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# Imagery Techniques for Relief of Pain and Anxiety during Medical Procedures

Larry Burk, MD, CEHP

*Thomas Jefferson University 1987-1991*

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# **Anodyne Imagery for Relief of Anxiety and Pain during Medical Procedures**

Larry Burk, MD, CEHP

Assistant Professor Radiology, Jefferson, 1987-1991  
Associate Professor of Radiology, Duke, 1993-2004  
Co-founder, Duke Center for Integrative Medicine  
Integrative Medicine Education Director, 1998-2004  
Teleradiologist, [www.NationalRad.com](http://www.NationalRad.com), 2004-present  
President, Healing Imager, Inc., 2004-present

# CME Objectives

- Be able to cite literature references regarding the efficacy of Anodyne Imagery
- List types of procedures for which Anodyne Imagery would be beneficial
- Outline the basic steps in the Anodyne Imagery approach to patients
- No financial conflicts of interest

What skills do you have right now to deal with your patients' pain and anxiety?

# Anodyne Means No Pain

- A skillset for medical professionals utilizing relaxation breathing and visualization.
- Includes rapport techniques and language skills used in NeuroLinguistic Programming (NLP) which were derived from hypnosis.

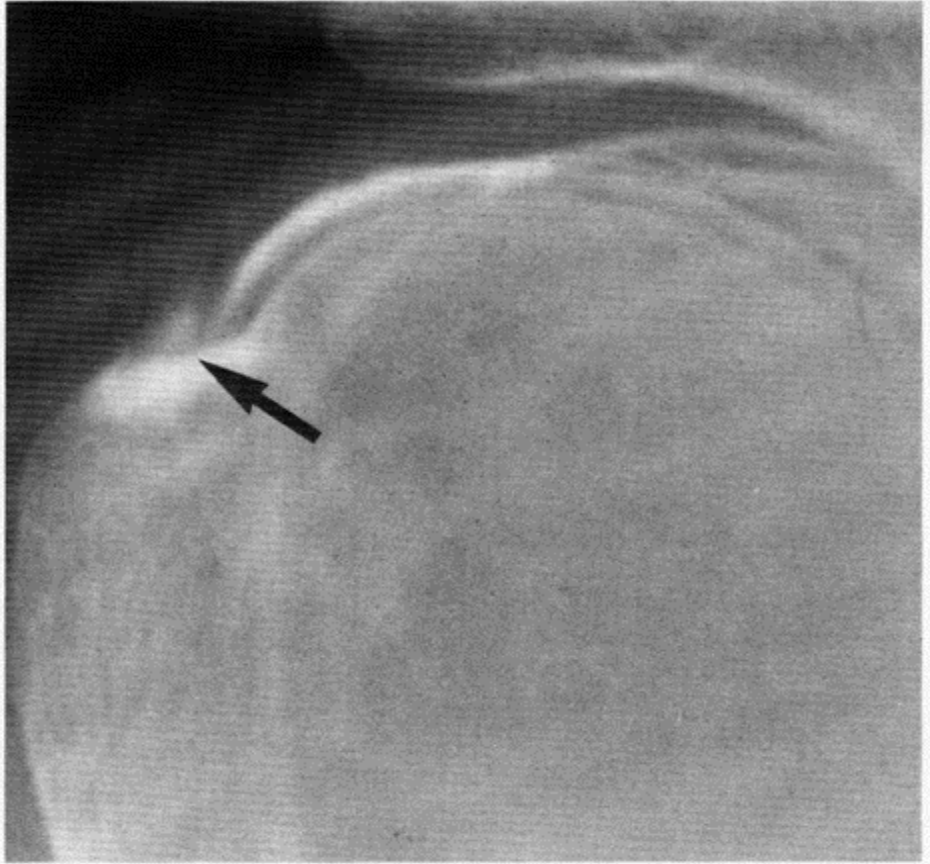
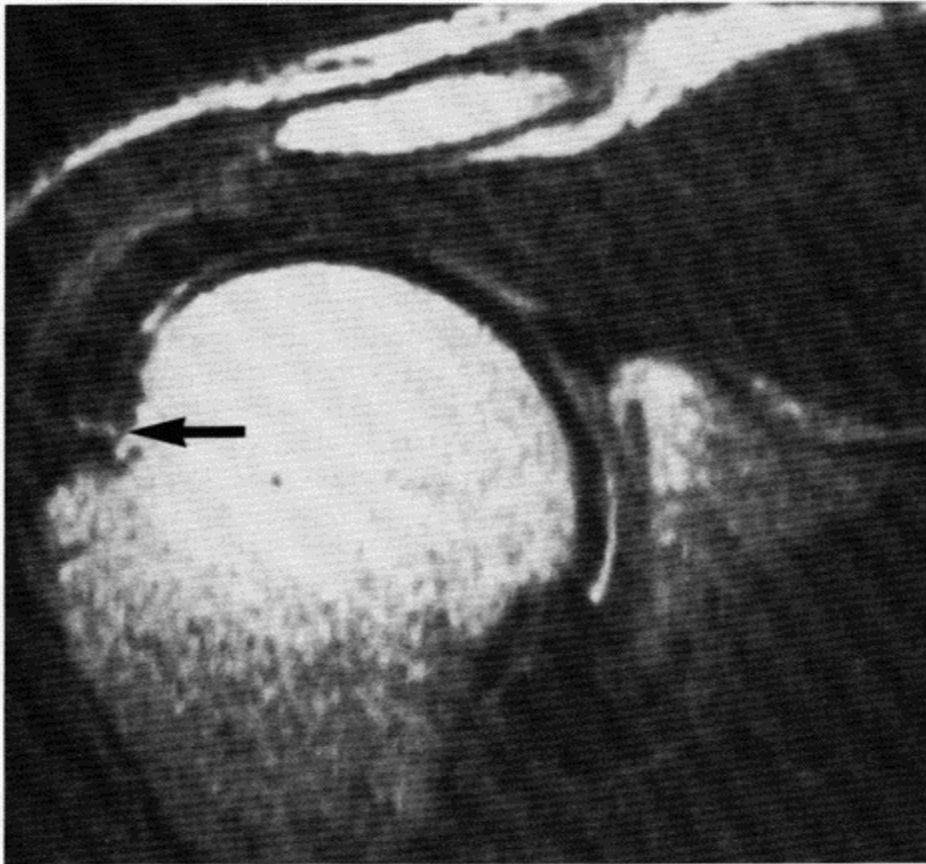
# Co-Developers of Anodyne Imagery

- Donna Hamilton, RTR
- [www.anodyneisfree.com](http://www.anodyneisfree.com)
- Elvira Lang, MD
- [www.hypnalgesics.com](http://www.hypnalgesics.com)

# SMRI Safety Committee/Hypnosis

- Society for Magnetic Resonance Imaging
- Committee member from 1985 - 1994
- Alternatives to Valium for claustrophobia?
- First hypnosis training at Jefferson, 1991
- Coco Margolis, PhD, & Brenda Byrne, PhD
- Anodyne Imagery training at Duke, 1995
- American Society of Clinical Hypnosis, 2011

**Burk DL Jr, et al. MR Imaging of Shoulder  
Injuries in Professional Baseball Players  
JMRI 1991;1:385-389.**



**a.** **b.**  
**Figure 2.** Partial-thickness supraspinatus tendon tear. **(a)** SE 2,000/80 oblique coronal image. Small tear at the distal insertion of the supraspinatus tendon (arrow). **(b)** Arthrogram shows that a small amount of contrast material has passed from the glenohumeral joint into the rotator cuff near the greater tuberosity (arrow), without filling of the subdeltoid bursa.



# **Anodyne Imagery: an Alternative to IV Sedation in Interventional Radiology**

- **Lang EV, Hamilton D. VAMC, Palo Alto, CA**
- **AJR 1994;Vol 162:1221-1226**
- Conditioned relaxation, induction of a trance state, and guided processing of the patient's internal imagery.
- An inpatient comparison of drug use was made in 5 patients who had equivalent procedures with and without anodyne imagery.
- An intergroup comparison was made between a group of 16 other patients undergoing anodyne imagery and a group of 16 control patients matched for factors affecting use of drugs and recruited from 100 interventional cases analyzed for patterns of drug use.

**Drug Unit Scores (weighting: 1 mg of midazolam = 1 unit  
and 50 micrograms of fentanyl = 1 unit)**

- Inpatient comparison showed significantly lower median drug use with anodyne imagery than without (0.1 vs 5.3 drug units,  $p = .01$ ).
- Intergroup comparison also yielded significantly lower median drug use during procedures with anodyne imagery than without (0.2 vs 2.6 drug units,  $p = .0001$ ).

## Self-hypnotic relaxation during interventional radiological procedures: effects on pain perception & intravenous drug use

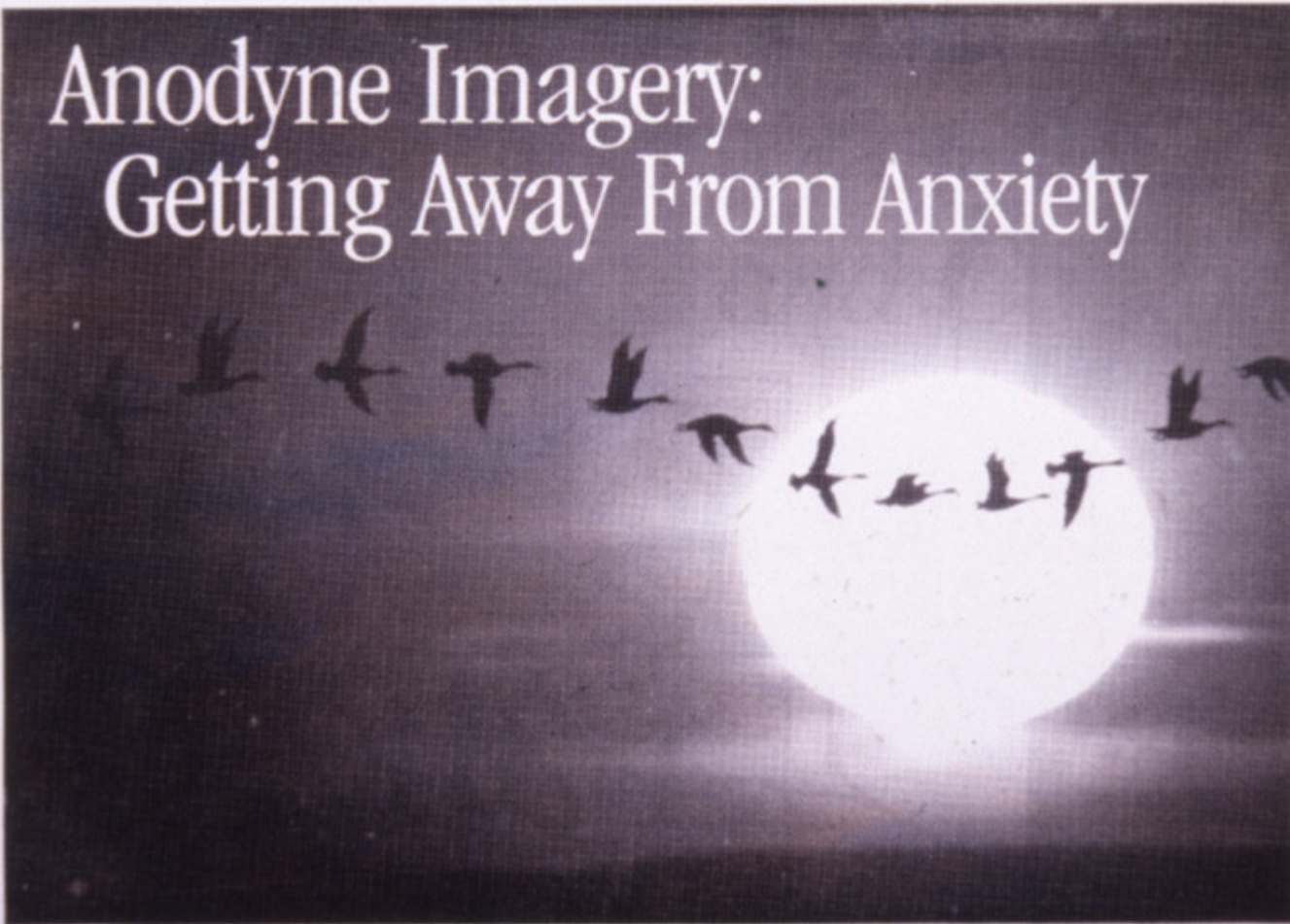
- **Lang EV, Joyce JS, Spiegel D, Hamilton D, Lee KK**
- **Int J Clin Exp Hypn. 1996 Apr;44(2):106-19.**
- 16 patients were randomized to a test group, and 14 patients were randomized to a control group. All had patient-controlled analgesia.
- Test patients used less drugs (0.28 vs. 2.01 drug units;  $p < .01$ ) and reported less pain (median pain rating 2 vs. 5 on a 0-10 scale;  $p < .01$ ).
- Significantly more control patients exhibited oxygen desaturation and/or needed interruptions of their procedures for hemodynamic instability.

# INSIDE

DUKE UNIVERSITY MEDICAL CENTER

APRIL 29, 1996 • VOLUME 5, NUMBER 9

## Anodyne Imagery: Getting Away From Anxiety



# Duke University Medical Center

- Series of three Anodyne Imagery trainings in 1995 and 1996 for hospital staff.
- Trained 50 staff members, including physicians, nurses and technologists from a variety of departments.
- Trainings positively affected more than 1000 patient interactions per week.
- A senior urologist was asked how valuable the training was compared to a new surgical technique that he had learned at an expensive CME conference. He responded that he used that technique just once a month, and he used Anodyne Imagery on every patient every day.

## Cost Analysis of Adjunct Hypnosis with Sedation during Outpatient Interventional Radiologic Procedures

- Elvira V. Lang, MD, Max P. Rosen, MD, MPH
- Radiology 2002; 222:375–382
- Patients undergoing vascular and renal interventional procedures underwent either standard sedation ( $n = 79$ ) or sedation with adjunct hypnosis ( $n = 82$ ).
- The cost associated with standard sedation during a procedure was \$638, compared with \$300 for sedation with adjunct hypnosis, which resulted in a savings of \$338 per case with hypnosis.
- Although hypnosis was known to reduce room time (61 vs 78 minutes), hypnosis remained more cost-effective even if it added an additional 58.2 minutes to the room time.

Adjunctive self-hypnotic relaxation for outpatient medical procedures: a prospective randomized trial with women undergoing large core breast biopsy

- **Lang EV, Berbaum KS, Faintuch S, Hatsiopoulou O, Halsey N, Li X, Berbaum ML, Laser E, Baum J.**
- **Pain. 2006 Dec 15;126(1-3):155-64. Epub 2006 Sep 7**
- **Beth Israel Deaconess Medical Center/Harvard Medical School, Department of Radiology, Boston, MA**
- 236 women referred for large core needle breast biopsy were prospectively randomized to receive standard care (n=76), structured empathic attention (n=82), or self-hypnotic relaxation (n=78) during their procedures.

## **Patients' self-ratings at 1 min-intervals of pain and anxiety on 0-10 verbal analog scales**

- Women's anxiety increased significantly in the standard group ( $p < 0.001$ ), did not change in the empathy group ( $p = 0.45$ ), and decreased significantly in the hypnosis group ( $p < 0.001$ ).
- Pain increased significantly in all three groups (logit slopes: standard care=0.53, empathy=0.37, hypnosis=0.34; all  $p < 0.001$ ) though less steeply with hypnosis and empathy than standard care ( $p = 0.024$  and  $p = 0.018$ , respectively).



## Effect of Team Training on Patients' Ability to Complete MRI Examinations

- Elvira V. Lang, Cayte Ward, Eleanor Laser
- Academic Radiology 2010; 17:18–23
- 17 hours group training for MRI staff
- Advanced rapport skills
- Self-hypnotic relaxation techniques

# Team Training Results

- During the quarter of operation before the training 1.2% (80 of 6,654) of patients could not complete their studies.
- After training, 0.74% (52 of 7,008) patients did not complete their scans ( $P < .01$ ).
- Noncompletion rates of scans on the open magnet, on which the most anxious patients were scheduled, decreased from 3.43% (37 of 1,078 patients per quarter) to 1.45% (19 of 1,098).

# Anodyne Benefits, Part 1

- Improves procedural safety
- Reduces or eliminates the need for medication, recovery time, and associated costs
- Decreases procedure time and recovery time
- Mitigates or eliminates patients' fears and anxieties
- Greatly enhances patients' cooperation

## Anodyne Benefits, Part 2

- Enables physician or other team leader to more fully focus on managing the procedure
- Fosters in patients a sense of self-empowerment, satisfaction and well being
- Improves staff morale and enthusiasm
- Promotes a more relaxed and efficient working environment
- Provides a stress management tool for clinical staff

# Anodyne Tools, Part 1

- **Immediate Rapport** is the foundation upon which all other elements of Anodyne are built. Quick and predictable rapport establishes the trust necessary to effectively induce and maintain the Anodyne State of relaxation and patient cooperation.
- **Effective Use of Language** is vital to the results we get, it enables us to address both the conscious and unconscious mind of the patient. We directly affect the outcome of the patient's experience with language because literally everything we say is a suggestion to the unconscious mind.

## Anodyne Tools, Part 2

- **The Relaxation Breath** is the "get you through anything" tool, the relaxation breath is easy to learn and easy to teach to every patient. Its uses include: general relaxation, relief of pain and anxiety, and control of physiological processes.
- **'Preferred Place' Imagery Technique** easily allows the patient's mind to be anywhere they choose while their body is comfortably undergoing the procedure.

# Anodyne Tools, Part 3

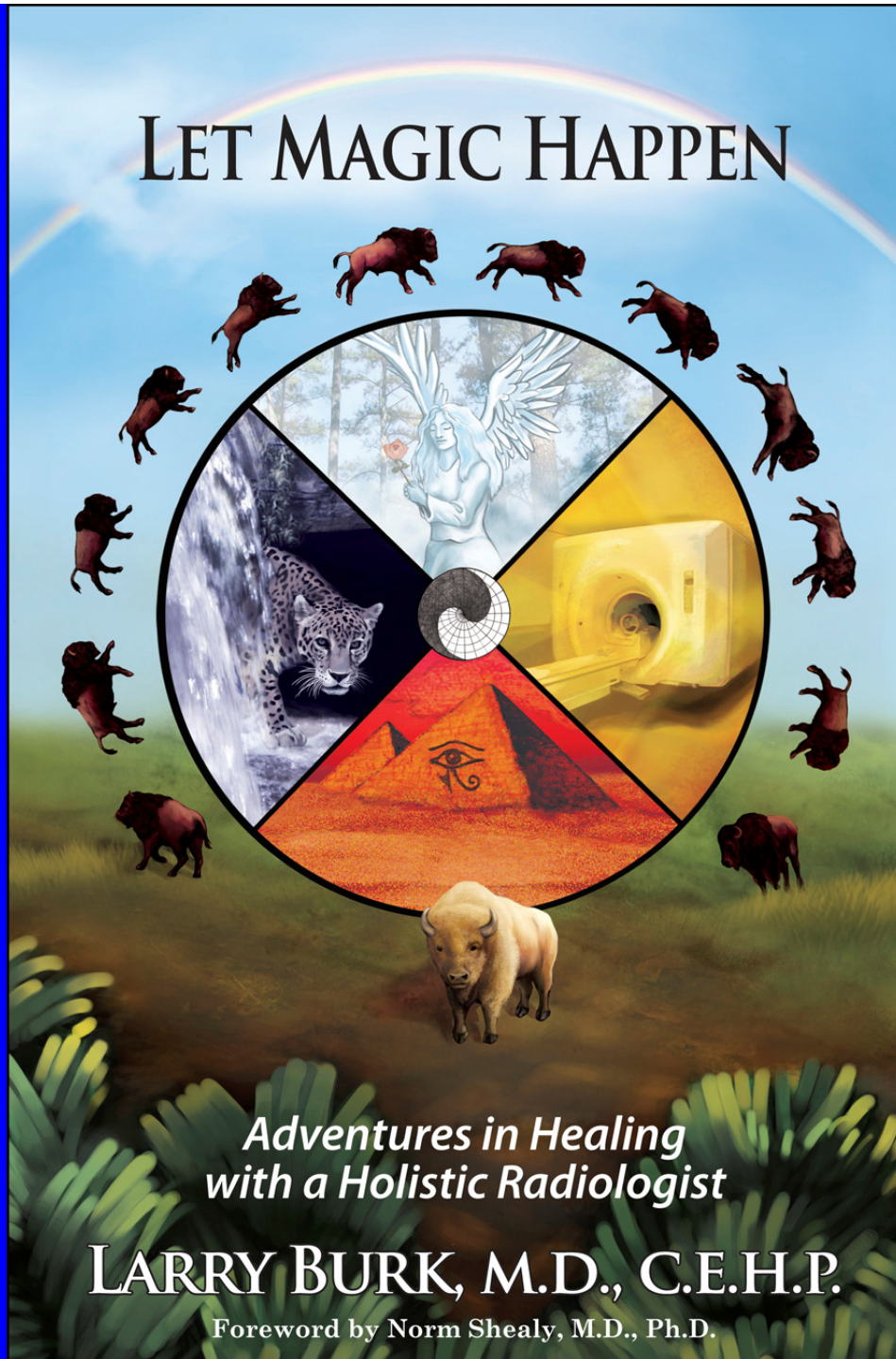
- **Shifting Submodalities** is an extremely quick and effective imagery technique that can literally dissolve any resistances the patient has to relaxation and/or cooperation.
- **Simple Language Techniques** enable practitioners to help patients control physiological processes such as pain, bleeding, heart rate, blood pressure, peristalsis, salivation, and swallowing.

[www.letmagichappen.com](http://www.letmagichappen.com)

- Let Magic Happen: Adventures in Healing with a Holistic Radiologist
- Amazon.com paperback & ebook
- Newsletters & video blogs
- Chapter 7: Anodyne Means No Pain
- 300 links for chapter references



# LET MAGIC HAPPEN



*Adventures in Healing  
with a Holistic Radiologist*

**LARRY BURK, M.D., C.E.H.P.**

Foreword by Norm Shealy, M.D., Ph.D.