Diaphragmatic breathing techniques that 1 patient learned during a yoga-based cardiac rehabilitation class helped him overcome the stress and anxiety he often felt in the waiting room of his cardiologist's office. The patient, like many seen by Sara Chambers, RN, BSN, assistant nurse manager in Cardiac Rehabilitation at Palm Beach Gardens Medical Center, said yoga helped him learn valuable coping techniques he uses in daily life.

“Cardiac patients in particular tend to have a lot of stress,” said Chambers, who is among the >20 million, or 9.5%, of US individuals who practice yoga, according to the 2012 National Health Interview Survey.

Now, an emerging body of evidence suggests that yoga, which combines breathing exercises, strengthening and stretching poses, and relaxation techniques, can be beneficial for individuals with heart conditions or other chronic diseases. It seems to have comparable safety to other forms of exercise.

“There are multiple studies that suggest that regular yoga practice with breathing exercises can increase lung volume, decrease heart rate and blood pressure, help regulate the parasympathetic and sympathetic nervous systems, lower anxiety, and physical endurance,” said Chambers.

**FOCUS ON BREATH**

Although many forms of exercise can be beneficial for patients with chronic diseases, the unique aspect of yoga is the strong focus on breathing technique and coupling breath with movement,” said physical therapist Laura Desveaux, PhD, MScPT, a postdoctoral fellow at Women's College Hospital in Toronto.

Often, patients with chronic diseases such as heart disease become short of breath during exercise, which deters them from exercising, she explained. However, the breathing techniques used in yoga can help. “It becomes natural for them to coordinate their breath with whatever they are doing,” Desveaux said.

The breathing exercises are also an important relaxation tool. Chambers explained that many patients with heart disease experience chronic stress and are coping with fear and anxiety about their condition, and yoga can be a self-soothing tool. Preliminary evidence suggests that yoga can also reduce sympathetic and increase parasympathetic nervous system activity and decrease excess cortisol and adrenaline, all of which would be expected to have potentially favorable effects on the cardiovascular system.

In patients with heart failure, a sympathetic nervous system in overdrive can exacerbate the disease, said Jill Howie-Esquivel, RN, PhD, NP, a nurse practitioner in the advanced heart failure and hypertension clinic at the University of California–San Francisco. Beta-blockers, one of the standard pharmacotherapies for heart failure, help decrease this overactivity. So, Howie-Esquivel and her colleagues wondered whether yoga might also be a beneficial adjunct to medication. “Why not use yoga as a β-blocker?” she said.

Howie-Esquivel and her colleagues recruited 15 stable patients with heart failure to participate in an 8-week pilot study using yoga specially modified for patients with heart failure.

Two experienced yoga instructors, who were also registered nurses, led the classes. None of the participants experienced adverse events. Patients had significant gains in strength, endurance, balance, and quality of life after the class.

“It's time for a bigger study,” said Howie-Esquivel. She noted the dearth of evidence that exists on nonpharmacological interventions for patients with heart failure despite patient interest.

Other small studies have also looked at various subsets of patients with different heart conditions. For example, a cohort study of 49 individuals with atrial fibrillation compared patients' symptoms and quality of life before and after twice weekly 60-minute yoga class for 3 months. The yoga training
improved symptoms and reduced arrhythmia burden, heart rate, and blood pressure. It also reduced the participants’ anxiety and depression scores and improved some aspects of quality of life.

IN PRACTICE
Larger trials that follow patients over 6 months would be needed to support use of yoga in patients with heart failure as an evidence-based practice, said Howie-Esquivel, who has not yet used yoga with patients with heart failure outside of her studies. “The AHA guidelines for heart failure management do support exercise, but there are no large scale data to support yoga or any nontraditional type of exercise,” she explained.

The current evidence on yoga in cardiac rehabilitation leaves many practical questions unanswered for clinicians, said Desveaux. For example, what types of yoga regimens or how often they need to be performed to be beneficial isn’t yet clear. “At this point we don’t have the evidence to say this is how we incorporate yoga into cardiac rehabilitation,” she said.

Still, there is enough suggestive evidence about the benefits and safety of yoga for chronic disease; therefore, clinicians may consider incorporating some aspects of yoga into their rehabilitation programs, Desveaux said. Chambers started by incorporating yoga breathing exercises into pulmonary rehabilitation and has since added both chair- and mat-based yoga into her program’s offerings.

The primary yoga modification recommended for patients taking medications that affect heart rate or blood pressure is to avoid positions that place the head below the heart. Chambers said that during yoga programs, she keeps staff nearby who can intervene in an emergency. She also assesses medications and physical or orthopedic limitations before enrollment in the courses.

If cardiac patients ask about participating in community-based yoga classes, Howie-Esquivel said she first evaluates them and then makes sure they are stable on medications for at least 3 months and free of major joint problems.

Many different types of yoga classes are available, and some are quite vigorous, Howie-Esquivel explained. For example, classes performed in rooms kept at elevated temperatures are not a good choice for people on blood pressure medications, Chambers said. Restorative yoga classes, which emphasize slow movements and relaxation, are a good option, said Howie-Esquivel. Modified poses are another alternative for patients with physical limitations. Yoga may be particularly useful for patients who would benefit from gentle exercise or chair-based exercises or who have anxiety or other psychosocial concerns, Desveaux said. “Patients like to have a choice,” Desveaux said. “The more you can give them a choice the more likely they are to sustain the exercise.”

Figure. Meditation can be one part of cardiac rehabilitation programs that incorporate yoga.
Emerging Data Support Benefits of Yoga for Patients With Heart Disease
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