

## HYPNOSIS WITH A 31-YEAR-OLD FEMALE WITH DENTAL PHOBIA REQUIRING AN EMERGENCY EXTRACTION

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### Abstract

**Presenting problem:** Female, 31, attended emergency appointment at dental surgery with pain, dental phobia prevented extraction.

**Aim:** Manage dental phobia using hypnosis integrated into anxiety management treatment plan to facilitate extraction.

**Methods:** Pre-treatment questionnaire assessed dental anxiety, reasons for anxiety, and ascertained management options. Post-treatment questionnaire assessed changes in dental anxiety and attitudes. Anxiety management techniques: needle desensitization and hypnosis.

**Results:** Pre-treatment questionnaire revealed high level anxiety (16/20 Corah score, and 25/30 modified Corah score) and anticipation of pain during future dental treatment (5/10 on a Visual Analogue Scale). Following the successful extraction of the tooth, a post-treatment questionnaire revealed low level anxiety (7/20 Corah and 11/30 modified Corah) and low anticipation of future pain (1/10).

**Conclusion:** Patient attended second emergency appointment and hypnotic intervention facilitated the removal of the troublesome tooth. Successful outcome of this treatment and new learned self-hypnosis techniques allowed patient to feel more confident about accepting future dental treatment without need for pharmacological intervention. Copyright © 2006 British Society of Experimental & Clinical Hypnosis. Published by John Wiley & Sons, Ltd.

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**Key words:** dental anxiety management, dental hypnosis, dental phobia, emergency hypnosis, needle desensitization, pain control

### Description of the problem

‘Jan’ attended the dental surgery complaining of a ‘throbbing’ pain which had kept her awake for two nights, was worse with hot drinks and easily located to her upper left third molar (Tooth Notation 28, Federation Dental Internationale index, see Mitchell and Mitchell 1996: 752). Radiographic and intra-oral investigation confirmed that the tooth was grossly carious. A diagnosis of irreversible pulpitis was made (Chestnutt and Gibson, 1998: 164). The most appropriate treatment would have been to extract the tooth, however Jan reported feeling extremely anxious and displayed ‘fight or flight’ signs of anxiety (increased respiration and perspiration; Vander, Sherman and Luciano, 1994: 226, 618 and 753). Jan described being very anxious about dental treatment, and felt that she would find it ‘almost impossible’ to have an extraction.

## Relevant personal details

Jan is a 31-year-old, married housewife with a 9-month-old baby. In session 3, Jan described being in a 'very critical situation' and requiring 'lots of needles' during a complicated childbirth and that 'they almost lost both me and the baby'. She lives in Scotland and was due to move house soon to a town ten miles away. She does not drive, has never smoked, drinks socially and has no other relevant medical history.

## Details of formal assessment

### *Pre-treatment anxiety questionnaire*

Jan scored 16/20 in a Corah Dental Anxiety Score (Corah, Gale and Illig, 1969) and 25/30 in a Modified Corah Dental Anxiety Score (Gall, 1998). These scores indicate a high level of anxiety. Using Visual Analogue Scales (VAS; Kent and Blinkhorn, 1992: 104–5; Scott and Huskisson, 1976: 175–84) Jan scored pain experienced during previous treatment as 8/10 and pain anticipated for future treatment as 5/10, where ten indicated 'the most pain you can imagine'.

The Creative Imagination Scale (CIS; Barber and Wilson, 1978) was recorded to give an indication of Jan's hypnotizability. Her score of 38 and a Spiegel Eye Roll score of 3 (Spiegel and Spiegel, 1987) indicated high hypnotizability.

## Formulation

Jan's presenting problems in the dental surgery on her first visit were pain and dental phobia. A diagnosis of dental phobia may be made as Jan has high Corah and Modified Corah Dental Anxiety Scores (Corah et al., 1969; Gall, 1998), combined with a history of avoiding dental appointments (Kent, 1985; Kent and Blinkhorn, 1992: 104–5). In the 1998 Adult Dental Health Survey (Todd and Lader, 1991) 45% of adults reported dental fear as a main reason for not attending for dental treatment.

The aetiology of Jan's phobia is likely to be multifaceted. The initial anxiety questionnaire revealed her husband is fearful of dental treatment. Forgione and Clarke (1974) reported that relatives of dentally anxious patients had more negative attitudes to dentistry themselves. At the end of session 2, when hearing her husband enter the waiting room to collect her, she stated 'I can't believe my husband has made it into the surgery!'

Jan feels that she has a low tolerance to discomfort or pain. Due to biological differences, some people have lower pain thresholds, however Kleinknecht and Bernstein (1978) suggested that anxiety may lead to an increase in pain experienced and pain will heighten anxiety. Anxiety may therefore affect pain tolerance and threshold.

Jan indicated that she worries about treatment because she is unsure about what is involved. Uncertainty itself can provoke anxiety and 'fear of the unknown' (Epstein and Roupenian, 1970).

Jan worries that the local anaesthetic may not work and the dentist will carry out a procedure when her tooth is not 'numb'. This may indicate a mistrust of dentists (Milgrom, Weinstein and Getz, 1995: 87) or a fear of pain.

Jan stated that she had never had a bad dental experience but she 'just has a bad phobia'. She later described an incidence, however, when she had had a painful injection during an emergency appointment with an unfamiliar dentist. She had an extraction and described the dentist as being 'uncaring' and 'rushed'.

Jan recently had a traumatic experience when giving birth. She described being in a critical situation and that both herself and her son nearly died. Jan did not discuss this until session 3 when she was about to have the injection. She stated that having the needle was bringing back the memories of what happened and she was concerned that she may actually die. This 'fear of catastrophe' during dental treatment is described by Milgrom et al. (1995: 90).

As she was due to move house, Jan was likely to be experiencing more stress in her life than usual (Holmes and Rahe, 1967). Her moving house also complicated the dental treatment plan as not being able to drive, she felt she would find it difficult travelling to the surgery.

Since the Poswillo Report in 1990 and the subsequent changes in the General Dental Council (1998) guidelines regarding the provision of general anaesthesia, there has been a growing demand for alternative methods of dental anxiety management. The rationale for using hypnosis in this case is that it may facilitate relaxation, and teach the patient coping skills therefore allowing the extraction and future treatment to be carried out without pharmacological intervention for anxiety management (see Oakley, 2001).

## Description of treatment

### *Session 1*

Following an intra-oral examination and elicitation of Jan's presenting complaint it was assessed that the most urgent item on the treatment plan was the extraction of 28. Due to Jan's reported phobia, however, it was deemed to be more appropriate to relieve the immediate pain by prescribing an antibiotic and analgesic. Milgrom et al. (1995: 77–82) describe that by postponing the surgical intervention, a treatment plan may be formed which 'addresses the patient's fears and provides the positive experiences that are required to overcome the avoidance behaviour that has resulted in the emergency episode in the first place'. Pain and infection control using antibiotics (Amoxicillin 500 mg to be taken every eight hours for five days (British National Formulary (BNF) (2006) Section 5.1.1.3)) and Ibuprofen 400 mg to be taken up to a maximum of four times a day (BNF Section 10.1.1) was provided.

Radiographic investigation revealed that the tooth had simple root morphology, and was anticipated to be a straightforward extraction procedure. It is important in such cases not to promise a quick and easy procedure to the patient, as if there are unexpected problems, the patient's trust in the dentist will diminish. A description of the likely course of events during the procedure is therefore appropriate, emphasizing that any difficulties encountered would be fully explained in the unlikely event of them occurring.

Following rapport building, which included the elicitation of a social history, Jan completed a pre-treatment anxiety questionnaire and indicated an interest in hypnosis. The potential benefits of hypnosis were discussed briefly and she was given an information leaflet on hypnosis.

### *Session 2*

This appointment was ten days later and involved rapport building and further discussion regarding hypnosis.

The Creative Imagination Scale (Barber and Wilson, 1978) and Spiegel eye roll score (Spiegel and Spiegel, 1987) were recorded.

As Jan described feeling 'anxious' about dental injections, needle desensitization was appropriate. I have adapted techniques taught on a postgraduate training course by McGoldrick (2001) and have outlined these below for the benefit of the reader:

## Needle desensitization

- 1 The first stage is to show the patient the topical anaesthetic if this is to be used as it is the least threatening visual stimulus. It is placed on the area where the needle will enter the tissue for approximately 90 seconds. This area becomes numb and it is explained that this allows the needle to be passed painlessly into to the mucosa.
- 2 The patient is shown and holds the local anaesthetic cartridge. It may be pointed out that the liquid looks like water. The principles of local anaesthesia are explained in language appropriate to the patient.
- 3 The patient is then shown and holds the syringe. They are invited to try to work out how the cartridge fits into the syringe (this has the additional benefit of providing distraction).
- 4 If comfortable to proceed, the patient may then see the needle. It is explained that each needle is sealed, only used once and destroyed afterwards. It is then demonstrated that although the needle is 'flexible', it is very strong and will not break. The very tip of the needle should be emphasized as being 'very, very small', and will therefore pass gently into the tight mucosa. It is often useful to demonstrate the needle, by passing it through a taught dental glove. It should 'pop' through the glove quickly, and after the patient has observed this, it is removed and recapped. The patient is then allowed to examine the glove noticing that there is little or no hole evident in the glove.
- 5 A 'cap on' practice may be attempted when the patient agrees they are ready. This is often done on the second desensitization appointment. The technique involves practising the topical anaesthetic, followed by holding the needle up to the mucosa – *with the cap on*. It should be emphasized that the dentist does not intend to trick the patient and give the anaesthetic. This is a 'cap on' practice only and helps to build rapport and trust.
- 6 When the patient is ready to proceed, this procedure may be repeated with the 'cap off' the needle. Again it should be emphasized that the injection will *not* be given yet.
- 7 When the patient gives consent the local anaesthetic may be delivered. This should be done as comfortably as possible. The four main causes of discomfort during injection are:
  - Initial puncture. This can be reduced by use of topical anaesthetic and by keeping the surrounding tissues taught.
  - Rapid administration. The anaesthetic should be administered very slowly to avoid tissue trauma.
  - Misinterpretation of cold anaesthetic. If the local anaesthetic is warmed to blood temperature before use the risk of any sensation is greatly reduced, especially if it is a cold day.
  - Misinterpretation of feeling of 'fullness'. The sensations of local anaesthesia should be fully explained prior to its administration.

It may take two or three visits to reach step 7, and the dentist should go at a pace that is appropriate for the level of fear. As each step is achieved the patient should be praised. An appropriate distraction technique should be used if possible during the injection, especially if the patient is not hypnotised. *'Eyes Open'* is a simple distraction technique for someone who has a fear of needles, or who has had previous management of the phobia and they have progressed to be able to accept the injection, and who you have pre-told the story. However, it may be less likely to work with a patient with dental phobia on their first visit. Just before the needle is inserted, most people will have their eyes closed. The needle should be positioned close to the mucosa and the patient asked to open their eyes or if their eyes are already open, asked to keep their eyes open. Verbal-

sation such as; *'I wonder if you would open your eyes for me right now'* should then be given. Occasionally patients need to hear more of the following verbalisation before opening their eyes. What is important is that the needle is gently inserted a couple of millimetres into the mucosa simultaneously to the eyes opening. As the eyes fully open, the solution should be slowly infiltrated and the needle gently advanced while the verbalisation continues: *'In much the same way as blind people say that their other senses are heightened, if you keep your eyes closed your brain will attempt to gain more information from other sources. This can mean that you might experience more sensations with your eyes closed. With your eyes open, and by listening to what I am saying, your brain has to process more information, and will pay less attention to any sensations, and everything will be more comfortable, that's great, well done, only ten seconds now 9,8,7,6,5,4,3,2,1,0, well done!'* The verbalisation should be paced to the speed of the injection. It is often useful to give the patient a count down from 10 to 1 when the procedure is nearing completion. It is possible that this verbalisation acts only as a distraction while the anaesthetic is being delivered, however it is my experience that most people seem happy to accept the theory and find it useful.

At this appointment needle desensitization progressed uneventfully up to the cap-on stage (stage 5). Jan remained keen to use hypnosis and an appointment was arranged for her to experience a basic hypnotic trance in two weeks time. A letter was sent to Jan's general medical practitioner (GMP) regarding the intention for a hypnotic intervention. Such communication allows the General Medical Practitioner (GMP) an opportunity to offer any relevant information.

### *Session 3*

An appointment for Jan to experience a basic hypnotic trance without having dental treatment was planned and would have been beneficial as she would not be concerned about the treatment she was to have (Kirsch and Braffman, 2001). It would, however, be appropriate to continue with desensitization techniques at this appointment. The rationale is that she would then feel more confident and prepared when hypnosis was used during the appointment when the tooth was removed.

However, Jan returned one week before her scheduled appointment, as she was again experiencing pain. As this was the second symptomatic episode within a week, it was deemed that immediate surgical intervention would be the most beneficial course of action, despite the disadvantage that Jan would not have had opportunity for a basic trance experience prior to the surgical intervention. The use of hypnosis was again discussed and her remaining queries were answered and misconceptions alleviated. Jan was seen at the end of the day in order that as much time as would be needed could be spent without concern.

The hypnotic intervention itself should be induced using a technique which is both suitable for the patient and one in which the practitioner is comfortable using. In this case induction using eye fixation and reverse counting (Hartland, 1977: 55) was deemed to be appropriate.

Trance was deepened using the imagery of descending a staircase to a 'special place'. This should be a place chosen by the patient, either imagined or real, where they can feel completely secure, relaxed and happy. Absorption in the special place should be encouraged by elicitation of all the senses they can imagine experiencing while there (e.g. visual, auditory, smell, touch, etc.; Walters 2002, Graham 2001). Jan chose her special place to be a beach in Dubai, to which she had been before, and using ideo-

sensory suggestions she was able to imagine that 'the temperature was just right for her in the pleasant, hot sun'. After confirming that the beach was sandy, she was asked to notice whether the sand under her toes was wet or dry.

Ego strengthening using a mantra of 'calm, control and confident' was used, and Jan was able to imagine writing these words out around a triangle, in the sand with a stick.

It is often useful to establish ideo-motor signals, in order that the patient may respond to questions or suggestions without verbalizing (Heap, 2001: 21).

Ideo-motor signals were established, with her right index finger indicating a 'yes' response and her left index finger indicating a 'no' response.

Posthypnotic suggestions were given throughout the intervention. Suggestions such as 'you will find that you have overcome any irrational fears you had of dental treatment and injections', are important as they could facilitate the acceptance of future treatment. As Jan is highly hypnotizable, it is likely that she would respond well to posthypnotic suggestions (Barnier and McConkey, 1998).

The CIS had previously established that she was able to create a sensation 'much the same' as having a local anaesthetic in her finger (score of 3 out of 4). Glove anaesthesia techniques (Auld in Battino and South, 1999; Gow, 2002; Gow, 2003) were employed by suggesting to Jan that she would be able to create a numb/cold sensation in her hand that could then be transferred to her tooth. She was able to visualize a bucket of icy cold water, however, when asked if she would place her hand in the bucket, the movement of her left index finger indicated an ideo-motor signal 'no' response. When asked why she did not want to place her hand into the bucket, Jan responded 'I feel so comfortable on my warm beach, I don't want to spoil how relaxed I feel'. I explained that 'there was no reason why she could not enjoy the relaxing feeling of being on the beach at the same time as she placed her hand into the bucket of icy water'. I also suggested that 'if she placed her hand in the cold water, the rest of her body could feel even more relaxed and comfortable than before'. Jan agreed that it would be nice if the rest of her body could become even more relaxed, and was happy to proceed. Jan imagined placing and moving her left hand around in the bucket of icy cold water. After a short time she stated 'My hand feels so cold and shivery'. She was able to concentrate the 'shivery', cold sensation into the tip of her index finger and was then able to transfer the sensation to the mucosa around 28. Jan nodded when all of the sensation had emptied out of her finger and had fully transferred to her mouth. Topical anaesthetic, on a cotton wool roll was then placed on the mucosa at the same region. Further descriptions of her special place were elicited and integrated with suggestions of comfort and relaxation. After around sixty seconds of the topical anaesthetic being in place, Jan suddenly got very upset, explaining that she had 'felt something sharp like a needle'. She became tearful and opened her eyes, saying that something was 'stinging' and that it felt like her 'gum was split'. The cotton wool roll was removed, and on examination no trauma was evident. I explained that perhaps some of the dry cotton wool had stuck to her gum, and she had felt it sharp when it had moved. Following simple reassurance and breathing controlling, Jan was able to become more relaxed. Nevertheless Jan stated 'I'm so scared' and asked 'I'm not going to die, am I?' I reassured Jan that there was no chance of her dying during the procedure, as it was a simple local anaesthetic and tooth extraction. This statement by Jan indicated that she in fact also had a fear of catastrophe (Milgrom et al., 1995: 90). When I asked why she thought that she may die, she stated that she had 'not had a needle since her son was born' and that having this needle was 'bringing back the memories'. It was at this time that Jan gave the history of her difficulties while giving birth. This suggested that she may now have an association with needles and the life threatening situation she was in

during childbirth when she was given 'lots of needles'. Jan was reassured that 'this situation was not the same' and that 'her traumatic experience was in the past and that this procedure was in the present'. I emphasized that 'nothing could happen today which would result in her having the same experience that she had had during childbirth'. She agreed that the two situations were entirely separate and that she had never heard of anyone dying while having a tooth extracted using local anaesthetic. Jan was then able to close her eyes again and take herself back to her special place. She stated that the tissues around her tooth did not feel as numb as they had done previously. Jan was asked to remember how numb the tissues had felt before, and to bring that feeling back by concentrating on the area. She was asked to imagine how it would feel if the local anaesthetic had already been given. I emphasized that this feeling would be 'very, very numb, and very natural'. She was reassured that 'the area should be as numb as possible and we wanted this numbness in order that her mouth could be healthy and free of the bad tooth'. Suggestions were made that she would be surprised by how relaxed she would remain and that she could fully trust me. Jan stated 'I do trust you, I'm ready'. The local anaesthetic was then delivered. Jan began to sing to herself as the injection was given. I encouraged Jan and asked her to really hear the music in her head as if she were listening to the song right now and to sing along with the words.

Following the delivery of the local anaesthetic, Jan stated 'I can't believe how easy that was!' After a couple of minutes, Jan was quickly induced back into trance using a Spiegel Eye Roll Induction (Spiegel and Spiegel, 1987). She was able to descend her staircase and go back to her special place very quickly. The upper left third molar was then extracted using forceps.

Posthypnotic suggestions were given that 'the numbness will wear off as the anaesthetic wears off', and that 'the socket will heal quickly and uneventfully'.

Self-hypnosis (Heap and Arivand, 2002: 101–5) was explained and it was suggested that she would be able to use self-hypnosis in the future to help her with dental treatment or any other appropriate situation.

Further ego-strengthening was given by praising Jan on how well she had done today. The posthypnotic suggestion was given that she had in fact overcome any irrational fears she had of dental treatment and injections and that she would find future dental treatment much easier. Hypnotic safeguards were placed and trance was terminated by reverse counting from ten to one.

## **Current status of treatment**

After having her troublesome wisdom tooth removed, Jan moved house and was unable to travel to complete her outstanding treatment. A follow-up telephone call some four months after the extraction revealed that Jan had been to a surgery nearer to her new house, for a check up appointment, and felt happy that she could use her self-hypnosis to help her during future treatment.

Jan completed a post-treatment questionnaire, which indicated a significant reduction in her dental anxiety.

## **Patient's report and conclusions: post-treatment questionnaire**

The post-treatment Corah Score of 7/20 and Modified Corah score of 11/30 indicate a significant reduction in Jan's anxiety and are consistent with someone who has no or little anxiety, fear or phobia of dental treatment.

A repeated VAS recording the extent of pain Jan anticipated to experience during future dental treatment revealed a significant reduction from 5/10 to 1/10. Non-anxious patients typically make accurate predictions of the amount of pain they are likely to experience, while anxious patients are likely to overestimate (Kent and Blinkhorn, 1992). The reduction in Jan's anticipation to experience pain during dental treatment is supported by the reduction in her recorded dental anxiety.

Jan stated: 'Hypnosis definitely helped. I can now use these techniques during future treatment with my new dentist. Thank you again.'

This case demonstrates the effective use of hypnotic intervention as an adjunct in a dental emergency situation. During de-briefing following session 3, Jan expressed 'I am delighted to have had this tooth out. I would have never otherwise been able to have this done. It is all down to you, thank you'.

The main goals of the intervention were to remove the cause of Jan's pain, and reduce her anxiety and phobia of dental treatment. Despite having to adjust the treatment plan, the significant reduction in dental anxiety scores and the successful removal of the tooth combined with Jan's registration with another dentist for the completion of her restorative dentistry highlight the successful use of hypnosis as an adjunct in achieving the goals of this case. It is likely that the successful and uncomplicated removal of the problematic tooth had a major part in the reduction of her anxiety. It may be that pharmacological anxiety management (e.g. intravenous sedation) and the removal of the tooth would have had the same effect on the post-treatment dental anxiety scores. Nevertheless, Jan now has the ability to use the self-hypnosis techniques she learned to help her manage any anxiety during future treatment, without having to depend upon pharmacological intervention. In the future I would attempt to make the appointment for the extraction/treatment sooner than I had done in this case.

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