



# Resident Wellness Newsletter

## Does Exercise Help Mitigate Chronic Pain?

According to *Successful Aging* by Daniel Levitin, at any given time, 30 percent of the population is experiencing chronic pain. For older adults, this number is closer to 40-50%. *“Interestingly enough, more people are in chronic pain at this very moment than then number of people who have cancer, heart disease or diabetes, combined”*

While we tend to think of the experience of pain as originating in the injured area (say the toe if you kick a door frame), the sensation of pain is actually produced in the brain. This is why we can temporarily relieve pain by shutting down the brain through sleep, loss of consciousness or certain drugs. Or why you can block the transmission of the neural firings between the injured area and the brain and find relief. Unfortunately, the most effective form of pain blocking is found in Opioids. As our recent opioid epidemic has revealed, pharmaceutical opioids are highly addictive and thus of little real use in the ongoing treatment of chronic pain.

Because the sensation of pain is produced in the brain, there are real methods of coping with chronic pain that do not involve pharmaceuticals. There is evidence that yoga can bring about lasting pain relief. This is because yoga enlarges the insula (the part of the brain that is responsible for our perception of the present moment), which in turn gives practitioners increased ability to tolerate pain. Mild exercise is also known to reduce pain. As Dr. Jeffrey Mogil (McGill University, E.P. Taylor Professor of Pain Studies, the Canada Research Chair in the Genetics of Pain, and the Director of the Alan Edwards Centre for Research on Pain) states, *“Exercise is the best analgesic we know of by a wide margin.”*

Older adults who live in enriched environments (lots of activities, social and physical stimulation) experience less pain than those who live in more sterile environments. This is because the stimulation distracts pain signals to the insula and the primary sensory cortex of the brain. Effective distraction for pain includes exercise, practicing yoga, meditation, social activity, listening to music and immersing oneself in nature. Studies have found that even when the distracting activities are “forced” upon

individuals experiencing pain, they have the effect of a reduction in pain and an increase in the body’s own production of organic opioid analgesics.

The more interesting experiences we can have in the external world, the less time we focus on the internal world, which is where pain resides. Separate from distraction, if we are in a good mood, pain is less likely to get us down. And of course we know that keeping physically and mentally active helps produce positive mood hormones in the body and brain as well.



### EXERCISE CAN BE SAID TO HAVE A 3-FOLD EFFECT ON PAIN REDUCTION:

1. Making our bodies less susceptible to injury due to increased physical function of the body, increased muscle mass and increased bone density.
2. Enlarging the part of the brain (insula) that is responsible for our present moment-perception, thereby increasing our ability to tolerate pain.
3. The stimulation of exercise serves to distract pain signals to the brain.

As Dr. Mogil pointed out about exercise, *“The problem is that when you’re in pain it hurts to exercise. But if you can get past that, it really helps.”*

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