

# Flex Therapist CEUs

## Chronic Musculoskeletal Conditions and Neuroplasticity in the Central Nervous System

1. Neuroplasticity is an intrinsic fundamental neurophysiological feature that refers to changes in \_\_\_\_\_ within the nervous system that occurs continuously throughout a person's lifetime.

- A. Structure
  - B. Function
  - C. Organisation
  - D. All of the above
- 

2. Neuroplastic changes in sensory-motor areas are stimulus driven and result in lasting neuroplastic changes when the internal and external pressures are all of the following, except:

- A. Non-repetitive
  - B. Salient
  - C. Involve learning
  - D. Require sustained attention
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3. Neurophysiological changes result in the amplification of noxious and innocuous stimuli within which of the following areas of the spinal cord in chronic pain states?

- A. The ventral root
  - B. The lateral horn
  - C. The dorsal horn
  - D. All of the above
- 

4. Studies in subjects with Carpal Tunnel Syndrome reveal all of the following, except for:

- A. Changes along the afferent pathway in the spinal cord, brain stem, and S1.
  - B. A decrease in grey matter volume.
  - C. A loss of spatially segregated representations of digits 3 and digits 4 in the contralateral S1 that correlates with changes in nerve conduction velocity.
  - D. All of the above were revealed in subjects with CTS.
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5. Interventions targeting changes in somatotopic reorganization through the use of

**sensory discriminative training and visual distortion can renormalize the S1 representation and decrease pain.**

- A. True**
  - B. False**
- 

**6. Motor skill learning involving exercises to specifically recruit the transverse abdominus muscle, specifically a walking exercise, could restore the representation within M1 and EMG activation pattern in CLBP subjects to that seen in healthy controls.**

- A. True**
  - B. False**
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**7. Motor skill training has proven successful in:**

- A. The treatment of some musculoskeletal conditions.**
  - B. Improving task performance.**
  - C. Helping promote neuroplastic changes in M1.**
  - D. All of the above.**
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**8. Increased insular activation is correlated with pain intensity, while mPFC activation is correlated with pain duration in CLBP subjects.**

- A. True**
  - B. False**
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