

Physical Therapeutics

Activity Answer Key

Activity 1

Answer Guide

Students may report different sensations, but common responses include:

Physical changes

- Reduced neck or shoulder tension
- Feeling taller or less compressed
- Easier or deeper breathing
- Less pressure in the low back
- Reduced jaw or shoulder tightness

Nervous system changes

- Feeling calmer or more settled
- Increased alertness or focus
- Feeling less restless
- Slight decrease in stress or effort

Key concept to reinforce

- The body responds quickly to physical input.
- Small changes in position or movement can change muscle tone and breathing automatically.
- The goal is not “perfect posture,” but noticing how input changes response.

If students report **no change**, reinforce:

- Awareness improves with practice.
- Some responses are subtle.
- The exercise demonstrates that input and response are connected, even if changes are small.

What this reinforces

- Physical therapeutics works through **inputs and responses**

- Small changes create measurable effects
- The nervous system adjusts automatically
- Sets up posture, ergonomics, and sensory input concepts for next lecture

Activity 2

Answer Guide

Students' examples will vary, but expected patterns include:

Common stress-producing inputs

- Long periods of sitting without movement
- Looking down at phones or screens
- Heavy or uneven backpack use
- Gaming or computer posture
- Repetitive movements without breaks
- Staying in one position for long periods

Common supportive inputs

- Walking or changing positions
- Stretching or moving after sitting
- Being outdoors or moving naturally
- Rest after physical activity
- Comfortable sitting or standing positions

Key concept to reinforce

- Physical therapeutics begins with awareness.
- The same activity can be supportive or stressful depending on duration and context.
- The body adapts to repeated inputs over time.
- Students are learning to observe patterns rather than judge behaviors as “good” or “bad.”

Core Message Connecting Both Activities

You can summarize for yourself as:

Input → Nervous system response → Adaptation

Both activities prepare students for Lecture 2, where they learn how to intentionally choose supportive inputs instead of accidental ones.

Pre-assessment Quiz: Physical Therapeutics

1. What best describes physical therapeutics?
 - A. Using medications to reduce symptoms
 - B. Avoiding movement during recovery
 - C. **Using physical inputs like movement, touch, pressure, temperature, light, and rest to support how the body functions and heals**
 - D. Replacing nutrition and supplements with exercise only

2. In this course, sensory regulation is mainly understood as:
 - A. An emotional process based on feelings
 - B. **A physiological process based on how the body receives and responds to physical signals**
 - C. A purely psychological process that happens only in the brain
 - D. A process that only happens during sleep

3. What is proprioception?
 - A. **The body's ability to sense its position and movement without looking**
 - B. The process of increasing muscle size through training
 - C. A type of pain caused by swelling
 - D. A method of using heat and cold together

4. What is a trigger point?
 - A. A bruise caused by impact
 - B. **A small, sensitive area in a tight muscle that can cause pain locally or in another area**
 - C. A bone that is out of place
 - D. A nerve that is permanently damaged

5. Which statement best compares passive and active stretching?
 - A. Passive stretching uses your muscles to hold the stretch; active stretching uses gravity or another force
 - B. **Passive stretching relies on an outside force while the muscle stays relaxed; active stretching uses your own muscles to create and control the stretch**
 - C. Passive stretching is always safer than active stretching
 - D. Active stretching always increases flexibility more than passive stretching

6. When is heat generally more helpful than cold?

- A. Right after a new sprain with swelling
- B. When tissues feel swollen and irritated
- C. **When muscles feel tight, stiff, or chronically sore**
- D. When there is numbness or weakness

7. What is a common effect of blue light from screens?

- A. **It signals the brain to stay more alert and awake**
- B. It immediately heals injured tissue
- C. It reduces swelling in joints
- D. It causes muscles to contract on its own

8. Which statement best compares frequency and resonance?

- A. Frequency is how the body responds; resonance is how fast a sound repeats
- B. **Frequency is the input (how fast a vibration repeats); resonance is how the body or tissues respond to that vibration**
- C. Frequency and resonance mean the same thing
- D. Resonance only applies to emotions, not the body

9. Why might orthotics be used?

- A. To permanently replace normal foot function
- B. **To support the foot and influence how weight moves through the legs to reduce strain and improve comfort while the body adapts**
- C. To prevent all injuries during sports
- D. To treat infections without medication

10. Which is a red flag that suggests you should seek professional evaluation rather than only self-care?

- A. Mild muscle soreness after a workout that improves in a day
- B. A temporary feeling of stiffness after sitting
- C. **Persistent or worsening pain, numbness/tingling, weakness, or noticeable swelling**
- D. Feeling sleepy after being on screens late