

Relaxation for Insomnia

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PROTOCOL NAME

Relaxation for insomnia.

GROSS INDICATION

Relaxation methods are used when heightened somatic and/or cognitive arousal interferes with sleep. As most people with insomnia experience some form of arousal, relaxation techniques are appropriate for most people with insomnia.

SPECIFIC INDICATION

Research suggests that relaxation is more effective for sleep onset insomnia than sleep maintenance insomnia [1].

CONTRAINDICATIONS

There are no serious contraindications for relaxation therapy. Patients who do not have time to practice will not profit from this approach. A small percentage of patients will experience paradoxical increased anxiety during relaxation.

RATIONALE FOR INTERVENTION

There are dozens of methods of relaxation that may be collectively referred to as quiescent self inquiry. The variants of relaxation are numerous. Beginning

with meditative forms of Hindu yoga dating to some 5000 years ago, continuing with autogenics and progressive relaxation introduced about 100 years ago, through more recent methods such as guided imagery, passive body focusing, and some aspects of mindfulness, and including machine guided relaxation (i.e., biofeedback), the core processes and effects of relaxation have changed little over the millennia.

All methods that fall beneath the relaxation umbrella conform to Benson's [2] relaxation response, yielding physiological and experiential calm. If some form of somatic and/or cognitive arousal is delaying and/or disrupting sleep, then relaxation works to diminish those barriers. Research suggests that cognitive arousal is more salient to insomnia than somatic arousal, and the mental calm accompanying well-practiced relaxation directly addresses this irritant.

STEP BY STEP DESCRIPTION OF PROCEDURES

The Relaxation Response

The four procedural elements comprising Benson's [2] approach to relaxation are: (1) a quiet environment, (2) an object to dwell upon, (3) a passive attitude, and (4) a comfortable position. The virtue of the first and last of these is perhaps obvious. It would be difficult to attain physiological/experiential calm in a noisy, distracting environment, or when assuming a posture that was uncomfortable and physically distracting. A completely quiet environment is not necessary; indeed, many enjoy music during relaxation. Individual preference will dictate which sounds are conducive and which simply noise. Similarly, the lotus position (legs intertwined while sitting) is often adopted by experienced meditators, but would be inimical to relaxation in many others. Lying down, reclining in a padded chair, or sitting up are all acceptable relaxation poses. Some find slow or rhythmic movement is nurturing of relaxation. Rather than stipulating acceptable sound and posture prescriptions, we encourage patients to define a pleasing environment.

The second element, an object to dwell upon, refers to a "mental device" that consumes attention and displaces daily concerns. This device must be repetitive and monotonous; the more boring the better. It can take many different forms and again, individual tailoring is useful. Benson recommended slowly repeating in one's mind or aloud the neutral, secular word "one", but Eastern-sounding words such as "om" or "shirim" would do as well. Eyes may be closed, or one's gaze can be fixed on a flower, a candle, a vase, one's breath, etc., replacing the repetition of a word or phrase. Images of pleasant nature scenes or personally meaningful objects can be the mental device.

Benson believes the third element, passive attitude, is the most important relaxation ingredient. It is the most indispensable, and it is the most likely to help sustain the relaxation effect beyond the boundaries of the relaxation practice session. Famed sexologists William Masters and Virginia Johnson cautioned that you cannot will an erection; an erection will occur only when it is not the focus of

attention. So it is with relaxation. The harder you try to relax, the less likely it is to occur. A relaxed, passive attitude is essential to achieving a relaxed state. The first challenge to most people is how to manage the near universal experience of mind-wandering, and this provides a valuable opportunity to cultivate a relaxed attitude. Don't struggle for control over your mind. Allow your mind to wander, and in time it will wander back to the relaxation task. Acceptance of mind-wandering is a helpful gauge of how well the patient has embraced a passive attitude. Regular relaxation practice will both profit from and cultivate a relaxed attitude. Patients should be encouraged to maintain a relaxed attitude throughout the day, and this will translate into a more relaxed (Type B) personality.

Relaxation Practice

It matters little which relaxation method is used. Practice is critical, and if the patient practices regularly, therapeutic benefits are likely to emerge. We invest a fair amount of time in

- explaining the importance of practice and
- scheduling practice.

We prescribe at least two relaxation practices a day: one during the day and one at bedtime. Relaxation can also be practiced during middle-of-the-night awakenings.

The daytime practice is for skill development. It should be done during a low-stress time. Patients are more skillful at being anxious than at being relaxed. If daytime practice is done at a high-stress time, the novice relaxation skill will be at a competitive disadvantage with anxiety. The skill will be slow to develop, and patients will complain relaxation does not work.

The night-time practice is the therapeutic dose. It should be done when the patient gets into bed with the intent of going to sleep. It may be helpful to allow a couple of weeks of relaxation practice during the day before commencing night-time practice, to protect the skill development period.

Patients often have difficulty adhering to the daily daytime practice. We invest time in discussing its importance and planning for its occurrence. When encouraged, patients can be creative in creating 5–10 minutes of practice time early in the morning, at work, or early evening. We will often contract with patients to practice certain times, certain days. We may use the Premack Principle, making more preferred activities contingent on less preferred activities – for example, the patient agrees to practice relaxation before he or she starts watching television in the evening.

Relaxation Procedures

For the past two decades, our research and clinical work has mainly relied on a hybrid passive relaxation procedure (given verbatim in Lichstein [3]). The

procedure has four components: relaxed attitude; slow, deep breathing; passive body focusing; and autogenic phrases. The entire induction takes about 10 minutes. All the components are physically non-demanding, so issues of exacerbating painful areas are avoided. The procedures are simple and easily mastered. Because the four components are independent, patients are encouraged to emphasize those parts with which they feel most comfortable, resulting in a naturally occurring tailoring process.

Relaxed attitude. Description of relaxed attitude concerning mind wandering and distracting sensations/noises; advice is given not to force relaxation (45 seconds).

Deep breaths. Patients are asked to take five deep breaths, hold each for 5 seconds, and softly say “relax” as they exhale (1 minute 30 seconds).

Body focusing. Patients are directed to focus on a body-part sequence that covers the whole body: arms, face, trunk, and legs; the patient dwells on each part for about 45 seconds and seeks out relaxing feelings in each (5 minutes).

Autogenic phrases. Patients are instructed to focus on sensations of heaviness and warmth in their arms and legs (2 minutes).

POSSIBLE MODIFICATIONS/VARIANTS

The possible modifications and variants of relaxation are likely infinite. In this section, we attempt to focus on those variants and modifications that are most commonly used. The methods of relaxation that have received the most attention in the insomnia literature are progressive muscle relaxation (PMR), autogenic training, meditation, and imagery. New evidence is emerging on the use of mindfulness-based stress reduction for the treatment of insomnia, so this intervention will also be discussed. Other relaxation methods, such as diaphragmatic breathing, hypnosis, and transcendental meditation, may be used clinically, but they have no empirical backing as treatments of insomnia, and thus will not be discussed here, to conserve space.

Progressive Muscle Relaxation (PMR)

The protocol for PMR varies somewhat between delivery methods, but globally involves alternately tensing and relaxing different muscle groups throughout the body [4,5]. Patients are trained to focus on and compare feelings of relaxation with the tension that was present before the relaxation procedure. Different practitioners utilize different durations (e.g., tense for 5–15 seconds and relax for 20–45 seconds). No comparative studies have been performed to help determine which tensing and relaxing durations are most beneficial, so it is ultimately up to the therapist and perhaps the patient. This technique typically takes 10–30 minutes. Some therapists go through each body part individually multiple times. Others focus on individual body parts early in therapy, focus on body regions in the middle sessions, and finally

focus on the whole body by the final sessions, so the patients can achieve relaxation more rapidly.

Homework typically involves practicing the relaxation at home during the day, just prior to bedtime, and sometimes during night-time awakenings. Some therapists do not like to assign the bedtime practice, because they feel it produces performance anxiety, but there is no evidence to support this belief. Patients are typically asked to do the bedtime relaxation in bed, so that if they fall asleep during the procedure, they do not have to move back to their bedroom. In addition, it might be useful to perform the daytime practice in the bedroom, in an attempt to facilitate classical conditioning. Multiple scripts for progressive muscle relaxation are available both online and within treatment texts (see, for example, Lichstein [6], Morin and Espie [7], and Smith [8]).

Autogenic Training

One variant of relaxation that is often included in other forms of relaxation training is autogenic training. In this method, the patient visualizes a peaceful scene and repeats autogenic phrases intended to deepen the relaxation response. The patient typically repeats phrases focused on each arm and leg which include “heaviness” and “warmth” (e.g., my left arm is heavy ... my left arm is warm ... my left arm is heavy ..., etc.). From there the patient moves on to focusing on cardiac regulation, respiration, abdominal warmth, and cooling of the forehead. In the original form, the patient took 6 months to learn this method, with one to two sessions to learn each component (e.g., left arm). Briefer methods [6] have been developed which focus on the same or similar areas, but for a shorter period of time (i.e., 30 seconds for each component).

Meditation

Meditation is a difficult concept to define, because a multitude of meditation techniques exist. We present two variants.

Yoga

Kundalini Yoga was popularized by Yogi BhaJan in the late 1960s as a means of general life enhancement and to explore altered states of consciousness without the use of drugs. Yoga involves the awareness of breath (pranayama) and thought processes, in addition to a series of postures (asanas) designed to stretch and strengthen the body. Yoga, as traditionally practiced, is often combined with aspects of PMR (especially in “corpse pose”) and meditation. As one can see, many of these elements overlap with the relaxation techniques already discussed.

The following Kundalini yoga treatment has been used for insomnia [9]:

1. Meditation on long, slow abdominal breathing (1–3 minutes).
2. Arms extended upwards at a 60° angle with the palms flat and facing upwards with meditation on the breath (1–3 minutes).

3. Arms extended horizontally to the sides with the wrists bent upwards and the palms facing away with meditation on the breath (1–3 minutes).
4. Hands clasped together at the sternum with the arms pushing the palms together with meditation on the breath (1–3 minutes).
5. A breathing meditation called “Shabad Kriya” (30 minutes).
 - Palms are resting in lap, facing upward, with right over left and thumbs touching
 - Eyes are one-tenth open and gaze downwards past the tip of the nose
 - Inhalation is in 4 segments or “sniffs”, followed by breath retention for 16 counts, and exhalation in 2 segments (ratio of inhale : hold : exhale is 4 : 16 : 2)
 - During inhalation, the mantra “Sa, Ta, Na, Ma” is mentally recited with each segment
 - During breath retention, this mantra is mentally repeated four times
 - During the exhalation the mantra “Wahe Guru” is mentally recited concurrently with each exhale segment
 - Overall breathing frequency should be as slow as is comfortable, while maintaining the specified ratio of inhale : hold : exhale.

Participants are instructed to perform the treatment in the evening, preferably just before bedtime. If, on occasion, the subject’s evening schedule makes it difficult to incorporate the treatment, participants are to practice the treatment at another time of day.

Mindfulness

The Mindfulness-Based Therapy for Insomnia (MBTI [10]) method is discussed elsewhere in this text, but deserves some mention at this point. This form of therapy combines common behavioral treatments of insomnia (e.g., stimulus control) with mindfulness meditation practices and exercises. Based on the Mindfulness-Based Stress Reduction Program (MBSR [11,12]), each session combines formal mindfulness meditation, followed by didactics, and group dialogue to teach the principles of mindfulness. The major point of emphasis in the mindfulness meditation component is a focus on present thoughts, actions, body functions, feelings, etc., without judgment. A point of emphasis in MBTI is using the principles of acceptance and letting go to work with negative emotional reactions to disturbed sleep. In this way, the procedure is much like other meditation.

Imagery

Imagery is employed in most forms of relaxation training, but has received little supportive research as a single treatment. Guided imagery is generally a reminiscent task, as patients tend to choose images of places from their past which were relaxing. Future orientation tends to be discouraged, as it is thought

to be less relaxing and more activating. Generally, a pleasant nature scene is ideal. Patients are asked to close their eyes, find a comfortable position, and select an image that they find relaxing, that they have actually experienced, and that is relatively fresh in their memory. They are then guided through making the image as realistic as possible by focusing on the details of the scene and using the five senses (i.e., vision, hearing, smell, taste, and touch).

Note that not everyone is good at imagery, so caution must be used with this technique.

Biofeedback

Biofeedback is a specific form of relaxation treatment that differs from those mentioned above because it actually provides sensory feedback (usually visual or auditory), either mechanically (i.e., thermometers) or, more frequently, with computers and amplifiers, to help patients learn how to control physiological parameters (such as finger temperature or muscle tension) in order to reduce somatic arousal [13]. For instance, frontalis electromyography (EMG) biofeedback, the most commonly studied form of biofeedback, teaches subjects to reduce muscle tension in the muscles of the forehead and face. Biofeedback seems to help patients attain states of mental and physical relaxation, and become more aware of their own bodily sensations and responses to stressors. Biofeedback actively involves the patient in the therapeutic process, and provides immediate measures of progress. One difficulty with evaluating the effectiveness of biofeedback is that it is often paired with some form of relaxation exercise, making it difficult to parse out the independent effects of each. In addition, improvements appear to be comparable to PMR, which takes less time for the patient to learn and requires no expensive equipment.

PROOF OF CONCEPT/SUPPORTING DATA/EVIDENCE BASE

Relaxation is commonly used as a form of therapy for disorders in which arousal (cognitive and physiological) plays an important role (e.g., anxiety, chronic pain, insomnia). There is considerable evidence (more than 50 studies) to support its use as a monotherapy, as part of CBT-I, and as part of multi-component therapies for insomnia. In 2006, an American Academy of Sleep Medicine Task Force concluded that this evidence was sufficient to recommend relaxation training (e.g., PMR, autogenics) as a standard treatment for insomnia [13]. Because relaxation is an umbrella term that refers to a family of therapeutic techniques (PMR, passive relaxation, autogenics, biofeedback, imagery training, meditation), the amount of evidence supporting a specific technique varies with the bulk of studies examining PMR or similar techniques (e.g., passive relaxation) [14,15]. Over the past 30+ years, two notable trends have emerged in the literature. Specifically, research prior to 1997 [14] tended to examine relaxation as a stand-alone treatment and included a wider range

of techniques, including PMR, biofeedback, guided imagery, and meditation, while more recent research [15] tends to focus on PMR or similar techniques and to examine relaxation as just one component of either CBT-I or multi-component interventions.

As a stand-alone technique, controlled studies (placebo, wait list, and/or no treatment) have shown that relaxation (regardless of technique) produces improvements in sleep quality ratings as well as 20- to 30-minute improvements in self-reported sleep onset latency, wake time after sleep onset, and total sleep time from baseline to post-treatment [14,15]. In studies that included follow-up evaluations, these improvements were generally well maintained. Imagery training is a notable exception, as research examining this technique has produced mixed results. Polysomnography was included as an objective outcome measure in only a handful of studies, and findings support little to no improvement on objective sleep measures. Some studies have also included measures of daytime functioning. However, improvements have been documented primarily for subjective sleep outcomes. Most experts would agree that this is not surprising, given that insomnia (similar to chronic pain) is largely a subjective sleep disorder by nature.

Trials that included relaxation as part of CBT-I or a multi-component treatment have largely produced results similar to, and in some cases slightly better than, those of trials evaluating relaxation as a stand-alone treatment. Although this evidence may make it tempting to conclude that relaxation alone may be able to replace CBT-I and multi-component treatment for insomnia, it is important to note that dismantling studies have yet to be conducted. Therefore, no conclusions can be drawn regarding the active element of CBT-I or multi-component interventions. Additionally, some evidence suggests that, when used as stand-alone techniques, stimulus control and sleep restriction may be more effective than relaxation.

A handful of recent studies (see, for example, Lichstein [16]) have utilized relaxation (either alone or combined with other techniques) in protocols including medication withdrawal. Those studies have documented reductions and even the complete elimination of hypnotic medication in some patients. One such study compared relaxation and medication withdrawal to medication withdrawal alone, and found sleep efficiency improved in medicated and non-medicated patients [16]. Not surprisingly, there was a worsening of all other measures during withdrawal that was not attenuated by relaxation. However, only medicated patients who were receiving relaxation reported improvements in sleep quality and fewer withdrawal symptoms.

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