

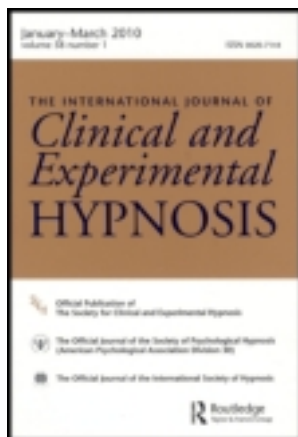
This article was downloaded by: [Hebrew University]

On: 06 March 2012, At: 09:00

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954

Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



International Journal of Clinical and Experimental Hypnosis

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/nhyp20>

Hypnotherapeutic Olfactory Conditioning (HOC): Case Studies of Needle Phobia, Panic Disorder, and Combat-Induced PTSD

Eitan G. Abramowitz^a & Pesach Lichtenberg^b

^a Mental Health Division, Israel Defense Forces, Israel

^b Herzog Hospital and the Hadassah Medical School of the Hebrew University, Jerusalem, Israel

Available online: 27 Oct 2010

To cite this article: Eitan G. Abramowitz & Pesach Lichtenberg (2009): Hypnotherapeutic Olfactory Conditioning (HOC): Case Studies of Needle Phobia, Panic Disorder, and Combat-Induced PTSD, International Journal of Clinical and Experimental Hypnosis, 57:2, 184-197

To link to this article: <http://dx.doi.org/10.1080/00207140802665450>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or

howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

HYPNOTHERAPEUTIC OLFACTORY CONDITIONING (HOC): *Case Studies of Needle Phobia, Panic Disorder, and Combat-Induced PTSD*

EITAN G. ABRAMOWITZ

Mental Health Division, Israel Defense Forces, Israel

PESACH LICHTENBERG¹

Herzog Hospital and the Hadassah Medical School of the Hebrew University, Jerusalem, Israel

Abstract: The authors developed a technique, which they call hypno-therapeutic olfactory conditioning (HOC), for exploiting the ability of scents to arouse potent emotional reactions. During hypnosis, the patient learns to associate pleasant scents with a sense of security and self-control. The patient can subsequently use this newfound association to overcome phobias and prevent panic attacks. This may be especially effective for posttraumatic stress disorder (PTSD) with episodes of anxiety, flashbacks, and dissociation triggered by smells. The authors present 3 cases, patients with needle phobia, panic disorder, and combat-induced PTSD who were successfully treated with the HOC technique.

When nothing else subsists from the past, after the people are dead, after the things are broken and scattered . . . the smell . . . of things remain poised a long time, like souls . . . bearing resiliently, on tiny and almost impalpable drops of their essence, the immense edifice of memory.

Marcel Proust, *Remembrance of Things Past*

In hypnosis, a therapist may try to condition the patient so that he or she will learn to associate an environmental or mental stimulus with a desired emotional response. This association can replace an earlier one that causes distress for the patient (Weitzenhoffer, 1989). Olfaction may be particularly well suited for this type of conditioning. The sense of smell, though not often addressed in hypnotic interventions, can be emotionally charged and powerfully evocative of memories (Abramowitz, 2003; Herz & Reich, 1995; Maylor, Carter, & Hallett, 2002). The same principles that govern the acquisition of conditioned emotional responses to auditory

Manuscript submitted January 11, 2008; final revision accepted April 28, 2008.

¹Address correspondence to Pesach Lichtenberg, MD, Department of Psychiatry, Herzog Hospital, P.O. Box 3900, Jerusalem 91035, Israel. E-mail: licht@cc.huji.ac.il

and visual stimuli can presumably be extended to the olfactory system (Sullivan, Landers, Yeaman, & Wilson, 2000; Van Der Berg et al., 1999).

The olfactory bulbs, protruding beneath the frontal lobe, receive input from odor receptors in the olfactory epithelium of the nose and send output fibers to limbic and neocortical areas, including the hippocampus, amygdala, orbitofrontal cortex, and cingulate gyrus, areas of the brain involved in storing memories and processing emotions. The amygdala, in particular, plays an important role both in the long-term, unconscious storage of memories of fear and in the emotional processing of olfactory stimuli (Otto, Cousens, & Herzog, 2000). These neuroanatomical connections provide the substrate for the observed behavioral connections between olfaction and emotion. Scents can arouse vivid memories and intense emotional responses (Herz & Cupchic, 1995) and will arouse more autobiographical memories of better quality than other sensory or verbal stimuli (Chu & Downes, 2002).

Olfactory cues can also be used to produce a conditioned fear response (Otto et al., 2000; Paschall & Davis, 2002; Richardson, Vishney, & Lee, 1999). Clinically, odor can be a potent stimulus of memories and, in the case of individuals suffering from posttraumatic stress disorder (PTSD), of anxiety, traumatic flashbacks, and dissociative states (Kline & Rausch, 1985; Vermetten & Bremner, 2003). A recent positron tomographic emission study with PTSD combat veterans showed activation of the amygdala and other areas involved with emotional processing upon exposure to the smell of diesel, a significant feature of their traumatic memories (Vermetten, Schmahl, Southwick, & Bremner, 2007).

We will present three cases where the therapist exploited the olfactory sense in conditioning the patient to associate a certain scent with positive memories and experiences and with enhanced self-control. None of the patients had undergone formal hypnotic inductions prior to our therapeutic intervention, which was in all cases preceded with a standardized assessment of hypnotizability. (We do not count the session devoted to assessing hypnotizability in the final tally of hypnotherapeutic sessions for each case, though clearly one could make the case that this initial hypnotic experience contributes to the ultimate therapeutic effect.) We will suggest how this intervention, which we call Hypnotherapeutic Olfactory Conditioning (HOC), can provide the therapeutic basis for helping patients suffering from anxiety disorders (specific phobia and panic disorder) and from dissociative symptoms in chronic, combat-related PTSD.

All names appearing in the text are fictional, and potentially identifying information has been altered.

CASE ONE: NEEDLE PHOBIA

Our first presentation describes a relatively healthy individual with a circumscribed situational anxiety. Morris, 42, suffered from a needle phobia, with a long history of avoiding dentists. Morris sought assistance for overcoming his fear of an impending surgical dental procedure he needed to undergo. Other than the presenting problem, Morris suffered no serious distress in his life in the realms of work and family and had never sought any form of therapy. He had tried on his own to overcome a general fear of medical procedures, in particular by employing techniques of self-hypnosis that he had acquired at a stress-reduction workshop sponsored by his employers, but he remained helpless when he tried to apply these techniques in the face of an actual procedure.

Morris came to therapy highly motivated but with intense anxiety lest he fail in treatment. Regardless of his past experience, it was decided to treat Morris with hypnosis. His hypnotizability level was moderate: 7 of 12 on the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962).

Before starting therapy, Morris received a brief explanation of how the sense of smell can have a powerful effect on the brain, especially regarding the storing of emotional memories and experiences. Morris was then invited to choose from a number of vials containing "a pleasant and calming scent" for subsequent use in the therapy; he chose Red Mandarin.

In the first hypnotherapeutic session, Morris entered a trance and was able to achieve glove anesthesia. The next step involved holding close to his nose the vial containing Red Mandarin. One of us (EGA) continued with the following suggestions: "soon there will appear a pleasing scent . . . one which you have chosen which will enhance your sense of security and self-control . . . as well as the numbness that you feel in your hand." After that, with the vial remaining near his nose, Morris received further suggestions for moving the numbness from his hand to his jaws and gums and achieved a degree of confidence and control for a stable analgesia that he would be able to use during the surgery.

Through finger signaling (Cheek & LeCron, 1968), Morris was able to communicate that his hand was anesthetized and that he could hold on to the memory and experience of the scent while continuing to respond to the hypnotic suggestions. He was then told:

Every time that you experience the scent which you have now chosen, you will easily and pleasantly become anesthetized in your jaws and gums, while feeling a sense of calmness and security . . . you will be able to control the degree of anesthesia . . . and succeed in this task . . . as you are here and now!

Following hypnosis and a discussion of his experiences and while still in the office, Morris was asked to practice entering the trance state through the use of the aromatic anchor and then to produce once again the anesthetic experience. Within several minutes, Morris was able to satisfactorily reproduce a significant degree of analgesia. With three more attempts, he became increasingly proficient using the aroma to rapidly induce analgesia. The technique was practiced and reinforced during the second and final hypnotherapeutic session.

Morris took home the aromatic vial. Several days later he returned and reported that with the vial in hand he had successfully undergone the surgical procedure and had already made appointments for further much-needed dental care.

CASE TWO: PANIC DISORDER

The second case presented here illustrates the usefulness of HOC for dealing with a severe, long-standing case of panic disorder. Ethan, 37, single, the younger of two children, was a computer programmer who enjoyed his work. His father had died when Ethan was 7 years old from a sudden myocardial infarction. Ethan grew up as a quiet and shy child who excelled in school and was very attached to his mother and older brother.

In adolescence, Ethan suffered from test anxiety, extreme bashfulness, and free-floating anxiety. He was subsequently diagnosed with generalized anxiety disorder and treated by a psychiatrist with a variety of antidepressant medications, which he continued to take.

His first panic attack was at age 18, when he felt like he was having a "heart attack," feared he was about to die, hyperventilated, fainted and was brought by ambulance to an emergency room. During the years that followed, he had multiple anxiety attacks of varying intensity and developed agoraphobia as well. He was treated psychotherapeutically with psychodynamic and cognitive-behavioral approaches, producing only mild and temporary improvements. For the 2 years prior to hypnotherapy, he had become dependent upon benzodiazepines and was receiving alprazolam 0.5 mg three to four times daily. He was also receiving paroxetine 60 mg daily.

At the start of therapy, the therapist (EGA) switched Ethan's daily dosages of medication to venlafaxine 225 mg and alprazolam 2mg (the latter divided into four 0.5 mg doses taken as needed) and added risperidone 2 mg. This change led to a marked reduction in the frequency and intensity of the panic attacks, as well as to an improvement in his sleep. However, Ethan continued to dread the next panic attack, to an extent that severely disrupted his life. He was unable to reduce his use of medication.

A month and a half after these changes in medication, seeking to produce further improvement in Ethan's condition, the therapist decided to utilize hypnotic techniques in the sessions. Ethan's hypnotizability was moderate (7 on the SHSS:C). The hypnotherapist explained to Ethan that the sense of smell could be exploited in hypnotic exercises aimed at inducing a sense of calm. Ethan was asked to choose, from among several possibilities, "the scent which appears most calming." Ethan chose an aromatic oil of basil ("etherus of basilicum"). At the therapist's request, Ethan then provided details of a "safe place" from an earlier, quieter, and more secure period in his life. A hypnotic trance was gradually induced, with occasional interruptions by Ethan, until he felt comfortable enough to fully comply. Using age regression, Ethan returned to the safe place he had chosen. While summoning up the memories of this safe place, the therapist held the vial of aromatic oil near Ethan's nose, all the while offering suggestions associating the aroma with positive experiences:

While you relax and enjoy the safe haven you have chosen, you become more and more aware of the scent which accompanies this pleasant experience . . . a scent which fills you with quiet and serenity . . . with relaxation . . . a scent which fills every corner of your body and soul, till you feel maximum calmness . . . control and security . . . and just as you experience, here and now, this pleasant scent, so shall you be able to experience this safe place . . . here and now, and whenever you feel a need for greater control you will be able to reenter your safe haven . . . with surprising ease you will be able to experience this safe place . . . to inhale . . . to be calm . . . to be secure with this positive experience of your safe place.

Following hypnosis and a discussion of what Ethan had experienced, he was requested to practice several times reentering the safe place independently by using the olfactory stimulus. By his last attempt, Ethan was able to completely reenter the safe place in mere seconds. Ethan was given "homework" and told to practice what he had learned at least twice daily for a few minutes each time.

At the following meeting, Ethan reported that the past week had been far calmer than usual, though he continued to dread the possibility of another panic attack. For this reason he continued to ingest tranquilizers every time he left the house.

Ethan was asked to reenter the safe place. After establishing communication by way of finger signaling (Cheek & LeCron, 1968), the therapist asked Ethan to recall one of the situations where he had succeeded in avoiding a panic attack by taking a tranquilizer. He was asked to recall in detail and to reexperience the first moments when he had noted relief from his symptoms with the medication. While Ethan was doing so, the therapist held the vial of aromatic oil close to his nose. When Ethan communicated that he had started to feel relief, the therapist began offering suggestions of help:

It is beginning to get better . . . the medication is allowing you to experience the scent . . . the scent is filling the brain with a sense of relief . . . the scent is reaching everywhere in your body where it needs to be, in order to quickly and efficiently help you feel calm . . . the scent is activating the serenity centers of your brain . . . together with the medication . . . even more quickly than the medication . . . and more efficiently . . . in a matter of seconds you can feel the relief, the calmness, the security . . . you no longer need wait all those long minutes till the pill melts in your stomach and starts working . . . the scent enters your brain in a matter of seconds . . . and helps you relax . . . as it is here and now!

During the second half of this meeting, Ethan was asked to imagine halting one of his recent panic attacks by using the scent of basil. When he succeeded in doing so, he was asked, while still in a hypnotic trance, to imagine himself back in his first panic attack, to reexperience the episode from the beginning, to treat it with the use of the aroma, and then to imagine his subsequent life, in age progression, without panic attacks (Abramowitz, 2003). At the end of the session, before receiving written instructions about how to taper and discontinue the alprazolam, he received suggestions for ego strengthening and for the successful use of his new technique.

Ethan required two additional meetings to become fully adept at using the olfactory stimulus, bringing to four the number of hypnotherapeutic sessions. During the following 3 months, he was able to completely discontinue his use of tranquilizers and other medications. Ethan continued with psychodynamic psychotherapy after the panic attacks had subsided.

At 1-year follow-up, Ethan reported that he continued to utilize the vial of aromatic basil when needed, which was rarely more than once or twice a month. He also showed no signs of agoraphobia.

CASE THREE: COMBAT-INDUCED PTSD

Our final case describes the use of HOC for treating severe posttraumatic stress disorder (PTSD). Uri, 51, separated with three children, was freshly retired from the military where he had served 32 years as a combat officer. Uri had always maintained a high level of functioning in his military capacity. With his family, from whom he was often absent, he was less successful.

Uri had never sought therapy, despite complaining for decades of intrusive memories of battles, during two of which he had been injured, and despite suffering from tinnitus and from back pain due to spinal-column damage. Since retiring during the past year, he had suffered from crying spells every day "for no reason," and these episodes often progressed to a sense of being cut off from reality, living in a "bubble," and losing his sense of time. Further, one of his

chief complaints was that he would experience severe anxiety attacks after smelling gasoline or grilled meat. At these times, he would “lose control,” tremble, feel extreme panic, and experience flashbacks to the time that he was injured. Uri described in particular two traumatic episodes from his past. In one of them, his armored carrier rode over a land mine and exploded, killing everyone inside except for Uri, who while soaked in gasoline was able to rescue himself and to escape unscathed. In the second traumatic memory, the driver of his jeep was completely burned while Uri, himself injured in the event, could only helplessly look on.

During the year of his retirement and marital crisis, Uri’s condition deteriorated and his ability to function in all areas declined drastically. Posttraumatic symptoms that had plagued him for years without interfering in his level of functioning coalesced into a full-blown PTSD with secondary depression, anxiety attacks, severe insomnia, suicidal ideation, and dissociative symptoms.

For the first 4 months of therapy, Uri received a daily regimen of medications that included an antidepressant (escitalopram 30 mg), an antipsychotic (olanzapine 10 mg), and a minor tranquilizer (clonazepam 2 mg). This treatment enabled Uri to sleep 4 hours a night and led to a slight reduction in symptoms of anxiety, but he remained distressed and nonfunctional.

The therapy started focusing on the narrative of the traumatic experiences. Uri expressed great interest in the possibility of using hypnotic techniques for dealing with these memories. His hypnotizability was moderate (6 on the SHSS:C). His score on the Impact of Events Scale (IES; Horowitz, Wilner, & Alvarez, 1979), a measure of posttraumatic symptomatology, was 73, while on the Dissociative Experience Scale (DES; Bernstein & Putnam, 1986) he rated 38. Both scores reflect a high level of distress and disability.

Hypnotherapeutic intervention was administered in six weekly 1.5-hour sessions. In the first session, the therapist provided a detailed explanation of hypnosis, including how it works, why its use is appropriate here, and what to expect during the therapeutic sessions. Uri was then requested to describe the specific scents that disturb him, the flashbacks, panic attacks, and other unpleasant reactions that these scents trigger, and how he had hitherto dealt with his distress. Uri was then asked to “choose the vial with the scent which most symbolizes for you a sense of control and, at the same time, calm.” He chose aromatic etherus of basilicum. A “scent bridge” (Abramowitz, 2003) was established, using age regression to retrieve pleasant memories and experiences while associating them, under influence of the pleasant scent, with a sense of control and calm.

In the second session, the therapist first showed Uri how to communicate during a hypnotic trance via finger signaling (Cheek & LeCron,

1968). Following induction and deepening of the trance, using Watkins's technique of the "affective bridge" (Watkins, 1971) for ego strengthening, the therapist helped the patient recollect and reexperience past episodes of successful ego functioning under stress for purposes of applying these emotional resources in the "here and now." The therapist then provided Uri with posthypnotic suggestions for dealing successfully with the ordeal of frequent flashbacks to the traumatic event in preparation for reexposure to the memories in subsequent sessions. The last half hour of the second session was devoted to a detailed exploration of the patient's experiences while undergoing hypnosis.

In the third session, following an explanation of the importance of the sense of smell in conditioning the patient's sensitivity to traumatic flashbacks, the therapist and patient together chose a carefully detailed "safe place," drawn from the Uri's memories, where he would be able to feel calm and confident. While Uri vividly imagined this safe place, with special emphasis upon the sense of smell, the therapist held close to Uri the vial of etherus of basilicum. Under hypnosis, using age regression, Uri reverted to a period when he could easily enter the safe place, lingering upon its favorable olfactory qualities. The therapist offered suggestions strengthening the association between the hypnotically conjured safe place and the actual scent of basil. Posthypnotic suggestions further establish the anticipated beneficial effect of the scent. Finally, following complete deinduction, Uri practiced his entry into the safe place while smelling the basil oil an additional five times.

By the fourth hypnotherapeutic session, evidence of progress was clear. Uri reported that the flashbacks had ceased, and his general anxiety level had diminished significantly. Dissociative states that had previously plagued him were transformed into time outs of a few seconds to a few minutes during which he would willingly enter a calm and secure place. His depression started to lift.

The fourth and fifth sessions involved a careful and detailed review of the actual traumatic event while Uri, hypnotized, was in the safe place and able to continue smelling the aromatic basil odor that the therapist held close to his nose. He was encouraged to imagine the actual event from a safe distance or on a remote-controlled television screen, in either case maintaining control of his proximity and exposure to the memories. As the traumatic events, in particular their olfactory characteristics, were recalled, the therapist, keeping the basilicum close to the patient, repeatedly offered a reframing of the traumatic olfactory memory, replacing it with the pleasant scent of the basilicum, and producing a far more moderate emotional and behavioral reaction to the memory. This process was repeated as often as 20 times in the course of each session.

In the sixth and final hypnotherapeutic session, after hypnosis had been induced, Uri had reentered the safe place, and the aromatic vial

placed within smelling distance of his nose, Uri was encouraged, using the tools he had already mastered, to reconstruct the situation that initially, after the traumatic event, led to a panic attack. The therapist conveyed repeatedly—as many as 20 times—suggestions reframing the nature of the smells experienced in the course of the flashbacks, as well as posthypnotic suggestions that Uri would react differently to subsequent recollections of the event.

By the end of therapy, Uri's functioning and well-being had improved greatly. He became far less preoccupied with his battle memories. He became more active in his new civilian life. He even renewed contact with his separated wife and began couple's therapy. Medication was reduced to escitalopram 20 mg daily (instead of 30 mg), while the antipsychotic and minor tranquilizer were discontinued altogether.

Uri's progress was reflected in his clinical rating scores. By the end of the therapeutic intervention, Uri's score on the IES had fallen to 32 and on the DES to 22. During a year of follow-up, Uri's gains in therapy were consolidated, and his emotional condition and functional level remained good. His final scores at the 1-year follow-up were 36 on the IES and 24 on the DES.

DISCUSSION

Hypnotherapeutic olfactory conditioning (HOC) is a new and effective technique wherein the sense of smell is utilized as an anchor, or positive association (Bandler & Grinder, 1979), to induce a trance and to produce new associations that can help a patient overcome anxieties and dissociative states.

While the specifics of each application of the technique will of course vary in accordance with the details of the distress and the factors that caused and maintained the pathological situation, two components comprise the cornerstone of the technique. First, a hypnotic trance is induced. This already provides the patient with an opportunity to regain a sense of control and possibly to feel a degree of serenity that has eluded him or her for a long period. The second step, central to HOC, is the development of the olfactory anchor. The suggestions of the therapist encourage the patient to associate a pleasant aroma with pleasant memories or with a safe place that can provide an experience of security and competence. The patient can subsequently use these odors, contained in a vial, for self-induction of hypnosis or to actually deal *in vivo* with anxiety-ridden situations, incipient panic attacks, or dissociative reactions.

We have presented three cases where we employed the HOC technique as part of the hypnotherapeutic effort. In the first case, HOC helped overcome a needle phobia by providing the patient

with a method for inducing self-hypnosis and enhancing self-control in the face of a previously anxiety-arousing stimulus. In the second case, HOC helped a patient with a long-standing panic disorder by allowing a pleasant scent to become an anchor for associations to a safe place, which then allowed the patient to gain control over his panic attacks by exploiting the newfound olfactory association. The patient was subsequently weaned off all of his medications. Finally, our third and most difficult case, a severe and debilitating combat-induced PTSD, featured episodes of dissociation and anxiety triggered by olfactory stimuli. HOC enabled the therapist to induce a hypnotic state and to then provide an anchor with the pleasant aroma that ultimately enabled the patient to revisit the memories of the trauma and to recover from PTSD. Rating scales attest to his great improvement, as does his marked reduction in the use of medication.

A necessary limitation of case reports such as those presented here is the difficulty in determining which element of the therapy brought about the desired effect or indeed whether some other concurrent process or event might have been the actual source of improvement. The first case, which presented a relatively healthy client with a circumscribed needle phobia, is the most straightforward. The intervention was brief, and the goal of undergoing a dental procedure was achieved. The patient had some prior experience with self-hypnosis, which had not been sufficient to solve his problem.

The second and third cases here reported were more complex. First of all, they both involved pharmacological interventions as well. It is possible that the medications started working and brought about the impressive reduction in symptoms. However, we do not think that medication can explain the improvement beyond the initial stabilization of symptoms. In the second case, changes in medication had been instituted 6 weeks before, while in the third case 4 months had passed, which is usually sufficient to see a therapeutic effect. Moreover, by the end of therapy the patients had discontinued (second patient) or markedly reduced (third patient) intake of medication, yet their gains in treatment persisted. HOC would therefore appear to achieve benefits beyond those produced by medication.

It is more difficult to determine whether within the hypnotherapy it was specifically the HOC technique that brought about improvement, beyond that which hypnosis without HOC might have produced. A final determination on this question would ultimately require a carefully controlled study assessing two types of hypnotherapeutic intervention, with and without HOC. Yet, at the very least, we believe that HOC is a technique, using the oft-neglected sense of smell, for inducing hypnosis and producing anchoring that can have therapeutic effects. The possibility of carrying a vial of aromatic

substance for use as necessary would seem to have advantages over carrying a vial of benzodiazepine.

Of course, these cases remain anecdotal. It is possible that with other therapeutic interventions the condition of the patients would have improved. However, the long-standing nature of the clinical distress, and the gradual improvement during the hypnotherapeutic course of treatment, suggest that it was indeed the HOC intervention that brought about the improvement.

Any pleasant scent can be used in this technique. We have had good results with aromatic oils, which are easy to keep in the office and allow the patient to choose the one he or she feels most appropriate to him or her, a decision that already contains elements of suggestion and self-control.

The close neuroanatomical connections between olfactory, emotional, and memory areas of the brain (Powell, Cowan, & Raisman, 1965; Royet et al., 1999; Zald & Pardo, 2000), reflected behaviorally in a particular sensitivity to odor in arousing emotional memories (Otto et al., 2000), may provide the physiological basis for the success of the HOC technique. HOC exploits the rich, emotionally laden sensations that odors can arouse in order to condition the patient to associate self-control, calm, and confidence with a particular pleasant odor. In cases of PTSD that are already associated with odors that stimulate panic and dissociation, HOC is a method that enables the patient, with the help of hypnosis, to learn to associate his or her traumatic memories with more calming odors, with a resulting reduction in symptoms and improvement in quality of life.

HOC exploits the connection between olfaction and affect and uses that association for leverage in producing beneficial effects for patients suffering from anxiety and dissociative disorders. We believe that the olfactory sense has not been sufficiently exploited as a therapeutic tool. HOC can potentially be of value in anxiety disorders (especially panic disorder and PTSD) and in preparing individuals for painful medical or surgical procedures. In our experience, even moderately hypnotizable individuals can benefit from the technique.

Certainly, we need to accumulate further clinical and research data to examine the place of HOC in hypnotherapy and the full range of its possible applications. As a first step in this direction, we have initiated a research project using the HOC technique for the treatment of army veterans with chronic combat-related PTSD. As with Uri, our third case (who took part in the trial), participants are evaluated with several rating scales at baseline, 1 month, 6 months, and 1 year. We hope that this open study will help validate the efficacy of HOC and lead the way to further controlled studies that will be of ultimate benefit to the many people suffering from intractable PTSD.

REFERENCES

- Abramowitz, E. (2003, May). "Scent bridge" and scent conditioning in hypnotherapy of chronic combat PTSD patients. Presented at the Annual Congress of the Israel Society of Hypnosis, Tel Aviv, Israel.
- Bandler, R., & Grinder, J. (1979). *Frogs into princes: Neuro-linguistic programming*. Boulder, CO: Real People Press.
- Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability and validity of a dissociation scale. *Journal of Nervous and Mental Disease*, *174*, 727–735.
- Cheek, D., & LeCron, L. (1968). *Clinical hypnotherapy*. New York: Grune & Stratton.
- Chu, S., & Downes, J. J. (2002). Proust nose best: Odors are better cues of autobiographical memory. *Memory and Cognition*, *30*, 511–518.
- Herz, R. S., & Cupchic, G. C. (1995). The emotional distinctiveness of odor-evoked memories. *Chemical Senses*, *20*, 517–528.
- Herz, R. S., & Reich E. (1995). Commentary and envoi. In F. R. Schab & R. G. Crowder (Eds.), *Memory for odors* (pp. 159–175). Mahwah, NJ: Lawrence Erlbaum.
- Horowitz, M., Wilner, M., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine*, *41*, 209–218.
- Kline, N. A., & Rausch, J. L. (1985). Olfactory precipitants of flashbacks in posttraumatic stress disorder: Case reports. *Journal of Clinical Psychiatry*, *46*, 383–384.
- Maylor, E. A., Carter, S. M., & Hallett, E. L. (2002). Preserved olfactory cuing of autobiographical memories in old age. *Journals of Gerontology, Series B, Psychological Sciences and Social Sciences*, *110*, 489–505.
- Otto, T., Cousens, G., & Herzog, C. (2000). Behavioral and neuropsychological foundations of olfactory fear conditioning. *Behavioral and Brain Research*, *110*, 119–128.
- Paschall, G. Y., & Davis, M. (2002). Olfactory-mediated fear-potentiated startle. *Behavioral Neuroscience*, *116*, 4–12.
- Powell, T. P. S., Cowan, W. M., & Raisman, G. (1965). The central olfactory connections. *Journal of Anatomy*, *99*, 791–813.
- Richardson, R., Vishney, A., & Lee, J. (1999). Conditioned odor potentiation of startle in rats. *Behavioral Neuroscience*, *113*, 787–794.
- Royet, J. P., Koenig, O., Gregoire, M. C., Cinotti, L., Lavenne, F., Le Bars, D., et al. (1999). Functional anatomy of perceptual and semantic processing for odors. *Journal of Cognitive Neuroscience*, *11*, 94–109.
- Sullivan, R. M., Landers, M., Yeaman, B., & Wilson, D. A. (2000). Good memories of bad events in infancy. *Nature*, *407*, 38–39.
- Van Der Berg, O., Stegen, K., Van Deist, I., Raes, C., Stulens, P., Eelen, P., et al. (1999). Acquisition and extinction of somatic symptoms in response to odors: A Pavlovian paradigm relevant to multiple chemical sensitivity. *Occupational and Environmental Medicine*, *56*, 295–301.
- Vermetten, E., & Bremner, J. D. (2003). Olfaction as a traumatic reminder in posttraumatic stress disorder: Case reports and review. *Journal of Clinical Psychiatry*, *64*, 202–207.
- Vermetten, E., Schmahl, C., Southwick, S. M., & Bremner, J. D. (2007). Positron tomographic emission study of olfactory induced emotional recall in veterans with and without combat-related posttraumatic stress disorder. *Psychopharmacology Bulletin*, *40*, 8–30.
- Watkins, J. (1971). The affect bridge: A hypnoanalytic technique. *International Journal of Clinical and Experimental Hypnosis*, *19*, 21–27.
- Weitzenhoffer, A. M. (1989). *The practice of hypnotism*, Vol. 2. New York: John Wiley & Sons.
- Weitzenhoffer, A. M., & Hilgard, E. R. (1962). *Stanford Hypnotic Susceptibility Scale, Form C*. Palo Alto, CA: Consulting Psychologists Press.
- Zald, D. H., & Pardo, J. J. (2000). Functional neuroimaging of the olfactory system in humans. *International Journal of Psychophysiology*, *36*, 165–181.

Hypnotherapeutisches olfaktorisches Konditionieren: Fallstudien von Nadelphobie, Panikstörung, und PTSD

Eitan G. Abramowitz und Pesach Lichtenberg

Zusammenfassung: Die Autoren beschreiben eine neu entwickelte Technik (hypnotherapeutisches olfaktorisches Konditionieren, HOK), die mithilfe von Gerüchen starke emotionale Reaktionen hervorrufen kann. Unter Einsatz von Hypnose lernt der Patient, angenehme Gerüche mit einem Gefühl von Sicherheit und Selbstkontrolle zu assoziieren. Der Patient kann danach die neu etablierten Assoziationen einsetzen, um Phobien und Panikattacken zu bewältigen. Dies könnte insbesondere bei PTSD mit Episoden von Angst, Flashbacks und Dissoziationen, die von Gerüchen hervorgerufen werden können, vorteilhaft sein. Die Autoren stellen drei Fälle vor (Nadelphobie, Panikstörung, und PTSD), welche erfolgreich mit der HOK-Technik behandelt wurden.

RALF SCHMAELZLE

University of Konstanz, Konstanz, Germany

Le conditionnement olfactif hypnothérapeutique: Études de cas sur la phobie des aiguilles, le trouble panique et le syndrome de stress post-traumatique (SSPT) lié au combat

Eitan G. Abramowitz et Pesach Lichtenberg

Résumé: Les auteurs ont mis au point une technique qu'ils ont appelée « conditionnement olfactif hypnothérapeutique » (HOC), afin d'exploiter le potentiel des odeurs pour stimuler de fortes réactions émotionnelles. Sous hypnose, le patient apprend à associer des odeurs agréables avec un sentiment de sécurité et de maîtrise de soi. Il peut ensuite utiliser cette nouvelle association pour surmonter ses phobies et prévenir des crises de panique. Cette méthode peut être particulièrement efficace chez les personnes atteintes du syndrome de stress post-traumatique (SSPT) avec épisodes d'anxiété, de flashbacks et de dissociation déclenchés par les odeurs. Les auteurs présentent trois cas – phobie des aiguilles, trouble panique et SSPT lié au combat – traités avec succès par la technique de HOC.

JOHANNE REYNAULT

C. Tr. (STIBC)

Condicionamiento olfativo hipnoterapéutico (COH): Casos de estudio de fobia a las agujas, trastorno de pánico, y TEP producido por combate

Eitan G. Abramowitz y Pesach Lichtenberg

Resumen: Los autores desarrollaron una técnica, que llaman condicionamiento olfativo hipnoterapéutico (COH) para explotar la capacidad de los olores para despertar reacciones emocionales fuertes. Durante la hipnosis, el paciente aprende a asociar olores agradables con un sentido de seguridad y autocontrol. El paciente puede usar posteriormente esta asociación recién descubierta para vencer fobias y prevenir ataques de pánico. Esto puede ser

particularmente eficaz para el trastorno por estrés postraumático (TEP) con episodios de ansiedad, recuerdos traumáticos (flashbacks), y disociación provocada por olores. Los autores presentan 3 casos de pacientes con fobia de agujas, trastorno de pánico, y TEP inducido por combate que fueron tratados con éxito con la técnica COH.

ETZEL CARDEÑA

Lund University, Lund, Sweden