

Clinical Management of Chronic Nightmares: Imagery Rehearsal Therapy

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Behavioral Sleep Medicine

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Clinical Management of Chronic Nightmares: Imagery Rehearsal Therapy

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Problems with nightmares are reported by a sizable proportion of individuals with a history of trauma and by approximately 5% to 8% of the general population. Chronic nightmares may represent a primary sleep disorder rather than a symptom of a psychiatric disorder, and direct targeting of nightmares is a feasible clinical approach to the problem. Of the treatments proposed, imagery rehearsal therapy (IRT) has received the most empirical support. An up-to-date account of this cognitive-imagery approach shows how to treat nightmares during 4 roughly 2-hr sessions. The main points covered in each therapy session and their underlying rationale are presented. Dismantling protocols are suggested to discern active ingredients of IRT and to develop flexible applications based on patients' needs.

Nightmares occur as an outcome of almost any traumatic experience, and frequent nightmares are also reported by a sizable proportion of individuals without a trauma history. Already in the early 19th century, Waller (1816) had remarked that there were few afflictions more universal among all classes of society than the nightmare. Ernest Jones (1959/1931) began the first chapter of his classic work *On the Nightmare* by stating, "No malady that causes mortal distress to the sufferer, not even seasickness, is viewed by medical science with such complacent indifference as the one which is the subject of this book" (p. 13). Unfortunately, many clinicians today remain unaware of the suffering and distress generated by this dream disturbance and its relatively effective treatments.

Of the treatments proposed for nightmares, imagery rehearsal therapy (IRT) has received the most empirical support. This cognitive-imagery approach to treating nightmares is the focus of this "In The Clinic" article.

DIAGNOSTIC CRITERIA FOR NIGHTMARE DISORDER

Relatively similar clinical diagnostic definitions are presented in the *Diagnostic and Statistical Manual of Mental Disorders* (text revision; *DSM-IV-TR*; American Psychiatric Association, 2000) and the *International Classification of Sleep Disorders* (ICSD-2; American Academy of Sleep Medicine, 2005). Nightmares are characterized by repeated awakenings, usually from late-night REM sleep, with clear recall of frightening dream content. On awakening from the disturbing dream, the person is quickly alert with little to no confusion or disorientation. The newer ICSD-2 criteria specify that although nightmares usually involve fear or anxiety, other dysphoric emotions may be implicated. The *DSM-IV-TR* explicitly states that nightmares must cause "clinically significant distress or impairment in social, occupational, or other important areas of function" (American Psychiatric Association, 2000, p. 631).

NIGHTMARE PREVALENCE AND ASSOCIATION TO PSYCHOPATHOLOGY

Studies of large samples of college and university students show that between 8% and 25% of adults report having one or more nightmares per month (D. Belicki & Belicki, 1982; K. Belicki & Belicki, 1986; Feldman & Hersen, 1967; Levin, 1994; Wood & Bootzin, 1990), and 2% to 6% consistently report one or more nightmares per week (K. Belicki & Cuddy, 1991; Feldman & Hersen, 1967; Levin, 1994) with this percentage being considerably higher in other studies (Levin & Fireman, 2001; Schredl, 2003). The 2% to 6% prevalence estimate of one or more nightmares per week is consistent with the rates found in adult population surveys across different countries (Hublin, Kaprio, Partinen, & Koskenvuo, 1999; Janson et al., 1995; Stepansky et al., 1998). Studies also show that 5% to 8% of the general population report a current problem with nightmares, with about 6% reporting a previous complaint (Bixler, Kales, Soldatos, Kales, & Healy, 1979; Cirignotta, Zucconi, Mondini, Lenzi, & Lugaresi, 1983; Klink & Quan, 1987).

A high prevalence of nightmares has been reported in clinical populations (Hersen, 1971; Ohayon, Morselli, & Guilleminault, 1997; Tanskanen et al., 2001). These include patients seen in psychiatric emergency services (Berlin, Litovitz, Diaz, & Ahmed, 1984; Brylowski, 1990), people with substance abuse disorders (Cernovsky, 1985, 1986), clients with borderline personality disorder (Claridge, Davis, Bellhouse, & Kaptein, 1998), and individuals with schizophrenia-spectrum disorders (Hartmann, 1984; Levin, 1998). A majority of patients with dissociative

disorders also meet *DSM-IV* criteria for nightmare disorder (Agargun et al., 2003), and nightmare frequency is directly related to the risk of death by suicide (Tanskanen et al., 2001). Finally, nightmares are frequently reported by individuals exposed to a wide range of traumatic experiences (Barrett, 1996; Lifton & Olsen, 1976; Low et al., 2003), are part of the intrusion symptom cluster of posttraumatic stress disorder (PTSD; American Psychiatric Association, 2000), and are experienced by a significant majority of patients with PTSD (Kilpatrick et al., 1998; Krakow, Schrader, et al., 2002; Ross, Ball, Sullivan, & Caroff, 1989).

Although nightmares have frequently been described in association with personality disorders, schizotypy, and neuroticism, many people who experience frequent nightmares do not show clinical signs of psychopathology. Furthermore, reported correlations between measures of psychopathology and nightmare frequency in nonclinical populations are often low to moderate in magnitude (Levin & Fireman, 2002; Wood & Bootzin, 1990; Zadra & Donderi, 2000). A growing body of evidence indicates that nightmare frequency and waking distress over one's nightmare are only moderately correlated. In other words, people may experience few nightmares (e.g., one per month) yet report high levels of distress or may report many nightmares (e.g., more than one per week) yet low levels of distress. It is the distress associated with nightmares rather than nightmare frequency per se that best predicts psychopathology (K. Belicki, 1992; Blagrove, Farmer, & Williams, 2004; Levin & Fireman, 2002; Schredl, 2003; Schredl, Landgraf, & Zeiler, 2003). As described later, distress measures often decrease following successful nightmare treatment.

Several studies have reported a significant relationship between nightmare frequency and sleep disturbances including insomnia, sleep onset latency, postawakening sleep latency, awakenings, and restless or fitful sleep (Cellucci & Lawrence, 1978b; Haynes & Mooney, 1975; Hersen, 1971; Hublin et al., 1999; Krakow, Tandberg, Scriggins, & Barey, 1995; Levin, 1994). Nightmares seem to produce an insomnia-like pattern of sleep disturbance, if not frank insomnia.

Successfully treated nightmare patients often report improvements in sleep quality, feeling more rested on awakening, and having more daytime energy (Krakow, Kellner, Neidhardt, Pathak, & Lambert, 1993), and reduction in nightmares is a significant predictor of sleep improvement (Krakow, Kellner, Pathak, & Lambert, 1995). These findings suggest that at least in some cases, chronic nightmares may represent a primary sleep disorder rather than a symptom of a psychiatric disorder (Krakow, Tandberg, et al., 1995).

Controlled Treatment Studies

Although a myriad of techniques have been proposed to treat nightmares directly (Halliday, 1987), few have been the object of controlled studies. The first such study was conducted by Cellucci and Lawrence (1978a), who found that systematic desensitization was significantly more effective in reducing the number of

nightmares reported by individuals who experienced frequent nightmares than a discussion placebo group, which in turn reported fewer nightmares than a control group. Miller and DiPilato (1983) compared the efficacy of desensitization combined with relaxation and the effects of relaxation alone. A control group was also included. The results indicated that both treatment conditions were equally efficacious in reducing nightmare frequency, but desensitization produced greater decreases in nightmare intensity and more reports of complete elimination of nightmares.

One recent series of controlled studies has shown that IRT is effective in reducing nightmare distress and nightmare frequency, including maintenance of changes at long-term follow-up (Kellner, Neidhardt, Krakow, & Pathak, 1992; Krakow et al., 1993; Krakow, Kellner, Pathak, & Lambert, 1996; Neidhardt, Krakow, Kellner, & Pathak, 1992), and effectively relieves idiopathic, recurrent, and PTSD-related forms of nightmares (Germain & Nielsen, 2003; Kellner et al., 1992; Krakow, Hollifield, et al., 2000, 2001; Krakow, Johnston, et al., 2001; Krakow, Kellner, et al., 1995; Krakow, Sandoval, et al., 2001; Neidhardt et al., 1992). Remarkably, in these same studies, a relatively consistent pattern emerged of decreased psychiatric distress including anxiety, depression, or PTSD symptoms, following successful nightmare treatment. Of the several hundred participants and patients, with and without PTSD, treated in research protocols with IRT, approximately 70% reported clinically meaningful improvements in nightmare frequency. However, anecdotal observations among those individuals who reported regular use of the technique for 2 to 4 weeks indicate that significant clinical change occurred in greater than 90% of patients. Moreover, IRT appears to come in different forms as evidenced by other work (Bishay, 1985; Davis & Wright, 2005; Forbes, Phelps, & McHugh 2001; Marks, 1978; Thompson, Charlton, Kerry, Lee, & Turner, 1995). The distinguishing features between these variations of IRT generally revolve around the degree of exposure used during treatment sessions and/or the specific application of technique during the sessions. This article focuses on IRT as developed by Kellner, Neidhardt, Krakow, and Hollifield at the University of New Mexico School of Medicine.

THERAPEUTIC COMPONENTS OF IRT

Current Practice

IRT can be conceptualized as a two-component therapeutic process, each component of which targets a distinct, yet overlapping problem in the individual with nightmares. The first component addresses “nightmares as a learned sleep disorder,” similar to a learned behavior perspective on insomnia (Bootzin & Nicassio, 1978); the second component addresses “nightmares as the symptom of a damaged

imagery system” akin to earlier work of Howoritz (1983). In our most recent iteration of IRT, which is slightly revamped from the study design used in our largest randomized controlled trial (RCT) to date (Krakow, Hollifield, et al., 2000, 2001), there are four roughly 2-hr sessions that total 8 to 9 hr of therapy contact time. This does not include follow-up time, which is always recommended to reassess the patient and to sometimes assist in fine-tuning the technique. The first two sessions encourage patients to recognize the impact of nightmares on their sleep by showing them how nightmares promote learned insomnia. From this perspective, they are taught to recognize how nightmares themselves may develop into a learned behavior. The final two sessions engage the nightmare sufferer to learn about the human imagery system, to monitor how this system operates, to appreciate the connections between daytime imagery and dreams, and to implement the specific steps of IRT (i.e., selecting a nightmare, changing the nightmare into a new dream, and rehearsing the new dream). Aspects of each of these two components appear in all four sessions, but “learned sleep disorders” predominates in the first and second sessions and “imagery work” predominates in the last two sessions. An overview of the main points covered in each of these sessions is highlighted at the end of each session.

Throughout the sessions, we never discount or ignore patients’ perspectives on triggering incidents perceived as the cause of their nightmares. This point is especially relevant for trauma survivors with nightmares and for the meanings they associate with their disturbing dreams. Nevertheless, patients are shown how nightmares can be effectively treated as a problem in and of itself, without any discussion or emphasis on prior traumatic events or non-sleep-related PTSD symptoms. As such, IRT seeks to minimize the use of exposure therapy as an ingredient in its procedures. The following sections provide more details and the rationale for each of the successive sessions.

SESSION 1

Building Rapport and Developing Treatment Credibility

Not unlike any group treatment session, some degree of anxiety or trepidation fills the meeting room at the first encounter. In discussing these apprehensions with participants, three concerns usually arise. First, despite receiving pretreatment instructions that the group will not discuss past traumatic events or traumatic content of nightmares, virtually all participants do not believe this declaration. If they do believe it, they are usually baffled as to how we might treat nightmares. Regarding the latter point, the overwhelming majority of individuals whom we have treated for nightmares have had prior encounters with mental health providers who routinely described nightmares as a secondary process caused by stressful events, traumatic exposure, or PTSD. From this model, a belief arises that the only valid

treatments for disturbing dreams are psychotherapies or medications directed at PTSD or other psychopathology. Second, in attempting to address this issue by reiterating that we do not discuss these intense elements, another concern arises. Specifically, there is now no obvious explanation that would clarify how the program will treat nightmares in the absence of conventional psychotherapy or medications. The third and final concern relates to the fact that most nightmare patients arrive at the group with an unsurprising mix of 10% hope and 90% discouragement. That is, they have no specific reason to believe the program will be successful, and most individuals entering the program are fairly to strongly convinced that their nightmares will not respond to our treatment. Thus, they fear embarking on an adventure doomed to failure, yet they have come for help because they believe everything else has been tried, and they have nothing to lose.

Although the intensity of these concerns varies among research and clinical participants, these factors play a primary, determining role in program enrollment and attendance. As many as 50% of individuals with a chronic nightmare disorder who contact us about treatment never complete an intake packet or they complete an intake but never attend a session. In discussing these outcomes with some of these patients, invariably one or all three of the concerns detailed above are mentioned. Additional psychosocial or logistical factors also pose barriers, but treatment credibility is often perceived as very low because our therapeutic approach appears at odds with everything previously learned about bad dreams and nightmares.

Something to Sleep on

In our largest RCT with patients with PTSD (Krakow, Hollifield, et al., 2000, 2001), we introduced IRT by discussing how nightmares promote insomnia. This approach serves three purposes. First, it immediately shows the group that our interests are truly focused on sleep problems and not on trauma or PTSD. Second, it creates a “mini-aha” experience because most trauma survivors do not generally connect their nightmares to insomnia. Last, most patients chime in at this early point in the group experience about how they suffer from poor sleep, and group venting helps each individual validate his or her negative sleep experiences and thus his or her reasons for seeking treatment for these vexing sleep disturbances.

The current version of IRT focuses on the broader concept of poor sleep quality, including a discussion of insomnia. More important, however, it also sets the stage for future discussions about sleep-disordered breathing, which we have found in an alarmingly high rate of trauma survivors with nightmares and PTSD (Krakow, Germain, et al., 2000, 2001; Krakow, Melendrez, et al., 2001, 2002). The basic elements of the discussion revolve around the following points: (a) Nightmares fragment sleep; (b) sleep fragmentation causes poor sleep quality; (c) poor sleep quality is both a psychological and physiological process; (d) efforts to improve sleep quality provide maximum relief of sleep problems; and (e) treating nightmares is

an important step, and sometimes the best first step, in treating posttraumatic sleep disturbance.

A discussion of the points, relating nightmare experiences to poor sleep and nightmare treatment to improved sleep quality (listed below), is used to encourage patients' interests in the behavioral sleep medicine paradigm of disturbing dreams.

Factors Relating Nightmares to Poor Sleep Quality

Nightmare Misery Index

- Fear or anxiety about going to sleep
- Awakenings and disrupted sleep
- Fear or anxiety about returning to sleep
- Unpleasant and disturbing emotions during sleep
- Fitful, restless, and fragmented sleep
- Disturbing images and emotions relived awake
- Use of substances or drugs to quell nightmares

How Treating Disturbing Dreams Improves Sleep Quality

Sleep Quality Impact

- Decreasing fears about going to sleep
- Decreasing awakenings at night
- Decreasing restless sleep
- Increasing sleep consolidation
- Improving the way you feel in the morning

Nightmare Help and Harm

If the treatment group includes trauma survivors, we add information about nightmares representing a classic example of an *intrusion* symptom, that is, something that causes the survivor to reexperience past traumatic events. Nightmares not only cause reexperiencing but they also initiate a cascading sequence of mental and physical *hyperarousal* symptoms, triggered by the threats within the disturbing dreams. These arousal symptoms represent a second symptom cluster in PTSD (American Psychiatric Association, 2000). Following arousal, patients usually search for ways of preventing this cycle from recurring, and quite naturally they seek to avoid the trigger. In this specific, sleep-related instance, trauma survivors report avoiding sleep onset at bedtime or re-onset in the middle of the night with the hope of preventing more bad dreams. Although patients may not recognize sleep avoidance as a conscious process, most nightmare patients resonate with the

schema once they hear this sequence, which again coincides with a third symptom cluster of PTSD (avoidance). It is usually at this point, if not earlier, that a majority of participants begin to see the relevance of the treatment program.

The discussion turns to the transition process through which nightmares move from an acute phase to a chronic disorder. We use a paradigm, developed by Michael Hollifield, which helps patients recognize that soon after the trauma, they made a natural and smart “choice” to experience nightmares. That is, disturbing dreams, by many accounts from the dream research literature, probably assist many patients in resolving or otherwise successfully adapting to traumatic exposures (Barrett, 1996). Early on following the trauma, nightmares might help to relive the experience and remember important details that might be meaningful to the survivor; the dreams might provide useful information for emotional processing, either spontaneously through dreaming or in collaboration with a therapist; and the nightmares might serve a survival function by motivating the individual to alter a behavior or some other aspect of their lifestyle to remain out of harm’s way.

This discussion is one of the most exciting and provocative aspects of the group as we begin by asking, “Soon after the trauma occurred, can you think of any benefits to be gained by having bad dreams?” Although numerous patients are nonplussed by this question, most eventually understand how the nightmares may have served some purpose. According to Hollifield, many develop an important sense of self-efficacy in that they were “acting” in their own best interests by having disturbing dreams. This process leads to the closing question, “Do these nightmares and disturbing dreams still provide any benefits, once they have lasted for so long?” We suggest that individuals reflect on this question for the next week, but most people are quick to respond in the negative. This view hopefully provides them with a hint at the possibility that nightmares can “take on a life of their own,” which is the major focus of the next session:

Session 1:

- Reiterating that the group will not discuss past traumatic events or traumatic content of nightmares
- Addressing treatment credibility
- How nightmares can lead to insomnia
- How nightmares pass from an acute phase to a chronic disorder
- Unsuspected benefits from having nightmares

SESSION 2

Persistence of Nightmares

What is the best explanation for the persistence of nightmares and disturbing dreams following stressful experiences or traumatic exposure? The primary em-

phasis for this session evolves from our attempts to account for a reasonable answer to this question, whereas the remainder of the session serves to initiate the patient to basic ideas about imagery.

Nightmare patients usually believe bad dreams are uncontrollable and from the unconscious mind; yet, most want to know why they experience nightmares and why the dreams have persisted for so long. To simply state that nightmares are a learned behavior is an intriguing and provocative statement, which may be met by a full range of emotions and responses. Nonetheless, this claim must be backed up with sufficient evidence or examples to persuade the patient to stay in treatment. When queried beyond the explanations of uncontrollability or unconscious processes, some patients suggest that nightmares persist because they are a long-term consequence of trauma (i.e., the trauma is still causing nightmares). Others believe that the persistence of nightmares is due to malfunctioning or altered neurotransmitters or due to a genetic predisposition. However, in almost every treatment group, 1 person will raise the possibility that nightmares are a habit or a learned behavior (some even speak the phrase “broken record”), which certainly provides an opportune transition into the next phase of the discussion.

Most patients, however, are relatively locked into the idea that nightmares persist because trauma or other PTSD symptoms stick in their minds. This relationship is therefore examined in a few ways in an attempt to produce cognitive restructuring. First, we discuss how nightmares might appear to take on a life of their own. Most patients relate to this idea, because they are often unsure what provokes a disturbing dream on a specific night-to-night basis. Next, we describe how current models suggest that nightmare treatment requires psychotherapy directed at PTSD. Alternatively, we ask if it seems possible that psychotherapy of some type could be directly targeted at the nightmares instead, assuming they have taken on a life of their own. Could the disturbing dreams now be functioning in some distinct manner, separate from the PTSD process?

Last, we work through a paradigm based on the question “What happens to anxiety, depression, hostility, and somatization symptoms when nightmares are directly treated?” We start by offering the hypothetical scenario: “If someone waved a magic wand over you that eliminated your disturbing dreams without affecting or treating any other aspect of your mental health, what would happen to these four symptoms?” Each participant is asked to provide a response, and most declare that these symptoms should get worse, because nightmares must have been serving a purpose. The term *symptom substitution* is used to name this perspective about the potential downside of treating nightmares directly.

One way to organize this process is to give the example of aggressive and violent nightmares and ask patients to suggest the types of emotions probably experienced during such dreams. Most suggest anger and rage, and a few mention fear, guilt, horror, or grief. We focus on anger and rage, and then we ask what would happen to these feelings if a person were suddenly to stop having these

nightmares. Again, participants usually state that because the anger and rage have not been released through the nightmare experience, these emotions must go somewhere else, which leads to further problems (e.g., symptom substitution). Finally, when they are again asked what would happen to symptoms of anxiety, depression, somatization, and hostility following direct treatment of disturbing dreams, most patients again report that these symptoms would either worsen or remain unchanged.

Learning to Have Nightmares

This phase marks a critical turning point, because we briefly but clearly describe the results from nightmare treatment research in which anxiety and other distress symptoms usually decrease after nightmares have been directly treated. Although the few who wondered whether nightmares were learned behaviors nod their heads in affirmation, most patients sit back and try to regroup, because these results do not concord with what they have learned or believe about nightmares. Although many patients will not fully process the ramifications of this information during the session, most participants become curious and excited about this new perspective.

In the final phase of this discussion, each person is offered an opportunity to estimate the extent to which their disturbing dreams can be attributed to trauma (0% to 100%) or to habit (0% to 100%) with the sum of the two estimates equaling 100%. Although this exercise can be performed both earlier and later in the treatment, it is useful at this point because the patients have begun to experience some flux in their perceptions about why they still have nightmares.

Many telltale indicators of treatment interest or resistance arise from these estimates. Rarely, a few individuals who feel strongly that the nightmares are deeply entrenched in their trauma process will state that there is no habit component. Conversely, others who have completed successful psychotherapy for their traumatic exposure or other mental health problems might declare that their bad dreams are 100% habit. The former group tends to be very reluctant to attempt IRT and should probably be discouraged from doing so until some shift in their views occurs in the remaining sessions. The latter group is not only ready to try IRT but these individuals may even report decreases in their nightmares following this session before having learned the full IRT technique. The majority of individuals lie between these extremes, but what is most interesting and informative is that nearly all of them report some shift in their perceptions toward habit recognition compared with what they would have estimated beforehand.

These middle-ground percentages are never similar. In some groups, many report 80% trauma and 20% habit, yet these individuals make a big deal about how meaningful it is to them to consider this new 20% factor, which previously was never imagined. Regardless of the initial percentages, most patients' views shift to-

ward habit perspectives over the course of the remaining sessions. By the last session or at some point in follow-up, the majority of individuals are reporting habit as the primary factor triggering their current nightmares.

Imagery Skills

The discussion now focuses on imagery, which is a well-described behavioral therapy component in the treatment of many other types of medical and psychological conditions (Menzies & Gill Taylor, 2004). The relevant and self-explanatory elements that are discussed include (a) imagery is a natural part of mental activity, which is easily described in behavioral terms as one component of the mental system of thoughts, feelings, and images; (b) imagery often is the last conscious activity just prior to sleep onset; (c) ergo, imagery during the day may be a bridge to imagery at night (dreams); (d) imagery is not meditation but simply a daydream with bit more intention or structure as needed or desired; (e) imagery skills can be tested in brief exercises of a few minutes, and most trauma survivors have a reasonable ability to conduct such tests in groups or individually; (f) some trauma survivors are surprised at their healthy capacity to image things; and (g) most patients with PTSD, except of extreme severity, can practice pleasant imagery exercises at home without much difficulty.

Special attention is needed during this part of the session for the minority of patients who have clear-cut imagery deficiencies. They may report either outright difficulty as a black or blank screen or very unpleasant images that force them to open their eyes and terminate the imagery session. All individuals are provided with behavioral tips on how to overcome unpleasant imagery (see the list of common treatment obstacles in Appendix A), but the focus is brought on acknowledging the unpleasant image and choosing to move on to a new, preferably more pleasant or neutral image. This process is stated in the context of the thoughts, feelings, images paradigm, in which the patient appreciates the natural flux in this system. That is, the mind–body is continuously presented with new thoughts, feelings, and images, and when individuals become aware of certain ones, they may choose to “let go” as they observe new ones emerging.

All patients are directed to practice pleasant imagery every day for a few minutes. The first step in this exercise is to encourage patients to recognize the fact that imagery is a frequently experienced pathway, which normal sleepers often report having at sleep onset (e.g., Nelson & Harvey, 2003a, 2003b). Conversely, nightmare patients may want to improve their imagery skill but without overstimulating themselves for fear of triggering more disturbing images. The stated goal then becomes to practice pleasant imagery, which a surprisingly large proportion of trauma survivors are capable of doing. Most patients accept that working with pleasant imagery might have some benefit, and a majority usually discuss how pleasant imagery generates positive feelings, including a sense of relaxation. Al-

though few patients report changes in their nightmares after using pleasant imagery during the ensuing week, their prospects remain high for future use of IRT because they experienced some perceived benefits from simple imagery exercises.

Imagery Practice

To practice pleasant imagery, we use three possible versions of standard instructions based on times of 1, 5, or 15 min and guided or nonguided instructions, depending upon the group's needs. Some groups are very nervous about imagery, whereas others have previously experienced imagery exercises. Each of these types of groups starts well with a 1-min session, the former to avoid being overwhelmed, the latter to confirm how easy the process is for them. Some groups perform so well with 1 min of imagery that no further practice is needed in the group setting, and the patients can be given instructions to practice for 5 to 20 min per day at home. The average group of trauma survivors does best with an imagery session between 5 and 10 min, and the vast majority experiences this practice session positively.

However, 1 patient will often report a problem, which usually includes either a difficulty imaging or unpleasant images. This person's difficulties are valuable to the group because the other members are empathetic to the plight of the individual and realize that the same problem might occur to them at subsequent practice. The discussion thus turns to how to manage unpleasant images or how to promote a greater ease in generating pleasant images. The latter issue is dispatched by stating that most people require time to learn how to comfortably generate pleasant images, but the interval is usually measured in weeks for most nightmare patients, compared with months for patients with more complex PTSD. Unpleasant imagery is a thornier issue. Nevertheless, once trauma survivors recognize the potential importance of imagery in the mind's eye, most will find it straightforward to acknowledge unpleasant images and then choose to let them go as new images emerge.

A rare-to-occasional patient will clearly demonstrate he or she is stuck at this point in the process. Such individuals often fit with the pattern described in recent research (Mellman, David, Bustamante, Torres, & Fins, 2001; Mellman & Pigeon, 2005; Rothbaum & Mellman, 2001) in which nightmares are reportedly identical to the patients' traumatic experience. As such, they tend to obsess about this relationship and often declare they cannot image anything because it will only bring up the memory of the trauma or the nightmare, which to them feels like the same thing. In our experience, we caution these patients to take a step back from the program and work with their therapist on general imagery exercises if they are comfortable doing so. Sometimes, a one-on-one session will yield a breakthrough, but

not often enough to persuade us that these patients are appropriate for IRT without further imagery training.

Imagery Safeguards

The session concludes with the following points and reminders: (a) Patients with PTSD may need to stop any type of therapy that stimulates unpleasant imagery; (b) activation of the imagery system must proceed slowly and gently; (c) one should know one's limits and know how to overcome unpleasant images; and (d) it is important to learn to appreciate that some unpleasant images emerge through learned behaviors (like nightmares), as opposed to viewing all negative imagery as a direct result of stress-related processes. The final instruction is to repeat the importance of practicing pleasant imagery by selecting pleasant experiences or scenarios from one's life:

Session 2:

- Why nightmares might persist long after traumatic exposure
- What happens to symptoms of low well-being when nightmares are treated directly
- Concept of symptom substitution
- Proportion of nightmares due to trauma versus conditioning
- Principles of general imagery and pleasant imagery
- Overcoming difficulties in the use of imagery

SESSION 3

Imagery in the Process of Change

The third session begins with a broader discussion of imagery to explain to nightmare patients in general and patients who have undergone trauma in particular that many people who are experiencing disturbing dreams develop an imbalance in their thoughts, feelings, and imagery system. As a common example, a person might "think" too much and spend less time with their feelings and images because the latter are more unpleasant and less manageable. A constant barrage of nightmares or disturbing waking images (e.g., traumatic memories) could easily lead someone to think too much as a natural, self-protective mechanism. This imbalance, however, diminishes or distorts the nightmare patient's natural capacity to work with his or her imagery system. Our first exercise in this third session is to

show nightmare patients how important and useful imagery is in everyday life and particularly in the process of change.

The exercise begins with each participant's recalling a change in his or her life that took place over the past year. The most common examples include moving to a new home or apartment, starting a new relationship, ending a relationship, entering psychotherapy, starting a new educational program, and beginning a new job. We then select one of these scenarios and walk a patient through a discussion of how imagery might have been involved in the decision-making process. Then, three questions are asked. In the case of someone's having changed employment, the questions would be as follows: (a) When did you actually switch jobs, (b) when did you first think about switching jobs, and (c) when did you first picture the possibility of switching jobs?

In nearly every example given, patients will remark that each of these dates preceded the last one, such that they can recall that a picture may have formed in their mind about the possibility of switching jobs long before they spent time actively thinking about this occurrence. The group is usually impressed with the point of this discussion, and other patients share their experience in recognizing how they had imagined some portion of the change long before it ever occurred. Not only do the patients learn to appreciate that imagery is a useful and valuable tool in the process of change but they are now introduced to the concept of rehearsal. Specifically, imagery rehearsal is something that humans engage in all the time as they "practice" anticipated behaviors or experiences by imagining themselves in various new or old situations to see how they could behave.

Rehearsing Change With Imagery

With this backdrop, all participants are asked to select something in their life that they would currently like to change, but specific directions are given to choose something positive or neutral to change that will not elicit unpleasant feelings. The most commonly used example is remodeling or rearranging a particular room in one's home. All individuals then undergo a 5- to 10-min exercise in which they picture any components they wish to reflect upon in their suggested change. These imagery experiences are subsequently discussed, and the images are almost always described as positive or pleasant. Even though the exercise is conducted in the spirit of learning imagery rehearsal in the context of change, the patients are cautioned that the exercise is not conducted to foster change on whatever theme was selected. Nonetheless, routinely 10% to 50% of individuals will report the following week that they made some effort to change something related to what they had rehearsed (e.g., re-arranging furniture).

Nightmare Sufferer Identity

This positive exercise extends the discussion of change in the context of imagery processes and how one might see oneself prior to and after change. The term used here is *identity*, and the discussion revolves around how nightmare sufferers usually see

themselves as intractably afflicted. In this sense, they could be said to have developed a “nightmare sufferer identity.” The point illustrates how this identity often becomes entrenched in ways not dissimilar to, say, cigarette smokers who see themselves as *smokers* and incapable of changing this behavior. In discussing the problem of quitting smoking, the group comes to accept the idea that a major barrier to change is holding onto the belief that one’s identity is fixed, as in “once a smoker, always a smoker.” Therefore, behavioral change often benefits by finding a way to imagine the potential for a new identity (e.g., a nonsmoker). As an example, the group is informed that in some programs for smoking cessation, a key element is teaching people how to picture themselves in a variety of smoking situations in which they engage in an alternative behavior. Over time, this type of imagery rehearsal can help smokers “change” identities, because they have rehearsed it sufficiently to become more comfortable with their new ways of behaving.

To some, this process can provoke anxiety or fear because changing an identity might feel like one is “killing off” a part of oneself. Yet, changes occur all the time, and through imagery practice, consciously or otherwise, humans naturally learn to appreciate these changes in identity and develop new behavioral patterns. As much as these nightmare sufferers would like to change to the identity of a good dreamer, we spend time discussing (a) how entrenched the nightmare sufferer identity might be, (b) how it would seem unfamiliar to them to not experience disturbing dreams, and (c) how imagery can help them transition to a new identity that no longer is plagued by nightmares. The most interesting aspect of this discussion is that some people receive an “aha” experience. Moreover, some of these individuals do not seem to need any other therapy because they immediately stop having nightmares, or so they report the following weeks or months later. This sudden convergence of ideas about nightmares as a learned behavior and thus a learned identity empowered them to recognize they could immediately unlearn the behavior and choose to be a regular dreamer. Regardless, they are still taught the rest of the program, so they may have the full technique at their disposal.

The group is also asked to consider the question, “Are you ready to let go of your nightmares?” We quickly point out that no right or wrong answer is required of such a question, but that it might be worth reflecting on in light of how one gauges his or her own identity as a nightmare sufferer. Assessing how deeply the nightmare identity might be entrenched proves very useful to most nightmare patients before they implement the full IRT technique.

The session ends on a very upbeat note by asking the participants to spend the week reflecting on the possibility of becoming a dreamer with a capacity to experience more pleasant dreams instead of nightmares. They are also instructed to continue imagery practice, either their original version of pleasant imagery or a continuation of the imagery as a vehicle for change concept developed in this session:

Session 3:

- Broader discussion of imagery
- Imagery as a vehicle for change
- Changing one's nightmare identity

SESSION 4

The fourth and last session uses Neidhardt's variation to "change the nightmare any way you wish," (Krakow & Neidhardt, 1992; Neidhardt et al., 1992), but we no longer suggest that the patient write down the old nightmare unless such a process is helpful in learning the technique. The full instructions involve the following: (a) Select a disturbing dream, preferably one of lesser intensity and not a reenactment of a trauma; (b) change this nightmare in any way you wish; (c) rehearse this new dream a few minutes each day at a time of your choosing; and (d) continue these instructions every day and consider working with another nightmare to change it into a new dream every 3 to 7 days, such that you only rehearse one or two new dreams each week (Krakow, Kellner, et al., 1995).

Selecting a Nightmare

How patients select their nightmares for IRT will often present clues as to how they will embrace or avoid IRT and whether or not they view it as a credible therapy. Using a "crawl before you walk" metaphor, we explain that IRT may have potential efficacy for all types of nightmares, but it is important to learn the technique first on disturbing dreams of lesser emotional intensity. Our goal is to trigger minimal or no emotional response, as the objective is not to expose patients to traumatic content but rather to have them select a bad dream so they have material with which to learn the process of IRT. Using a replicative-trauma nightmare is therefore discouraged during first efforts. For reasons not yet understood, some patients still select an overwhelming replay-type nightmare for their first attempt at IRT. Not surprisingly, they often report that IRT does not work, doesn't feel right, or simply cannot be used. In our experience, these types of patients with trauma tend to have more severe PTSD and usually experience other symptoms such as dissociation or cognitive deficits in attention, concentration, and memory. These symptoms may make it more difficult for them to assimilate the principles behind IRT, including the basic instructions.

By contrast, patients who select a less threatening nightmare, and who find it relatively easy to image a changed version, almost invariably find the technique palatable. In more than half of all patients with whom we have worked, it seems apparent within 15 to 30 sec that the instruction to change the nightmare was a wel-

come idea, which they had probably wondered about on their own. These individuals can write down a new dream immediately for use in the rehearsal process, almost as if permission to change their dreams had finally been granted.

Changing the Nightmare

The instruction to change the nightmare sometimes meets with mild resistance primarily due to confusion with the instruction. Rarely, a nightmare patient may resist by declaring that changing the dream “can’t be done because that’s what happened to me” or “that was my dream, how can I change it?” The changes can take many forms; we are not aware of any particular change schema that is more efficacious than others, although in our experience we suspect that Neidhardt’s model (Krakow & Neidhardt, 1992; Neidhardt, Krakow, Kellner, & Pathak, 1992) to “change it any way that feels right to you” is more powerful than narrowing the scope by suggesting to change the nightmare to something positive or triumphal. We speculate that Neidhardt’s broader instruction leaves open a psychological window through which the patient may intuitively glimpse multilayered solutions to other emotional conflicts in addition to or arguably as part of their nightmare resolution. Some people change minutiae in the dream, whereas others develop an entirely new story. In our view, it would not be surprising if a very important active ingredient of IRT were shown to be the ability to reconnect with the natural, human capacity to manipulate and change imagery in the mind’s eye, beyond any specific changes of content within the new dreams.

Rehearsing the Nightmare

The most important instruction to give prior to rehearsing the dream is to remind patients they will now rehearse the new dream only and not the nightmare. In other words, we maintain our efforts at avoiding exposure and encourage patients to re-invigorate their natural capacity for imagery. This part of the session can last for 5 to 15 min depending on the group’s comfort level with their capacity for imagery. Before actual IRT for nightmare treatment is initiated, patients are also reinforced with some imagery training as described in Session 2 to prepare them to intervene if unpleasant images arise.

Practice

Patients are informed that they are learning how to activate their imagery system in a specific way to take control of their nightmares. The early emphasis should thus be on understanding what it means to activate one’s imagery system and gaining some control and comfort with that process. In time, more nightmares can be targeted if necessary, but each and every nightmare does not have to be subjected to imagery, as

IRT appears to jump-start a natural human healing system that was previously dormant. In other words, working on just a few disturbing dreams and turning them into new dreams has a ripple effect on other nightmares. Although the actual amount of time needed to work on any particular nightmare is variable and unpredictable, obsessing about a particular bad dream may prove counterproductive early in treatment. Then again, we know of some patients who enjoyed and benefited from working on just one or two new dreams by constantly changing them for several months before considering any other nightmares, if any persisted. The fact that patients learn that the program's most important step is to learn the technique and gain control and comfort with it may explain these particular choices.

At the conclusion of this session, two important ideas are developed to promote positive practice. First, we revisit the discussion on the relationship between dreams and imagery and talk in terms of a metamorphosis in which nightmares spontaneously change in some patients. In this view, nightmares can change early after their onset, and close inspection of the traumatic dream's content almost invariably demonstrates various alterations in detail or changes in the overall picture. This point is especially important for those patients who are stuck with the belief that their nightmares are a perfect replay of a specific event. If, over time, they can appreciate the possibility that their replays already contain altered elements, they have a reasonable chance of using IRT.

We then explain that most people with nightmares following trauma eventually stop having them. One possibility for this shift is that over a few weeks to a few months, the nightmares gradually keep changing as if the dreams themselves were working out some aspect of the emotional turmoil generated by the trauma (Barrett, 1996). It may therefore be natural for nightmares to surface and then gradually change into dreams that become increasingly less disturbing. The use of IRT may reflect a system similar to the natural process of mental imagery already in use in people's minds. This natural process, however, was not activated in an effective manner in these patients who had undergone trauma, but IRT can now start that process.

The session is then brought to a close by reiterating the importance of working on only one or two bad dreams each week, given the immediate goal of improving one's imagery system. If IRT is a naturally occurring process within the human mind, then we can argue that once the corrupted "software" that damaged this innate operating system is replaced, then the individual's original system can resume functioning normally. As this process unfolds, the re-adoption of one's natural imagery capacity may partly account for how or why patients do not need to work on each and every nightmare they experience for the treatment to be effective.

Session 4

- IRT for nightmares

- Selecting a nightmare
- Changing the nightmare any way you wish
- Rehearsing the new dream

CONCLUSION AND FUTURE DIRECTIONS

IRT is a proven and cost-effective therapy for chronic traumatic and idiopathic nightmares. Reduction in daytime distress following the use of IRT is consistent with the view that the direct treatment of nightmares is a feasible and worthwhile clinical approach. Still, a wide range of populations experience chronic nightmares, and IRT should be tested in different groups (e.g., war veterans, refugees, disaster survivors) to determine comparative effectiveness. Critical to all such future work would be dismantling protocols, which attempt to discern active ingredients in IRT.

In our current protocol, IRT comprises two general elements, each of which uses several steps in the therapeutic process. The first component is an educational–cognitive restructuring element, focused on helping nightmare patients to consider their disturbing dreams as a learned behavior. The second component is an imagery education–training element, which teaches nightmare patients about the nature of human imagery and how to implement a specific set of imagery steps to decrease nightmares. Studies could assess the therapeutic gains attributable to each of these two components in separate and different treatment groups, which in turn could be compared with a group receiving the full IRT protocol. There is also a need for more clinical research into the relative merits of individual versus group administration of IRT for nightmares. In addition, both shorter and longer protocols should be tested to accommodate the range of nightmare patients from those with minimal psychiatric distress to those with complex PTSD or other coexisting mental disorders.

Several psychological variables have been proposed in relationship to the treatment of nightmares. In his review of direct psychological therapies for nightmares, Halliday (1987) indicated four distress-producing factors of nightmares: their believed importance, their dreadful and anxiety producing story line, their perceived realism, and their uncontrollability. How these types of factors are affected by IRT, or any other form of nightmare treatment, remains unclear. Nevertheless, it is possible that that IRT targets each of these dimensions to varying degrees with maximal effects on the relative importance attributed to the nightmare experiences and on one's sense of uncontrollability. Marks (1978, 1987) has suggested that exposure to distressing dream content, abreaction, and increased mastery are important therapeutic processes of nightmare reduction. Because IRT involves minimal exposure and abreaction, its effectiveness is most likely related to the patient's ability

to increase mastery over distressing dream elements by generating new dreams. In fact, Germain et al. (2004) investigated the scripting of new dreams linked to IRT for the treatment of nightmares in survivors of sexual assault with PTSD and found that mastery appeared to be a key element of IRT. When compared with the content of participants' pretreatment nightmare reports, the new dreams contained more positive elements as well as a significantly greater number of mastery occurrences. Social mastery (e.g., the dreamer changes personality aspects of other dream characters, removes threatening characters, adds a helpful new character, is assisted by another character on the dreamer's request) and environmental mastery (e.g., the dreamer changes the physical environment to a nonthreatening setting or makes the initial dream environment impermeable to threat) were the more frequently used forms of mastery in the scripting of new dreams. As noted by Germain et al., (2004) the observed increase in mastery is all the more remarkable given that IRT does not include instructions to increase mastery when the technique is described during treatment. Although these data are consistent with the view that a dysfunctional imagery system is involved in traumatic nightmares, more work is required to elucidate the relationship between variables related to patient characteristics (e.g., traumatized vs. nontraumatized, presence of psychiatric and sleep disorders, dispositional factors, degree of distress), nightmare content and type (e.g., replicative, recurrent, lifelong, idiopathic), and therapeutic effects (e.g., enhanced self-efficacy, perceived control, modes of emotion expression and representation).

Clinicians' appreciation for the two primary therapeutic elements described in this article should aid them in their regular use of IRT with nightmare patients. In contrast to the more rigid application of IRT in research trials, treatments in clinical settings can be provided both in groups and individually and the technique shortened or lengthened to accommodate the complexity and severity of the nightmare disorder. For example, the cognitive restructuring component is highly motivating to nearly all nightmare patients because most have been exposed to very limited perspectives concerning their disturbing dreams. Yet, this component linking nightmares to a learned sleep disorder often distills to the idea of having developed a "bad habit." In our clinical venues, we see that a high number of nightmare patients resonate with this idea, and these individuals are prime candidates to complete an IRT program in as little as two or three 1-hr counseling sessions or in group sessions of shorter duration with like-minded patients. Similarly, given the importance of the imagery component in IRT for nightmares, individuals with relatively healthy or more readily accessible imagery systems may benefit from a shortened treatment delivered on an individual or even self-help basis. Some resources have been developed for such purposes (Burgess, Gill, & Marks, 1998; Krakow & Krakow, 2002; Krakow & Neidhardt, 1992). The group format described in this review is for decidedly more complex survivors of trauma who seem to overcome their skepticism about the presented view of nightmares (i.e., as a learned behavior and linked to a dysfunctional imagery system) much faster while

working with peers. Some of these patients require repeated “refresher” information over the ensuing months to fully effect IRT.

In sum, IRT is an effective and versatile treatment that can alleviate various forms of nightmares and associated distress. The proper re-activation of patients' dysfunctional imagery system and associated increase in perceived mastery over negative dream elements appear to play a vital role in nightmare reduction. Further research must elucidate the interplay and relative importance of patient and nightmare-related variables in therapeutic outcomes.

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APPENDIX A

Commonly Reported Obstacles to Treatment

1. Recurring nightmares

Patients seem to attach more meaning or intensity to recurring dreams and wonder whether imagery rehearsal therapy (IRT) can work on these nightmares. These patients should be encouraged to avoid working with recurring dreams at first because they usually have more replay-like qualities, and therefore the patient is much more likely to associate the dream with specific traumatic experiences.

2. Multiple nightmares

Patients suffering from multiple, different nightmares often imagine that IRT somehow must be employed on each and every one of them. It often helps to explain that nightmares often exhibit similar characteristics or overlapping themes. Therefore, IRT can still be used by working on only one or two nightmares per week.

3. Feeling uncomfortable or anxious while considering a nightmare

Although patients may find it unpleasant to consider their nightmare, they should bear in mind that they only have to do it once. After they have changed it into a new dream, they no longer have to work with the original nightmare.

4. Difficulty in reviewing a vague nightmare

Because IRT focuses on constructing a new dream, remembering even a small fragment of a nightmare is often sufficient to make the transition toward a new dream.

5. Not knowing how to change the nightmare

There is no single right way to change the nightmare to create the new dream. It is the patient's decision to change it in any way he or she wishes. If the patient is not satisfied with the new dream, it can be changed again.

6. Letting distractions get in the way

Since imagery work requires a safe, comfortable, and distraction-free environment, patients must do whatever is needed to find the necessary quiet, uninter-

rupted time necessary for the treatment. Above all, if one is pressed for time, then simply practice for a few minutes to keep the skill fresh in mind. Even 1 min per day can prove sufficient.

7. Difficulty managing negative images

Most people can naturally image or learn to imagine pleasant scenes, but one should not hesitate to work with a therapist to build this skill, if needed. Focusing on positive images and not replaying negative ones is an important part of improving overall health, including more restful sleep, positive dream imagery, and more relaxed daytime functioning. The following six strategies can be used to manage unpleasant images. **STOPPING:** Clap hands while saying, “Stop!” **BREATHING:** Breathe in deeply and exhale the image away. **GROUNDING:** Open eyes, feet on floor, focus on environment. **TALKING:** Talk to a friend or family member about images. **WRITING:** Write down images. **ACKNOWLEDGING AND CHOOSING:** Without accepting or denying, acknowledge the unpleasant image, then choose to return to a preferred image.