

## Mindfulness for Stress and Pain Management: Implications for IBS

Susan Gaylord, PhD, Assistant Professor

Physical Medicine & Rehabilitation, UNC School of Medicine

Mindfulness is an ancient spiritual practice, which is now being studied for its health benefits. Introduced 2,500 years ago by Shakyamuni Buddha, the technique traditionally has been used for calming the mind and generating insight and compassion. The technique is now gaining attention from researchers and health care providers as a promising therapy for illnesses and health-related conditions with psychosocial components, including irritable bowel syndrome.

### What is mindfulness and how does it work?

Mindfulness involves the effort to attend, non-judgmentally, to present-moment experience and sustain this attention over time, with the aim of cultivating stable, non-reactive, present-moment awareness. The practice of mindfulness usually involves a regular daily discipline of sitting or walking meditation. Breath (one's own breathing) or another object is used as the focus of attention and as a reference point to which to return when the mind becomes distracted by fixation on thoughts, emotions, or daydreaming. By returning to the breath or other object in present-moment experience when absorbed in ruminations about the past or future, a break occurs in the habitual patterns of thought and ruminations about the past and future. Similar to exercising a muscle, the practice of mindfulness strengthens the mind's ability to return to and remain in the present moment, even in challenging situations. With experience in the practice of mindfulness, new ways of perceiving and responding emerge. One begins to be able to distinguish sensations and other simple experiences from thoughts and emotions about those experiences. Seeing thoughts as merely thoughts -- as somewhat transparent and ephemeral -- cultivates a spacious and relaxed mind. The result is the achievement of calmness or peacefulness that is not dependent on the up-and-down circumstances of life. Moreover, being more mindful cultivates precision and clarity, enhancing insight into what may be maladaptive, destructive, habitual patterns of behavior and allowing one to pause and respond, rather than merely react.

### Research on health benefits of mindfulness

Early research recognized the role of mindfulness in stress reduction. Research on the physiological effects of mindfulness meditation and other meditation practices has revealed shifts away from chronic "flight or fight" sympathetic nervous system responses toward greater parasympathetic tone. Studies have also shown that meditation is associated with improved regulation of the hypothalamic-pituitary axis, with normalization of cortisol levels, as well as reduction in blood pressure and heart rate, lower circulating norepinephrine, a rise in serum serotonin, and reductions in anxiety, depression and muscle tension. Much of the research on health benefits of mindfulness has utilized a systematic training program in mindfulness meditation for the management



of stress, pain, and other medical and psychological symptoms, first developed in 1985 by Jon Kabat-Zinn and associates at the University of Massachusetts Medical Center. This program is called Mindfulness Based Stress Reduction (MBSR) and is usually taught in groups of 10-20 people in two-hour classes, once a week for eight weeks, with mindfulness-based homework assignments plus an all-day contemplative class towards the end of the course. This course format has become a popular venue in health-care settings, with an estimated 250 programs now operating in North America and Europe, including the UNC Mindfulness Program for Stress and Pain Management, in operation since April 2000. Investigators studying the Kabat-Zinn program and similar modifications have found positive changes in health outcomes in patients with a variety of conditions, including those with chronic pain. Although conclusions based on these results must be tempered by that fact that many such studies suffer from poor design, including lack of adequate control groups and randomization, overall, mindfulness is proving to be of significant benefit. In experimental and quasi-experimental studies, mindfulness has been shown to reduce stress, enhance sleep quality, improve symptoms of depression and fibromyalgia, and facilitate health behaviors such as weight management. In one often-cited study by Dr. Kabat-Zinn and his colleagues, patients with a variety of pain conditions who participated in an MBSR intervention, as compared with standard care, improved with regard to pain, activity, symptoms, mood, self-esteem and sense of control.

The use of mindfulness to ameliorate the symptoms of patients with IBS remains largely untested. One small study by Drs. Keefer and Blanchard, at Northwestern University, showed that relaxation meditation, a technique somewhat akin to mindfulness, may be an effective treatment for IBS symptoms. Dr. Jim Carson and colleagues at the University of North Carolina piloted a small, uncontrolled clinical trial using a mindfulness program intervention for patients with IBS; this study showed promise for IBS symptom management.

### **NIH study underway at UNC on mindfulness for IBS**

UNC researchers Susan Gaylord, PhD (Principal Investigator) and William Whitehead, PhD (Co-Principal Investigator) are studying the efficacy of a Mindfulness Program, based on the MBSR format, for patients with IBS, with funds from the NIH National Center for Complementary and Alternative Medicine. The study design utilizes a Patient Support Group as the comparison group, an intervention that has been recommended as a method for helping IBS patients learn to cope with symptoms and which has successfully been used in previous psychological interventions for patients with IBS. Based on the results of studies of both mindfulness and IBS as well as the biopsychosocial framework of this illness, Drs. Gaylord and Whitehead hypothesize that mindfulness training may be uniquely efficacious in the treatment of IBS. Major components of mindfulness practice include (1) self-regulation of attention on immediate experience and (2) an attitude characterized by non-judgmental openness, inquisitiveness, appreciation, and acceptance, regarding experience. Research shows that IBS patients selectively attend to somatic sensations from the gastrointestinal tract and interpret these as symptoms of disease. This hypervigilance for somatic sensations is believed to



account for the tendency of IBS patients to report multiple comorbid conditions, including fibromyalgia and TMJ. The practice of letting go of rumination about the past and future, and instead attending to and appreciating present-moment experience, may decrease fixation on maladaptive cognitions, in particular, catastrophizing and over-interpretation of sensations such as pain. Appreciation for present-moment experience, including any somatic sensations, may result in a willingness to accept and let go of fixation on visceral pain and discomfort. In addition, mindfulness training's effectiveness in reducing stress may result in amelioration of a patient's IBS symptoms, since stress has been shown to trigger and exacerbate IBS. An added benefit may be mindfulness training's ability to reduce anxiety and depression, both of which are correlated with worsening of IBS symptoms. Research is now underway to determine the feasibility of this study, and results will determine whether further studies are warranted. Those who enroll in the study will be randomized to either the Mindfulness Group or the Support Group. To learn more about how to participate in this study, please call Becky Coble at (919)-966-8586 or email [rcoble@med.unc.edu](mailto:rcoble@med.unc.edu).

*Editor's Note: Dr. Gaylord was the recipient of a seed grant for a pilot study of "Mindfulness for irritable bowel syndrome" from the UNC Center for Functional GI & Motility Disorders, and was recently awarded an R21 grant from the National Institute for Complementary and Alternative Medicine for a study titled "Mindfulness medication treatment for irritable bowel syndrome".*