

Dental Anxiety Disorders and Hypnotizability

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■ *While modern pain control techniques and improved dental equipment have radically improved dental treatment, anxiety, fear and dental phobic disorders persist in the population. There is an emerging body of evidence relating hypnotizability to both the acquisition and management of dental phobic disorders. This paper reviews the evidence of such a relationship and discusses modern management of dental anxiety disorders.*

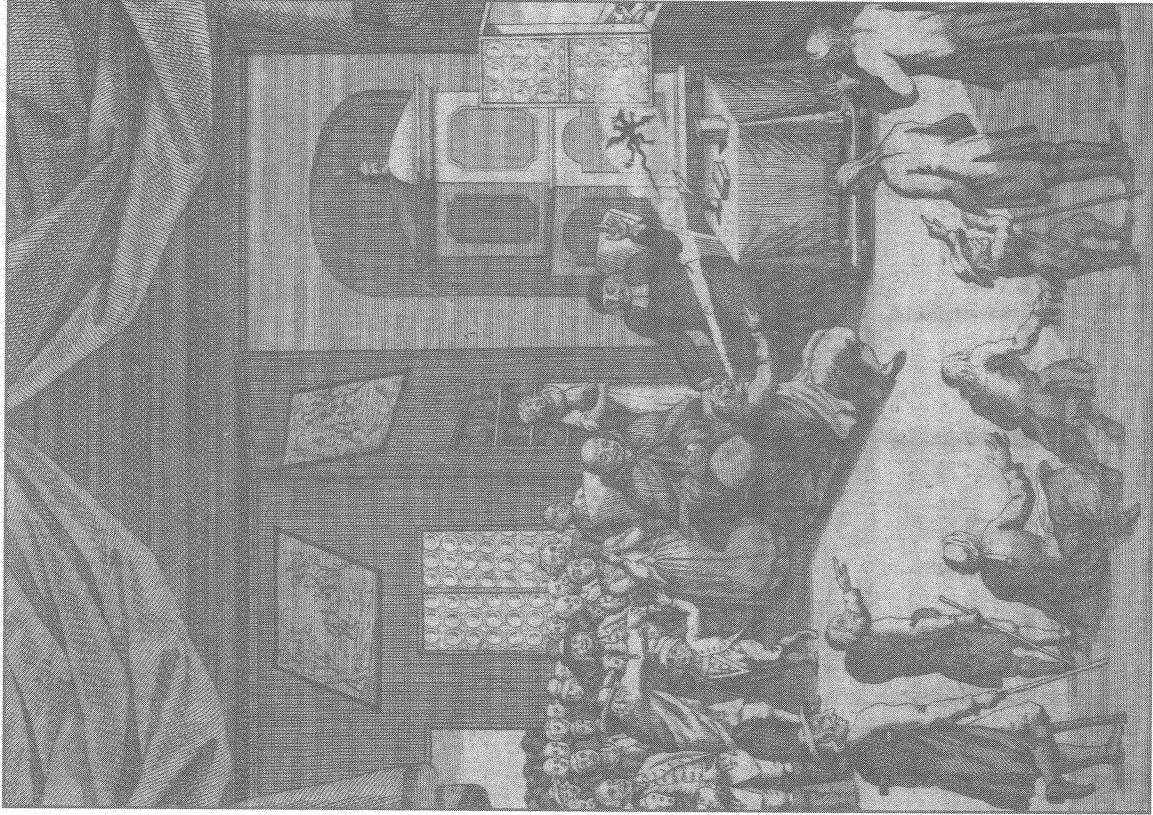
The attempts by dentists to use less painful methods in treating patients has a long and continuous history, both in hypnosis and in chemical anaesthesia. In 1842, ether was first used for dental extractions and in 1844 nitrous oxide was introduced into dental practice.

The first reported case of the dental use of hypnosis was in 1837, when Oudet, a French dentist, performed a dental extraction under hypnotic analgesia. In 1847, Ribaud and Kiaro, two dentists of Portiers, France, removed a tumor from the jaw using hypnosis as the sole anaesthetic. The first recorded dental use of hypnosis appeared in the British Dental Journal in 1890 by Arthur Turner when 40 teeth were extracted from various patients.

The initial enthusiasm arising from these early successes was followed by the all too familiar alternating patterns of acceptance and rejection. Reasons for this included poor patient selection, the setting of unrealistic goals, ignorance, unsubstantiated claims, difficulties in the quantification of hypnotic phenomena and the uncertainty of both the medical and dental professions concerning its applications.

In spite of major advances in dental technology, anxiety, fear and pain are still issues of central concern for many patients. Recognition of these problems has led dentists, in recent years, to a renewed interest in psychological medicine, including psychotherapy, behavioural and cognitive therapy, relaxation techniques and hypnotherapy.

The dentists of today, who prefer to think of their task as more than the standard mechanical procedures associated with dentistry, emphasize the treatment of individuals who have presented with dental problems. Facing both acute and chronic pain problems, fear, tension, anxiety and hostility as part of their daily practice, hypnosis has



Not really an extraction but an exorcism of demons performed by father Johann Josef Gassner 1775 in Ellwangen, Germany. (from the library of Burkhard Peter)

proven to be a useful adjunct in total patient management in the dental situation. The use of hypnosis has also improved the dentists' own level of comfort and satisfaction in working with patients.

Dental fears and phobias

Fear of dentistry and avoidance of dental care continue to cause continuing concern among dental practitioners (Gerschman, 1983; Gerschman & Burrows, 1995). In the milder forms dental fears prevent optimum attendance and the full co-operation of the patient during treatment. In its more severe form patients may avoid dental care thereby permitting the development of preventable pathological conditions resulting in much pain and discomfort and possibly the unfortunate late detection of an irreversible condition such as oral cancer.

Fear of dentists is listed fifth among commonly held fears and is among the 10 most frequent intense fears. It has been estimated that 89% of individuals experience pre-treatment anxiety when visiting the dentist. Recent American, British, Swedish and Australian studies have emphasised the low percentage of regular dental attendances. Fear motivated dental avoidance in these studies range from 8% to 16% (Gerschman, 1988).

Classification of dental anxiety disorders

The contemporary classification of dental anxiety is covered under the classification of anxiety disorders in the 4th edition of Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association. Dental fears and phobias may fit into any of the classifications of anxiety disorders. Many patients may fit into the category specific phobia, although a significant number of patients may have other anxiety disorders or psychiatric illness as their primary psychiatric disorder.

Causes of dental fears

The earliest explanations of dental fears were in terms of psychodynamic and personality theories which emphasized "symbolic representations from unconscious drives", "the orofacial zone being a highly charged emotional area", "the mouth in childhood being an erotogenic zone", "orality", "the threat of mutilation" and "relationship to major instincts and passions". In recent years behavioural research has emphasised the role of learned or conditioned responses to negative stimuli. These include family attitudes, repeated dental trauma, low pain tolerance, unfavourable dental experience and high generalised anxiety. Many patients demonstrate multifactorial causes.

Gerschman and colleagues (1979, 1980, 1987, 1989, 1991) elucidated the role of spontaneous trance states with actual or perceived dental trauma in moderate to highly hypnotisable individuals as being important in both the genesis and the treatment of phobic individuals.

Dental fear stimuli

The peculiar characteristics of dental treatment include:

1. enforced immobility under threat of discomfort for long periods,
2. presence of a perceived danger of unsignalled, uncontrollable noxious stimulation, and
3. interference with the most important modulation of communication.

Various authors have been able to rank specific dental fears, providing useful information for treatment procedures. Various scales have accordingly been designed to help discriminate fearful from non fearful stimuli.

Management

Treatment should initially be aimed at prevention. This is best achieved by dental health education and by attempting to make early dental treatment as non stressful as possible. Fear reducing interventions may involve a combination of psychological treatment strategies and pharmacological treatment.

Hypnosis in the management of anxiety disorders

The psychological treatment of anxiety disorders involves a wide variety of techniques based on psychotherapeutic, behavioural and cognitive principles. Hypnosis provides an additional approach that may enhance the effectiveness of these other strategies (Stanley, Burrows & Judd, 1990). The primary goals of psychological therapies for anxiety states are: the exposure of the patient (via imagery or reality) to the situation provoking the anxiety, thereby allowing deconditioning, habituation or desensitization; cognitive re-evaluations of the situation to alter the perception of threat; determining the personal significance (symbolic) of the anxiety provocation; increasing the sense of self-efficacy, behaviourally or cognitively, in the patient's ability to deal with the anxiety eliciting situation and the symptoms; and the rehearsal and effecting of coping strategies.

More specifically, hypnosis may be used to facilitate the use of dissociation, altered perceptions, cognitions and memories, the enhanced control over anxiety symptoms, and self-control techniques and uncovering for psychodynamic psychotherapy.

Hypnotizability and dental phobic disorders

Hypnotizability, that is the individual's capacity to experience hypnosis, is generally described and conceptualized as a stable trait which is relatively resistant to modification. Although hypnotizability has been described as an ability within the repertoire of normal cognitive functioning it appears that individuals manifesting certain psychiatric disorders may be hypnotizable to different degrees.

Disorders which are characterized by high levels of hypnotizability include hysteria, multiple personality, post-traumatic stress disorder and some categories of eating dis-

orders such as bulimia. Such highly hypnotizable groups stand in contrast to schizophrenics, obsessive compulsives and anorexics who have been found to possess lower levels of hypnotizability.

It is now generally considered that most psychiatric populations have lower hypnotizability levels than non-psychiatric populations and the more severe the disorder the lower is the level of hypnotizability. The discrepancies in hypnotizability levels amongst groups of psychiatric patients have however not been clearly understood.

Frankel (1974) was the first to report this relationship. He found that 58% of a group of 24 phobic patients were highly responsive to hypnosis when evaluated on the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962). The phobic group was also found to be significantly more hypnotizable than a control group of patients wishing to stop smoking. He further suggested that there was a relationship between hypnotizability and the aetiology of phobias. Further supporting data was presented by Frankel and Orne (1976).

Gerschman, Burrows, Reade and Foenander (1979) obtained similar results with dental phobics - 48% of the sample of 40 patients scored within the high susceptible range of hypnotizability on the Diagnostic Rating Procedure (DRP, Orne & O'Connell, 1967). In a further study, Foenander, Burrows, Gerschman and Horne (1980) reported similar findings for a group of 33 mixed phobic patients, 45.5% were highly susceptible on the HGSHS:A. John, Hollander and Perry (1983) using the HGSH:A found that 55% of a sample of 20 patients who were phobic to snakes, spiders or rats were highly responsive to hypnosis. Kelly (1984) comparing 112 patients with a variety of complaints with 22 phobic patients using the Hypnotic Induction Profile and the Stanford Hypnotic Clinical Scale found that the phobic patients were higher in hypnotic responsiveness than are the population in general and non-phobic patients seeking hypnosis in particular.

Two studies have failed to replicate these findings. Frischolz, Spiegel, Spiegel, Balma and Markell (1982) using the Hypnotic Induction Profile found no statistical differences in the mean hypnotizability of 95 phobics, 226 smokers and 65 chronic pain sufferers. Owens, Bliss, Koester and Jeppsen (1989) compared 25 phobics solicited through the media with a group of subjects with smoking problems, pain syndromes, bulimia and obesity on the Stanford Hypnotic Susceptibility Scale Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962). The phobics obtained significantly lower hypnotizability scores than the controls. The reasons for failure of replication in these studies has been discussed elsewhere (Gerschman & Burrows, 1995).

The most recent studies (Gerschman, Burrows & Reade, 1987; Gerschman & Burrows, 1989, 1995) have been the most comprehensive and have used more sophisticated statistical techniques to relate hypnotizability to outcome measures using a larger sample size and a more stringent methodology. These studies have also presented further confirmation of the association of hypnotizability and dental phobic disorders while further confirming the original findings of Frankel (1974). Further research is in progress.

There are strong indications that a significant portion of the dental phobic population is hypnotizable and that a causal relationship may exist relating hypnotizability to both the acquisition and management of phobic disorders. That is not to deny that phobic symptoms may be multidetermined including psychoanalytic, behavioural, cognitive and biological features.

Forgione (1988) has emphasized that direct and indirect hypnotic suggestions have been shown to distort perception, induce sensory changes and modify expectancies in both phobic and normal populations. Implicit in these findings is a caution for dentists even if they are untrained or unwilling to practice hypnosis or hypnotic like techniques, that they should be aware that a significant portion of the population is highly responsive to suggestion. Attention should therefore be given not to deliver suggestions to patients that are counter-productive to treatment. Otherwise treatment difficulties and enduring problems may be created inadvertently. Suggestions given formally or informally, explicit or implicit, dramatic or subtle may impact on behaviour and psychopathology.

Clinical case

This specific approach to a dental phobic disorder was illustrated (Gerschman, Burrows & Reade, 1987) by the case of a 25 year old male with a 10 year history of avoidance of attending doctors and dentists. The patient was initially referred to the Psychiatry Department, University of Melbourne, because of panic attacks in relation to medical and dental treatment and a severe fear of injections. He was generally an obsessive-compulsive personality, hard-working, conscientious, self-critical, without close friendships and was quite dependent on his family. In social situations he had some phobic symptoms. The initial interview included discussion of his personal life, family, social, occupational and interpersonal relationships. He was asked to write about his own life and feeling and to send this to the therapist prior to the second interview. He agreed upon a verbal contract of personal commitment and attendance for at least six sessions. Active participation and eventual control of his symptoms was emphasized. At this initial interview he was extremely anxious and demonstrated hyperventilation. He was shown how effectively slower relaxed breathing or breathing by panting into cupped hands or a paper bag could reverse the process. This resulted in some obvious relaxation and emphasized to the patient that he had the ability to gain control over his hyperventilation.

At the second interview a standard hypnotic induction, with direct suggestion of relaxation and control, resulted in an obvious trance state with mild posthypnotic euphoria and sustained relief of anxiety and tension. Suggestions of visual imagery of himself receiving an hypodermic injection into the back of his hand without distress was also effective during a second hypnotic induction. Post-trance discussion clarified his particular concern of actual tissue damage by a needle. He was considered as being highly hypnotizable. He denied any particular fear of pain. Over the next four weekly interviews hypnodesensitization aided by 'homework' in which he was given a hypo-

dermic syringe and needles to inject into an orange, or piece of rubber, and eventually into his own trousers progressed satisfactorily and uneventfully.

While hypnotized during the fourth to sixth interviews, a needle was injected subcutaneously into the dorsum of his hand without pain. At the sixth interview, his further management was discussed and he agreed to attend the Oro-facial Pain Clinic and be examined by a dentist (the first author). He had last attempted to attend a dentist at the Royal Dental Hospital 8 years previously but had walked in the door and immediately walked out. Despite the poor state of his own teeth and suffering from excruciating toothaches, he had avoided treatment.

One week later he attended the Oro-Facial Pain Clinic with some trepidation. Assessment included routine dental and medical screening and answers to the questionnaires and rating scales regularly used by this clinic.

The first few weekly sessions by the new therapist repeated the hypnoid sensitization with needles. Gradually with familiarization of the clinic setting, dental chair and dental instruments, a full oral examination was easily performed. At the tenth session, a local anaesthetic was injected into his mouth without distress. Conservative dental treatment was subsequently able to be carried out although extraction of many of his remaining teeth was necessary, as most of his teeth were beyond repair. Preliminary preparation included dealing with his phobia of anaesthesia and his fear of dying. Motivation and instructions on how to cope with his new artificial dentures were also provided. The general anaesthetic proceeded uneventfully with little pre-operative anxiety, an extremely smooth induction, quick recovery, minimal post-operative pain or discomfort and rapid healing. Tolerance of the patient's new prosthesis was excellent.

Conclusion

A robust causal relationship appears to exist relating hypnotizability to both the acquisition and treatment of dental phobic disorders. Hypnosis in dental practice is not a complete treatment in its own right nor is it a panacea but may be a most valuable adjunct to therapy. There is also a need of other components including sympathetic listening, empathy, patience, interest and the many other skills of supportive psychotherapy. There is a need for the dentist to become technically eclectic and be familiar with many different strategies to assist patient seeking help. Properly applied, hypnotherapy permits the dentist to provide a more complete health service, which will include the means to help fearful patients or those with chronic pain or discomfort.

References

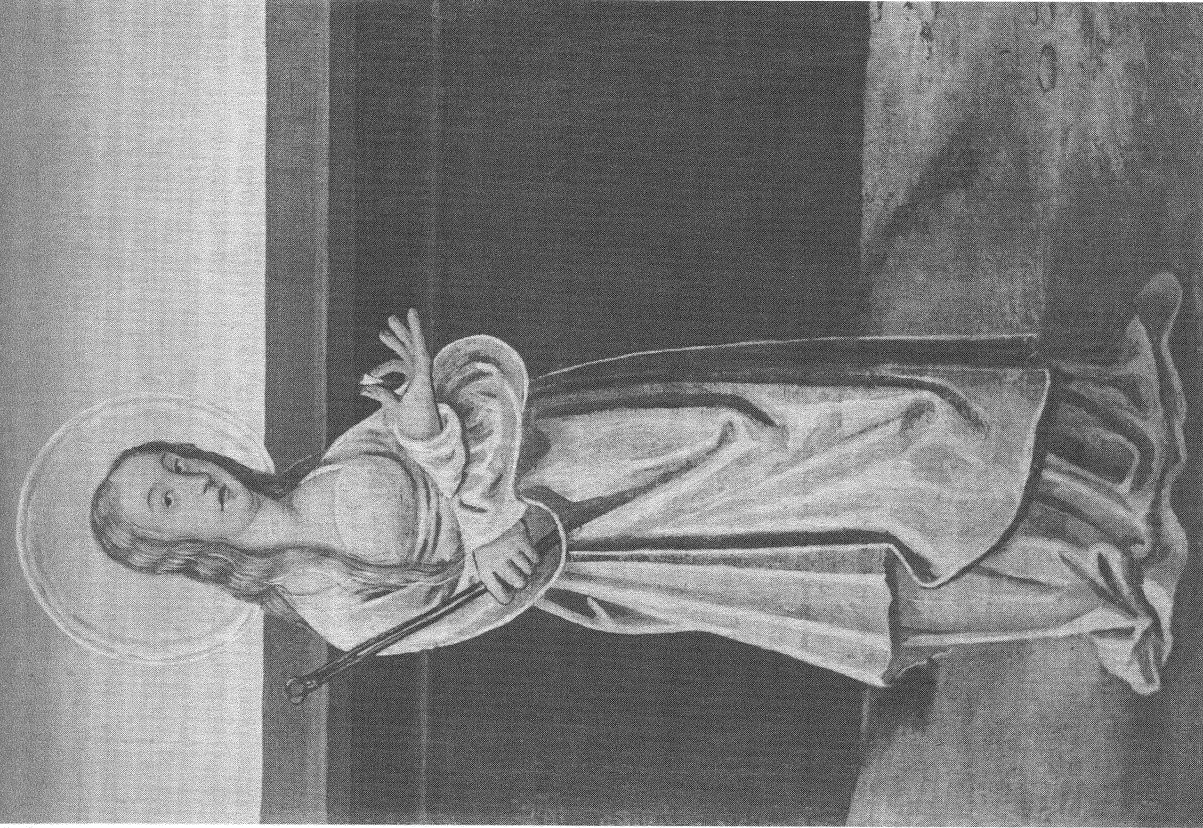
- Foenander, G., Burrows, G.D., Gerschman, J.A., & Horne, D.J. (1980). Phobic behaviour and hypnotic susceptibility. *Australian Journal of Clinical and Experimental Hypnosis*, 8, 41-48.
- Forgione, A. (1988). Hypnosis in the treatment of dental fear and phobia. *Dental Clinic of North America*, 32, 745-761.
- Frankel, F.M. (1974). Trance capacity and the genesis of phobic behaviour. *Archives of General Psychiatry*, 31, 261-263.

- Frankel, F.M. (1976). *Hypnosis: Trance as a Coping Mechanism*. New York: Plenum Publ. Co.
- Frankel, F.M., & Orne, M.T. (1976). Hypnotizability and phobic behaviour. *Archives of General Psychiatry*, 33, 1259-1261.
- Frischolz, E.J., Spiegel, D., Spiegel, H., Balma, D.L., & Markell, C.J. (1982). Differential hypnotic responsiveness to smokers, phobics and chronic pain control patients. A failure to replicate. *Journal of Abnormal Psychology*, 91, 269-272.
- Gerschman, J.A. (1983). An investigation of chronic orofacial pain and dental phobic illness. Ph.D. Thesis, Melbourne University, Melbourne, Australia.
- Gerschman, J.A. (1988). Dental fears and phobias. *Australian Family Physician*, 17(4).
- Gerschman, J.A., & Burrows, G.D. (1989). Dental phobic disorders and hypnotizability. *Journal of Dental Research*, 68(4), Abst. S13, 553.
- Gerschman, J.A., & Burrows, G.D. (1995). Hypnotizability and dental phobic disorders. In G.D. Burrows, & R.O. Stanley (Eds.), *Contemporary International Hypnosis* (pp. 309-379). Chichester: John Wiley & Sons.
- Gerschman, J.A., Burrows, G.D., & Reade, P.C. (1980). Hypnosis in dentistry. In G.D. Burrows, & L. Dennerstein (Eds.), *Handbook of Hypnosis and Psychosomatic Medicine* (pp. 443-479). Amsterdam: Elsevier/North Holland, Biomedical Press.
- Gerschman, J.A., Burrows, G.D., & Reade, P.C. (1987). Hypnotizability and dental phobic disorders. *International Journal of Psychosomatics*, 33, 42.
- Gerschman, J.A., Burrows, G.D., Reade, P.C., & Foenander, G. (1979). Hypnotizability and the treatment of dental phobic illness. In G.D. Burrows, & D.R. Collison (Eds.) *Hypnosis 1979* (pp. 33-39). Amsterdam: Elsevier/North Holland, Biomedical Press.
- Gerschman, J.A., & Giebartowski, J. (1991). Effect of electronic dental anaesthesia on pain threshold and pain tolerance levels of human teeth subjected to stimulation with an electronic pulp tester. *Anaesth. Prog.*, 38, 45-49.
- Gerschman, J.A., Hall, W., Reade, P.C., Burrows, G.D., Wright, J.L., & Holwill, B.J. (1987). The determinants of chronic oro-facial pain. *The Clinic Journal of Pain*, 3, 45-53.
- Gerschman, J.A., Wright, J.L., Hall, W., Reade, P.C., Burrows, G.D., & Holwill, B.J. (1987). Comparison of psychological and social factors in patients with chronic oro-facial pain and dental phobic disorders. *Australian Dental Journal*, 32(5), 331-335.
- John, R., Hollander, B., & Perry, C. (1983). Hypnotizability and phobic behaviour: Further supporting data. *Journal of Abnormal Psychology*, 92(3), 390-392.
- Kelly, S.F. (1984). Measured hypnotic response and phobic behavior. *International Journal of Clinical and Experimental Hypnosis*, 32, 1-5.
- Orne, M.T., & O'Connell. (1967). Diagnostic ratings of hypnotizability. *International Journal of Clinical and Experimental Hypnosis*, 15, 125-133.
- Owens M.E., Bliss, E.L., Koester, P., & Jeppsen, E.A. (1989). Phobias and hypnotizability: A re-examination. *International Journal of Clinical and Experimental Hypnosis*, 37(3), 207-216.
- Shor, R.E., & Orne, E.C. (1962). Harvard Group Scale of Hypnotic Susceptibility, Form A. Palo Alto: Consulting Psychologists Press.
- Stanley, R., Burrows, G.D., & Judd, F.K. (1990). Hypnosis in the management of anxiety disorders. In R. Noyes, Jr., M. Roth, & G.D. Burrows (Eds.), *Handbook of Anxiety*, Vol. 4, *The Treatment of Anxiety* (pp. 537-548). Amsterdam: Elsevier.
- Weitzenhoffer, A.M., & Hilgard, E.R. (1962). *Stanford Hypnotic Susceptibility Scale: Form C*. Palo Alto, CA: Consulting Psychologists Press.

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*St. Apollonia, patron saint of dentists
Apollonia was martyred under the Roman emperor
Gaius Messius Quintus Traianus Decius (200 - 251 A.D.)
(from the library of Per-Olof Wickström)*

Hypnosis in the Modification of Dental Anxiety

Shelagh Thompson

■ Uptake of dental care is poor for a large percentage of the population and there appears to be a connection between patient anxiety and their beliefs and attitudes towards health. Research has been directed towards examining reasons for fear and anxiety, in order to understand patient behaviour and coping mechanisms. In this article, reference is made to the use of hypnosis within established psychological treatments, in order to facilitate long term behavioural and cognitive changes, towards a decrease in anxiety and an adoption of preventative oral health practices. The necessity for improvement in communication skills is stressed; by greater understanding of the patient individualised treatment can be undertaken, which will reduce anxiety and provide positive coping strategies. The benefits of hypnosis as an adjunct to other treatment modalities are discussed, in order to decrease reliance on pharmacotherapeutic measures and allow the patient to develop methods of increasing self control and efficacy.

Preservation of the dentition requires control of dental caries through diet and periodontal disease through effective oral-hygiene supplemented by professional prophylaxis. Acceptance of these measures, however, is low and in a comprehensive review, Sackett (1976) concluded that between 30-70% of all recommendations for home care, diet and medication were not followed by patients. Studies have demonstrated a connection between patients' fear of dentistry and their beliefs and attitudes towards health, and how they affect behaviour towards receiving oral care (Kleinnecht, Klepac & Alexander, 1973; Freeman, 1985). It is the purpose of this paper to demonstrate ways in which hypnosis can help to decrease anxiety and modify cognitive perceptions towards adoption of effective preventative behaviour.