subject to back and other injuries, so.....**



**practicing correct body mechanics is very important**

## Body Mechanics – Importance (2)

- **Maximizes strength, minimizes fatigue**
- **Nurse aides lift, move and carry**
- **Reduces cost**
- **Reduces employee absences**
- **Reduces liability for facility**

**By not using proper body mechanics, even picking up a piece of paper from the floor can cause back injury!**

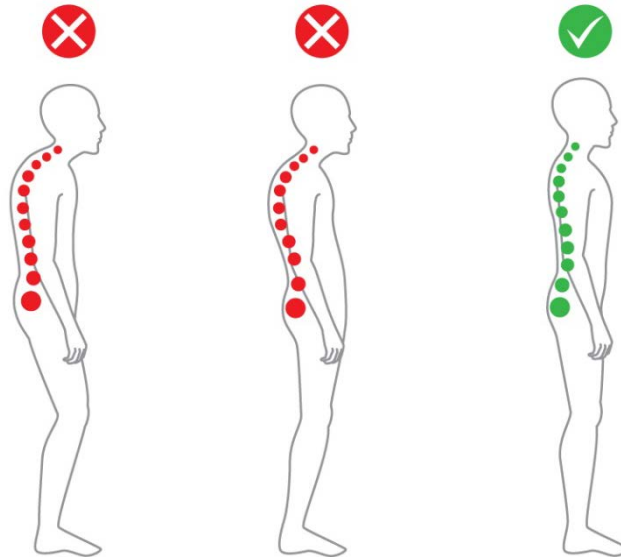


# Body Mechanics ABC's

**A = alignment**  
**B = base of support**  
**C = coordination**



# Alignment (1)



- **Posture**
- **How the head, trunk, arms, and legs line up with one another when the back is straight**

## Alignment (2)

**When you stand up straight.....**

**Correct body alignment  
allows the body to move and  
function efficiently and with  
strength**



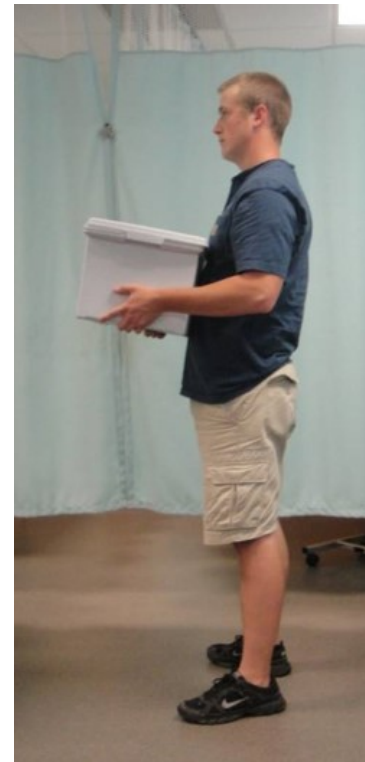


# Alignment (3)

**Maintain correct body alignment when lifting/carrying an object**



- **Keep object close to the body**
- **Point feet and body in direction you are moving**
- **Do not twist at waist**



# Base of Support

- **Foundation that supports an object**
- **Good base of support needed for balance**
- **Wide base of support more stable than narrow**



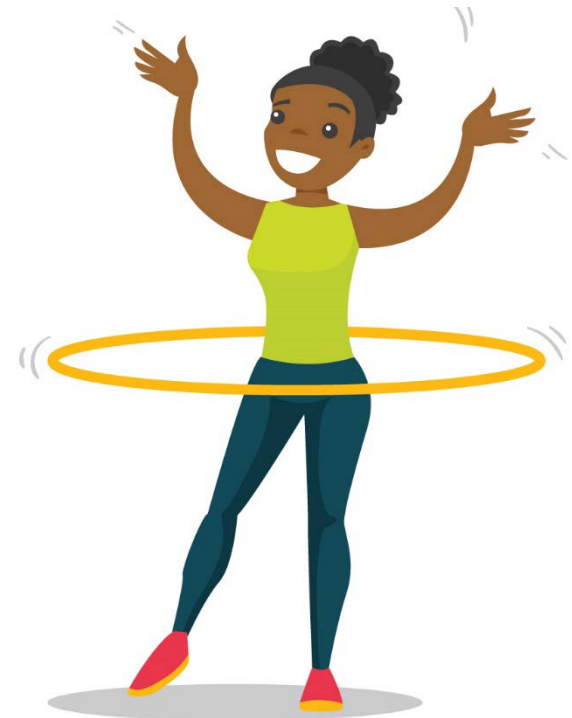
**For a person, what is the base of support?**



# Center of Gravity (1)

- **Point where most weight is concentrated**
- **For a standing person.....**

**The pelvis is the center of gravity**



# Center of Gravity (2)

**Incorrect**



**Correct**



# Points to Remember When Lifting

- **When given a choice push or pull, rather than lift**
- **Use large muscles of arms and thighs**
- **Move in a smooth motion. Do not jerk the object.**
- **Face object or person**
- **Use both arms and hands**



# Body Mechanics – Changing Linen

**Incorrect**



**Correct**



# Lifting an Object off the Floor (1)

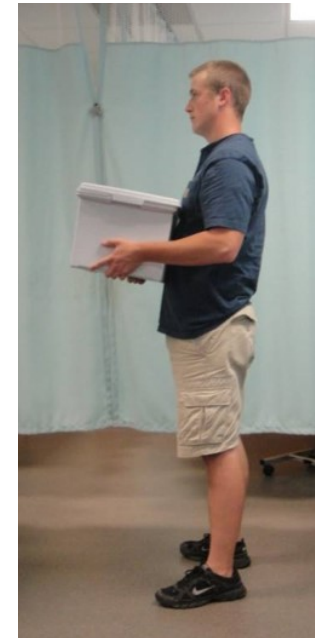
- **Bend hips/knees and get close to object**
- **Face object**
- **Grip object firmly with both hands**



# Lifting an Object off the Floor (2)



- **Move smoothly and not jerky**
- **Lift by pushing up with strong leg muscles**
- **Use wide base of support**
- **Get help when needed**





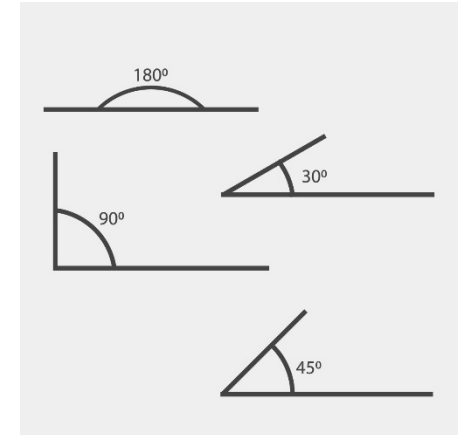
# A Resident is About to Fall

- **Simply control direction of fall by easing resident to floor, protecting head**
- **Keep resident still until nurse can check**
- **DO NOT try to hold the resident up because it can hurt nurse aide and resident**
- **DO NOT try to hold the resident up because the nurse aide may lose balance and both land on floor**

# Angles

**An angle is formed when 2 lines meet**

**Angles are measured in degrees and abbreviated with the symbol, °**



**The bed frame and head of bed are the 2 lines used to determine the angle of the bed**

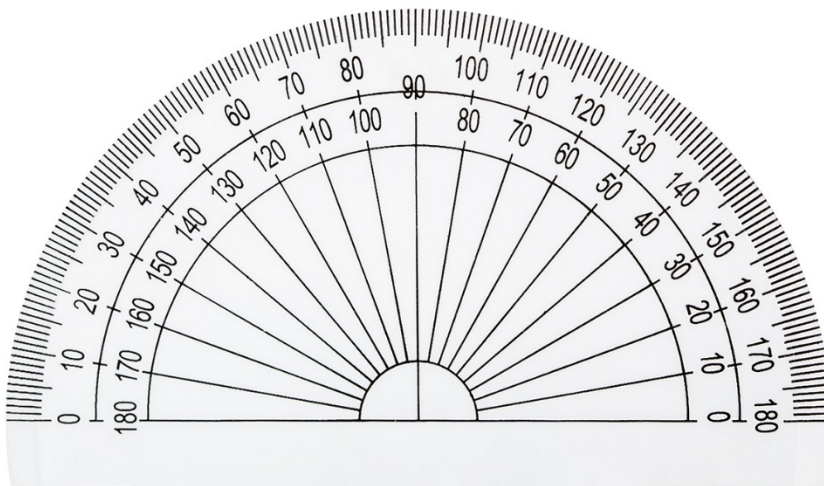


# Measuring Bed Angles

- **Angles used to describe positions in a bed measured in degrees ranging from  $0^{\circ}$  –  $90^{\circ}$** 
  - **$0^{\circ}$  = supine and prone positions (or flat)**
  - **$45^{\circ}$  –  $60^{\circ}$  = Fowler's position**
  - **$60^{\circ}$  –  $90^{\circ}$  = High Fowler's position**
- **As the head of bed is being raised, angle area is between bottom of the mattress at the head end of the bed and bed frame**
- **As the head of the bed is raised, the angle increases**

# Bed Angles and the Protractor

**A protractor is a measurement device that is used to measure angles**



- **If head of bed is facing the right, use the bottom numbers to get angles of bed positions**
- **If head of bed is facing the left, use the top numbers to get angles of bed positions**

# Positioning the Resident



**A resident must always be positioned and correctly aligned**

# Positioning the Resident – Importance

**Regular position changes and correct alignment**

- **Promote well-being and comfort**
- **Promote easier breathing**
- **Promote circulation**
- **Prevent pressure ulcers and contractures**

# Positioning the Resident

- **Reposition in bed or chair at every 2 hours (or more frequently per care plan)**
- **Use good body mechanics**
- **Ask co-worker for assistance as needed**
- **Use pillows for support and correct alignment**
- **Understand correct placement for variety of positions while resident is in bed**



# Positioning the Resident: Supine





# Positioning the Resident: Prone



# Positioning the Resident: Fowler's



# Positioning the Resident: High Fowler's



# Positioning the Resident: Lateral



# Positioning the Resident: Sims



# Logrolling

- **Positioning a resident on the side who has problems with the neck/back, spinal cord injury, or surgery of the back/hip requires logrolling**
- **As the resident is being turned, the resident must be turned as a unit; the head, back, and legs must remain in a straight line**
- **It is best to have two people perform the logroll together using a draw sheet and a count of three**

# Mechanical Lifts (1)

- **Helps prevent injury to staff and residents**
- **Used to transfer residents to/from beds, chairs, wheelchairs, stretchers, tubs, shower chairs, and commodes**
- **Use requires special training**
- **Never use if unsure of the operation of the lift; always ask questions if further explanation is needed**

## Mechanical Lifts (2)

- **Different types of lifts available**
- **Use may be mandatory if facility has a “no lift” policy**
- **Follow care plan and supervisor’s directive**
- **Notify supervisor if lift is not working right or needs repair**
- **Explain procedure to resident**
- **Nurse aide must be at least 18-years old to use the lift**



## Mechanical Lifts (3)



**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**

# Full-sling Mechanical Lift



# Stand-assist Lift

