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Hypnosis Reduces Surgical Pain and Time, Improves Safety

Large randomized [clinical trial](#) shows benefits of self-hypnotic [relaxation](#) techniques

People who used self-hypnotic relaxation techniques during [surgery](#) needed less pain medication, left the operating room sooner, and had more stable vital signs during the operation, according to new research from Beth Israel Deaconess [Medical Center](#). The study is published in the April 29 issue of the weekly journal *The Lancet*.

"We have a simple method that decreases [pain](#) and anxiety and makes the invasive procedure safer and faster," says first author Elvira Lang, M.D., director of [cardiovascular](#) and interventional radiology at Beth Israel Deaconess. The large randomized clinical trial included 241 people who underwent interventional radiology procedures to open clogged arteries and veins, relieve blockages in the kidney drainage system, and block blood vessels feeding tumors. Patients undergoing these minimally invasive surgeries were assigned to one of three groups. One group experienced normal interactions with nurses and doctors. Another group received extra attention from an additional person in the operating room. The third group of patients received assistance during their surgery with relaxation techniques, including imagery. Within safety limits, all patients were able to receive as much medication as they needed at any time to control their pain. Standard protocol calls for conscious sedation, using drugs as needed for pain and anxiety.

The hypnosis group fared best by most measures, but the patients receiving extra attention also benefited. About half of the patients in the attention and self-hypnotic groups need no drugs for pain or anxiety; the other patients in the two groups used about half the amount of drugs as patients in the standard care group. During the operation, pain increased over time in both the standard care and extra attention groups, but remained flat in the self-hypnotic group. The benefits of hypnosis exceeded those of extra attention in shorter surgical time. Procedures were 17 minutes faster in the hypnosis group than the standard care group. And according to the cardiovascular vital signs, only one (of 79 total) hypnosis patients has blood pressure changes that required treatment or intervention during the procedure, compared to 10 (of 80) patients receiving extra attention and 12 standard care patients (of 79 total).

Lang believes the patients who are most anxious about their surgical procedures may show the most benefit from self-hypnosis relaxation. "A mind that is able to come up with the worse scenario possible is also able to come up with a more desirable scenario," she says.

On the operating table immediately before the procedure, patients in the self-hypnotic relaxation group were guided through deep breathing exercises and imagery of their choice to help them focus on a safe and pleasant experience. Patients controlled their experience. At any time, they could focus on the surgery and ask the doctor questions about what was happening, or "float away" in their hypnotic state.

"The approach allows patients great individuality," Lang says. "Patients may chose scenarios we would not intuitively pick. Some people focus on a place in nature, on a group of friends or family, on a solitary place, on ordinary tasks, or on being at home on the couch watching TV. One woman chose canning vegetables in the kitchen. Other people focuses on gambling in Las Vegas, building a harp, and even floating in the clouds with deceased loved ones all viewing the countryside below."

The imagery technique includes 11 components, including avoiding negatively loaded suggestions. Instead of saying, "You will feel a sting and burn now," Lang and her colleagues suggest emotionally neutral descriptions or focusing on a sensation of fullness, numbness, coolness or warmth when painful stimuli are imminent.

The hypnotic techniques require proper training, Lang says. In the study, a nurse, two medical students, a psychology graduate student and a physician all were trained to administer the hypnotic interventions. The study was conducted at the University of Iowa, where Lang was director of interventional radiology before she joined Beth Israel Deaconess in 1998. She is training nurses and others in the radiology department in the relaxation techniques for patients who undergo invasive procedures in interventional radiology.

"People in medicine are in the profession of caring," Lang says. "Sometimes, a particularly good nurse or charismatic physician has ways of talking and behaving that have pretty much the same effect. We're putting those skills acquired over time in a much more structured form so the methods can be applied in the hectic modern healthcare environment."

The study was funded by the National Institute of Mental Health and the Office of Alternative Medicine, both of the National Institutes of Health. Beth Israel Deaconess Medical Center is a major patient care, research and teaching affiliate of Harvard Medical School and a founding member of CareGroup Healthcare System. BIDMC is the third largest recipient of National Institutes of Health research funding among independent U.S. teaching hospitals.