Mindfulness 101: Stress Reduction and the Physiological Sigh

By Scott L. Rogers

For those of you interested in reducing stress (and who isn't?), we will consider in this month's column two different pathways to stress reduction and how they can work together.

The Power of the Breath

The first pathway involves relaxation techniques that influence the nervous system to slow down the heart rate, reduce blood pressure, attenuate the release of stress hormones, and affect other factors that contribute to agitation. A popular vehicle involves manipulating the breath, and there are numerous breathing techniques for relaxation.

The second pathway approaches things from a different direction. A contributing factor to physical agitation is mind wandering, where wayward thoughts of past events gone wrong and future concerns writ large can occupy a great deal of mental real estate, which, if not tended to, can lead to a spiraling of emotions. This pathway involves mindfulness practices such as focusing attention on an object while remaining vigilant to moments of mind wandering. Coincidentally, a popular vehicle for doing this also involves the breath.

The breath can serve as a force multiplier for achieving a more relaxed state. If you already have a mindfulness practice, you may find the specific relaxation technique discussed today—the Physiological Sigh—to be of interest. And if you find practicing mindfulness to be challenging, you may find it useful to begin your mindfulness practice with the Physiological Sigh.

Below is a brief overview of the Physiological Sigh in the event it is not familiar to you. Afterward, I explain how you can incorporate it into a relaxation practice as well as into a mindfulness practice.

What Is the Physiological Sigh?

The Physiological Sigh involves taking a full inhalation immediately followed by a short, quick second inbreath (which more fully opens the alveoli in the lungs and enhances the exchange of O₂ and CO₂). This is
followed by a long, slow, and steady outbreath (which slows down the heart rate and can have a calming effect on the body). In this short video, I demonstrate this technique.

Stanford Medical School Professor Andrew Huberman and his colleagues recently published a study pitting this technique against a few other breathing exercises—along with a mindfulness practice—and reported that the Physiological Sigh was the most effective at achieving a quick rebalancing of the nervous system when one is feeling stressed. You can read more about the technique in a recent piece penned for the Florida Bar News, “Carl Yastremski, Stress, and the Physiological Sigh” (June 30, 2023).

Now that you have a basic understanding of the relaxation technique, you can give it a try at various times throughout the day to see what kind of an impact it can have on feelings of stress and overwhelm. Below are two exercises that draw upon the Physiological Sigh to bring a little mindfulness to the relaxation exercise and bring a little relaxation to the mindfulness practice.

**Exercise 1: Being Mindfully Aware of Relaxing with the Physiological Sigh**

Many relaxation techniques can be done on automatic pilot. For example, you can be feeling stressed about an upcoming meeting and go through the motions of the Physiological Sigh. Because the technique works directly on your nervous system, you likely will feel more relaxed after doing the exercise. The longer you are able to do the technique, the more likely it is to be of benefit.

You can bring a small dose of mindfulness into this exercise by intentionally (not on autopilot) focusing your attention on the exercise (i.e., the sensations of breathing) and, when you notice your mind wandering, bringing your attention back to the exercise.

1. With awareness of the physical sensations of breathing,
2. Inhale quickly and fully.
3. Immediately after, take a second sharp inhalation.
4. Slowly exhale fully.
5. Repeat for as long as you would like, maintaining continuous awareness on physical sensations of breathing and redirecting attention when you catch mind wandering.

**Exercise 2: Incorporating the Physiological Sigh into a Mindfulness Practice**

A traditional focused-attention mindfulness practice can be as straightforward as focusing attention on the breath and returning attention to the breath when one notices the mind has wandered. Curtailing mental misadventures into the past and future allows us to avoid a great deal of mental and physical suffering. Because the very agitation the practice may target can make the practice itself uncomfortable, it can be helpful to introduce a little relaxation to the practice. Often, this takes place at the outset.

1. Bring yourself into a comfortable posture.
2 Focus your attention on the sensations of breathing.

3 Establish a more relaxed and steady state with three cycles of the Physiological Sigh:
   A inhaling quickly and fully,
   B taking a second sharp inhalation, and
   C slowly exhaling fully.

4 Allow your breathing to resume its natural pacing and rhythm.

5 Focus your attention on the sensations of breathing.

6 When you detect mind wandering, bring attention back to the breath.

It is increasingly common these days for the opening to a mindfulness practice to incorporate a few slower, deeper breaths. The above variation merely replaces the slower breathing with the Physiological Sigh. You may also wish to close the practice with another round of Physiological Sighs, all the while maintaining mindful awareness of your experience.

Conclusion

I hope you find that the above discussion and two exercises further inform your understanding of mindfulness and of the ways the breath can be meaningfully incorporated into both relaxation and mindfulness practices. With the breath as a shared tool, your understanding of the difference between a mindfulness and a relaxation practice (along with their overlap) may also be further refined.
Scott L. Rogers is a nationally recognized leader in the area of mindfulness and law, as well as a teacher, researcher, and trainer. He is founder and director of the University of Miami School of Law’s Mindfulness in Law Program, and he co-founded and co-directs the University of Miami’s Mindfulness Research & Practice Initiative. Scott is the author of six books, including the recently released The Mindful Law Student: A Mindfulness in Law Practice Guide.

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