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Hypnosis-Facilitated Relaxation Using Self-Guided Imagery During Dermatologic Procedures

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Many patients experience some degree of anxiety and/or discomfort during dermatologic procedures. For most patients this anxiety or discomfort is tolerable, but a few find it intolerable to the point of interference with the accomplishment of the procedure. A case is presented in which a 51-year-old female experienced so much anxiety that it jeopardized the continuation of a necessary procedure. When (with her consent) a trance state was induced through hypnosis, she relaxed and remained in a pleasant mental condition for the remainder of the procedure. This case illustrates the usefulness of hypnosis in selected situations where it can alleviate anxiety and discomfort associated with dermatologic procedures. Suggested trance induction, maintenance, and termination scripts are included to assist those with adequate training and experience in providing this comfort to selected patients through hypnosis.

Key Words: Analgesia, anxiety, dermatology, hypnosis, imagery, melanoma, self-guided

Introduction

Hypnosis is a tool with multiple uses in dermatology (Shenefelt, 2000). It can help reduce anxiety, needle phobia, and pain during dermatologic surgery, as well as reduce postoperative discomfort. The utility of hypnosis for relief of pain during surgery has been known for centuries. Nevertheless, it is still infrequently employed in mainstream modern medical practice. James Esdaile (1850/1957) reported his success beginning in 1845 in achieving hypnotic anesthesia while performing surgery in Calcutta, India. Over a period of seven years he performed over two thousand pain-free operations. Of these about three hundred were what would be considered major surgeries such as amputations; the remainder were minor surgeries. Unfortunately, when Esdaile returned to Scotland in 1852 his use of hypnoanesthesia was rejected by the majority of his colleagues. Following the discovery of inhalation anesthesia with ether or chloroform,

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hypnoanesthesia for major surgery was largely abandoned, despite its advantage in lessening intra-operative and postoperative shock (Watkins 1987, p. 12).

With the recent emphasis on adequate pain management in patient care, innovative means of pain control such as hypnosis during minor procedures are again gaining some favor in mainstream medicine. Marmer (1959, p. 65) stated that indications for the use of hypnosis in anesthesiology are: 1) to overcome fear, apprehension and anxiety; 2) to induce analgesia and anesthesia; 3) to raise the pain threshold postoperatively; and/or 4) to aid in postoperative recovery.

A hypnotic state is a temporary condition of altered attention in an individual, a natural part of human behavior that affects the person's psychological, social, and physical experience. A hypnotist is a person who assists another to enter, maintain, and end a hypnotic state. Self-hypnosis features self-direction in entering, maintaining, and ending a hypnotic state. Essentially all hypnosis is really self-hypnosis, with or without the assistance of another person, audiotape, videotape, or other device (Watkins, 1987). On a broader level, we all enter altered states daily. Examples include absorption while watching a movie or television or reading. Other altered states include active imagination, daydreaming, fantasy, guided imagery or visualization, kundalini experience, lucid dreaming, meditation, out of body experience, and shamanic trance.

Fick, Lang, Logan, Lutgendorf, and Benotsch (1999) used self-guided imagery content during non-pharmacologic analgesia in the radiology procedure suite on 56 non-selected patients referred for interventional procedures. They were guided into a state of self-hypnotic relaxation according to a standardized protocol and script. Providers had been trained in advanced rapport techniques and hypnosis interventions with didactic instruction and role play, study of a treatment manual and video, and supervised practice. Subsequently, patient hypnotizability was assessed with the Hypnotic Induction Profile (HIP). They found that all 56 patients developed an imaginary scenario and that the chosen imagery was highly individualistic. Imaginary scenarios included nature scenes at a beach, a walk, travel scenes involving a drive, cruise, or trip, or while floating down a river or through the air. Other images were of family or home activities or personal skills, hobbies, or tasks such as woodworking, fishing, dancing, etc. The authors concluded that average patients can engage in imagery, and topics chosen are highly individualistic. They also found the use of pre-recorded tapes or provider directed imagery likely to be less effective than self-directed imagery.

According to Rudyard Kipling, "Words are the most powerful drugs used by mankind." Aldous Huxley said that "Words have a magical effect in the way they affect the minds of men," and Mark Twain quipped that "The difference between the right word and the almost right word, is like the difference between lightning and the lightning bug!" (Marmer, 1959, p 115). Words can have a special impact when used to induce an altered state of consciousness such as a hypnotic state. In the setting of dermatologic surgery, words can guide a patient into a state of self-directed imagery that produces relaxation and comfort during the procedure.

Case Report

A 51-year-old white female was evaluated for multiple nevi. It is notable that her father had had a malignant melanoma. The patient had an irregular and enlarging 1.8 x 2.0 cm tan to brown macule on the upper antero-lateral surface of her left arm.

Shave biopsy of the superior margin showed a pattern interpreted as dysplastic junctional nevus in a background of solar lentigo. She was scheduled for excision of the lesion.

When she arrived for the excision, she was noted to be quite nervous about the procedure. She had a strong aversion to needles and an even stronger visceral reaction to having minor surgery performed while she was awake. As the excision began, she became even more anxious and was having difficulty staying still. Discussion and reassurance did not allay her mounting anxiety. I suggested that she meditate, but she had no prior experience with either meditation or hypnosis. My resident assistant mentioned that I had experience in hypnosis. When I asked her if she wanted to use hypnosis, she said "Get me out of here!" I then assisted her with trance induction using the pattern listed in Appendix 1, starting in her case at the third paragraph. Within a minute she was in a trance state with slower, deeper breaths, and closed eyes. About every five minutes during the hour long excision and closure, I assisted her in maintaining the trance, using the pattern in Appendix 2 with the first sentence followed by additional words as appropriate for her and her situation. For the first 15 minutes she continued to be fairly relaxed with her eyes closed and deep slow breathing. However, it was noted that she had a little central furrowing of the forehead.

I suggested that she could relax her forehead also. Thereafter, she appeared quite relaxed, with eyes closed, face serene, and deep slow breathing until after the completion of the closure. I then gently re-alerted her using the pattern in Appendix 3. She re-alerted promptly. Upon questioning, she reported that she had not been asleep, but had "gone on a shopping trip to Italy" to places that she had very much enjoyed on a real trip that she had taken in the past.

At the suture removal visit 2 weeks later the surgical site was healing well. The patient reaffirmed that she had no prior experience with meditation or hypnosis and that her "trip" had been a pleasant relief that removed her from the anxiety of having the excision and closure done. Subsequent evaluation of the specimen by a dermatopathologist had revealed a central melanoma-in-situ in the excised lesion. Fortunately, the surgical margins were free of tumor and were adequate for a melanoma-in-situ.

Discussion

A variety of dermatologic procedures can produce pain or anxiety in patients. Dermatologic procedures that are somewhat painful but generally do not require local anesthetic include moderate depth chemical peels, cryodestruction of skin lesions, curettage of molluscum, excision of skin tags, extrusion of comedones, incision and expression of milia, laser treatment of vascular lesions, strong microdermabrasion, and sclerotherapy. Cutaneous procedures that require local anesthetic include electrodesiccation and curettage, incision and drainage of an abscess, laser ablation of skin lesions, liposuction, punch biopsy, shave biopsy, surgical excision, and surgical repair. Procedures that may require conscious sedation include deep chemical peel, dermabrasion, laser resurfacing, and extensive liposuction. All of these procedures are amenable to assistance from hypnotic relaxation and/or hypnotic analgesia.

In a meta-analysis of hypnotically induced analgesia, Montgomery, DuHamel, and Redd (2000) found that hypnosis has been demonstrated to relieve pain in patients

with headache, burn injury, heart disease, cancer, dental problems, eczema, and chronic back problems. This study quantified the magnitude of hypnoanalgesic effects. Hypnotic suggestion relieves pain for the majority of people, regardless of the type of pain they are experiencing. Light and medium trance is useful for most purposes, but deep trance is required for hypnotic anesthesia for surgery (Watkins 1987, p 209). In a positron emission tomography (PET) study of the neural mechanisms associated with the anti-pain effects of hypnosis, Faymonville, Laureys, Degueldre, et al. (2000) found that pain reduction mediated by hypnosis was localized to the mid anterior cingulate cortex. Quantitative electroencephalographic (EEG) findings by Freeman, Barabasz, Barabasz, and Warner (2000) in a study of hypnosis versus distraction effects on cold pressor pain showed significantly greater high theta (5.5-7.5 Hz) activity for high hypnotizables (based on Stanford Hypnotic Susceptibility Scale, Form C or SHSS: C scores [Weitzenhoffer & Hilgard, 1962]) compared with low hypnotizables at parietal and occipital sites during hypnosis and also during waking relaxation. Freeman et al. also found that for high hypnotizables, hypnosis provided significantly greater pain relief than distraction or waking relaxation. High hypnotizables also had significantly greater pain relief via hypnosis than did low hypnotizables.

Most of the clinical literature on the use of hypnosis for pain and anxiety relief has been on the anecdotal, case report level until recently. Blankenfield (1991) provided a good review of what is now an older literature on adjunctive hypnosis in the care of surgery patients. Much of the relevant literature from the 1980s and 1990s was reviewed by Montgomery, Weltz, Seltz, and Bovbjerg (2002) and will not be repeated here. While case reports are instructive, overgeneralizing from them can be risky unless they are similar to reports from well controlled trials.

Evidence-based medicine emphasizes the higher credibility value of results from randomized controlled trials compared with case reports. Fortunately there have recently been a number of published reports of good quality randomized control trials using hypnosis for pre-surgical, intra-operative, and postoperative pain and anxiety relief with significant positive results. Faymonville, Mambourg, Joris, et al. (1997) randomly allocated 60 patients undergoing plastic surgery with conscious sedation to either a control group with stress reducing strategies or a hypnosis group. Intra-operative and postoperative anxiety and pain were significantly lower in the hypnosis group, along with a significant reduction in the amount of drug required for conscious sedation. Mauer, Burnett, Ouelette, Ironson, and Dandes (1999) used a quasi-experimental research design with 60 hand surgery patients who received either standard treatment or standard treatment and hypnosis. After controlling for race, gender, and pretreatment scores, the hypnosis group had significantly decreased perceived pain intensity, perceived pain affect, and anxiety compared with controls. Those in the hypnosis group also had significantly fewer medical complications and had higher ratings of postoperative recovery rate. Montgomery, Weltz, Seltz, and Bovbjerg (2002) conducted a trial with 20 women randomized to standard care versus preoperative hypnosis for excisional breast biopsy. In their study they found brief (10 minute) hypnosis to be effective in reducing postsurgery pain ($p < 0.001$) and distress both before and after surgery ($p < 0.025$). The relatively small size of the study precluded them from finding significant differences in recovery room time between standard care and brief hypnosis groups. Defechereux, Degauque, Fumal, et al. (2000) reported a prospective randomized study of thyroid and parathyroid procedures performed under hypnosis,

local anesthesia, and minimal conscious sedation in patients compared to 20 patients with similar surgery under conventional anesthesia. They found that patients in the hypnoanesthesia group had significantly less inflammatory response, hemodynamic dysregulation, postoperative pain, postoperative fatigue, and convalescence time. Operative times, bleeding, and surgical comfort were similar in both groups. Prior to the randomized study, Defechereaux, Meurisse, Hamoir, et al. (1999) had reported a larger series of 197 non-randomized thyroectomies and 21 parathyroid explorations performed under hypnoanesthesia with similar findings.

Lang, Benotsch, Fick, et al. (2000) conducted a prospective randomized trial of adjunctive non-pharmacologic analgesia for invasive radiologic procedures that had three groups: percutaneous vascular radiologic intra-operative standard intravenous (IV) conscious sedation care ($n = 79$); structured attention ($n = 80$); and IV conscious sedation that included self-hypnotic relaxation ($n = 82$). The results were that pain increased linearly with time in the standard and the attention group, but remained flat in the hypnosis group. Anxiety decreased over time in all three groups, but more so with hypnosis. Drug use was significantly higher (1.9 units) in the standard group than in the structured attention (0.8 units) and self-hypnosis (0.9 units) groups. Hemodynamic stability was significantly higher in the hypnosis group (1 unstable) than in the attention (10 unstable) and standard (12 unstable) groups. Procedure times were significantly shorter in the hypnosis group (61 minutes) than in the standard group (78 minutes), with the attention group in between (67 minutes). They concluded that hypnosis was better in reducing pain and anxiety, in maintaining hemodynamic stability, and in shortening procedure time than standard intra-procedural care; structured attention was in between hypnosis and standard care.

As a follow-up study, Lang and Rosen (2002) performed a cost analysis of standard IV conscious sedation compared with IV conscious sedation that included self-hypnotic relaxation, using the data from the above study. They found that the average cost per case associated with standard sedation was \$638, compared with \$300 average cost per case for sedation and hypnosis. This was a cost savings averaging \$338 per case. For the 82 cases where hypnosis was utilized in the study, the cost savings amounted to about \$27,700.

Suitable candidates for the use of hypnosis are patients who are mentally intact, not psychotic nor intoxicated; motivated, not resistant, and preferably medium or high hypnotizable as rated by the Hypnotic Induction Profile (Spiegel & Spiegel, 1978) or Stanford Hypnotic Susceptibility Scale (Weitzenhoffer & Hilgard, 1962) and its variants. However, a moderate or high degree of hypnotizability is not critical to the success of self-guided imagery for relaxation and discomfort reduction.

Having the patient choose his or her own self-guided imagery seems to allow most individuals to reach a state of relaxation during procedures. Milton H. Erickson, a master of the therapeutic use of hypnosis, told this story (adapted from O'Hanlon, 1987):

I was returning from high school one day and a runaway horse with a bridle on sped past a group of us into a farmer's yard, looking for a drink of water. The farmer didn't recognize it, so we cornered it. I hopped on the horse's back. I took hold of the rein and said giddy-up and headed for the highway. I knew the horse would turn in the right

direction, though I didn't know what the right direction was. The horse trotted and galloped along. Now and then he would start into a field, so I would direct him back onto the highway. Finally after about four miles he turned into a farm yard, and the farmer saw his horse and asked where I had found him. I said about four miles from here. The farmer asked how I knew the horse should come here. I said I didn't know, the horse knew. All I did was keep his attention on the road. I think that's the way I do psychotherapy (pp. 8-9).

Like the horse, the patient knows the way to relaxation and comfort, but needs direction and facilitation to find his or her way to them.

This case illustrates the usefulness of hypnosis in selected situations to alleviate anxiety and discomfort associated with dermatologic procedures. It also illustrates that hypnosis need not be a lengthy time-consuming process and re-affirms the value of self-guided imagery as opposed to operator-directed imagery. Although it is a single case report, it adapted the techniques used by Lang et al (2000) for interventional radiology to dermatology. The interventional radiology study was a large randomized controlled trial with robust positive results and suggests certain general effects of hypnotic imagery for medical and surgical procedures such as this single case that features alleviation of anxiety during a dermatologic procedure. However, further randomized control trial studies would be desirable to confirm these findings for dermatologic procedures.

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Appendix 1: Trance induction script*

We ask you to help us to help you learn a concentration exercise to help you get through the procedure more comfortably and deal with any discomfort that may come up during the procedure. It is like watching a movie or reading a book where you get so involved in the movie or book that you forget you are watching a movie or reading a book.

Now what I will do is show you how you can use your imagination to enter a state of focused attention and physical relaxation. If you hear sounds or noises in the room, just use them to deepen your experience. Here is a simple way to relax:

First do one thing: Look up as far as you can, that's right, look way up toward the top of your head. Keep looking up.

Second now do two things: Let your eyes close slowly and take a deep breath. That's right.

Third now do three things: Breathe out, relax your eyes, and let your body float...float...float.

That's right, continue to imagine your body floating, floating through the table, each breath deeper and easier. Imagine yourself floating in a safe place where you are comfortable and feel protected, in a bath, or a lake, or a hot tub, or just floating in space, each breath deeper and easier. Notice how with each breath you let a little more tension out of your body as you continue to let your body float, safe and comfortable, each breath deeper and easier. That's right. . . now with your eyes closed and remaining in this state of concentration, describe for me how your body is feeling right now. Where do you imagine yourself being? What is it like? Can you smell the air? Can you see what is around you? Can you hear the pleasant sounds or silence? Can you feel the comfort? Good, now you can continue to be in this safe and comfortable place. Your body has to be here but you don't, so just spend your time being somewhere you would rather be. That's right, continue to float, each breath deeper and easier.

* modified from Spiegel and Spiegel (1978) pp 45-46 and Fick et al. (1999) p. 459

Appendix 2: Trance maintenance script*

That's right, continue to float, each breath deeper and easier. Now if there is some discomfort, and there may be some as they numb the area for you, there is no point in fighting it. You can admit it, but then transform that sensation. If you feel some discomfort, you might find it helpful to make that part of your body feel warmer, as if you were in a bath; or cooler, if that's more comfortable, as if you had cool water or ice or snow on that part of your body. That's right, and continue to float

* modified from Spiegel and Spiegel (1978) p. 46 and Fick et al. (1999) p. 459

Appendix 3: Trance termination script*

That's right, continue to float. Now that the procedure is over, you may gradually come back to alert consciousness. As you re-alert yourself, you will continue to feel comfortable and relaxed, and that comfort will stay with you for the rest of the day. You may now, when you are ready, open your eyes and feel alert. That's right. How do you feel?

* modified from Spiegel and Spiegel (1978) p. 48 and Fick et al. (1999) p.459