

# Expert Opinion

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## Your Headache Is a Cow

*Case History Submitted by Randolph W. Evans, MD*

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**Key words:** migraine, tension-type headache, visual imagery, behavioral, relaxation

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Imagine there's no headache.  
I wonder if you can.  
Imagine no need for analgesics.  
Is it so hard to do?  
Do you have to be a dreamer?  
Is it easy if you try?

### CASE HISTORY

In the Blue Man Group off-Broadway performance, "Tubes," the audience reads messages from an electronic screen as an opening for the show. The following is one of the messages. "Carolyn has a headache. Repeat: 'We're sorry you're having a headache, Carolyn.' Carolyn, imagine your headache is a cow. Your headache-cow is grazing in a field. Now kill the cow. Distribute the meat in the tri-state area."

**Questions.**—What is the efficacy of visual imagery in the treatment of headache? Can patients learn visual imagery effectively through a handout or should they obtain instruction from a psychologist?

### EXPERT COMMENTARY

Imagery or "mental visualization" seldom, if ever, is recommended as a sole strategy for head pain management. It is, however, often employed as a facet of well-established behavioral or self-management interventions for recurrent headache.<sup>1,2</sup> There is little doubt that mental imagery can be an effective device

for distraction in the acute situation, distracting the head pain sufferer's attention away from her painful condition. Another of imagery's often purported mechanisms of action is "systematic mental manipulation of psychophysiologic functions," suggesting that visualization of particular images may lead to specific physiologic consequences (eg, forming a vivid mental image of lying on a sunny beach to induce sensations of warmth and muscular relaxation).<sup>3</sup>

Visual imagery is an important facet of clinical hypnosis, which is sometimes applied for head pain management. Empirical support demonstrating the efficacy of hypnosis for either migraine or tension-type headache is, however, sorely lacking.<sup>4,5</sup> A more widely accepted and more commonly employed behavioral treatment technique that makes specific use of visual imagery is autogenic training—use of self-instructions of warmth and heaviness to promote a state of deep relaxation.<sup>3</sup> The aim of Schultz and Luthe in developing autogenic training was to eliminate the "unfavorable aspects of hypnotherapy, such as the passivity of the patient and his dependence on the therapist" and still capitalize on the potential of mental imagery to influence bodily functions.

A large body of empirical work indicates that behavioral self-management therapies routinely employing imagery or visualization strategies can be quite effective for patients with migraine or tension-type headache (eg, relaxation training, handwarming biofeedback combined with relaxation training, electromyographic biofeedback training, stress-management training).<sup>4,6</sup> Imagery or visualization exercises may be particularly appropriate interventions for children and adolescents with recurrent headache

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disorders, and published studies suggest that behavioral treatments are even more effective for children than for adults.<sup>1,7-10</sup> Component analyses to determine the specific impact of imagery techniques in behavioral interventions for headache seldom have been undertaken, but a number of available studies, nevertheless, suggest that the application of imagery techniques can improve clinical outcome.<sup>11-14</sup> Just for the record: at least to date, none of the standard behavioral interventions prescribe imagery of cattle slaughter or beef distribution—especially those intended for children!

I am unaware of studies specifically assessing whether patients can learn visual imagery effectively through a handout or whether they should obtain instruction from a psychologist. It is probably the case that some individuals with headache could derive at least some benefit from self-help materials that use visual imagery as a strategy for coping with headache. Even so, there are clear-cut individual differences in the ability to form mental images and probably also in the ability to make use of imagery, and thus not everyone could take advantage of this approach. Still, straightforward patient education materials (eg, in the form of handouts or audiotapes) might very well prove useful for some patients with relatively uncomplicated and less severe headache problems. Conversely, patients with more significant illness or who are treatment refractory almost certainly will require more than self-help materials by way of intervention. Furthermore, the latter patients are likely to fare considerably better with the assistance of a professional not only in learning imagery techniques, but also methods for employing such techniques in the context of a more comprehensive self-management treatment plan.

## REFERENCES

- Holroyd KA, Penzien DB, Lipchik GL. Behavioral management of headache. In: Silberstein SD, Lipton RB, Dalessio DJ, eds. *Wolff's Headache and Other Head Pain*. 7<sup>th</sup> ed. New York, NY: Oxford University Press; 2001:562-598.
- Penzien DB, Holroyd KA. Psychosocial interventions in the management of recurrent headache disorders. II: Description of treatment techniques. *Behav Med*. 1994;20:64-73.
- Schultz JH, Luthe W. *Autogenic Training: A Psychophysiologic Approach in Psychotherapy*. New York, NY: Grune and Stratton; 1959.
- Goslin RE, Gray RN, McCrory DC, Penzien DB, Rains JC, Hasselblad V. Behavioral and Physical Treatments for Migraine Headache. Technical Review 2.2. (Prepared for the Agency for Health Care Policy and Research under Contract No. 290-94-2025.) Available from: the National Technical Information Service (Accession No. 127946); 1999.
- McCrory DC, Penzien DB, Hasselblad V, Gray RN. Evidence Report: Behavioral and Physical Treatments for Tension-type and Cervicogenic Headache. Des Moines, IA: Foundation for Chiropractic Education and Research (Product No. 2085); 2001.
- Campbell JK, Penzien DB, Wall EM. Evidence-based guidelines for migraine headaches: behavioral and physical treatments; 2001. Available at: <http://www.aan.com/public/practiceguidelines/headache-gl.htm>.
- McGrath PJ, Reid GJ. Behavioral treatment of pediatric headache. *Ped Ann*. 1995;24:486-491.
- Olness K, Hall H, Rozniecki JJ, Schmidt W, Theoharides TC. Mast cell activation in children with migraine before and after training in self-regulation. *Headache*. 1999;39:101-107.
- Powers SW, Mitchell MJ, Byars KC, Bentti AL, LeCates SL, Hershey AD. A pilot study of one-session biofeedback training in pediatric headache. *Neurology*. 2001;56:133.
- Hermann C, Kim M, Blanchard EB. Behavioral and pharmacological intervention studies of pediatric migraine: an exploratory meta-analysis. *Pain*. 1995; 60:239-256.
- Brown JM. Imagery coping strategies in the treatment of migraine. *Pain*. 1984;18:157-167.
- Ilacqua G. Migraine headaches: coping efficacy of guided imagery training. *Headache*. 1994;34:99-102.
- Mannix LK, Chandurkar RS, Rybicki LA, Tusek DL, Solomon GD. Effect of guided imagery on quality of life for patients with chronic tension-type headache. *Headache*. 1999;39:326-334.
- Philips HC, Hunter M. Treatment of tension headache: II. EMG "normality" and relaxation. *Behav Res Ther*. 1982;19:499-507.