

DIAPHRAGMATIC BREATHING TO ASSIST WITH SELF-MANAGEMENT OF PAIN

Why This Matters: Shallow breathing often accompanies stress, anxiety, and other psychological difficulties which are common in chronic pain. Pain itself and the changes that can accompany pain, are also quite stressful. This is typically a result of sympathetic over-arousal, commonly referred to as the “fight or flight response.” With practice, diaphragmatic breathing can lead to a quieting response modulated by the parasympathetic nervous system with significant physiological effects. Training in diaphragmatic breathing can be useful in shifting a patient into a proactive mode as they are “doing something” about their symptoms. With practice, it can increase skills in creating calm and relaxation, providing a simple way to quiet high-arousal states caused by pain and the emotions that it elicits. Further, breathing practices are extremely portable and costs nothing except an initial investment of time. Having these skills provide a positive distraction and can be used to manage other life stressors including difficult procedures, etc. Recent studies suggest that it can even be helpful in lowering pain scores. For more detailed information on research and breathing practices, refer to the **Resources** section and [The Power of Breath: Diaphragmatic Breathing](#) and [Breathing](#) links at the end of this content.

FIVE STEPS TO TEACHING DIAPHRAGMATIC BREATHING

STEP 1: OBSERVATION

Observe patients' breathing while they are seated for a minute or so. It is helpful to have them place one hand on the abdomen and another on the chest. To reduce performance anxiety, you could have them close their eyes or distract them with a different activity to allow you to observe comfortably.

- Ask them to breathe normally, just as they would in their life outside the clinic.
- Observe the movements of the hands while they breathe normally including whether there is more movement in the upper hand (chest, suggestive of shallow, inefficient or stress breathing) or the bottom hand (abdomen, which generally reflects diaphragmatic breathing).
- Notice if their breathing rate is fast, slow or somewhere in between. Observe whether the breathing pattern is smooth or choppy.

STEP 2: EDUCATION

The acronym DASS—Deep, Abdominal, Slow and Smooth—describes the goal pattern. If patients' breathing pattern is shallow, fast or choppy consider discussing or demonstrating:

- The importance of the diaphragm muscle as the main muscle of breathing.
- Breathing as it relates to the sympathetic and parasympathetic nervous systems.
- What diaphragmatic breathing looks like (the provider can use DASS breathing to demonstrate to the patient).
- The role of stress and how it can lead to shallow chest breathing. Clinicians can acknowledge that pain (and its accompanying issues) are significant stressors and can influence their breathing patterns.
- Taking time with the exhalation assists in activating the quieting response mediated by the parasympathetic nervous system.

STEP 3: INSTRUCTION

Teaching several different techniques and finding what works best for each individual can be helpful. If an examination table is present, training can begin with patients lying down. Each technique can be practiced for a minute or so to give the patient ample time to determine what works best. *Note: Some individuals become much more anxious when they focus on their breathing, and other techniques may be more appropriate.*

Here are four simple diaphragmatic breathing techniques that can be tried:

- **Technique 1**

Start simply by having them place a hand on the abdomen and gently attempt to breathe under that hand. If this is too effortful or they are “trying too hard” (over breathing or forceful), move on to other techniques or see if they can reduce effort.

- **Technique 2**

This next technique encourages deeper breaths. Have the patient breathe in for a count of “2” (with each counted number taking a second) and out for the count of “3.” If this feels too fast, try slowing it to breathing in for “3” and out for “4.” Adjust the numbers so that the exercise is comfortable and not stressful. The elongation of the out breath can often create an opportunity for a deeper next breath.

- **Technique 3**

In this technique, which can encourage deeper breaths, the individual inhales normally. On exhalation, the goal is to focus on gently exhaling all of the air completely out of their lungs. Then, rather than quickly inhaling again, they pause and wait until the body wants to breathe again. They should let any sense of effort drop away.

- **Technique 4**

Imagery can be helpful to some patients. The patient imagines a breathing hole (like a whale's or dolphin's) in the bottom of each foot. With each breath, they imagine breathing in through the bottom of their feet and up to their abdomen. On the exhalation, this is reversed as they imagine breathing out the bottom of their feet. Another image that could be useful is imaging a wave coming into shore on the inhalation and leaving shore on the exhalation.

STEP 4: EVALUATION OF TECHNIQUES AND ASSIGNMENT OF AT-HOME PRACTICE

Many patients will say that the above activities were challenging or felt “different” due to the fact that they habitually engage in shallow breathing. This is perfectly normal, and as they become more accustomed to deeper breathing, it will feel more natural. *Note: Any sense of feeling light-headed is a sign of trying too hard or over breathing, and effort should be decreased. Changing techniques might prove more helpful.*

- Ask the patient which of the techniques worked and was easiest for them, or which they enjoyed the most. Encourage them to practice this technique at home.
- Practice 5-10 minutes, twice daily, in a comfortable position. Chronic pain patients frequently have sleep disruptions so difficulty falling asleep or intermittent awakening are additional practice times and may assist with increasing comfort, distraction or falling back to sleep.
- In addition, ask them to practice off and on throughout the day and in a variety of positions (this is to encourage generalization). It is also helpful to have them practice at times of relatively low stress until they become accustomed to it.

If all of this proved difficult or extremely taxing, have the patient practice at home, lying on the belly if possible. Not all pain patients are capable of lying on their stomachs, but most can for the few minutes needed to become aware of their breathing. Lying down on the belly typically allows people to feel the diaphragm muscle even when breathing with minimal effort. This can be practiced for 2-5 minutes, focusing on the sensation of deeper breathing which naturally occur in this position. Following this, they can turn over on their back or on their side and recall the sensations experienced when they were on their belly.

The goal is for the individual to practice feeling the sensations and experience of diaphragmatic breathing until they become habituated to it. Twice-daily practice should aid in their learning. Eventually, once more comfort and familiarity has been achieved, another goal will be to do diaphragmatic breathing across different physical positions and situations.

STEP 5: FOLLOW-UP

Follow up is critical to the integration of this activity, and it can be challenging for the busy clinician; making use of a team approach and working with other team members who are skilled in teaching these techniques can be helpful. Even brief attention from a clinician communicates to patients that these approaches are important and that they should follow through. Breathing patterns can be a very strong habit forged over many years and change needs time and reinforcement. Consider the following four areas for follow-up:

- Review the exercise to determine if the patient still understands the practice. Have them demonstrate slower, deeper abdominal breathing.
- Discuss how and when they are using it (e.g., when awake in the middle of the night due to pain, when upset or distressed about finances, when in a pain flare-up) and encourage continued use. Reinforce the ways that it might help them, even if it has helped just a bit or only decreases their level of emotional distress rather than the pain itself.
- Explore how they can apply these skills more generally in their lives is a final important part of following up with training. Ask them to consider other times when they could use the skill, such as when they are in a doctor's waiting room, driving the car, off and on throughout the day, etc.
- Remember the goal. Slower deeper breathing while maintaining a relaxed state and without undue effort is optimal for breathing most of the time, except during certain limited situations where sympathetic arousal (the fight or flight response) is truly helpful.

SUMMARY

Breathing can be a useful tool, not only in quieting sympathetic arousal due to pain and stress, but also as a way to increase a patient's efficacy toward self-management of health. The five easy steps to teaching diaphragmatic breathing are:

1. Observation
2. Education
3. Instruction
4. Evaluation and at home practice
5. Follow-up in future appointments

RESOURCE LINKS

- [Breathing](https://www.va.gov/WHOLEHEALTHLIBRARY/tools/breathing.asp): <https://www.va.gov/WHOLEHEALTHLIBRARY/tools/breathing.asp>

- [The Power of Breath: Diaphragmatic Breating:](https://www.va.gov/WHOLEHEALTHLIBRARY/tools/diaphragmatic-breathing.asp)
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