

Waiting to Inhale

Breathing and movement awareness are keys to regaining health

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In a series of articles on fibromyalgia that appeared in recent issues of *ADVANCE*, the authors point out that fibromyalgia is characterized by chronic muscle tension, systemic fascial adhesions and skeletal malalignment; and second, that treatment ideally should include both the use of manual therapies that soften tissues (e.g., CranioSacral Therapy and Myofascial Release®) and education that assists patients in changing patterns of bodily misuse.¹

Both bodily misuse, the chronic pain that accompanies it and other symptoms characteristic of fibromyalgia may in many cases be attributed to an overactive sympathetic nervous system. Regaining control over the sympathetic nervous system should therefore be a principle goal of patient reeducation. As we have discussed, regaining this control may include learning physical self-awareness techniques that can reverse patterns of hyperarousal.²

Since typical signs of hyperarousal include restricted breathing and tightened muscles, a primary goal of a fibromyalgia empowerment program might be to teach patients how to consciously a) maintain full, deep breathing and b) use minimum muscular effort required for optimum results in all activities.

Developing these skills not only aids in rebalancing the sympathetic nervous system; it also can help patients to include a program of physical exercise that rather than aggravating their pain moves them out of pain and into a more mobile lifestyle. This article explores how one can assist patients in incorporating fuller, freer breathing along with reduced muscular effort and enhanced movement awareness into daily activities.

The Importance of Breathing

Full, deep breathing, or diaphragmatic breathing, is the cornerstone of health. In diaphragmatic breathing, the diaphragm expands downward into the viscera on the inhalation, causing the abdomen to expand, and moves upward on the exhalation. Diaphragmatic breathing has a profound impact on all aspects of health.

1. When the diaphragm descends and re-ascends freely, it massages and stimulates the organs below it, squeezing and releasing them like sponges. The organs of digestion, assimilation and elimination lie below the diaphragm. Proper breathing contributes directly to the effective functioning of these organs, and full breathing is essential to complete digestion and elimination, and to the processing of toxins. Poor breathing habits can contribute not only to inefficient digestion and assimilation but also to tissue pain. When restricted breathing results in organs receiving improper stimulation, including reduced flow of blood and nutrients to the tissues, they are subject to deterioration.³ This deterioration in turn impacts muscles and connective tissues. Sensory nerves send messages of discomfort from the organs to the segment of the spinal column whose motor and nerve roots are connected to those organs. This in turn activates motor nerve irritation, and inflammation of nearby fascial and muscle tissue.⁴ Such inflammation could certainly be a part of fibromyalgia symptomatology.

2. Diaphragmatic breathing contributes directly to reversing the fight or flight response characteristic of sympathetic nervous system hyperarousal.⁵ Restricted breathing, or chest breathing, is one of the chief characteristics of the fight or flight response. An earlier article describes how a chronic fight or flight response can create all the symptoms of fibromyalgia.⁶ By implication, regaining full diaphragmatic breathing can moderate the fight or flight response and enable the patient to return to a healthier state of balance.

3. Since the diaphragm is the primary muscle involved in full respiration, if it is not free to expand and contract fully, the role of respiration is taken over by accessory respiratory muscles. This inevitably results in muscle tension throughout the body. For example, when the diaphragm descends freely, the pelvic diaphragm and pelvic muscles automatically relax and open. When the diaphragm does not descend freely,

the pelvic diaphragm and muscles remain contracted. In addition, accessory respiratory muscles of the chest and neck take on the work of breathing, contributing to upper back, neck and jaw tension, and creating the pattern of chest or thoracic breathing. Such systemic tension is uncomfortable, and it fosters a vicious cycle of exacerbating pain. Chronically tight muscles reduce the flow of oxygen to the tissues, causing ischemia, which in turn results in further irritation to the muscles and further pain.

4. Deep, relaxed breathing is widely recognized as an excellent corrective to the emotional and mental tension that can contribute to ill health, including fibromyalgia.⁷

Reducing Muscle Tension

Relaxed breathing automatically promotes a reduction of excess muscle tone, since it requires muscles of the torso to release chronic holding patterns and to expand and contract rhythmically with the motion of the breath.

Research indicates that people who suffer from chronic pain tend to use excess muscular effort to achieve any goal, including the simplest movements, such as rolling over, moving from sitting to standing, walking, etc.⁸ By assisting patients in recognizing that they are using too much effort, how they are doing this and what changes they might incorporate to reduce the effort they make, one can offer invaluable assistance in alleviating the pain of fibromyalgia.

A person who applies excess effort to achieving goals is not usually conscious of this fact. The greater the effort a person brings into activities, the less sensory awareness that person will tend to have. Tight muscles contribute to decreased sensation, decreased sensation reduces motor control, and reduced motor control in turn contributes to greater tension and effort. Teaching patients to reduce muscular effort involves teaching them to pay attention to and utilize their own sensory feedback. This is a primary goal of movement therapies such as the Feldenkrais Method.⁹

Feldenkrais work often begins by having students perform simple movements, such as rolling to one side, while noticing which muscles are tensing to perform the movement. Students are then taken through explorations that involve them in investigating how they might reduce the effort involved in these movements, while simultaneously improving range of motion, motor control and overall bodily integration. In the process, they learn to differentiate muscles from each other, and to avoid using inappropriate muscles toward achieving any goal.

The focus on self-awareness that characterizes movement training such as Feldenkrais involves turning patients' attention away from achieving specific movements, and toward observing how they are moving. Since the goal is to increase ease of movement, the emphasis in doing any exercise is on finding out how to make movements increasingly soft, slow and smooth. This process encourages heightened sensation and teaches the body how to identify and release excess tension. Such tension is characterized by decreased sensation, hardness, uneven and jerky movements, and overemphasis on whole body fairly rigid muscular responses as opposed to the more differentiated motor response that is characteristic of fluid and easy movement.

It should be noted that the same principle that dominates movement therapies such as Feldenkrais and the Alexander Technique—that the more efficient the movement, the less effort will be involved in accomplishing it—also characterizes other approaches to bodily self-mastery. It is, for example, a core principle of teaching in the martial arts, that the greater the mastery of the body, the less effort is required to achieve a given goal.¹⁰

Applying Principles

Here is an example of how one might integrate Feldenkrais principles of movement awareness into teaching an exercise frequently given to patients with chronic low back pain: the pelvic tilt. In one version of a pelvic tilt, a person lies on the floor with the knees bent, and alternates between rounding the back to press it against the floor and arching the back. The aim of this exercise is to fully lengthen and contract the muscles of both the back and the front of the torso, to free up the pelvis and enhance low back flexibility. However, many people perform this simple movement with excess tension, thereby limiting its utility. In order to address this problem, one might teach a pelvic tilt in the following manner.