the heart of Prepare for surgery with mind-body techniques that may belp you recover faster.

I had known about my abnormal heart valve since childhood, when the pediatrician told my parents I had a functional heart murmur that was nothing to worry about. By the mid-1970s, technology to image the heart became available, and I learned that the murmur resulted from a bicuspid aortic valve, one of the most common congenital valvular abnormalities. Instead of having the normal three leaflets, my valve had just two.

Despite my condition, I had an active and healthy life without limitationsrunning regularly, earning a black belt in karate, practicing and teaching yoga. So in 2007, following a routine echocardiogram, I was shocked to learn that one of my valves had narrowed so severely that I was at risk of sudden death. In addition, the malformed valve had created a weakness in my aorta-an aneurysm that needed prompt repair. I scheduled

a date for open-heart surgery just after New Year's Day 2008 and six weeks before my 54th birthday.

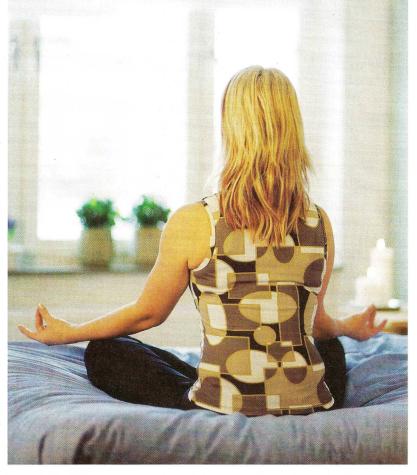
As a yoga therapist at Duke Integrative Medicine, in Durham, North Carolina, I'd often helped others deal with the stress of serious health conditions through relaxation breathing, meditation, and appropriate yoga postures.

Now, as I prepared for surgery, I drew on my own practice to help ready myself physically, emotionally, and spiritually for the challenge. I called Nischala Joy Devi-my teacher and friend-for support. She pointed me toward Patanjali's Yoga Sutra II.33, which says, "When presented with disquieting thoughts or feelings, cultivate an opposite elevated attitude."

"What you say, feel, think, and imagine," Devi told me, "can make an enormous impact on the outcome."

PERSONAL POWER

The idea that patients have the ability to influence their surgery would have been dismissed a generation ago. But an emerging body of research suggests that mind-body practices, including those used in yoga, can improve your experience of surgery and its possible outcomes. continued on page 51



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For example, studies show that patients who use self-care techniques before surgery, including relaxation breathing and guided imagery, may need less medication, experience less pain and blood loss, and have faster wound healing and shorter hospital stays. "Simple mind-body techniques like relaxation breathing and vividly imagining the best possible outcome of surgery prior to the procedure can reduce anxiety, sleep disturbance, and even the surgical stress response itself," says Jeffrey Greeson, a clinical health psychologist at Duke Integrative Medicine in North Carolina.

These practices not only relieve suffering but can also save money. One study showed an average savings of \$2,003 per procedure when patients listened to a guided imagery tape before surgery.

PATIENT SUPPORT

Anxiety, fear, and high levels of stress are correlated with poor surgical outcomes, according to Greeson. Anxiety can also increase pain and make some procedures, like starting an IV, more difficult, says Teresa Corrigan, a registered nurse and mind-body specialist at the Osher Center for Integrative Medicine at the University of California, San Francisco.

To help lower stress levels and empower patients — and to improve the bottom line — hospitals and medical centers that focus on integrative care have begun providing classes in relaxation breathing, guided visualization, and meditation to use in preparation for surgery.

In addition to conducting a workshop for presurgical patients that teaches abdominal breathing and a "relaxation body scan," Corrigan teaches Laughter Yoga to patients in her hospital's chemotherapyinfusion center. The extended-exhalation breathing that happens with laughter enhances the immune system function and relieves anxiety, among a host of other health benefits.

"Just because you're a patient doesn't mean you have to be helpless," Corrigan says. "Even at a time of ultimate vulnerability, when you must show up and put on that gown, you still have the ability to

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influence your internal environment and make the experience better."

TOOLBOX OF TECHNIQUES

Taking advantage of hospital-based resources to help relieve stress and enhance healing is a step in the right direction, but patients can do a lot on their own. Your yoga practice provides a toolbox of techniques that can help counteract many of the stressors of surgery and bring your mind and body into optimal alignment for healing.

When Gary Kraftsow, founder of the American Viniyoga Institute, was diagnosed with a brain tumor in 2004, he drew upon the yogic tools he had spent most of his life developing. A leader in the field of yoga therapy, Kraftsow began studying with T. K. V. Desikachar in the 1970s, has written books and produced videos about yoga for healing and transformation, and developed protocols for National Institutes of Health studies of yoga's therapeutic benefits.

"I had one week to prepare myself for brain surgery and the possibility that I might not even wake up," Kraftsow re-

The mind-body connection, when aligned and tapped, can be an extraordinary healing resource.

calls. "My main work was to go from a place of fear and uncertainty to a state of optimism and peace."

The tumor limited his physical abilities, so his presurgery practice focused on maintaining physical vitality with simple movement and lots of pranayama. Combining breathing practices with mantra and chanting also helped balance his emotional health. In meditation, he spoke to each cell in his body with gratitude.

Anyone facing surgery can tailor their practice in a similar way, says Kraftsow. He advises preparing your physical body with a mindful posture practice to enhance the flow of *prana* (life force), particularly to the area where the incision will be. You can help calm anxiety and reduce physical and emotional stress through appropriate pranayama (*see "Healing Tools," page 50*). It is also important to create a personalized meditation—one you can use throughout the experience—that tunes your mind and heart to things that have deep meaning for you, says Kraftsow.

MY OPEN HEART

After more than 30 years of practicing yoga and 10 years of teaching, I was well aware that the mind-body connection, when aligned and tapped, can be an extraordinary healing resource. In the six weeks I had to prepare for surgery, I did daily pranayama, deep relaxation, and meditation. My asana practice changed according to my needs - some days it was dynamic and energizing, other days calming and restorative. During meditation, I visualized myself going through the procedure successfully, then celebrating my birthday, happy and surrounded by family and friends. I saw myself completely healed by April, co-directing the spring session of the Therapeutic Yoga for Seniors program at Duke. I prayed often, ask-

ing for help and the strength to bear whatever was to come.

I loaded up my iPod with personalized guided meditations and with my favorite Sanskrit chants, including "Om Namah Shivaya," by Wah!, and "Chit Ananda," by Deva Premal. I listened to these during my preoperative cardiac catheter-

ization, while being wheeled into surgery, and in the intensive care unit. Listening to the meditations and becoming absorbed in the chants calmed my fears and helped me find strength in the connection with my unchanging, true Self.

Three months after my surgery I was back to teaching yoga, and today I am grateful to feel better than ever. Now, in my morning meditation, I have added two "moos" to honor my new bovine (cow) heart valve.

Carol Krucoff, E-RYT, is a yoga therapist at Duke Integrative Medicine and the author of the new book Healing Yoga for Neck & Shoulder Pain (New Harbinger, 2010).

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tools Try these mind-body techniques to help prepare for and recover from surgery.

focused breathing

Diaphragmatic breathing, or belly breathing, in which you breathe deeply into the lungs and expand the diaphragm, "can make a huge difference both in oxygenation and in relieving anxiety," says Teresa Corrigan, RN, a mind-body specialist who teaches presurgical workshops through the Osher Center for Integrative Medicine at the University of California, San Francisco. "When people are fearful, their bodies go into a white-knuckle reaction that has a domino effect on the entire system."

Gary Kraftsow, founder of the American Viniyoga Institute, recommends extendedexhalation breathing to help calm jittery nerves. Start where you are; then begin to deepen the length and smooth the flow of your inhalation and exhalation. Even people with little or no training can typically practice inhaling for four seconds and exhaling for six.

Dirga Pranayama, called the Three-Part Breath, can also be used to move the body into a state of relaxation and calm. As you inhale, fill first the lower, then the middle, and finally the upper portion of the lungs, so that the belly rounds, the rib cage expands out to the sides, and the upper chest broadens and fills. Then, as you exhale, everything softens back down.

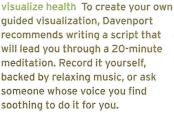
affirmations

& mantras Affirmations are spoken statements that help you to counter negative thinking and visualize positive outcomes, says author and psychologist Belleruth Naparstek. An example: "More and more I can let go of worry about things I can't control and focus on my own inner peacefulness."

Mantras from the yoga tradition are sacred Sanskrit sounds that are chanted as a vehicle for meditation and prayer. Reciting a mantra-which may be a simple Om or a more complex group of sounds that have a particular meaning to youhelps focus attention by anchoring and calming the mind. "Become absorbed in the meaning and feeling the chant engenders," says Kraftsow. **guided imagery** Guided imagery acts as "a rehearsal that focuses your intentions on the best possible outcome," says psychotherapist Leslie Davenport, the author of *Healing and Transformation Through Self-Guided Imagery* and a founding member of the Institute for Health and Healing at California Pacific Medical Center in San Francisco. A kind of meditation in which you direct your focus for a specific intention, guided

imagery has been found to be a successful tool in influencing outcomes in things like sports competition and surgery. In fact, a study of surgical patients using a guided imagery tape found they lost significantly less blood and stayed in the hospital one full day less than those in the placebo control group. "When we worry, we're doing imagery-but not the kind that supports our health," Davenport explains. "But we can learn to use this same mind-body connection in a positive way that supports our healing and well-being."

> Download a guided visualization recording by Leslie Davenport to prepare for surgery at yogajournal.com/ guidedimagery.



Start with an intention for health and healing. With your eyes closed, deepen and lengthen the breath. Inhale and imagine your body filling with light and vitality. Exhale and feel all tension releasing.

Visualize a place where you feel safe and peaceful, taking time to notice every detail: the colors, the

> scents, the sounds. Then see your closest friends and family members joining you, even pets and spirit guides, blanketing you with their love and support.

From this place of support and comfort, imagine

the day of your surgery. See your medical team ready to offer you the best care possible. Ask that your body's intelligence align with this care, and direct healing energy there.

Now visualize the procedure ending in total success. Your body will sense the shift to ease and recovery, already sending nourishment to the surgery site as you gradually awaken, knowing that you are well on your way back to health.

present moment

aWareness Mindfulness, a practice of cultivating awareness of the present moment without judgment, uses the breath to help train attention and to connect body and mind. It's a useful skill when preparing for surgery and during the healing time afterward. "Some people are extremely dissociated from their bodies," says Corrigan. Being mindful can help you tune in to the subtleties of tension or discomfort and also help you identify ease.