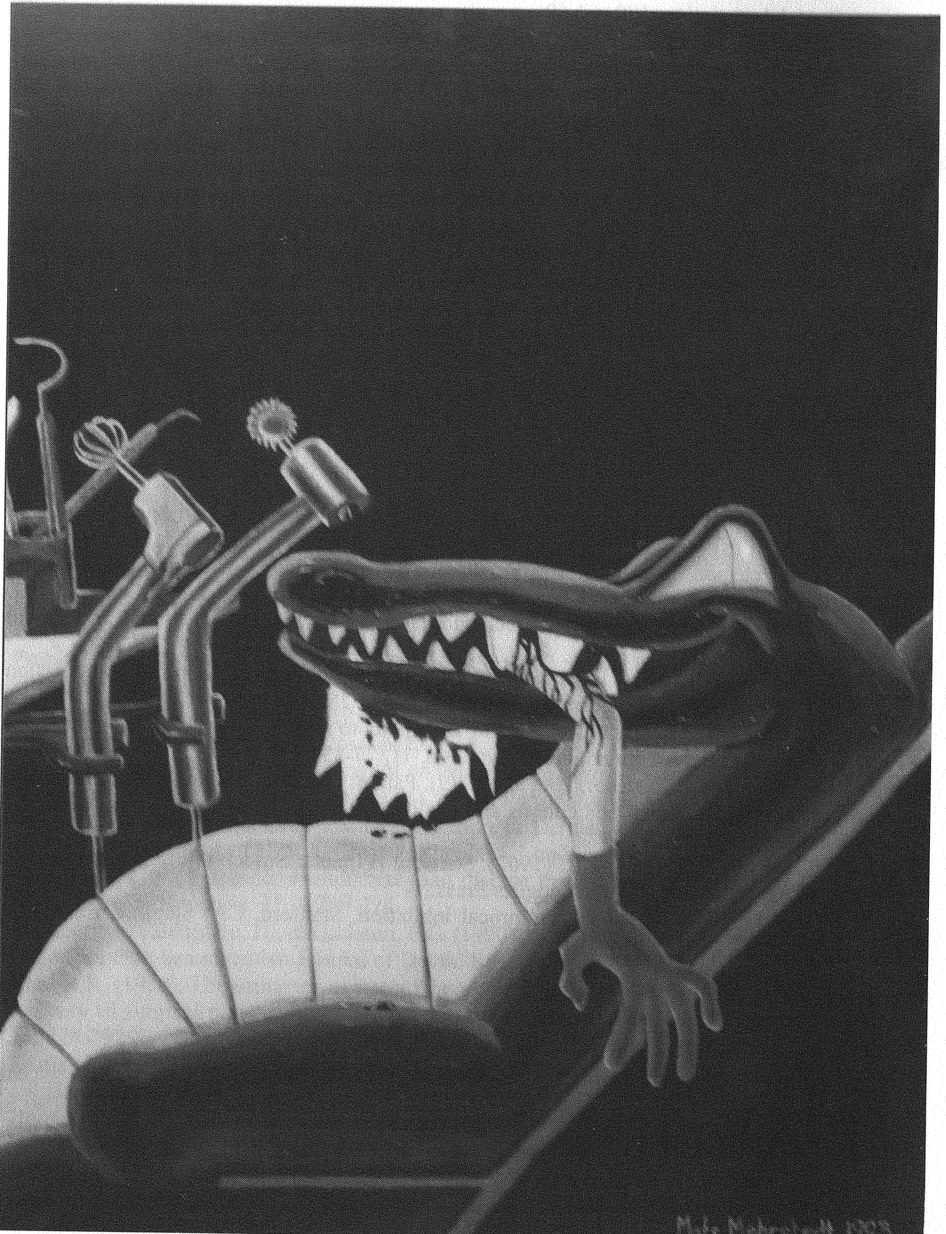

Mats Mehrstedt, „Reciprocal Inhibition", 1993, oil on canvas, 80x60

Hypnosis and Behavior Therapy of Dental Fear in Children

Mats Mehrstedt

■ *Compliance problems often make dental treatment of children stressful or even impossible. The reason for this is generally a lack of training in techniques for behavior modification and hypnosis on the part of the dentist. Since the early experiences in the dental office may have far-reaching consequences for the young patients, the dentist's goal should be to help prepare the patients to live their lives with positive and convinced attitudes toward dental care. Training in techniques for behavior modification and hypnosis is essential for the dentist who wants to make dental treatment for the patient and himself stress-free. Knowledge about interpersonal skills and the effect of non-verbal as well as verbal suggestions can help the dentist build up a context for the dental treatment that can help the child feel comfortable and competent.*

Children who for various reasons won't cooperate in the dental office are a major source of stress in the daily work of most dentists. Research has shown that dentists who are not trained in psychological management techniques usually adopt strategies in these situations that are not very helpful and sometimes even counterproductive (Weinstein, Getz, Ratener & Demoto 1982a, b). This has given the treatment of fearful patients in general and fearful children in particular a reputation of being time consuming and disastrous to the economic welfare of the dental office. For the children, their first experiences with dentistry, especially if negative, can be of greater importance for their future development than the concerned parts generally realize (Melamed & Siegel, 1980). Dentists have an important role to play in the social and psychological development of children, and need to be adequately trained in order to avoid unnecessary mistakes (Nathan, 1989). Contrary to beliefs, the literature shows that dentists trained in behavioral techniques can treat fearful children with minor initial investment of time (Holst, 1988).

Hypnosis is a useful method that can easily be combined with behavioral techniques (Bowers, 1982; Brown & Fromm, 1987; Peter, Kraiker & Revenstorf, 1991; Revenstorf, 1996). Hypnosis has, however, also been held to be too time-consuming for use in

© M.E.G. Stiftung, Konradstr. 16, D-80801 München

the dental office (Kunzelmann, 1986). A modern understanding of hypnosis shows that this does not need to be the case (Chaves, 1994). With children in the dental office, the role of hypnosis is to help the young patient to experience dental treatment as at least within his or her sphere of competence. Fearful children, like fearful adults, are usually extremely receptive to anything that has to do with their fear (Seligman, 1975; Öhman, 1993), and information given to them may be received as suggestions. By being aware of at least parts of the patient's fears and fantasies, his creativity and his understanding of the context of the encounter, the dentist can choose his wording in a suggestive way to avoid negative aspects and mobilize the resources of the particular patient. When special relaxation techniques may be required, or when dissociation of harder parts of treatment is called for, concentrated imaginative involvement may be trained (Schmierer, 1993). For the dentist, the more he or she knows about fears and about behavior modification, the easier it may be to solve the problems at hand (Korsch, Gozzi & Francis, 1968).

Dental fear in children

Children can be uncooperative in the dental office for different reasons, but the most important one is fear of dental treatment. There can also be different reasons why the child has aquired this fear. Many children have become fearful of dental treatments during previous appointments, usually when treatment has taken place without the child being sufficiently informed about the proceedings and their reasons and when the treatment has involved pain and the use of physical force. The child has experienced a situation where his or her physical and mental powers have been demonstrated to be blatantly inferior to those of the adults. In one study, the average age of onset for dental phobia was shown to be 12 years (Öst, 1987). 24% of the fearful patients, however, claim to have had dental fear before their first visit to a dentist. They had aquired their fear through stories or bits of verbal and nonverbal information from others (Berggren, 1984), usually from their mothers. There is a significant relationship between dental fear in children and dental fear in their mothers (Wright, Alpern & Leake, 1973; Tuutti & Lahti, 1987; Klingberg, Berggren & Norén, 1994).

Thus, dental anxiety in children can be viewed as a learned response (Milgrom, Weinstein & Getz, 1995; Edelmann, 1994). However, this does not preclude the potential importance of personality traits in modulating the learning process. General anxiety has been shown to be a predisposing factor in dental anxiety (Enneking, Milgrom, Weinstein & Getz, 1992; Klingberg, Berggren & Norén, 1994). Neuroticism has been shown to play a role in the acquisition of phobias (Schuurs, Duivenvoorden, Makkes, Thoden van Velzen & Verhage, 1988; Wickramasekera, 1994), and so has hypnotizability (Gerschman, Burrows & Reade, 1987). In research by Sermet (1974) behavioral and emotional disorders were found in 31% of dentally anxious children. A generally nervous and high-strung disposition was described for 54% of these children but for none in a non-anxious control group.

Dental fear is more prevalent in children from lower socio-economic groups (Locker, 1989; Bedi, Sutcliffe, Donnan & McConnachie, 1993; van Steenkiste, 1995). The latter survey also showed that the fearful children generally had poorer dental health, and immigrant children had greater dental fear than German children.

Some uncooperative children do not really have any dental fear. They simply have not learned to handle difficult situations. These are usually overprotected children, whose parents always have saved them from problematic situations (Pinkham, 1990). Child-rearing practices influence the child's acquisition of coping skills and stress tolerance in general. In research done by Venham and colleagues (1979) it was shown that parental demands, limit-setting, and the use of negative and positive reinforcement facilitated the child's tolerance for unpleasant situations and contributed to the development of behavioral and emotional control.

The attitude of the dentist

The way the dentist handles the problems with a non-compliant child can have long-term consequences for the young patient, particularly if the dentist adopts the wrong strategies. Persuasion and the use of rhetorical questions have been identified as factors correlating with dental anxiety in children (Alwin, Murray & Niven, 1994). Research has also shown that permissiveness generally leads to non-cooperation, and coerciveness to either non-cooperation or resistance (Wurster, Weinstein & Cohen, 1979). Less confident practitioners accounted for 95% of coercive behaviors, 86% of permissive behaviors and 87% of uncooperative behaviors. Directive guidance, on the other hand, was followed by cooperation.

A relationship of trust must be established with the young patient before any dental treatment begins. This is the most important part of any therapy, and in particular with child patients in the dental office. In order to win the trust of the child the dentist should start by asking the child about its thoughts and feelings and observe its behavior. The ability to read the emotions conveyed through the nonverbal channels of body movement, rather than their verbal expression, has been found to be significantly correlated with the interpersonal success with patients in the clinical setting (DiMatteo, Friedman & Taranta, 1979). Through the same nonverbal channels the dentist can express concern and understanding for the patient (Schore, 1994).

Feigenberg (1979) identifies 3 characteristics of importance within the professional attitude of people who are working with helping others. These are knowledge, self knowledge and empathy. The first part, knowledge, does not mean professional excellence, but rather knowledge about psychological and social circumstances. Knowledge about psychological defence mechanisms, unconscious motivations and unconscious communication is helpful in understanding the help-seeking person.

The second part, self knowledge, is of basic importance to a professional attitude. The therapist has to be aware of his or her own feelings and needs in order to handle them in such a way that they do not interfere in the contact with the help-seeking per-

son and the decisions that need to be taken.

The third part, empathy, is the ability of the professional to understand the help-seeking person's feelings within the circumstances as he or she sees them, to „see with feeling" (MacLean, 1967). The patient has a right to be respected as an independent individual, a fact that is often forgotten when the patient is a child.

There may be several reasons why the dentist may have problems with the empathic process; one reason can be found in early disturbances in the development of his personality and in connection with others, resulting in a narcissistic personality structure. There may be subconscious conflicts that activate rigid defence mechanisms, and there may also be a lack of alertness for emotional signals, due to unfamiliarity with introspection, lacking knowledge about emotions or simply a lack of motivation (Holm, 1994).

In working with child patients it is important that the dentist learns how to set a goal for what will be accomplished at the appointment and that he can set this goal so that the patient can reach it without difficulty. He then has to show enough firmness to help the patient reach the goal, and he has to display his confidence in his ability to do this (DePaulo, 1991).

The behavior of the parent

If the young patient is brought to the office by a parent it is often necessary to discuss the treatment with him or her first, and to define the role the parent will play in it. By doing so, one still has to consider that the patient has a central role and discussions should not take place over his or her head.

The parent may have expectations, questions or fears that have to be dealt with in order to keep him or her from interfering in a negative way in the doctor-patient relationship. If these problems are ignored in the beginning, it may be a lot harder to deal with them later on, as the parent may have given up on listening to the doctor (Korsch, Gozzi & Francis, 1968). In the interaction with the parent it may be of importance to realize that the value systems of the parent and those of the dentist may be entirely different, and that the dentist may be well advised to take this into account. The attributes of the help-seeking persons such as socio-economic background, cultural background, psycho-social factors, education, and knowledge strongly influence his or her communication with the dentist and his or her understanding of what the dentist says. Many times, for example, dentists believe that persons of lower socio-economic status do not care much for explanations although the opposite is true (Locker, 1989).

Parents who are themselves fearful of dental treatment often tend to exacerbate compliance problems in their attempt to help solve them. They may be concerned that their children's improper behavior may reflect back on their less than perfect child rearing. At the same time they may be torn between the necessity of dental treatments and their own fearful perceptions of the dental treatment as a torture, which they don't want their children to experience. The reassuring statements of the parent may be perceived by the child as, at best, disconnected from reality. Simultaneously, the nonverbal statements of the parent may show an attitude of fear and protection in disharmony with statements denying any kind of threat. As a result of all this, the dentist may tend to see the solution to the problem in denying the parent the right to be present during the dental treatment. However, a majority of parents do wish to be present (Kamp, 1992) and with adequate preparation on the part of the parent, this seems to be a natural part of a trusting relationship (Milgrom & Weinstein, 1993).

© M.E.G.-Stiftung, Konradstr. 16, D-80801 Munich, Germany

The desensitizing treatment plan

Research has shown that gradual exposure to the feared stimuli is an effective therapy for most fears (Wolpe, 1990). In the prevention and treatment of dental fear it is therefore reasonable to divide the dental treatment into portions that are small enough for the patient to handle. This way the patient can build up a feeling of competence which can even lead to positive feelings like joy and pride. The dentist who can help a child to feel competent in the dental office also wins his or her trust. When easier parts of dental treatment are managed in this way it will be very much easier for the child to manage the harder parts. Dental treatment as a whole, in connection with all the fantasies and misunderstanding the patient adds to it, may be too much for the young patient and he or she panicks. Divided up into smaller parts, the patient will be able to grasp what will take place and it will be easier for him or her to estimate his possibilities to cope with the situation or even enjoy it. At the first appointment with children who have previous traumatic experiences it will also be helpful to talk about this and make clear that the feared treatment will not be repeated. Otherwise, a two-way communication will not take place, since the patient is too worried to listen. For fear reduction, it is more important that the child experiences the dental team as friendly, than that any particular dental treatment takes place (Weinstein & Nathan, 1988).

For some children, going into the room where the dental chair is may be too much. In these cases it is often a good idea to let the first appointment be just a discussion of previous experiences, thoughts and fears and possible solutions. Depending on the level of fear, one should try to define what will take place at the next appointment, and agree on that. This talk should take place in a special neutral room. If this is not available, the waiting room will do.

All people are different and may be afraid of different things. This is also true for children. In general, however, children have not had time to develop deep-rooted dental phobias and are therefore easier to help. Establishing a hierarchy of feared situations and objects is usually also relatively easy.

The child should only be confronted with parts of dental treatment that it can handle. Going too fast up the fear hierarchy may be disastrous (Wolpe, 1990; Fliegel, Groeger, Künzel, Schulte & Sorgatz, 1994). What the child may have learned so far could be jeopardized and there may also be a loss of trust which may lead to the end of treatment. In this case it is better to repeat something that the child already knows it can manage.

For very fearful children, instruction in dental hygiene is a good possibility to learn to

feel competent in the surroundings of a dental office. It is also the most decisive part of a future relationship with dentists and dental health. The tooth brush is a familiar object and establishes a link between the comfort of home and the unfamiliar dental office.

The later introduction to actual dental treatments may be facilitated by „pseudodontics“ such as excavating without using the drill and laying a filling over that. (Researchers are working on chemical substances that at least in part may dissolve carious matter [Weinstein, 1990]. Filling materials including fluoride can also have some containing effect.) The child should be praised profusely for what it has accomplished, and when it feels completely secure in the dental situation, the drill can be introduced as a great time-saving device.

The 3-step injection

The use of local anesthesia should not be proposed until the child understands the reason why it needs to be used. When the child has come so far as to be confronted with the turbine, it can be explained that the water sometimes can feel „cold“, like an ice cream cone sometimes can be unpleasantly cold. The use of the word „pain“ should be avoided, unless the child itself brings it up. When the child experiences the drilling as „too cold“ it is time to explain the possibility of a 3-step injection (Mehrstedt, 1996). First a choice can be offered between topical anesthetics of different flavors. This usually leads to an interesting conversation that distracts from fearful thoughts. When the right flavor is chosen and the topical anesthetic applied, a conversation can take place about how numb the skin has become. The suggestions given by the dentist thereby may play a greater role than the topical anesthetic itself (Gryll & Katahn, 1978).

When the child is convinced that the area is without feeling, a few drops may be injected just under the surface of the skin, while pulling gently at the lip to distract from the injection. After waiting for this anesthetic to take, the rest can usually be injected with no discomfort to the child.

Dental hypnosis

There is a growing body of evidence that relates hypnotizability to the development of dental phobic disorders (Gerschman, Burrows & Reade, 1987; Gerschman & Burrows, 1994). Children are also found to be particularly hypnotizable, with a peak performance in this regard generally between the age of 8 and 14 years (Olness & Gardner, 1988). This suggests that hypnotic techniques should be useful also in the treatment of fearful children, and it should be of particular importance to keep the suggestibility of these patients in mind, when talking to them. Negative statements can have lasting effects, but on the other hand can positive formulations make the dental treatment more stress-free and even have therapeutic effects (Mulligan, 1996; Peter, 1996). Suggestions can be used to reduce fear and enhance the self-confidence of the child. They can also be used as relaxation, distraction and reinterpretation of pain (Kent, 1986).

As children have a lesser capacity to concentrate on the same thing over a longer period of time than adults, but do have a greater capacity than adults for imagery and fantasy, a naturalistic hypnotic approach to children is advisable (Erickson, 1967; Mrochen, 1990). There is seldom, if ever, a need for formalized or ritualistic techniques, since the timing and wording of suggestions is more important than any specific hypnotic procedure (Chaves, 1994). The term „imaginative involvement“ may be applied to the phenomena in young children that correlate with hypnosis in adults (Rustvold, 1994).

Several techniques for hypnosis with children in the dental office have been presented in the literature. Most of these are distraction techniques, like the „favorite TV program technique“ (Wikström, 1981a; Schmierer, 1993). This technique helps the child concentrate so hard on a favorite TV-program that the dental treatment is dissociated. Hand puppets and cassette tapes are also described as useful aides to distract the children.

William Wester II (1991) recommends building a distraction technique around some stuffed animals for children who are about 2 years old. The television technique may be interesting for a 6-year-old and school children (7-11) are best suited for „favorite place“ imaginations. For adolescents he recommends sports imagery.

With very fearful children, however, distraction techniques may not be sufficient to get to a point where dental treatment can take place. Standard techniques may also sometimes interfere with creative communication. For some children it might be more helpful if the dentist forgets his clever techniques for a while and instead pays more attention to the creativeness of the child. If the child feels appreciated and listened to it may come up with its own ideas (LeBaron & Zeltzer, 1996).

Pharmacological treatment methods

There are some patients where psychological methods are not sufficient. In this case different pharmacological methods can be considered.

One alternative is general anesthesia. Candidates for such treatments are often mentally handicapped children who cannot be reached adequately with communication, and spastic children who cannot control their body movement enough in order to have dental treatment take place. Very young children with severe carious lesions could also belong to this group (Neumann, 1995).

Sedatives can be given to children, when a psychological approach alone is not effective (Klingberg, 1995). The effects are sedative and anxiolytic, and often result in post treatment amnesia.

Nitrous oxide has been shown to be excellent, especially in combination with behavioral techniques (Weinstein, Domoto & Holleman, 1986) or hypnosis (Wikström, 1981b).

In some cases of extreme dental fear, a combination of psychological and pharmacological treatment methods can prove to be more effective than either method alone (Dworkin, 1986; Weinstein, 1990).

Ethical issues in managing the noncompliant child

All patients have a right to be respected as independent individuals, including their

right to refuse treatment they don't agree with. It is up to the dentist to find ways to explain the treatment and the reasons for it in such a way that the young patient can understand and accept it. At the same time he or she can give the patient a chance to feel the dignity he is due as a developing individual (Griffen & Schneiderman, 1992). Given the great difference in experience and education, this should not be impossible.

When confronted with the dental problems of the child, the dentist will have to consider these in relation to the patient's future dental and medical problems and his or her relationships with figures of authority in general. Future health-seeking behavior may be jeopardized if the child is physically or emotionally harmed in the course of treatment. Milton H. Erickson stated it this way: *„No matter what the age of the child may be, there should never be any threat to the child as a functioning unit of society. Adult physical strength, intellectual strength, force of authority, and weight of prestige are all so immeasurably greater to the child than his own attributes that any undue use constitutes a threat to his adequacy as an individual"* (Erickson, 1967).

References

Alwin, N., Murray, J.J., & Niven, N. (1994). The effects of children's dental anxiety on the behaviour of the dentist. International Journal of Paediatric Dentistry, 4, 19-24.

Bedi, R., Sutcliffe, P., Donnan, P.T., & McConnachie, J. (1993). Oral cleanliness of dentally anxious schoolchildren and their need for periodontal treatment. Journal of Dentistry for Children, 60, 17-21.

Berggren, U. (1984). Dental fear and avoidance. Dissertation, Göteborg, Sweden.

Bowers, K.S. (1982). The relevance of hypnosis for cognitive-behavioral therapy. Clinical Psychological Review, 2, 67-78.

Brown, D.P., & Fromm, E. (1987). Hypnosis and behavioral medicine. Hillsdale, New Jersey: Lawrence Erlbaum,.

Chaves, J.F. (1994). Recent advances in the application of hypnosis to pain management. American Journal of Clinical Hypnosis, 37, 117-129.

DePaulo, B.M. (1991). Nonverbal behavior and self-presentation: A developmental perspective. In R. S. Feldman, & B. Rimé (Eds.), Fundamentals of nonverbal behavior (pp. 351-397). Cambridge: Cambridge University Press.

DiMatteo, M.R., Friedman, H.S., & Taranta, A. (1979). Sensitivity to bodily nonverbal communication as a factor in practitioner-patient rapport. Journal of Nonverbal Behavior, 4, 18-26.

Dworkin, S.F. (1986). Integrating behavioral and pharmacological therapeutic modalities. Anaesthesia Progress, 33, 29-33.

Edelmann, W. (1994). Lernpsychologie. Weinheim: Beltz, Psychologie Verlags Union.

Enneking, D., Milgrom, P., Weinstein, P., & Getz, T. (1992). Treatment outcomes for specific subtypes of dental fear: preliminary clinical findings. Special Care in Dentistry, 12, 214-218

Erickson, M.H. (1967). Pediatric hypnotherapy. In J. Haley (Ed.), Advanced techniques of hypnosis and therapy. Selected papers of Milton H. Erickson. Boston: Allyn & Bacon.

Feigenberg, L. (1979). Döden i sjukvården. Svenska föreningen för psykisk hälsovard, monografiserien nr. 3

Fliegel, S., Groeger, W.M., Künzel, R., Schulte, D., & Sorgatz, H. (1994). Verhaltenstherapeutische Standardmethoden (3. Aufl.). Weinheim: Beltz, Psychologie Verlags Union.

Gerschman, J.A., & Burrows, G.D. (1994). Hypnotizability and dental phobic disorders. Hypnos, 21, 224-233.

Gerschman, J.A., Burrows, G.D., & Reade, P.C. (1987). Hypnotizability and dental phobic disorders. International Journal of Psychosomatics, 33, 42-47.

Griffen, A.L., & Schneiderman, L.J. (1992). Ethical issues in managing the noncompliant child.

© M.E.G.-Stiftung, Konradstr. 16, D-80801 Munich, Germany

Pediatric Dentistry, 14, 178-183.

Gryll, S.L., & Katahn, M. (1978). Situational factors contributing to the placebo effect. Psychopharmacology, 57, 253-261.

Holm, U. (1994). Empati. Att förstå andra människors känslor. Stockholm: Natur och Kultur.

Holst, A. (1988). Behavior management problems in child dentistry. Frequency, therapy and prediction. Dissertation, Swedish Dental Journal, Supplement 54.

Kamp, A.A. (1992). Parent child separation during dental care: a survey of parent's preference. Pediatric Dentistry, 14, 231-235.

Kent, G. (1986). Hypnosis in dentistry. British Journal of Experimental and Clinical Hypnosis, 3, 103-112

Klingberg, G. (1995). Dental fear and behavior management problems in children. A study of measurement, prevalence, concomitant factors, and clinical effects. Dissertation, Swedish Dental Journal, Supplement 103.

Klingberg, G., Berggren, U., & Norén, J.G. (1994). Dental fear in an urban Swedish child population: prevalence and concomitant factors. Community Dental Health, 11, 208-214.

Korsch, B.M., Gozzi, E.K., & Francis, V. (1968). Gaps in doctor-patient communication. I. Doctor-patient interaction and patient satisfaction. Pediatrics, 42, 855-871.

Kunzelmann, K.-H. (1986). Hypnose in der Zahnheilkunde. Unpubl. dissertation, University of Würzburg, Germany.

LeBaron, S., & Zeltzer, L.K. (1996). Children in pain. In J. Barber (Ed.), Hypnosis and suggestion in the treatment of pain. New York: W.W. Norton & Company.

Locker, D. (1989). An introduction to behavioural science and dentistry. London: Tavistock/Routledge.

MacLean, P.D. (1967). The brain in relation to empathy and medical education. Journal of Nervous and Mental Disease, 144, 374-382.

Mehrstedt, M. (1996). Zahnbehandlung bei ängstlichen Kindern. Quintessenz, 47, 55-66.

Melamed, B.G., & Siegel, L.J. (1980). Behavioral Medicine: Practical applications in health care. New York: Springer.

Milgrom, P., & Weinstein, P. (1993). Dental fears in general practice: new guidelines for assessment and treatment. International Dental Journal, 43, 288-293

Milgrom, P., Weinstein, P., & Getz, T. (1995). Treating fearful dental patients (2nd ed.). Seattle: University of Washington Continuing Dental Education.

Mrochen, S. (1990). Stand der Forschung in der Kinderhypnose. Hypnose und Kognition, 7, 41-49.

Mulligan, R. (1996). Dental pain. In J. Barber (Ed.), Hypnosis and suggestion in the treatment of pain. New York: W.W. Norton, & Company.

Nathan, J.E. (1989). Management of the difficult child: A survey of pediatric dentists' use of restraints, sedation and general anesthesia. Journal of Dentistry for Children, 56, 293-301.

Neumann, C. (1995). Anästhesie bei Kindern und Jugendlichen. In B. Willershausen-Zönnchen, & O. Butenandt (Hrsg.), Kinderzahnheilkunde. München: Urban & Schwarzenberg.

Öhman, A. (1993). Fear and anxiety as emotional phenomena: clinical phenomenology, evolutionary perspectives, and information-processing mechanisms. In M. Lewis, & J.M. Haviland (Eds.), Handbook of emotions. New York: Guildford Press.

Öst, L.-G. (1987). Age of onset in different phobias. Journal of Abnormal Psychology, 96, 223-229.

Olness, K., & Gardner, G.G. (1988). Hypnosis and hypnotherapy with children. Philadelphia: Grune & Stratton.

Peter, B. (1996). Normal instruction or hypnotic suggestion: what makes the difference? Hypnosis International Monographs, 2, 157-170

Peter, B., Kraiker, C., & Revenstorf, D. (Hrsg.) (1991). Hypnose und Verhaltenstherapie. Bern: Hans Huber.

Pinkham, J.R. (1990). Behavioral themes in dentistry for children: 1968-1990. Journal of Dentistry for Children, 57, 38-45.

Revenstorf, D. (1996). Hypnose und kognitive Verhaltenstherapie. Hypnose und Kognition, 13, 23-49.

Rustvold, S.R. (1994). Hypnotherapy for treatment of dental phobia in children. General Dentistry, 42, 346-348.
Schmierer, A. (1993). Einführung in die zahnärztliche Hypnose. Berlin: Quintessenz.
Schore, A.N. (1994). Affect regulation and the origin of the self. The neurobiology of emotional development. Hillsdale: Lawrence Erlbaum.
Schuurs, A.H.B., Duivenvoorden, H.J., Makkes, P.C., Thoden van Velzen, S.K., & Verhage, F. (1988). Personality traits of patients suffering extreme dental anxiety. Community Dentistry and Oral Epidemiology, 16, 38-41.
Seligman, M.E.P. (1975). Helplessness. On depression, development and death. San Francisco: N.H. Freeman.
Sermet, O. (1974). Emotional and medical factors in child dental anxiety. Journal of Child Psychology and Psychiatry and Allied Disciplines, 15, 313-321.
Tuutti, H., & Lahti, S. (1987). Oral health status of children in relation to the dental anxiety of their parents. Journal of Pediatrics, 11, 146-150.
van Steenkiste, M. (1995). Der Zusammenhang zwischen Dentalangst und Zahngesundheit, Inanspruchnahme zahnärztlicher Leistungen, Bildungsniveau und Nationalität bei 12jährigen Kindern. Unpublished manuscript, Waiblingen, Germany.
Venham, L.L., Murray, P., & Gaulin-Kremer, E. (1979). Child-rearing variables affecting the preschool child's response to dental stress. Journal of Dental Research, 58, 2042-2045.
Weinstein, P. (1990). Breaking the worldwide cycle of pain, fear and avoidance: uncovering risk factors and promoting prevention for children. Annals of Behavioral Medicine, 12, 141-147.
Weinstein, P., Domoto, P.K., & Holleman, E. (1986). The use of nitrous oxide in the treatment of children: results of a controlled study. Journal of the American Dental Association, 112, 325-331.
Weinstein, P., Getz, T., Ratener, P., & Demoto, P. (1982a). The effect of dentists' behaviors on fear-related behaviors in children. Journal of the American Dental Association, 104, 32-38
Weinstein, P., Getz, T., Ratener, P., & Demoto, P. (1982b). Dentists' responses to fear and non-fear-related behaviors in children. Journal of the American Dental Association, 104, 38-40.
Weinstein, P., & Nathan, J.E. (1988). The challenge of fearful and phobic children. Dental Clinics of North America, 32, 667-692.
Wester, W.C. II (1991). Induction and deepening techniques with children. In W.C. Wester II, & D.J. O'Grady (Eds.), Clinical hypnosis with children (pp. 34-40). New York: Brunner/Mazel.
Wickramasekera, I. (1994). Psychophysiological and clinical implications of the coincidence of high hypnotic ability and high neuroticism during threat perception in somatization disorders. American Journal of Clinical Hypnosis, 37, 22-33.
Wikström, P.O. (1981a). Hypnos inom odontologin. In J. Hartland (Ed.), Klinisk hypnos. Stockholm: Natur och kultur.
Wikström, P.O. (1981b). Att kombinera lustgas med hypnos. Tandläkartidningen, 73, nr 1-2.
Wolpe, J. (1990). The practice of behavior therapy. (4th ed.). New York: Pergamon Press.
Wright, G.Z., Alpern, G.D., & Leake, J.L. (1973). A cross-validation of variables affecting children's cooperative behaviour. Journal of the Canadian Dental Association, 39, 268-273.
Wurster, C.A., Weinstein, P., & Cohen, A.J. (1979). Communication patterns in pedodontics. Perceptual and Motor Skills, 48, 159-166.

Key words: Hypnosis, behavior therapy, dental fear, children

Mats Mehrstedt, D.M.D.
Horner Landstr. 173
22111 Hamburg, Germany

© M.E.G.-Stiftung, Konradstr. 16, D-80801 Munich, Germany

Hypnosis and Dentistry

Ilana Eli and
Moris Kleinhauz

■ *In dentistry, hypnosis has numerous potential applications, which include treating patients who suffer from dental fear, anxiety and phobia, excessive gagging reflex, managing acute and chronic pain, increasing patient's compliance with dental hygiene, and enhancing patient's adaptation to dentures. In the hands of a trained professional, hypnosis is a potent medical tool. It is the authors belief that incorporating hypnosis in dental care is beneficial to both dentist and patient and enables better comprehensive dental care to the population.*

In spite of its ancient roots, hypnosis has been accepted only recently as a scientific and medical tool. It has been surrounded by myths and mystery for so long that even today various popular misconceptions regarding hypnosis exist. There is no doubt that hypnosis is a powerful therapeutic tool. Over 1000 articles have been published in the scientific literature during 1982 to 1985 concerning hypnosis (Nash, 1988). This indicates an enduring willingness on the part of the scientific community to accept hypnosis as a legitimate topic for clinical and research investigation. Hypnotherapy has been viewed as „a process whereby we help people utilize their own mental associations, memories and life potentials to achieve their own therapeutic goals“ (Erickson & Rossi, 1979), a definition appropriate to cover the use of hypnosis in psychotherapy, as well as in other fields of medical treatment, such as dentistry. The present article summarizes the various aspects of hypnosis as a therapeutic tool in the dental setting.

The application of hypnosis in dental care

Treatment of dental fear, anxiety and phobia

An important use of hypnosis in dentistry is to alleviate fear, anxiety and phobia. Although relatively little research has been conducted in this field, an increasing number of theoretical and clinical reports have been published concerning this issue. In the early 1970s, several relevant cases were reported. Golan (1971) described a woman who was generally „frightened to death“ of dental treatment but had an urgent need for dental care (acute alveolar abscess in one of her few remaining teeth). Hypnosis was