

Desensitization Using Meditation-Hypnosis to Control "Needle" Phobia in Two Dental Patients

Donald R. Morse D.D.S., M.A. (Biol.), M.A. (Psychol.)*
Bernard B. Cohen Ph.D.**

Dental fear is widespread. It has been estimated that the major portion of the American population does not visit a dentist in any given year.¹ Although financial consideration is an important factor, many people avoid dentists because of fear, and even those who go for dental treatment are often in a state of anxiety. Dental fear has many components including: fear of the unknown; fear of pain; fear of swelling; fear of tooth loss; fear of the "drill"; fear of the "pick"; fear of "nerve" removal; fear of gagging and fear of x-rays.² The one aspect of dentistry that terrorizes the majority of individuals is the dental injection. Fear of the "needle" is pervasive. Some people panic at the thought of the "shot"; others need the visual experience. The actual injection is the trigger for many while some tolerate the initial penetration but become anxious as the solution is deposited (especially for a block injection). After the injection, there may be fear relative to the numbness: "I have trouble talking"; "My lip is drooping;" "I can't stop drooling;" "I keep biting my lip and cheek;" "My face feels swollen (or distorted);" "I'll be numb for hours;" "Even though I'm numb, it will still hurt."

Why people are more apprehensive about dental injections than injections at other body sites is unclear. It may be related to the psychosexual significance of the mouth. The mouth is at the center of the "self" and is one of the major pleasure zones.² Consider all of these pleasurable things that we do with our mouths: eating, drinking, biting, chewing, tasting, sucking, blowing, smoking, pill popping, talking (for most people), singing, whistling and kissing. The infant meets the world through the mouth (the mother's nipple and objects transferred from the fingers). A dental injection could be seen as an invasion of a pleasure zone.

As the eyes are close to the mouth, dental injections are much easier to see than injections in other body parts (such as the buttocks and shoulder). This

could increase apprehension. The oral mucous membrane appears to be more sensitive than the skin which could also induce anxiety from dental injections. Finally, as the mouth is close to the thalamus and cortex, transmission of pain impulses may be more rapid than those from a more distant body site. The belief in this, may make dental injections appear to be more painful.²

Many of the fears related to local anesthesia can be controlled. It can be explained to the patients that dental injections are often less painful than other injections. (Rarely do nurses or physicians use methods to decrease the pain of local anesthetic injections.) The patients can be reassured that the numbness will be temporary. With various types and potencies of local anesthetic agents available, the depth and duration of analgesia can be kept under relatively good control. The use of fine bore disposable needles along with the application of pressure to the injection site can result in relatively painless injections. Other adjuncts that can be used to decrease the pain of injection are hypnosis,¹ meditation,¹ nitrous oxide-oxygen relative analgesia³ and IV sedation.⁴ By injecting slowly, the pain relative to fluid deposition can be decreased.

The dentist can hide the syringe from the patient's view by bringing it from the rear and covering the patient's eyes with the non-injecting hand (or merely asking the patient to close the eyes). Rather than asking the patient to close the eyes, a better method is to mentally remove the patient from the dental office so that the eyes close by themselves. This can be done with nitrous oxide-oxygen, IV sedation, hypnosis and meditation.

A technique used successfully in psychology to overcome phobias is systematic desensitization.⁵ The underlying concept involved is that fear and relaxation cannot occur simultaneously. In practice, the feared object is introduced to the subject in gradually increasing steps while the individual is deeply relaxed. In previous reports, meditation-hypnosis was used as the relaxant in in vivo systematic desensitization treatment of patients with rubber dam claustrophobia⁶ and denture-induced gagging.⁷ In this report, two case studies are presented of the use of this technique in "needle" phobia patients.

*Professor and Research Director, Department of Endodontology, Temple University School of Dentistry, 3223 North Broad Street, Philadelphia, PA 19140.

**Associate Professor, Department of Psychology, West Chester State College, West Chester, PA 19380.

CASE STUDIES

Patient One. The first patient was a 57-year old white female homemaker who was referred by her general dentist to the office for treatment of a "needle" phobia. The "needle" anxiety was the major component of her dental fear but she also had fears relative to the "drill", the saliva ejector and even the "thought of dentistry".

At the first dental visit, the patient related the following history. When she was young, the family couldn't afford to go to a private dentist. Therefore, she was taken to a clinic for her dental work. She vividly remembered sitting all day long in the clinic and hearing patients shouting and crying. She saw people coming in with swollen jaws and bleeding mouths. The treatment area was wide open and she saw patients getting "shots", spitting, gagging and choking. The patient recalled that frequently the dentists would yell at their assistants as well as the patients. She agonized when she saw and heard teeth being pulled. As a result of those childhood experiences, she only went to the dentist as an adult when she had extreme pain or swelling. She couldn't take local anesthesia. Dentists had tried IV Valium and nitrous oxide-oxygen relative analgesia with very little success. As a result, she would only tolerate treatments done under general anesthesia. At the present time, the patient required crowns on her upper anterior teeth and for these extensive procedures, her dentist did not want to use general anesthesia. The patient agreed to try meditation-hypnosis and systematic desensitization for her dental phobias.

The medical history showed an allergy to phenothiazines and a history of hypertension which was being treated with antihypertensives. The results of a psychological assessment showed her to be within normal limits. Oral examination showed the mucous membranes appeared normal and there were no molar teeth present. The upper anteriors were decayed, broken down and had defective restorations.

At this visit, the patient was tested for hypnotic susceptibility by the Spiegel Eye-Roll Method⁸ and was found to be in the moderately high range (3). She was then seated in the contoured dental chair and placed in a semi-reclined position. The patient was taught meditation-hypnosis^{1,9} and was able to achieve deep relaxation within five minutes. Ideomotor questioning, with the use of the right index finger to indicate responses, was used to determine levels of relaxation in *s.u.d.s.*⁵ (On this scale, 0 = complete relaxation and 100 = no relaxation.) The patient was then instructed to practice the technique by herself at home.

During the week, the authors prepared a dental anxiety hierarchy that included ten items on an ascending scale. The items were arranged from least to most-anxiety inducing (according to the authors' evaluation). All presentations were to be done while the patient was in the dental chair. The hierarchy ranged from: (1) the reclined seating of the patient

in the dental chair to (10) the injection of a local anesthetic into the alveolar mucosa of the upper right central incisor.

When the patient returned for the next visit, meditation-hypnosis was again induced. Within a few minutes, she was deeply relaxed (level of 5 suds). The initial item in the hierarchy scale was then done (reclined chair seating). At first, the patient exclaimed "I'm afraid" but after a few repetitions of her mantra (meditation word), she was again deeply relaxed. While the patient was meditating, the following items were presented and well tolerated: placement of dental towel; turning on of unit light; backward inclination of the dental chair; having the patient maintain an open mouth for thirty seconds; insertion of author's (DM) index finger into floor of mouth; insertion of saliva ejector into same area; placement of author's index finger over alveolar mucosa of upper right central incisor; placement of topical anesthetic into same site; and finally giving one-third of a capsule of local anesthesia into that same region.

As the patient did so well, at this and at the following visit, other items were added including, running the ultra high speed contra angle in the vicinity of the tooth for fifteen seconds; releasing water spray into the mouth and aspirating it; maintaining an open mouth for fifteen minutes and finally running the contra-angle for a complete minute with water spray in the mouth. The patient was then able to go to her dentist for subsequent treatment.

Patient Two. The second patient was a 41-year old black female nurse who was referred by the local dental society to the office for treatment of a "needle" phobia. At the first dental visit, she related the following history. As a child, she had a lot of "cavities". Whenever she went to the dentist, he gave her a "shot" and it hurt. She said she had pain before she went, while she was getting the injection, and later after the work was done. As a result, the only time she went to the dentist, was when she was in extreme pain and needed to have a tooth "pulled". Recently, the patient went to her family dentist and was told that her remaining teeth were in a hopeless condition. They required extractions which would necessitate full dentures. He suggested doing the work under general anesthesia. However, the patient was extremely apprehensive about having general anesthesia. Therefore, she called the Dental Society and inquired about having treatment under hypnosis.

The medical history revealed that the patient had diet-controlled adult-onset diabetes and a record of an untoward reaction to Percodan. She had a history of anxiety attacks and was currently under treatment by a physician for anxiety and depression and was taking Sinequan. Her physician approved of the meditation-hypnosis therapy for the patient's dental treatment.

Oral examination revealed the presence of thirteen teeth, all of which were extensively decayed, per-

odontally involved and mobile. The oral mucous membranes appeared normal.

At this visit, the patient was tested for hypnotic susceptibility by the Spiegel Eye-Roll Method⁸ and was found to be in the moderate range (2.5). She was then seated in the contoured dental chair and placed in a semi-reclined position. The patient was taught meditation-hypnosis^{1,9} and was able to achieve good relaxation within seven minutes (level of 10 suds). She was then instructed to practice the technique by herself at home.

Similar to the first case, the authors prepared a ten item hierarchy. When the patient returned for the next visit, she stated that she was not mentally ready to have a local anesthetic injection. Therefore, the hierarchy was modified to stop at item 9, application of the topical anesthetic. Meditation-hypnosis was then induced and within a few minutes the patient was deeply relaxed (level of 5 suds). The initial item in the hierarchy scale was then done (reclined chair seating) and the patient remained deeply relaxed. Similarly to the previous case, the items were presented while the patient remained in the meditative state. The only negative response was an increase in anxiety related to the taste of the topical anesthetic. Aspiration by the saliva ejector tip soon relieved the anxiety. The patient remained deeply relaxed in the dental chair for fifteen minutes. She then made another appointment, at which time a local anesthetic injection was to be done.

The patient had to cancel her next appointment because of family sickness. However, she had been practicing the medication — hypnosis technique at home. She stated that it helped her reduce her overall anxiety with good results. The patient did not reschedule the appointment but two months later, she spoke to us on the telephone. She said that she was able to go to her general dentist and have the local anesthetic injections for the tooth extractions. Dentures had been made and she was very pleased. The patient apologized for not making the final appointment but she said that it was not necessary as the relaxation technique allowed her to have the work done.

DISCUSSION

These cases are of interest for the following reasons:

- (1) They show the effectiveness of meditation-hypnosis for “needle” phobia. This adds to the applicability of the technique as it was previously shown to be effective for rubber dam claustrophobia⁶ and denture-induced gagging.⁷
- (2) Meditation-hypnosis is a rapid, effective anti-anxiety technique that can be used in systematic desensitization.
- (3) Even long-standing “needle” phobia cases can be effectively treated with this combined technique.
- (4) The meditation-hypnosis technique is helpful in generalization to other anxiety-induced situations.^{6,7}

These and the previous cases^{6,7} are case reports. To make definite conclusions about the effectiveness of the meditation-hypnosis-systematic desensitization technique requires controlled clinical studies.

ACKNOWLEDGEMENTS

The authors wish to thank Diane Morse for the preparation of the manuscript.

REFERENCES

1. Morse D R An exploratory study of the use of meditation alone and in combination with hypnosis in clinical dentistry *J Am Soc Psychosom Dent Med* 24:113-120, 1977.
2. Morse D R and Furst M L *Stress and Relaxation: Application to Dentistry* Springfield Ill. Charles C Thomas 1978 pp 40-68.
3. Morse D R Nitrous oxide analgesia and endodontic practice *J Nat Anal Soc* 1(3):55-58, 1972.
4. Morse D R *Clinical Endodontology: A Comprehensive Guide to Diagnosis, Treatment and Prevention* Springfield, Ill. Charles C Thomas 1974 pp. 398-413.
5. Wolpe J *The Practice of Behavior Therapy* (2nd ed.) New York Pergamon Press 1973.
6. Morse D R In vivo desensitization using meditation-hypnosis in the treatment of rubber dam claustrophobia during endodontic therapy *Beh Ther In Press*.
7. Morse D R and Cohen B B In vivo desensitization using meditation-hypnosis in the treatment of tactile-induced gagging in a dental patient *Am J Clin Hypn In Press*.
8. Spiegel H An eye-roll test for hypnotizability *Am J Clin Hypn* 15:25-28, 1972.
9. Morse D R Use of a meditative state for hypnotic induction in the practice of endodontics *Oral Surg* 41:664-672, 1976.

