

## Altered States

**Hypnosis can help with problems from anxiety to pain. How it works, and what it does in the brain**

By David Noonan  
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Sept. 27 issue - At 27, Beth, an Indiana housewife, came down with chronic diarrhea that plagued her for the next three years. "I knew where every bathroom in town was," she says with a laugh. But it was no joke. "I didn't really want to go out at night because it's just not fun." Doctor after doctor told her it was stress-related. She tried diet changes and medicines, but nothing helped. Then she went to see Dr. Marc Oster, a Chicago-area psychologist. After 12 sessions of hypnosis with Oster, during which Beth explored the traumatic events that preceded her illness (including her husband's agonizing two-week stay in a burn unit), the problem disappeared. Two years later Beth (who asked that her last name not be used) tried hypnosis during the birth of her second child. Three years after that she went back again, this time to deal with her fear of flying. Could there be more hypnosis in her future? "If the need ever arises, you bet," says Beth, now 38.

Despite widely held misconceptions about hypnosis (in part because of its long history as a type of entertainment), a growing body of research supports the ancient practice as an effective tool in the treatment of a variety of problems, from anxiety to chronic pain. Today, as practitioners work to assess and refine the clinical applications of hypnosis, they are also exploring its underlying mechanisms, using state-of-the-art imaging technology to document changes in the brain that occur when someone is in a hypnotic state. This increased understanding of how hypnosis works and what it does makes it a legitimate option for patients whose needs have not been met by more traditional methods.

To appreciate the therapeutic potential of hypnosis, you first have to forget about things like swinging watches and hapless audience members who prance around onstage, crowing like roosters. "One of the interesting ironies about hypnosis is that old fantasy that it takes away control," says Dr. David Spiegel, professor and associate chair of psychiatry at Stanford University School of Medicine and a leading expert on the practice. "It's actually a way of enhancing people's control, of teaching them how to control aspects of their body's function and sensation that they thought they couldn't."

Hypnosis is "a form of highly focused attention," says Spiegel—an induced state of mind that enables people to alter the way they perceive and process reality. During a typical session, the doctor guides the subject into a state of receptive concentration, asking him to imagine he is in a safe and comfortable place. Once the patient is in a state of hypnosis, the practitioner makes specific suggestions—a hockey player with back spasms was told that when his pads touched his back, the muscles relaxed—to address the problem. (This focus on a problem distinguishes hypnosis from more passive states, like meditation.) The doctor then terminates the trance and teaches the patient how to use self-hypnosis to reactivate and maintain the therapeutic effect. The benefits can last for years.

Besides pain management and stress reduction, habit control is another popular clinical application of hypnosis; it's routinely used by people who want to quit smoking. It has also been used successfully as an alternative to sedation during invasive medical procedures like angiography. And at the University of Pennsylvania School of Medicine, Dr. Peter Bloom, clinical professor of psychiatry and past president of the International Society of Hypnosis, sometimes uses it to enhance therapy sessions. "Hypnosis allows us to interact with the people who seek our care in more than one dimension," says Bloom. "It involves the totality of the person. Clinically, when I get stuck, I use hypnosis and see if that gives me a different way of linking up with them." As it is practiced by medical professionals like Bloom and Spiegel, hypnosis is generally safe, though there are occasional surprises, such as the unplanned recall of a forgotten trauma (something a lay hypnotist might not handle as well as a doctor or psychologist).

Practitioners often use vivid imagery when making hypnotic suggestions. Dr. Olafur Palsson, a psychologist at the University of North Carolina, developed a detailed, seven-session hypnosis protocol for the treatment of irritable bowel syndrome, a disorder often accompanied by abdominal pain. "One of the ingredients is visualizing your stomach and your intestines and visualizing a strong protective coating being applied inside your intestines," explains Palsson. "And this special protective coating only allows pleasant sensations through, and keeps all

uncomfortable sensations out. And then it is suggested that this protective coating grows stronger and thicker and harder day by day."

It's well known that some people are more responsive to hypnosis than others. Hypnotizability, experts say, is a trait, like eye color. As a rule, the more "absorbed" a person is able to get in things—movies, sunsets, daydreams—the more hypnotizable he is. (Researchers use standardized measures to screen subjects.) People who describe themselves as more trusting of others tend to be more hypnotizable, says Spiegel, while those who are very logical and never take anything at face value tend to be less hypnotizable.

Several studies using positron emission tomography (PET) have looked at what goes on in the brain during hypnosis. In one, hypnotized subjects had their hands immersed in "painfully hot" water but were told it was comfortably warm. This not only altered their perception of the pain but also altered blood flow in pain-related parts of the brain. In another study, highly hypnotizable people were shown a black-and-white pattern and asked to see color. The results: the regions of the brain normally activated during color perception were activated in the hypnotized subjects. "It's not just a fantasy," says Spiegel. "It's not just telling people things because that's what you think they want to hear. If you think you are seeing color, you actually see it, and your brain acts as though it's seeing it." It's easy to see why, in the field of hypnosis these days, nobody is getting sleepy.

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