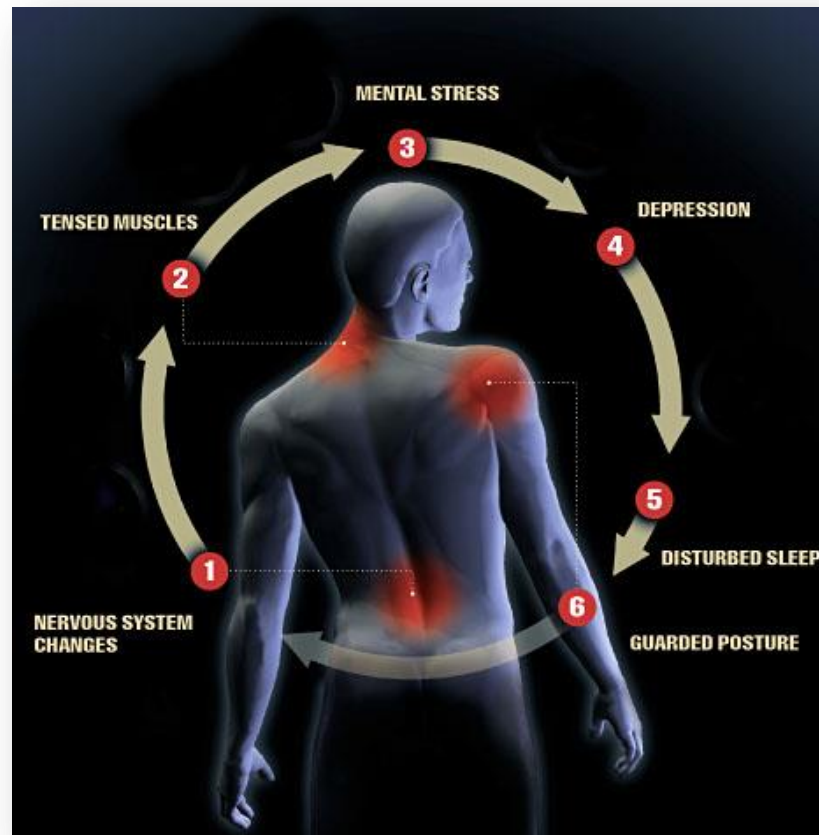


Chronic pain's vicious cycle



Chronic pain can plunge sufferers into a self-perpetuating cycle of maladies. A back injury for example can lead to changes in the body, brain, and behavior making the pain worse.

#1 Nervous system changes: After an injury, pain nerves (red) can regrow to connect with other types of nerves. So touch elsewhere on the body can trigger pain.

#2 Tensed muscles: Pain can trigger muscle tension making muscles extra sensitive.

#3 Mental Stress: Increases release of the "fight or flight" chemical norepinephrine leaving both body and mind exhausted.

#4 Depression: Exhaustion is linked to depression which magnifies physical pain and restricts serotonin, a neurotransmitter that boosts mood.

#5 Disturbed sleep: Sleeplessness may follow, exhausting the supply of endorphins which normally blunt pain.

#6 Guarded posture: Odd positions taken to avoid pain put strain on other muscles, spreading pain to different parts of the body. Unused muscles lose strength, creating more discomfort.