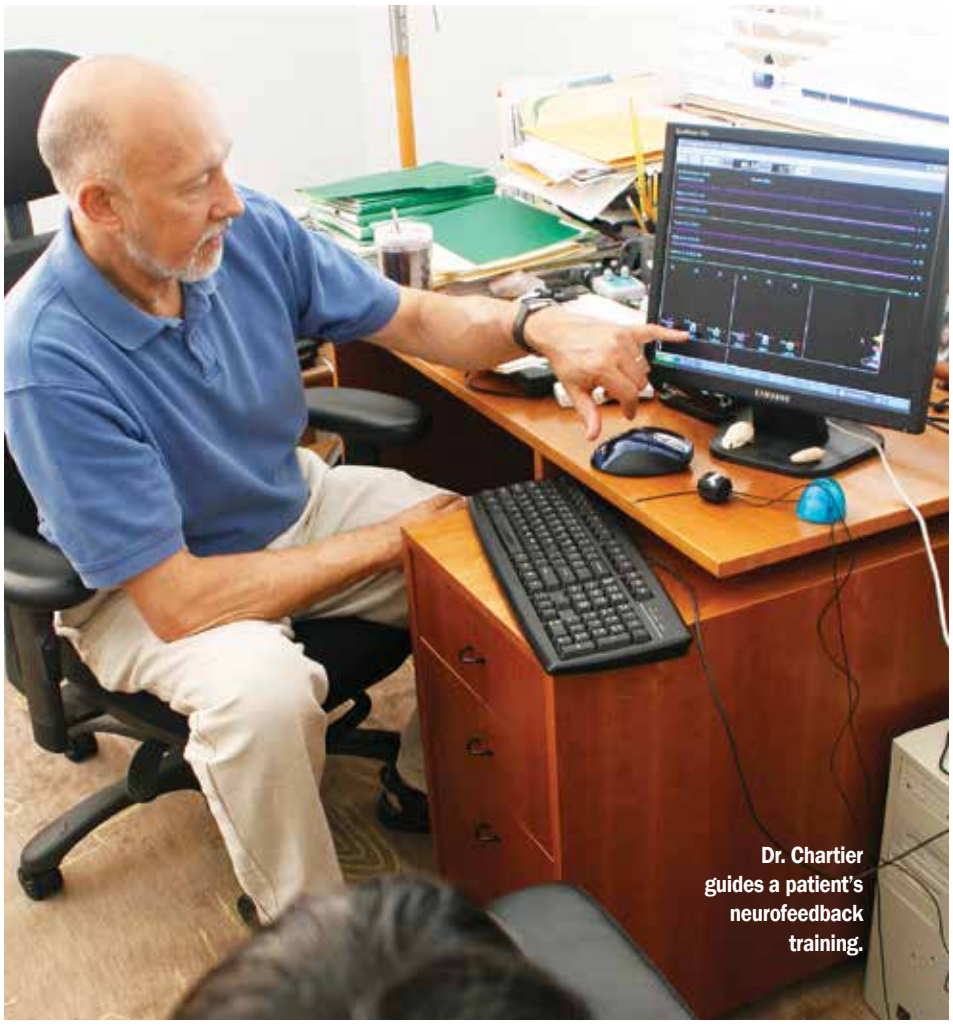

Dr. Chartier guides a patient's neurofeedback training.

Biofeedback Reduces *Surgical Trauma, Aids Recovery*

Years of experience and many good research studies have convinced Dr. Dan Chartier, a Raleigh psychophysiologic psychotherapist, that learning self-regulation skills through biofeedback can be highly beneficial to the surgical patient—both before and after the procedure.

"What we've learned," says Dr. Chartier, "is that people who turned to biofeedback prior to surgery—to learn to focus and to manage stress—had far better outcomes than those who did not prepare in this way. And when I talk about 'managing stress' I'm referring not only to psychological and emotional stress, but to physical stress as well. Such 'physical stress management' is equally effective in the treatment of heart disease, and specifically, high blood pressure. It's not unusual, for example, for a person to use biofeedback to reduce their blood pressure by 10 to 15 points. And, for some people, that means the difference between the need to take medication, or to be relieved of that need."

Dr. Chartier points out that surgery is traumatic—physically and often psychologically. "Relaxation training with biofeedback and neurofeedback quiets the mind and helps diminish the fight-flight response that naturally occurs with trauma.

"Think of a seesaw," he explains. "On one side is anxiety, and on the other side is alpha EEG brain activity. If alpha is up, anxiety goes down, and the reverse is also true. It's been documented that if a person undergoes any kind of systematic training to raise their alpha EEG levels the outcome is far less anxiety.

"And anxiety can have a very powerful impact on surgical outcomes, as many studies have affirmed. "One major insurance company studied the issue in depth, and found that their clients who had some level of biofeedback and self-regulation training had better outcomes—more rapid healing and shorter hospital stays—for surgery of all kinds. For example, they found that hospital stays were, on average, four days shorter for general elective surgeries for those who prepared themselves with biofeedback training. For abdominal surgeries, hospital stays were three days shorter; five days shorter for cardiac surgery, and so on.

"Over many years I've often observed that same outcome with clients. They may come to me for help in overcoming depression or anxiety, and we incorporate biofeedback and/or neurofeedback training in our work. Subsequently, some have needed a surgical procedure and they report back that their surgeons are often amazed at how quickly and well they have healed.

"So, I would counsel anyone facing surgery to do themselves a great favor and invest a few days in learning how to truly achieve a state of deep relaxation. In as few as eight to ten sessions, in uncomplicated situations, they can achieve a good foundation of skill they can build on.

"It's just a learning process," he adds with a smile, "like learning to play a musical instrument. Once you learn the skill, it's yours and you can refine it or perfect it without needing further professional help.

Health&Healing: Explain how you work with patients to prepare for surgery.

DR. CHARTIER: It typically takes about three sessions before the feedback process starts making good sense—when someone begins to realize how to get into a relaxed state. Then it's only a matter of refinement. And now, thanks to the development of a host of personal neurofeedback devices—such as The Muse, Mendi, and HeartMath—a smartphone or tablet makes relaxation training easily accessible.

That is the relaxation training part. The other part is more of a psychological preparation—helping people to address their fears. Surgery involves trusting someone with your life as you are rendered unconscious and they proceed to do something to your body that is traumatic.

We get fears out of the way by preparing emotionally, acknowledging and addressing them, looking at alternatives, and making a deeper level of commitment to the process. Biofeedback and neurofeedback are valuable tools in this psychological preparation, by helping patients understand their body's responses to the surgery that they're going to have. That awareness—combined with self-regulation skills—allows them to feel more in control of the surgical experience and prepares them to be in the most optimally receptive state for surgery.

H&H: Do bio- and neurofeedback alter the physiology, the body that's going to be operated on?

DR. CHARTIER: Yes. A deeper level of relaxation brings better blood flow to the area that's going to be operated on, creating less resistance to the surgical procedure itself. Those are very tangible changes that can be documented with the feedback process and subjectively help with the surgical procedure.

H&H: How do biofeedback and neurofeedback help in recovery from surgery?

DR. CHARTIER: The ability to relax and reduce anxiety is just as important for patients recovering from surgery. And one area where self-regulation can be particularly valuable is in pain management. One simple truth is relevant: when we hurt, we tend to tense up, and that contraction tends to increase the pain. The more we tense up, the more severe the pain. By learning relaxation skills, we can significantly reduce pain. H&H

"PEOPLE WHO TURNED TO BIOFEEDBACK PRIOR TO SURGERY—TO LEARN TO FOCUS AND TO MANAGE STRESS—HAD FAR BETTER OUTCOMES THAN THOSE WHO DID NOT PREPARE IN THIS WAY."

For further information about neurofeedback, biofeedback, and psychotherapeutic services offered by Drs. Dan and Lucy Chartier and their associates, contact:

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BIOFEEDBACK AND NEUROFEEDBACK

Dr. Chartier explains that biofeedback and neurofeedback are "different approaches to achieve different goals. Biofeedback refers more to peripheral modalities—such as muscle tension and finger-tip temperature, which in turn often affect blood pressure and migraine headaches—issues related to blood flow. With biofeedback, people can learn to self-regulate these vital systems of the body.

"With neurofeedback we're working directly with feedback of the brain's activity, often to deal with issues of attention or focus training: the athletes who want to increase their level of peak performance, or the person who has sustained a brain injury or had a stroke and seeks to restore brain function as fully as possible. Neurofeedback also has applications for conditions such as depression, anxiety, and anger management. There are certain brain states associated with states of well-being as well as states of anger, hostility, anxiety, and depression.

"With biofeedback and neurofeedback, we pretty rapidly move from an intellectual understanding of a client's issues to the physiological process leading to healing."

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