# How the Brain Reacts to Fibromyalgia Pain

by ANGELA FINLAY

## Understanding Pain Receptors and Their Effect on Fibromyalgia Treatment

Experts have always suspected that the brain plays a big role in fibromyalgia pain, but the specific connection has remained a mystery. Unlike other chronic pain disorders, many fibromyalgia sufferers get little to no relief from powerful pain medication, including opioids, which suggests that the brain is not operating properly. Although there's no cure for the disease, a better understanding of how the brain reacts to pain will be an important step toward better fibromyalgia treatment. And what exactly are the fibromyalgia pain points?

### How Mixed Brain Signals Prevent Pain Relief

Although fibromyalgia continues to puzzle doctors and patients alike, recent studies may shed some light on the root cause of the disorder's disabling pain. New evidence suggests that faulty brain receptors may be to blame not only for the pain but also for the ineffectiveness of pain-relieving drugs.

Fibromyalgia seems to alter a few different areas of the brain, which can bring different complications:

- **In a brain affected with fibromyalgia, the pain processing center cannot prepare for pain or relief in the same way as a healthy brain would.** This results in a stronger and longer response to painful stimuli.
- **One pain-extending culprit could be a group of neurons in the center of the brain called the VTA, which regulates the release of dopamine.** In patients with fibromyalgia, pain (and the anticipation of pain) doesn't activate this area of the brain as it should. This inactivity might also explain why narcotic treatments are generally ineffective for sufferers.
- **Fibromyalgia is a chronic disorder and the resulting constant pain can alter the brain response over time.** The brain may become less efficient at dealing with fluctuations in fibromyalgia pain and recognizing relief.

### Brain Imaging for More Effective Pain Treatment

A clearer picture of the pain response in the brain may help to improve treatment for fibromyalgia patients, and that's precisely what researchers are seeking.

Recent studies have used a few imaging tools, including a very fast form of magnetic resonance imaging called functional MRI (or fMRI) to reveal what's going on in a fibromyalgia patient's brain at the moment they feel pain. Tests reveal that fibromyalgia patients feel pain more intensely and more areas of their brains respond to the pain.

Many doctors and experts have been skeptical of fibromyalgia in the past; mostly because there is no clear cause and each patient's degree of discomfort has always been subjective.

But with new and improved objective approaches to fibromyalgia pain points, more doctors and researchers are

willing to search for a deeper understanding and better treatment, including electrical brain stimulation. In turn, those who suffer from the widespread pain, fatigue and stiffness that characterize the disease can hope for a brighter and more comfortable future.