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.
1. Begin by asking patients to perform a pelvic tilt, and to notice which muscles are working or tensing. Ask them to take plenty of time to scan their body and to observe whether the muscles of the neck, shoulders, abdomen, back, buttocks or legs tighten in rounding and arching the back. In addition, ask them to notice what happens to their breathing. Most people will report that they stop breathing, or that their breathing is restricted. In the experience of the authors, most people also report that they feel muscular contractions in their abdomen, back, buttocks and legs. Many also report sensations of tension in the neck and shoulders, and even in the jaw. This self-observation is important because the tension patterns that patients bring into a simple exercise will be characteristic of tension patterns they bring into everyday activities. By beginning to become conscious of these patterns, and exploring how to change them, patients will also begin to reduce the effort they bring into their everyday movements.

2. Now have patients explore whether they can perform a pelvic tilt with less effort and more range of motion. To do this, ask them to see if they can do pelvic tilts while breathing evenly and fully. In other words, can they make diaphragmatic breathing a priority, rather than sacrificing the integrity of the breath to accomplishing the exercise? As will be clear from our earlier discussion, by exploring how to maintain the integrity of the breath, patients will automatically be learning to reduce excess habitual muscle tension. When patients can find their way to breathing fully while they perform the pelvic tilt, they automatically discover that they reduce muscle tension in the shoulders, neck and abdomen, and sometimes in the low back and buttocks as well. They also find that the pelvis moves back and forth more freely.

3. To further assist patients in discovering how to reduce effort while increasing ease and range of motion, have them perform the pelvic tilt in this manner: Ask them to push the feet into the floor to roll the pelvis toward the head and the low back toward the floor; then release that to roll the pelvis toward the feet. In using the leverage of their feet to roll the pelvis back and forth, patients will discover that they can reduce muscular effort in the torso even further, most particularly in the abdomen, shoulders and neck, while the actual movement of the pelvic tilt becomes easier and larger. The breath tends to deepen as well.

4. Finally, have patients continue in this way, breathing fully and deeply while using their feet to mobilize the pelvic tilt, and doing several pelvic tilts for each full cycle of the breath. This encourages patients to integrate full breathing with full range of motion, a condition that invites them to discover how to use the appropriate rather than inappropriate muscles at the appropriate levels of contraction, for movement.*

As this example shows, enhanced breathing promotes more efficient coordinated muscle use, and enhanced muscle use, demonstrated by increased ease and range of motion, promotes freer breathing. The integration of the twofold, full, easy diaphragmatic breathing and reduced muscular effort provides the foundation on which patients can begin to move toward a mobile, pain-free and active lifestyle.

The Role of Physical Self-awareness

Breath awareness and movement approaches that reduce chronic muscle tension are both critical to reducing the sympathetic nervous system hyperarousal characteristic of fibromyalgia. As such, they must gradually be integrated not only into specific exercises, but also into daily activities, so as to effectively change patients’ everyday behavior and movement patterns. Patients who work with these techniques report both greatly reduced pain and increased ability to cope with stress-producing situations.

Breath awareness and movement awareness ideally should also provide a background to any exercise program for patients with fibromyalgia. Exercise is a critical component for regaining both health and a sense of physical and emotional empowerment. However, if patients bring habits of excess tension into their exercise, they will either increase their pain levels or, at best, achieve very limited results.

If, on the other hand, they apply breath awareness and movement awareness principles to approaching their exercise routines, they can gradually incorporate into their lives an exercise routine that strengthens their bodies, improving not only muscular fitness but also their functional integration and ability to lead productive lives.

Learning to Breathe Fully

While diaphragmatic breathing is probably the single most valuable thing that a patient with chronic pain can learn on the road to recuperation, learning to breathe deeply and easily takes time. It involves reversing
habits retraining the largest muscle in the body. When teaching diaphragmatic breathing, practitioners should consider the following key points:

1. Help patients observe whether they breathe shallowly or deeply by having them place a hand on both the chest and the abdomen. Have patients notice whether these areas move, and if they do, which moves more. In relaxed breathing, the abdomen expands fully while the chest remains relatively quiet. Patients can also be encouraged to explore how much their ribs and back move in breathing. The deeper and easier the breath, the more the entire torso expands and contracts gently and easily with each breath.

2. Demonstrate and teach breath awareness as a tool for deepening the breath. Attempts to change the breath by using particular techniques-including forcefully inhaling deeply often contribute to effort and stress and should be avoided. Nonjudgmental observation of one’s breathing patterns automatically tends to enhance relaxation and deepen breathing.

3. Emphasize with patients that they are exploring how to find a soft rather than a labored breath. Restricted breathing is labored and involves tight muscles. Full breathing is soft and easy, and can only be discovered by exploring how to encourage softness and ease. By having patients imagine the breath as soft and caressing, and imagine the breath slowly and gently descending from the chest into the abdomen and from the abdomen into the pelvis, practitioners can help them rediscover natural and full breathing.

Remind patients that deep, soft and easy breathing should become an everyday habit, and not just an exercise to be performed at a set time. By learning to integrate relaxed breathing into all their activities, patients will take a great step forward in releasing unconscious excess tension and accompanying pain.

References


* This description of a pelvic tilt represents the authors' adaptation of Feldenkrais principles, and is not directly derived from any Feldenkrais manual or training program. The authors would like to express gratitude to Frank Wildman, director of the Movement Studies Institute at Berkeley, CA, for his advice in incorporating descriptions of Feldenkrais work into this article.
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