

Nitrous Oxide and Hypnosis; A Combined Technique

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Introduction:

Making dental treatment more pleasant through the use of nitrous oxide sedation has met with varying degrees of success in the hands of different practitioners. Some of us see it routinely for a large percentage of our practice and find it indispensable, while others purchase the equipment, take courses in its use, administer it enthusiastically for a short while and finding the results disappointing relegate their analgesia machine to an unused corner of the office.

Why are there such differences in results, and why do new patients occasionally protest their unsuccessful or unpleasant experiences with nitrous oxide? Most teachers of analgesic or sedative management techniques agree that the medications themselves, whether intravenous or inhalation, are only a part of the armamentarium of the practitioner of dentistry cum sedation. The environment, technique and attitude of the administrator are all important components in deciding the success or failure of a sedation.¹

Nitrous oxide is a unique compound which, in addition to producing sedation and analgesia, also produces a state of mild disorientation.² This state is the crossroads from which a pleasant or an unpleasant experience is traveled, and proper direction of the patient makes the difference between a gratifying sedation technique or one which, at its best, is unpredictable and, at its worst, is a frightening experience for both patient and doctor.

In the last decade there has been an upsurge of interest in the use of hypnosis as a sedative technique in Dentistry. Although some practitioners have successfully incorporated it into their practices, many have found it too time consuming and unpredictable to be of more than passing interest.

The mild disorientation induced by nitrous oxide provides a perfect point at which to use simple suggestions to induce what can loosely be described as an hypnotic trance, and this technique provides a simple means for assuring a proper state of mind for a comfortable and pleasant sedation. In addition, post hypnotic suggestion may be used at the termination of treatment to allow the patient to generate this same state of mind almost instantly on subsequent visits, often at a lesser level of nitrous oxide or with oxygen alone. Post hypnotic suggestions can also be used to control post operative symptoms. In fact, with practice and study, all of the benefits gained from pure hypnosis and those of nitrous oxide alone can be reaped using this combined technique. The increased time necessary to induce a

pure hypnotic state and the occasional unpredictability of nitrous oxide sedation are virtually eliminated.

Method:

Our technique consists of a routine pre-treatment explanation of the objective symptoms of nitrous oxide inhalation including a description of the tingling sensation which the patient may expect to feel in her extremities. The patient is instructed to inform us when she *first* feels this. At that point the suggestion is given that a feeling of warmth and heaviness will accompany the tingling and begin in her feet, and an image of lying on a sandy beach under the warm sun is presented. She is asked to feel this sensation of warmth and heaviness spread slowly upward through her body with each inhalation. The feeling of security and comfort is constantly reinforced verbally by the operator. At the same time the patient is asked to imagine the sensation of her body indenting the soft sand and the sound of the surf. The suggestions are continually repeated as the patient allows this warm heavy glow to spread throughout her body. At this point we further the relaxation by asking the patient to relax the muscles of her lower jaw until it feels as if it is simply hanging in space.

The suggestion is then given that, since she is relaxing on the beach, the only sound she need listen to is the doctor's voice. As the local anesthetic is being prepared the patient is told that in a moment she will feel a sensation of intense cold, almost as if an ice cube were being held against the mucosa at the injection site. She is also told that she may perceive a pleasant minty taste spreading from the site.

Once the patient is anesthetized, treatment is begun. During treatment the previous suggestions (sun, body weight on the sand, and comfort) are continually reinforced. The lack of need or ability to perceive distracting stimuli (noise of the handpiece, phone or other voices) is also reinforced.

At the conclusion of treatment, if the nitrous oxide is still being used (in many cases it can be shut down without perceptible change in the patient's status), the suggestion is given that over the next minute the patient will begin to become more alert and aware of her surroundings. She is told that she will feel a sensation of well being and feel better, in fact, than when she arrived at the office. If desired, post-hypnotic suggestions may be given at this stage: "You'll find that as sensation returns to your jaw, you will not experience discomfort but rather a cold minty feeling at the surgical site"; "You'll find that there will be little or no bleeding, since your body will want to retain all of its

blood"; "You'll find that little or no swelling will occur"; "If you'd like, on your next visit you will be able to achieve this state of relaxation almost immediately after the mask is placed over your nose", etc. The suggestion of increasing alertness, awareness and well being is then repeated and reinforced. When she is fully alert, routine post-operative instructions are given, and the patient is dismissed.

The advantages of this technique include the good points of both hypnosis and nitrous oxide without the disadvantages. The time involved is no longer than nitrous oxide induction since preparation for treatment can be done while the suggestions are given. Time may even be saved. The patient may only need oxygen to maintain adequate sedation, thereby shortening recovery time, and, since she is very relaxed and open to suggestion, local anesthesia is usually attained more quickly and is more profound. We found that patients who were referred to us for general anesthesia because of a supposed inefficacy of local responded well to this technique.

We have found that post hypnotic suggestion can significantly reduce discomfort, swelling and bleeding in many patients. On subsequent visits the patient can quickly attain the "trance" state. Effective levels of nitrous oxide can be kept extremely low with good to excellent results. Poor acceptance of nitrous oxide is virtually non-existent. In many cases we have actually supplanted the intravenous-inhalation sedation technique for restorative or surgical treatment using this approach.

Case Report:

An intelligent and literate young patient described her experience in a school paper. On her first visit a mesioangular impacted mandibular third molar was removed using lidocaine; 10 mg. of diazepam I.V.; 0.4 mg. of atropine I.V., and 4L/min. nitrous oxide with 3L/min. oxygen. On the second visit the contra lateral impaction was removed using lidocaine and 3L/min. nitrous oxide with 4L/min. oxygen tapering off to only oxygen following the injection. She compared both visits and her experiences are presented unedited.

"In August, 1977, I had oral surgery done on the right side of my mouth. This consisted of having some bone removed from the jaw and an impacted wisdom tooth extracted.

I was prepared for this surgery by being given Nitrous Oxide in a 50-50 percent mixture with oxygen, and also 10 mg. of Diazepam injected intravenously.

Within seconds, I felt my hands and feet tingling as if they had fallen asleep and I became very lightheaded. I could hear and see the dentist and his assistant beginning to work, and I vaguely remember them taking another x-ray. I could also see blood on hands and equipment, but could feel no pain. Time passed fairly rapidly and I don't think I slept at all, but each time the dentist asked me how I was doing, I couldn't seem to answer. I felt like I had no control over my reactions.

When the surgery was completed, I had to go into

the recovery room. I was able to sit up in the chair, but was so dizzy that the dentist had to help me walk. My mouth was full of gauze which I was supposed to bite on, but I was still too drugged to respond.

My mother came later to pick me up and she had to help me into the car. I was given a prescription for a drug containing codeine to help kill the pain. I had to take one with milk upon arriving home, which was quite difficult since my face was numb. As codeine affects the emotional responses of the brain, I felt extremely depressed all morning. I had to return to the dentist that afternoon to have packing put in since the bleeding had become so intense.

I slept some of the afternoon and even passed out once because of the effects of the codeine or anesthetics or both. My face swelled up quite a bit although I kept ice on it continuously for the first twelve hours.

For five days, I could not get up and walk around, or open my mouth more than a half an inch which made it impossible to eat any solid food. For a week and a half, I found it difficult to speak clearly due to the remaining swelling.

I think that this was the most painful and traumatic event that I have ever experienced.

On May 4, 1978, I returned to have the same surgery done on the left side of my face. I was quite apprehensive after my previous experience, but I had asked to be hypnotized rather than anesthetized this time.

As I had never been hypnotized before, the dentist began by giving me a very small dose of nitrous oxide which he gradually turned off so that I was receiving only oxygen. He then told me to imagine myself on the beach and concentrate really hard on the sun hitting my feet. I did so, and began to feel the warmth beating down and a tingly feeling of relaxation. He then told me to continue up to my legs and feel them pressing down on the warm sand. The sun was still hot. Eventually, I worked my way up to my head, and could actually feel the indentations of my body in the sand.

When he was sure I was relaxed, the dentist asked me to open my mouth so that he could give me a shot of novacaine. He said that the syringe would feel icy cold against my cheek, and the novacaine would taste minty.

I felt no pain when he injected it, only a cool spearmint flavor. I kept thinking of the sun, and began to concentrate on the rush of the waves in the distance. They sounded very remote at first, but gradually became closer.

The beach atmosphere was recreated perfectly and although I could feel pressure as he drilled and chiseled my jaw, my mind kept returning to the sun.

I was so comfortable that I didn't want to come out of the trance at all. He gave me post hypnotic suggestions that my face would not swell, the bleeding would stop quickly and I would feel energetic and satisfied for the rest of the day. When he brought me out of the trance, I immediately began shivering because the warmth of the sun had disappeared, and I laughed thinking I ever believed it was really there.

I felt so normal afterwards that I really think I could have driven home. I sat up all morning and watched T.V. and the bleeding stopped completely within a few hours. I never took any pain killers except for aspirin, and even with no ice, I had very little swelling.

When I returned the next week to have the stitches taken out, the dentist said that my mouth looked like it had been healing for two weeks rather than one.

I had never realized how the mind was able to control physical reactions so easily, and I felt like a whole new aspect had been added to my life.

In conclusion, I have proven that in my case hypnosis was much more effective with fewer post operative complications than anesthetics. I hope that in a very short time, people will disregard their superstitions and begin to examine hypnosis as an art which can be used beneficially. With a little training and technology, I think it could become more generally accepted and helpful in avoiding a lot of unnecessary pain."

Summary:

Many practitioners have used components of this hypnosuggestion technique when they administer nitrous oxide, and these are the practitioners who tend to report more successful sedation. By incorporating a more formalized use of suggestion as part of the nitrous oxide administration, a greater service can be rendered to patients by allowing them more comfort during treatment and, in many cases, decreasing the amount of drugs needed.

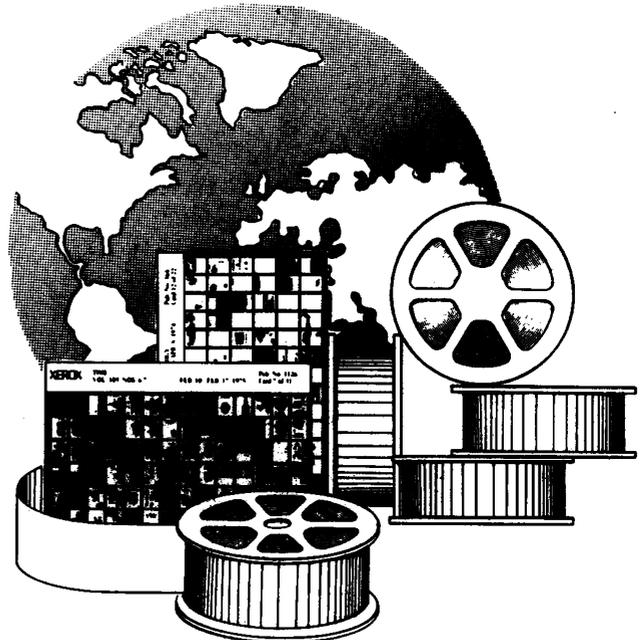
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