

Range of Motion Curriculum



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About the Author



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Range of Motion Curriculum

This curriculum and accompanying manikin will help students learn about completing Range of Motion exercises on a patient.

Curriculum Structure

The Range of Motion Curriculum is composed of the following parts. Approximate times are included.

Lesson	Title	Approximate Time
One	FOCUS: Empathy	10 minutes
One	LEARN: Range of Motion Slide Presentation	20 minutes
One	SUMMARIZE: Practice and Assessment of Range of Motion	30 minutes
	Total	1 hour

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives and a Lesson at a Glance table which lists the lesson activities, materials required, suggested preparation steps and approximate class time.

Lesson Sections

The actual lesson follows the overview, which will contain some of the sections described below.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a review of previous lesson information, or a demonstration. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

SUMMARIZE

The majority of lessons end with a SUMMARIZE activity intended to briefly review the lesson's key messages or main points.

Lesson One – Range of Motion

Lesson Overview

In this lesson, students will learn how to properly complete passive range of motion on a patient.

Lesson Objectives

After completing this lesson, participants will be able to:

- Utilize proper range of motion terminology
- Identify reasons for range of motion exercises
- Identify guidelines for safe range of motion
- Demonstrate proper passive range of motion techniques

Pre-Lesson Knowledge

- Anatomical terminology

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Range of Motion (Focus on Empathy)</i> worksheet • <i>Range of Motion (Focus on Empathy)</i> Instructor Resource	1. Print/photocopy <i>Range of Motion (Focus on Empathy)</i> worksheet (one per participant)	10 minutes
LEARN	• <i>Range of Motion</i> slide presentation • Geriatric Nursing Manikin	1. Prepare <i>Range of Motion</i> slide presentation for viewing	20 minutes
SUMMARIZE	• <i>Range of Motion Check-Off Instructor Resource</i> • <i>Range of Motion Check-Off</i> worksheet • <i>Range of Motion Quiz</i> • <i>Range of Motion Quiz</i> - Answer Key • Geriatric Nursing Manikin - Supplies: • Bath blanket • Hand sanitizer or access to soap/water	1. Print/photocopy <i>Range of Motion Check-Off</i> worksheet (one per participant) 2. Get the supplies ready for the lesson 3. Print/photocopy <i>Range of Motion Quiz</i> (one per participant)	30 minutes

Instructor Note: For SUMMARIZE activities, the instructor may choose to have students complete both or one of the two activities. FOCUS activity may also be completed prior to class.

Lesson One - Range of Motion

FOCUS: Empathy

10 minutes

Purpose:

To help students develop awareness of patient focused care.

Materials:

- *Range of Motion (Focus on Empathy)* worksheet
- *Range of Motion (Focus on Empathy)* Instructor Resource page

Facilitation Steps:

1. Distribute the *Range of Motion (Focus on Empathy)* worksheet prior to or at the start of the class.
2. Have the *Range of Motion (Focus on Empathy)* Instructor Resource page available.
3. Have students read through the information and complete the worksheet.
4. Have students pair up upon completion and share answers.

Range of Motion (Focus on Empathy)

Instructor Resource

READ the following:

You are in a long term care center due to a stroke. You have lost function and sensation of the right side of your body. You can communicate but your speech is slurred. The television is on a news channel. The nursing assistant knocks and enters the room. He says “Hi, my name is Greg.” He proceeds to uncover your arm and starts to exercise it. He continues to move your right extremities as he watches the news. He doesn’t say anything to you and rarely looks at you. He seems distracted and in a rush to complete the exercises.

REFLECT on the situation

How do you feel while Greg is exercising you?

Ignored, like an object or a task to complete, Greg does not care about you

What could Greg say to make the experience more enjoyable and more patient focused?

Focus on you rather than the television, could explain what he is doing, talk to you about how you are feeling

***Point out to students that it is more important to be patient focused than task focused*

SHARE your thoughts with a peer

Name: _____ Class: _____

Range of Motion (Focus on Empathy)

READ the following:

You are in a long term care center due to a stroke. You have lost function and sensation of the right side of your body. You can communicate but your speech is slurred. The television is on a news channel. The nursing assistant knocks and enters the room. He says “Hi, my name is Greg.” He proceeds to uncover your arm and starts to exercise it. He continues to move your right extremities as he watches the news. He doesn’t say anything to you and rarely looks at you. He seems distracted and in a rush to complete the exercises.

REFLECT on the situation

How do you feel while Greg is exercising you?

What could Greg say to make the experience more enjoyable and more patient focused?

SHARE your thoughts with a peer

Lesson One - Range of Motion

LEARN: Range of Motion Slide Presentation

20 minutes

Purpose:

Participants will learn about considerations during Range of Motion exercises and the proper procedure surrounding it.

Materials:

- *Range of Motion* slide presentation
- Geriatric Nursing Manikin

Facilitation Steps:

1. Share the following information with students as you show the slide presentation.

Slide 1: Introduction Slide

Slide 2: In healthcare, we attempt to maintain or restore mobility in order to decrease the side effects of immobility. Common causes of altered mobility include musculoskeletal conditions such as fractures or joint replacement surgeries. Also, neurological conditions such as head injuries and strokes can alter a patient's strength and sensation of the extremities. Mobility can also be prescribed in such cases of bedrest or decreased activity.

Slide 3: There are many complications related to immobility. In fact, it has negative consequences for virtually all body systems.

Depending on students, instructor may have to explain how immobility causes certain conditions

Slide 4: Many older adults have a decline in physical abilities and health. Prior to implementing any exercising, it is important to assess the client's current activity level, strength and tone of muscles, current joint or muscle limitations, and response to activities such as fatigue or muscle aches. It is also crucial to only complete exercises that are approved by the provider especially if there is presence of a heart

or lung disease. Medications can also place the client at risk for safety concerns such as falls if they have a side effect of dizziness or fatigue.

Slide 5: Range of motion (ROM) exercises is the full movement of joints within the body. There are three main types of range of motion exercises. Active ROM is when the client can perform the exercises independently. Passive is when a caregiver needs to perform the ROM exercises on the client. An example of this is if client is immobile. Active assisted is when the ROM exercises are performed by the client but supervised by a caregiver. An example of this is incorporating ROM exercises with common activities of daily living.

Slide 6: Performing ROM exercises can be delegated to any caregiver if they know the proper procedure and feel comfortable completing the skill. Clients with spinal cord injuries or trauma usually require professional staff such as nurses or physical therapists to complete ROM for safety purposes.

Slide 7: When completing ROM on a client or teaching a client how to complete active ROM, there are a few safety considerations. Exercises should be performed slowly for active and passive ROM. Each joint should be supported during passive ROM and caregiver should not push the joint past the point of resistance. ROM exercises should be stopped if there is fatigue or pain reported. Clean gloves are optional in most cases but may be necessary in some situations involving skin conditions.

Slide 8: After introducing yourself, providing privacy, washing your hands, and identifying your client, explain the ROM procedure including rationales for exercising. It is sometimes necessary to demonstrate each exercise before completing it so educating the client can be throughout the process. Make sure the client is comfortable – in some cases, clients

may have to be pre-medicated. Confirm any joint or condition limitations with the client prior to starting.

Slide 9: Place the client in a sitting or lying position. It is proper practice to start at the head and exercise each joint down to the toes repeating each movement five times. Provide for privacy as you complete this skill. With each joint, make sure it is supported. For joints in the middle of an extremity, hold the distal and proximal areas next to joint. For smaller joints, hold the distal portion of the extremity in palm of hand.

Demonstrate how to support different joints. Have students practice on each other.

Slide 10: Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance

- Flexion: Bring chin to chest
- Extension: Return head to upright position
- May hyperextend head back but no more than 10°
- Lateral flexion: Tilt head to each side
- Rotation: Turn head in a circular movement

Slide 11: Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance. Repeat on both sides

- Flexion: Raise arm forward to above head
- Extension: Return arm to side
 - May hyperextend back no more than 60°
- Abduction: Raise arm from side to above head with palm away from head
- Adduction: Return arm to side
 - May go past side to center of body if able
- External rotation: Move arm to 90° from body. With elbow flexed, move lower arm upward, lateral to head
- Internal rotation: Return lower arm to a downward position
- Circumduction: Move arm in full circle

Slide 12: Have students perform each (active ROM) as they are discussed. Remind students to

complete these slowly and only to point of resistance. Repeat on both sides

- Flexion: Bend elbow upwards bringing palm to shoulder
- Extension: Straighten elbow thus lowering hand
- Supination: Turn lower arm so palm is up
- Pronation: Turn lower arm so palm is down

Slide 13: Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance. Repeat on both sides

- Flexion: Move palm downwards toward inner forearm
- Extension: Return hand to flat
 - May hyperextend back no more than 90°
- Radial deviation: Bend wrist toward thumb side
- Ulnar deviation: Bend wrist laterally

Slide 14: Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance. Repeat on both sides

- Flexion: Make a fist
 - For thumb, move across palm
- Extension: Straighten fingers
 - May hyperextend fingers no more than 60°
 - For thumb, move away from palm
- Abduction: Spread fingers apart
- Adduction: Bring fingers together
- Opposition: Touch thumb to each finger on same hand

Slide 15: Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance. Repeat on both sides

- Flexion: Move leg forward and up
- Extension: Move leg back in line with other leg
- May hyperextend no more than 50°
- Abduction: Move leg laterally away from body
- Adduction: Return leg to center
- Internal rotation: Turn leg and foot inward
- External rotation: Turn leg and foot outward

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- Circumduction: Move leg in a circle

Slide 16: *Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance. Repeat on both sides*

- Flexion: Bend knee bringing heel towards buttocks
- Extension: Extend knee back to original position

Slide 17: *Have students perform each (active ROM) as they are discussed. Remind students to complete these slowly and only to point of resistance. Repeat on both sides*

- Dorsal flexion: Point toes upward
- Plantar flexion: Point toes downward
- Inversion: Turn sole of foot inwards medially
- Eversion: Turn sole of foot outwards
- Flexion: Curl toes down
- Extension: Straighten toes
- Abduction: Spread toes apart
- Adduction: Bring toes together

Slide 18: Make sure you reassess your client for any pain or fatigue. Provide for safety such as lowering bed if raised and placing call light within reach. Most Range of Motion documentation is found under Activities of Daily Living (ADLs) or a patient care chart. Any abnormal findings should be reported to the nurse or provider.

Slide 19: Closing slide

Lesson One - Range of Motion

SUMMARIZE: Practice and Assessment

30 minutes

Purpose:

Participants will practice Range of Motion on models and then complete a quiz to assess mastery.

Materials:

- *Range of Motion Check-Off Instructor Resource*
- *Range of Motion Check-Off* worksheet
- Geriatric Nursing Manikin
- *Range of Motion Quiz*
- *Range of Motion Quiz - Answer Key*

Supplies:

- Bath blanket
- Hand sanitizer or access to soap/water

Facilitation Steps:

1. Give students the *Range of Motion Check-off* worksheet
2. Access the *Range of Motion Check-Off Instructor Resource* page. Following the steps on the check-off page, demonstrate passive Range of Motion on the manikin.
3. Following the steps on their *Range of Motion Check-Off* student resource page, have students practice passive Range of Motion on the manikin.
4. Hand out the *Range of Motion Quiz* to students. Give them a couple of minutes to complete it.
5. Have students self-check or peer check their answers as you share them from the *Range of Motion Quiz - Answer Key*.

Range of Motion Check-Off

Instructor Resource

PREPARATION:

Supplies:

- Bath blanket
- Hand sanitizer or access to soap/water

After demonstration, have students practice passive Range of Motion on the models using the following steps:

Optional: Evaluate the student's ability to complete Range of Motion using the following steps. May score via points or satisfactory/unsatisfactory.

1.	Gather supplies needed (bath blanket)	
2.	Knock, enter room and provide for privacy	
3.	Identify yourself with name and title (nurse aide, etc.)	
4.	Wash your hands with sanitizer or soap/water	
5.	Identify client by asking name and date of birth; verify this information	
6.	Explain the procedure to the client and ask if they have any pain or limitations	
7.	Position client in supine or sitting position	
8.	Neck ROM • Flexion: Bring chin to chest • Extension: Return head to upright position • Lateral flexion: Tilt head to each side • Rotation: Turn head in a circular movement	
9.	Shoulder ROM • Flexion: Raise arm forward to above head • Extension: Return arm to side • Abduction: Raise arm from side to above head with palm away from head • Adduction: Return arm to side ○ May go past side to center of body if able • External rotation: Move arm to 90° from body; with elbow flexed, move lower arm upward, lateral to head • Internal rotation: Return lower arm to a downward position • Circumduction: Move arm in full circle	
10.	Elbow ROM • Flexion: Bend elbow upwards bringing palm to shoulder • Extension: Straighten elbow thus lowering hand	

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11.	Forearm ROM • Supination: Turn lower arm so palm is up • Pronation: Turn lower arm so palm is down	
12.	Wrist ROM • Flexion: Move palm downwards toward inner forearm • Extension: Return hand to flat • Radial deviation: Bend wrist toward thumb side • Ulnar deviation: Bend wrist laterally	
13.	Fingers and Thumb ROM • Flexion: Make a fist ○ For thumb, move across palm • Extension: Straighten fingers ○ For thumb, move away from palm • Abduction: Spread fingers apart • Adduction: Bring fingers together • Opposition: Touch thumb to each finger on same hand	
14.	Repeat on other side	
15.	Hip ROM • Flexion: Move leg forward and up • Extension: Move leg back in line with other leg • Abduction: Move leg laterally away from body • Adduction: Return leg to center • Internal rotation: Turn leg and foot inward • External rotation: Turn leg and foot outward • Circumduction: Move leg in a circle	
16.	Knee ROM • Flexion: Bend knee bringing heel towards buttocks • Extension: Extend knee back to original position	
17.	Ankle, Feet, and Toe ROM • Dorsal flexion: Point toes upward • Plantar flexion: Point toes downward • Inversion: Turn sole of foot inwards medially • Eversion: Turn sole of foot outwards • Flexion: Curl toes down • Extension: Straighten toes • Abduction: Spread toes apart • Adduction: Bring toes together	
18.	Repeat on other side	
19.	Provide privacy with bath blanket as proceeding	
20.	Reassess for pain. Provide for client comfort and safety	
21.	Wash hands and document procedure	
	Total	

Range of Motion Check-Off

Practice Range of Motion on the model using the following steps:

Gather supplies needed (bath blanket)
Knock, enter room, and provide for privacy
Identify yourself with name and title (nurse aide, etc.)
Wash your hands with sanitizer or soap/water
Identify client by asking name and date of birth; verify this information
Explain the procedure to the client and ask if they have any pain or limitations
Position client in supine or sitting position
Neck ROM • Flexion: Bring chin to chest • Extension: Return head to upright position • Lateral flexion: Tilt head to each side • Rotation: Turn head in a circular movement
Shoulder ROM • Flexion: Raise arm forward to above head • Extension: Return arm to side • Abduction: Raise arm from side to above head with palm away from head • Adduction: Return arm to side ○ May go past side to center of body if able • External rotation: Move arm to 90° from body; with elbow flexed, move lower arm upward, lateral to head • Internal rotation: Return lower arm to a downward position • Circumduction: Move arm in full circle
Elbow ROM • Flexion: Bend elbow upwards bringing palm to shoulder • Extension: Straighten elbow thus lowering hand
Forearm ROM • Supination: Turn lower arm so palm is up • Pronation: Turn lower arm so palm is down
Wrist ROM • Flexion: Move palm downwards toward inner forearm • Extension: Return hand to flat • Radial deviation: Bend wrist toward thumb side • Ulnar deviation: Bend wrist laterally
Fingers and Thumb ROM • Flexion: Make a fist ○ For thumb, move across palm

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• Extension: Straighten fingers ○ For thumb, move away from palm • Abduction: Spread fingers apart • Adduction: Bring fingers together • Opposition: Touch thumb to each finger on same hand
Repeat on other side
Hip ROM • Flexion: Move leg forward and up • Extension: Move leg back in line with other leg • Abduction: Move leg laterally away from body • Adduction: Return leg to center • Internal rotation: Turn leg and foot inward • External rotation: Turn leg and foot outward • Circumduction: Move leg in a circle
Knee ROM • Flexion: Bend knee bringing heel towards buttocks • Extension: Extend knee back to original position
Ankle, Feet, and Toe ROM • Dorsal flexion: Point toes upward • Plantar flexion: Point toes downward • Inversion: Turn sole of foot inwards medially • Eversion: Turn sole of foot outwards • Flexion: Curl toes down • Extension: Straighten toes • Abduction: Spread toes apart • Adduction: Bring toes together
Repeat on other side
Provide privacy with bath blanket as proceeding
Reassess for pain. Provide for client comfort and safety
Wash hands and document procedure

Name: _____

Class: _____

Range of Motion Quiz

Sit and complete the following motions. Match the Range of Motion terms to the correct movement. Terms may be used more than once. After each motion, return to a standard sitting position before completing the next motion.

A	Abduction
B	Adduction
C	Circumduction
D	Dorsiflexion
E	Eversion
F	Extension
G	Flexion
H	Inversion
I	Opposition
J	Plantar Flexion
K	Pronation
L	Rotation
M	Supination

- _____ Shake your head “no”
- _____ Reach for an object to your right with your right arm and hand
- _____ Point your toes down lifting your heels off of the floor
- _____ Put your chin to your chest
- _____ Turn the sole of your left foot so that it faces the right
- _____ Make a fist
- _____ Place one hand palm up
- _____ Point your toes up to the ceiling
- _____ Kick one leg out and hold straight
- _____ Move one arm in a complete circle
- _____ Place one hand palm down
- _____ Turn the sole of your right foot so that it faces outward laterally
- _____ Touch your thumb to each finger of the same hand
- _____ Bring your fingers together

Range of Motion Quiz – Answer Key

Have the students sit and complete the following motions. Match the Range of Motion terms to the correct movement. Terms may be used more than once. After each motion, instruct students to return to a standard sitting position before completing the next motion.

A	Abduction	<u>L</u>	Shake your head “no”
B	Adduction	<u>A</u>	Reach for an object to your right with your right arm and hand
C	Circumduction	<u>J</u>	Point your toes down lifting your heels off of the floor
D	Dorsiflexion	<u>G</u>	Put your chin to your chest
E	Eversion	<u>H</u>	Turn the sole of your left foot so that it faces the right
F	Extension	<u>G</u>	Make a fist
G	Flexion	<u>M</u>	Place one hand palm up
H	Inversion	<u>D</u>	Point your toes up to the ceiling
I	Opposition	<u>F</u>	Kick one leg out and hold straight
J	Plantar Flexion	<u>C</u>	Move one arm in a complete circle
K	Pronation	<u>K</u>	Place one hand palm down
L	Rotation	<u>E</u>	Turn the sole of your right foot so that it faces outward laterally
M	Supination	<u>I</u>	Touch your thumb to each finger of the same hand
		<u>B</u>	Bring your fingers together

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