New Directions in
Progressive Relaxation Training

A Guidebook for Helping Professionals

DOUGLAS A. BERNSTEIN, THOMAS D. BORKOVEC,
AND HOLLY HAZLETT-STEVENS

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Chapter 1

Introduction

Psychotherapy continues to progress at a remarkable rate as researchers become ever more creative in the development and application of a wide variety of empirically based techniques. Older techniques have been refined and newer ones have emerged. Both old and new techniques are being quantified, assessed, and compared in group design research, and for the first time since modern therapy's beginnings in the writings of Sigmund Freud, remarkable strides have been made in asking and answering vital questions about the effectiveness of various treatment strategies.

THE PURPOSES OF THIS MANUAL

One such strategy is *progressive relaxation training* (PRT), a set of methods that originated in the 1930s in the writings of Edmund Jacobson (1934, 1938).

The primary purpose of this manual is to set forth in detail the therapist behaviors and skills necessary for the effective application of PRT. The manual is *not* to be used for self-relaxation. Rather, the material presented here is designed to provide ther-

apists in many disciplines—such as psychology, psychiatry, social work, pastoral counseling, nursing, and rehabilitation services—with the tools they need to train their clients in relaxation. The manual should be read carefully and in its entirety to appreciate the complexity of the technique, the limits of its applicability, and the problems that can arise in its use. We believe that attempting to use PRT with clients after gaining superficial familiarity with only a few of the basic procedures presented here is both ill-advised and irresponsible.

This manual is also designed to be used in research on stress and stress management, psychotherapy outcome, and related topics. This purpose is important because few available manuals offer detailed descriptions of the actual procedures used in relaxation training. As a result, most investigators end up developing their own abbreviated manuals in an attempt to standardize experimental procedures. Unfortunately, it sometimes happens that these procedures are insufficiently detailed or improperly stated, thus limiting the value and meaning of the results of the experiment in which they were used. And when different investigators use differing relaxation procedures, results from one study may not be comparable to those of another. We hope that careful and widespread use of this manual in research will result in more valid and more comparable experimental studies of psychotherapy in general and of PRT in particular.

A RECIPE FOR RELAXATION

As just suggested, PRT procedures can differ among themselves along many dimensions, including the duration and total number of training sessions, the sequence of muscle groups used in tension-release cycles, the duration of tension and release, the number of cycles employed with each muscle group, and the use of suggestion in facilitating relaxation. The procedures outlined in this manual represent one combination of these variables. We chose it on the basis of our experience with its efficiency in teaching relaxation skills to a wide variety of clients and with its effectiveness in creating relaxation that is useful in treating those clients.

Unfortunately, little research is available to indicate precisely

the optimum combination of relaxation methods, so alternative possibilities are presented in a number of places throughout this manual.

THE THERAPIST'S RESPONSIBILITY

Although relaxation training procedures can be carefully specified, defined, sequenced, and memorized, the therapist should not suspend other clinical skills and be tempted to implement PRT in a mechanical fashion. The success of any therapeutic technique is partly dependent on the therapist's ability to secure the client's confidence and cooperation. Consequently, building rapport and understanding the client as an individual are essential components of effective PRT. Like other therapy methods, PRT requires an adequate "delivery system" if its full potential for benefit is to be realized. We hope that readers of this manual will not present PRT in a robot-like way or in an affectively neutral context. We hope that, instead, it will become part of a joint effort by client and therapist, within a positive therapeutic relationship, to develop in the client new skills for dealing with whatever problems are at hand.

Chapter 2

Background of Progressive Relaxation Training

The history of progressive relaxation training involves two distinct phases. The first phase began with the pioneering work of Edmund Jacobson who, in 1934, developed a physiological method of combating tension and anxiety. The second phase was initiated by Joseph Wolpe (1958), who modified Jacobson's procedures and applied them in a systematic program of treatment.

EDMUND JACOBSON'S PROGRESSIVE RELAXATION

Edmund Jacobson began his work in 1908 at Harvard University. His early investigations led him to conclude that tension arose from the effort manifested in the shortening of muscle fibers, that this tension occurred when a person reported "anxiety," and that such anxiety could be removed by eliminating the tension. Relaxation of muscle fibers—that is, complete absence of all contractions—was seen as the direct physiological opposite of tension and was therefore a logical treatment for the overly tense or anxious person.

Jacobson discovered that by systematically tensing and releasing dozens of muscle groups and by learning to attend to and

discriminate between the resulting sensations of tension and relaxation, a person can almost completely eliminate muscle contractions and experience a feeling of deep relaxation. In 1934, Jacobson wrote *You Must Relax*, a layperson's guide to what he had learned about relaxation, but the culmination of his research was *Progressive Relaxation* (1938), a book-length, technical description of progressive relaxation theory and procedures.

From 1936 until the 1960s, Jacobson continued his investigations at the Laboratory for Clinical Physiology in Chicago. By 1962 he had pared down his basic relaxation procedure to focus on fifteen muscle groups, each of which was dealt with for one to nine hour-long daily sessions. The typical training program took fifty-six sessions, but it could last for as long as two hundred sessions.

JOSEPH WOLPE: PROGRESSIVE RELAXATION AND SYSTEMATIC DESENSITIZATION

The second phase in the development of PRT began in the late 1940s, with Joseph Wolpe's work in the counterconditioning of fear responses. His initial research with cats demonstrated that a conditioned fear reaction could be eliminated by evoking an incompatible response while gradually presenting a feared stimulus. The incompatible response, said Wolpe, will inhibit the fear response as long as the former is of greater intensity than the latter. In his search for an incompatible response that can easily be created in humans, Wolpe discovered the procedures described by Jacobson in *Progressive Relaxation* (1938). It seemed to Wolpe that, as the physiological opposite of tension, relaxation would be an ideal response for use in his budding counterconditioning program. However, for convenience in clinical situations, Wolpe shortened the standard Jacobsonian PRT program, making it possible to complete in six 20-minute sessions, supplemented by twice-daily at-home practice sessions of 15 minutes each.

Wolpe's procedures were similar to Jacobson's in terms of tensing and releasing muscle groups, but in Wolpe's version the therapist played a more active role, which included giving running instructions to guide clients in the tension-release cycles and pro-

viding them with suggestions to facilitate awareness of the bodily sensations accompanying those cycles.

The importance of Wolpe's work in relation to PRT lies in his considerable shortening of the procedures, which allowed the therapist to focus not only on relaxation training (which Jacobson had assumed would be all that would be necessary to eliminate anxiety) but to help clients use relaxation to inhibit anxiety responses to specific environmental situations. Indeed, Wolpe spent most of his therapy time developing a structured, situation-specific program of reconditioning known as systematic desensitization. The details of this now-classic treatment method are covered in detail in Wolpe's *Psychotherapy by Reciprocal Inhibition* (1958).

CURRENT STATUS

Since the time of Wolpe's initial modification of Jacobson's original program, PRT has become a standard tool among therapists of all types, especially those offering behavioral and cognitive-behavioral therapy. Its value as a component of a variety of treatment programs has been well established, not only through clinical experience, but also through empirical evaluations of its effectiveness. The results of these evaluations are reviewed in Chapter 13.

Chapter 3

Targets for Progressive Relaxation Training

Relaxation training is not a panacea and should not be presented as such to clients. It is, however, a technique that has considerable value for the alleviation of a limited range of difficulties in a limited range of individuals. In order to avoid wasting time and effort, therapists should be aware of the kinds of problems and situations for which relaxation training is most appropriate. The following material is not meant to be an exhaustive list of all possible client and situation targets (therapist ingenuity will constantly create new applications of "limited" techniques); rather, it is an outline of situations in which relaxation training has been beneficial and those in which it has proved less useful.

WHO CAN BENEFIT FROM PROGRESSIVE RELAXATION TRAINING

It should be noted that, while relaxation training procedures can elevate the therapist's status ("placebo value") in the eyes of the client, the therapist should not teach these skills to all clients simply to impress them. Since relaxation training is primarily for clients with high tension levels, where tension is not of major

concern the use of relaxation training can result in an unimpressed, if not hostile, client who experiences no noticeable change in an already low level of tension. Thus, while tense clients are often very grateful for having been taught relaxation skills, individuals whose problems do not involve significant tension may react quite differently.

The most obviously appropriate targets for relaxation training are uncomfortably high-level tension responses that interfere with the performance of other behavior. These responses may include insomnia (caused by muscular tension and intrusive thoughts), tension headaches (which have not responded to prescribed medication), and less specific complaints of general tenseness or "tight nerves," which seem more related to simply being awake than to any particular stimulus situation. (Some specific examples of these kinds of cases appear later in this chapter.)

Of course, individuals whose tension levels do not cause them any difficulties will probably profit little from learning relaxation skills in a therapy setting. They would not be disadvantaged, however, by having acquired such skills (preferably in a nontherapy context). On the contrary, it is easy to imagine that almost anyone who ever experiences tension would be glad to have a pleasant and efficient means of eliminating it, either in actual tension situations or simply at the end of a long day. It has been our experience, in fact, that the "normal" volunteer subjects in our practicum training programs almost always report that their new skill is extremely useful to them on an everyday basis. In this book, however, we will be focusing on the clinical uses of the training.

Pre-training Inventory

In clinical situations the unwise use of PRT can have negative effects, mainly on the client's motivation and cooperativeness. Therefore, the techniques should not be employed without careful consideration, even in cases where there is clear discomfort or disruption. There are three general areas the clinician should explore before deciding to include progressive relaxation training in the total therapeutic program.

Medical Clearance

The first involves medical clearance. In cases where relaxation training is being considered as a means of eliminating a physical complaint, such as headaches or low back pain, the therapist should make certain that (1) there is no obvious organic basis for the complaint that could be more directly and effectively treated with drugs, (2) there are no contraindications to the use of relaxation training (such as the inadvisability of having the client tense certain muscle groups), (3) relaxation of relevant muscle groups is desirable (in some cases of low back pain, for example, strengthening of certain muscles is preferred over learning to relax them), and (4) it is possible to have the client discontinue the use of drugs, such as strong tranquilizers, which are designed to produce muscle relaxation. (Skill at relaxation is more easily acquired and more beneficial when learned in the absence of such drugs; see Chapter 11.) The therapist should consult with the client's physician on these points.

Discovering the Causes of Reported Tension

The second area of inquiry concerns the possible reactive nature of reported tension. That is, does the client feel overly tense in situations where tension of disruptive intensity is inappropriate, or is the discomfort a rational response to realistic circumstances? Consider, for example, the case of a client who reports insomnia. If this person's difficulty in getting to sleep is primarily the result of (1) being tense in a situation calling for relaxation and/or (2) difficulty in refocusing attention away from daily problems, then relaxation training may be entirely appropriate. If, however, the person is on the verge of financial disaster or regularly receives threatening phone calls, then relaxation training alone, without additional actions to resolve these realistic crises, is likely to be of only transient aid.

The therapist must therefore decide if it is realistic to expect that the development of relaxation skills will significantly alleviate the client's problems before initiating a program of relaxation training. If the disruptive tension comes in response to a serious and definable problem in living, it is probably better to deal with that problem than with the tension it creates. If, how-

ever, it is clear that the client is overresponding to all of life's major and minor problems, then relaxation may be quite helpful.

Finding Triggers for Tension Responses

These considerations lead to the third issue to be faced before deciding on relaxation training as part of a therapy strategy: the nature of the stimuli that trigger tension. If the client's tension problem is the result of anxiety that has been conditioned to specific environmental stimuli, relaxation therapy alone should not be expected to alleviate the problem. In such cases, relaxation training is often best employed as part of a more extensive therapeutic program such as systematic desensitization or *in vivo* ("real-life") exposure procedures. The degree to which a client's problem is conditioned to a specific environmental stimulus can usually be determined through clinical interviews.

Returning for a moment to our hypothetical case of insomnia, the client may find it difficult to sleep because of anxiety associated with specific aspects of the sleeping situation, such as darkness, nocturnal noises, or fear of burglars. If this is the case, it is unlikely that relaxation training alone can permanently inhibit tension in the feared situation. In fact, there is considerable evidence that relaxation alone is ineffective in this situation (Cooke, 1968; Davison, 1968; Lang and Lazovik, 1963; Lang, Lazovik, and Reynolds, 1965). If the original estimate of the problem was incorrect, and relaxation training alone *can* handle the problem in question, this will become clear quite early in systematic desensitization treatment. Indeed, we have seen cases in which progressive relaxation training conducted in preparation for desensitization results in dramatic improvement in the presenting problem. More often, though, no such improvement occurs, the original hypothesis (i.e., that the tension is the result of a specifically conditioned anxiety response too strong to be permanently inhibited by relaxation alone) is confirmed, and systematic desensitization or other exposure treatments are carried out to completion.

The therapist should not expect PRT to be effective in every situation involving disruptive tension. Many factors related to the reported tension will determine whether PRT is to be used alone as a first step in treatment or as part of a more extensive therapeutic program. We hope that the case material presented

at the end of this chapter will help to illustrate this decision-making process.

THE CLIENT

We have been considering the range of problems for which relaxation training seems appropriate. Let us now turn our attention to the client. Success at learning the relaxation skills presented in this manual requires only that the client (1) be able to give continued, focused attention to the muscles of his or her body and to the voice of the therapist, (2) be able to systematically tense and release specified muscle groups, and (3) regularly practice the skills learned in training sessions. These requirements eliminate most very young children (for whom relaxation training alone would probably be inappropriate anyway) from the target population.

In addition, individuals with major physical disabilities such as partial paralysis would probably have great difficulty in relaxation training. However, the therapist's ingenuity in devising alternative tensing strategies (see Chapter 5) may surmount such obstacles. Muscle groups that are not under voluntary control might be bypassed with little or no loss of benefit to the client. If the problem in a disabled client seems an appropriate target for relaxation training, the therapist should at least attempt such training rather than abandon the idea out of hand, using those modifications dictated by the client's physical condition. Of course, if the client's disability would prevent the muscle groups from tensing on cue, the value of even a preliminary effort at training would be questionable. The therapist must make a judgment, weighing possible benefits of successful training against the effects of a failure experience.

There is no upper limit on the age of clients who might benefit from relaxation training, as long as the requirements stated above are met.

Case Examples

In this section we present some case materials to illustrate more specifically the types of problems and clients suitable for PRT. The cases described are from the clinical experience of the authors or their colleagues.

Case 1: Reducing Tension for Therapy Communication

One of the most basic and important ways in which PRT can be employed is to reduce a client's inability to discuss emotionally charged interview topics. Using relaxation training early in therapy can facilitate discussion of such issues through (1) direct reduction of tension in the interview situation, and (2) development of a positive client-therapist relationship. Often, after tense clients have participated in one or two relaxation training sessions and experienced reduced arousal, at least in the session itself, they are more likely to "open up," since the therapist has already demonstrated an ability to intervene in a positive fashion. In such cases, PRT may have served in a valuable catalytic role, whether or not it becomes an integral part of the client's therapy program.

In one case, for example, a woman in her late thirties was referred by her social worker to one of the authors after complaining of severe nervousness and general emotional upset. In the initial interview the therapist noted that the client's tension level was so high that she was unable to remain focused on the conversation. She responded in irrelevant ways to direct questions, made repeated vague references to persons who were "against" her, moved randomly from topic to topic, and in general could not describe the problems for which she sought help.

Instead of continuing the assessment interview, the therapist told the client that, because she seemed so upset, she would probably benefit by learning to bring at least some of her tension under control. Fortunately, she was enthusiastic about the idea of relaxation, though skeptical about its ability to work for her. She probably did not fully concentrate on all the details of the abbreviated rationale for the procedure (see Chapter 5), but she was very cooperative and followed instructions with only minor errors.

After the first relaxation session, the client expressed astonishment at actually having felt relaxed. She said that she could not remember a time prior to that session when she did not feel extremely "tight" and she found the contrast "amazing." At this point, the pace of her speech had slowed considerably and she sounded more "normal." At the second session, relaxation train-

ing was repeated with similar results. Later in that session the therapist again began to explore the client's reasons for seeking help, and this time she was able to clearly describe some problems relating to family, ideas of persecution by neighbors, and somatic discomfort. These were then dealt with, first by the therapist in one additional session and then, on a continuing basis, by the client's social worker.

Case 2: Helping Clients with Tension-Caused Illnesses

Progressive relaxation training can also be employed in many cases where tension has resulted in tissue damage and consequent physical illness. This is well illustrated by the case of a professional man in his fifties who came to one of the authors because of "chronic tension" which had resulted in a severe stomach ulcer. He described himself (and his report was corroborated informally by those who knew him) as difficult to get along with, "high-strung," and in a great deal of physical pain most of the time as a result of the ulcer. He was taking tranquilizers several times a day in addition to his ulcer medication.

The therapist told him that although relaxation training could not cure his ulcer directly, it might alleviate much of the tension which aggravated it, thus allowing some healing to take place. The client agreed to participate in the training and to discontinue use of his tranquilizers (a step taken in consultation with the client's physician and designed to maximize the benefits of relaxation training; see Chapter 11).

The client was highly cooperative during training and practiced faithfully between sessions. After five weekly meetings, he was able to reliably produce deep relaxation on his own by the "recall" procedure (see Chapter 7), and training was terminated. (This particular training program was completed unusually quickly because of time pressure created by the client's imminent move to a new job in a distant city; normally the more extended schedule presented in Chapter 7 is followed.)

The client was extremely pleased with the results of the program; to the therapist's knowledge, he never again had to resort to tranquilizers. He was generally more relaxed and better able to deal with the tension-producing aspects of his job by using his new relaxation skills both at the office and at home at the end

of the day. There was also an overall reduction in stomach pain. An unexpected side benefit was also noted when another therapist, who was working on other problems with the client and his family in group therapy, reported a decrease in the client's level of tension and irritability and a simultaneous increase in responsiveness in the group meetings. It is reasonable to hypothesize that these changes, although not brought about directly by relaxation training, were greatly facilitated by it.

Cases 3, 4, and 5: Eliminating Insomnia

Progressive relaxation training, either alone or in combination with other procedures, is often helpful in cases of tension-produced insomnia. In some instances the sleeping problem results from a high level of residual tension; in others, clients are troubled by bothersome thoughts at bedtime. Still others are kept awake by tension associated with noise or other stimuli.

The use of relaxation training alone in dealing with insomnia linked to tension and/or intrusive thoughts is well illustrated by the case of a graduate student in her mid-twenties. She reported being unable to relax at bedtime because of residual muscle tension stemming from the day's activities, and because she could not stop her mind from "racing" with thoughts of recent events and future plans. Careful assessment revealed that these troublesome thoughts were not based on any realistic problem in her life that themselves demanded attention, and relaxation training was begun. The client learned the procedures quickly and arranged to practice them at home in the afternoon and immediately before bed.

The therapist suggested that the bedtime practice session take place while the client was actually in bed and ready to go to sleep. The program resulted in an almost immediate reduction in the client's sleeping problem. In fact, she reported that she was falling asleep during the bedtime practice session before completing it. In addition, she found that once she had fallen asleep she was less often awakened by noises in neighboring apartments. When she was awakened by her roommate or by some unusually loud noise in the building, she found it much easier to get back to sleep through the abbreviated use of relaxation.

The client reported that the program not only helped her to lose muscular tightness, especially after a busy day, but also to

focus her attention away from thoughts that had been keeping her awake.

A more complex type of insomnia problem was presented by a woman in her early thirties who was troubled by a wide variety of specific fears, several persistent and severe somatic complaints (all of which had been shown to have no clear organic cause), depression, and general anxiety. In the process of assessing this client's many complaints, it was discovered that a major aggravating factor was fatigue caused by a pattern of intermittent sleep. The client reported that she was easily awakened by the slightest sound and that, upon awakening, she would think about the possibility that someone was attempting to break into the house to kill her. Her husband had attempted to reduce the problem by installing more than adequate locks on all the doors and windows, but her sleeping pattern remained unchanged.

Progressive relaxation training was one of the first of many procedures employed with this client. The therapist felt that an overall reduction in day-to-day tension through practice sessions and differential relaxation (see Chapter 8) would pave the way for intervention in the other target areas. In addition, it was hoped that the client could use relaxation skills at night to get to sleep, and to return to sleep if she awoke during the night.

In order to decrease the probability that fear of burglars would interfere with her use of relaxation skills, the client was asked to check before going to bed that all doors and windows were locked. If she was awakened during the night by a sound and began to worry about an intruder, she was told to get up immediately and check all doors and windows again, then use relaxation to get back to sleep.

The client learned relaxation easily and reported an immediate reduction in difficulty with falling asleep. In addition, after only one instance of rechecking door and window locks (followed by the use of relaxation to fall asleep), the client began to sleep soundly and continuously every night. These self-reports were corroborated by independent interviews with the client's husband.

Differential relaxation was later used to reduce her tension when she took a driver's test, to help her overcome her fear of flying, and in other tension-producing situations.

A final case involving sleeping problems well illustrates the way in which progressive relaxation can be used, in combination with other procedures, to deal with strongly learned anxiety. The case really involved in vivo exposure, but is included here to show how relaxation procedures can be modified to meet specific situational needs.[1]

The client was a female college student who had long-standing fears of fire, the dark, and being alone. When attempting to go to sleep in the dark, she experienced vivid images of burning people and great fires and always had great difficulty falling asleep. Three years before contacting the therapist, the client's aunt had been killed in a night-time fire. This incident had aggravated the problem considerably. She insisted that the lights be left on in her room all night and that another person be in the room while she slept. Although these requirements had always been met in the past, the client was to leave for study abroad seven weeks after her first contact with the therapist. She anticipated that these arrangements could not be made away from home, and that she would be unable to complete her stay.

The time limit imposed by the client's departure made the use of a full program of relaxation and systematic desensitization impractical. Instead, a variant of progressive relaxation, combined with self-administered in vivo exposure, was employed. Progressive relaxation training was begun toward the end of the second interview. To save time, the rationale was abbreviated and each of the sixteen muscle groups was tensed and relaxed only once. The client was instructed to practice more fully at home, and one of the two daily practice sessions was to occur at bedtime. The client did very well at relaxing, even during the first session, and she practiced regularly.

In addition to using relaxation at bedtime, the client was to gradually reduce the amount of illumination in the room each night and relax for sleep at a time that was progressively earlier than the time her roommate arrived and retired. This program was designed to gradually expose the client to more and more difficult stimulus situations in the presence of deep relaxation.

At the third interview the client reported that her fears had greatly decreased and also seemed less overwhelming because of her increasing ability to use relaxation to get to sleep. The relaxation training sessions and in vivo practice procedures con-

tinued for three more weeks, at which time the client reported no fearful visual images and no problems with falling asleep. At a final session, the client reported that she had recently been at a friend's house when it caught fire, and that her behavior had been rational and appropriate. She experienced no maladaptive anxiety following the incident.

NOTE

1. The authors wish to thank Dr. Lester Tobias for making this case report available.

Chapter 4

Physical Setting for Progressive Relaxation Training

As previously mentioned, a thorough knowledge of and experience with relaxation procedures as well as other more general clinical skills are all essential aspects of effective progressive relaxation training. A third component is the physical environment in which training takes place. The effectiveness of the training will increase if care is taken to provide a suitable setting for relaxation.

ELIMINATING EXTRANEOUS STIMULATION

The therapist should remember this simple rule for ensuring a proper physical setting: do everything possible to increase the client's ability to focus attention on sensations of tension and relaxation. In other words, eliminate all sources of extraneous stimulation.

The Consulting Room

Relaxation training should take place in a quiet, attractive room. Although most therapists' offices meet this requirement,

training frequently has to be carried out elsewhere, and other environments must be carefully prepared. A soundproof room is ideal, but almost any room can be used. Windows and doors should be closed and drapes drawn to eliminate sights and sounds from the outside. Ringing telephones and talking people disrupt relaxation, and it would be wise to take all possible steps to reduce these disruptions to a minimum. Ringer volume can be easily decreased on most standard telephones. A sign on the door reading "Quiet, please" will help avoid conversations in front of the door. Humming air conditioners or ventilation systems are no problem as long as they are not too loud, because clients readily adapt to continuous sound.

Proper lighting is also important. A completely dark room would be ideal for facilitating concentration, but this is impractical for two reasons. First, the therapist needs some light in order to time various phases of training and to watch the client carrying out therapist instructions. Second, an anxious client might become more so from being in a dark room with a relative stranger. The client should be told in the initial instructions that the room lights will be dimmed and why this is necessary (see Chapter 5). The consulting room should contain a lamp with a shade that can be adjusted so that the client receives only indirect lighting. It is wise to turn this light on before turning off other lights in the room to avoid stumbling around a dark room in search of the lamp.

The Chair

An important consideration is the chair the client sits in during relaxation training. The client should be completely supported by the chair and have no need for any tension or exertion to maintain body support. There are two reasons for this: (1) having to use any muscles for support would interfere with concentrating on the process of relaxing other muscles, and (2) any muscles required for support could not be allowed to relax.

The ideal chair is a well-padded recliner. In such a chair the client can sit back, with legs and arms extended and supported by comfortably padded arm and leg rests. A pillow may be used to eliminate head-turns and consequent use of neck muscles.

Any overstuffed chair or wide couch may be used as an alter-

native as long as the basic requirement of complete support is met. Small pillows may help a client who is having difficulty finding a comfortable position. Because people differ in size and shape, the therapist may have to use some ingenuity in making the client completely comfortable on the available furniture.

The therapist should be alert to reports of numbness (the "falling asleep") of various parts of the body, particularly the arms and legs. This is usually the result of poor circulation caused by pressure on blood vessels. A slight change in position of the limbs should eliminate this problem.

The Client's Clothing

The final aspect of the physical environment to be considered is the client's clothing and accessories. Since there is usually at least one assessment interview prior to the initiation of relaxation training, the therapist should suggest that the client wear comfortable, loose-fitting clothing at the next session—slacks and a comfortable shirt or blouse (with loose-fitting undergarments). Comfortable skirts and dresses are acceptable, though they should be long enough to avoid embarrassment when the client is in a reclined position during relaxation. Contact lens wearers should be asked to wear glasses instead, to eliminate time-consuming removal of the lenses prior to the training session. At the session itself, the therapist should ask the client to remove glasses, watches, and shoes to reduce extraneous stimulation and to allow free movement.

If practicality and good taste allow, the above suggestions should be followed, but if any aspect of these recommendations is not feasible, it should be approximated as closely as possible. The most important goal is to achieve maximum physical and psychological comfort for the client.

Chapter 5

Session 1: The Rationale

The first session of PRT is perhaps the most important, simply because at this point the therapist needs to instill in the client feelings of confidence in both the therapist and the technique as well as enthusiasm for carrying out "homework" assignments. This is done through proper explanation and justification of the procedures to follow. In addition, the therapist's initial execution of the actual relaxation procedures should be such that the client experiences significant and pleasant reduction of tension. Thus, at the conclusion of a successful first session, the client should thoroughly appreciate both the procedures and the need for continued cooperation, including regular practice. The client should have a "feel" for what deep relaxation is and the expectation that, even though the first attempt was good, future sessions will produce continued improvement.

PRESENTING THE RATIONALE

The first relaxation session should begin with an effort to place the client's tension in the proper perspective. If the only complaint is sleeplessness and relaxation training seems appropriate

(see Chapter 3), the tension involved would be given a central position in the conceptualization of the client's difficulties. If, however, the tension to be dealt with is only one of the target behaviors, or if PRT is being used mainly to allow the client to discuss other problems calmly, the therapist should make it clear that this is the case. Thus, the therapist should explain to the client the role of tension in the total problem situation and to what extent reduction of that tension can be expected to result in improvement. The therapist should make sure that the client (1) accepts this conceptualization of the case, and (2) feels that application of the relaxation procedure seems valid. Some clients may be somewhat skeptical on this second point, but they should at least be willing to give full cooperation and withhold final judgment.

Once the client recognizes tension as at least a part of the problem, the therapist can begin the more formal portion of rationale presentation.

An Illustration of the Standard Rationale

The following material is an illustration of a first session of PRT. It is not a script to be memorized and repeated in the presence of a client. Any attempt to copy the style of this example will probably not be satisfactory, since the words and sentence structures used will not suit most therapists and will sound stilted, unnatural, and inconsistent with the therapist's usual speaking style. The therapist should at all times maintain an air of warmth, confidence, and competence; struggling to reproduce a prepared speech will not help communicate those qualities.

The therapist should therefore include the content presented below, but the specific words and phrases should be those with which the therapist is most comfortable. In other words, the therapist should learn the content of the first session and communicate this content in his or her own words. (See Appendix A for a rationale content outline.)

Another reason for avoiding a set speech in the first session is that the level of explanation and choice of words must be adjusted to suit each client. The therapist should remain flexible

enough to successfully communicate the following rationale for PRT to any client.

> The procedures I have been discussing in terms of reducing your tension are collectively called progressive relaxation training. They were first developed in the 1930's by a physiologist named Jacobson. In recent years we have modified his original technique in order to make it simpler and more effective. Basically, progressive relaxation training consists of learning to sequentially tense and then relax various groups of muscles all through the body, while at the same time paying very close and careful attention to the feelings associated with both tension and relaxation. That is, in addition to teaching you how to relax, I will also be encouraging you to learn to recognize and pinpoint tension and relaxation as they appear in everyday situations as well as in our sessions here.
>
> You should understand quite clearly that learning relaxation skills is very much like learning any other kind of skill such as swimming, or golfing, or riding a bicycle; that is, in order for you to get better at relaxing you will have to practice doing it just as you would have to practice other skills. It is very important that you realize that progressive relaxation training involves learning on your part; there is nothing magical about the procedures. I will not be doing anything to you; I will merely be introducing you to the technique and directing your attention to various aspects of it, such as the presence of certain feelings in the muscles. Thus, without your active cooperation and regular practicing of the skills you will learn today, the procedures are of little use.
>
> I mentioned earlier that I will be asking you to tense and then relax various groups of muscles in your body. You may be wondering why, if we want to produce relaxation, we start off by producing tension. The reason is that, first of all, everyone is always at some level of tension during waking hours; if people were not tense to some extent, they would simply fall down. The amount of tension actually present in everyday life differs, of course, from individual to individual, and we say that each person has reached some adaptation level—the amount of tension under which he or she operates day to day.
>
> The goal of progressive relaxation training is to help you learn to reduce muscle tension in your body far below your adaptation level at any time you wish to do so. In order to accomplish this, I could ask you to focus your attention, for example, on the muscles in your right hand and lower arm and to then just let them relax.

Now you might think you can let these muscles drop down below their adaptation level just by "letting them go" or whatever, and to a certain extent, you probably can. However, in progressive relaxation, we want you to learn to produce larger and very much more noticeable reductions in tension. The best way to do this is first to produce a good deal of tension in the muscle group (that is, raise the tension well above adaptation level) and then, all at once, release that tension. The release creates a "momentum" that allows the muscles to drop well below adaptation level. The effect is like what we could produce with a pendulum that is hanging motionless. If we want it to swing far to the right, we could push it quite hard in that direction. It would be much easier, however, to start by pulling the pendulum in the opposite direction and then letting it go. It will swing well past the vertical point and continue in the direction we want it to go.

Thus, tensing muscle groups prior to letting them relax is like giving ourselves a "running start" toward deep relaxation through the momentum created by the tension release. Another important advantage to creating and releasing tension is that it will give you a good chance to focus your attention and become clearly aware of what tension really feels like in each of the various groups of muscles we will be dealing with today. In addition, the tensing procedure will create a vivid contrast between tension and relaxation. It will give you an excellent opportunity to directly compare the two and appreciate the difference in feeling associated with each of these states.

Do you have any questions about what I've said so far?

Answer any questions about the rationale behind relaxation training but defer questions about specific procedures until after you have covered the material to follow.

Now the purpose of this first session is to help you learn to become deeply relaxed, perhaps more relaxed than you've ever been before. We can begin this session by going over the muscle groups that we're going to be dealing with in relaxation training. At this point in training, there are sixteen muscle groups to be dealt with, sixteen groups that are tensed and relaxed. As your skill develops, this number will be reduced significantly.

We will begin training with the hand and forearm.

The therapist should ascertain which arm and hand are dominant and begin on that side; for most clients this will be the right hand and right lower arm.

I'll ask you to tense the muscles in your right hand and right lower arm by making a tight fist. Now you should be able to feel tension in the hand, over the knuckles, and up into the lower arm. Can you feel that tension? O.K., fine. After we've relaxed that group of muscles we will move to the muscles of the right biceps, and I'll ask you to tense these muscles by pushing your elbow down against the arm of the chair. You should be able to get a feeling of tension in the biceps without involving the muscles in the lower arm and hand. O.K., can you feel tension there now?

Several muscle groups may be tensed through the alternative strategies covered in the next section of this chapter.

All right, now after we've completed the relaxation of the right hand and lower arm and the right biceps, we'll move over to the muscles of the left hand and left lower arm and tense and relax them in the same way as we did on the right side. We'll also tense and relax the muscles of the left biceps just as we did the right biceps.

After we've relaxed the arms and hands, we'll relax the muscles of the face, and for conceptual purposes we're going to divide the facial muscles into three groups: first the muscles in the forehead area (the upper part of the face), then the muscles in the central part of the face (the upper part of the cheeks), and finally the lower part of the face (the jaws and the lower part of the cheeks). We'll begin with the muscles in the upper part of the face. I'll ask you to tense these muscles by lifting your eyebrows just as high as you can and getting tension in the forehead and up into the scalp region. Can you feel that tension now?

At this point the therapist might want to make some statement about the fact that this part of the procedure involves a bit of face-making, but that this is all part of the procedure; to further reassure the client, the therapist should model the tensing strategies, making faces along with the client.

O.K., fine. Now we'll move down to the muscles in the central part of the face. In order to tense these muscles I'll ask you to squint your eyes very tightly and at the same time wrinkle up your nose and get tension through the central part of your face. Can you feel the tension there in the upper part of your cheeks and around your eyes now? O.K., good. Next we'll tense the mus-

cles in the lower part of your face. To do this I'll ask you to bite your teeth together and pull the corners of your mouth back. You should feel tension all through the lower part of your face and in your jaw. Can you feel the tension in this area now?

Fine. After we've completed the facial muscles we'll move on to relax the muscles of the neck. In order to do this I'm going to ask you to pull your chin downward toward your chest and at the same time try to prevent it from actually touching your chest. That is, I want you to counterpose the muscles in the front part of your neck against those of the back part of your neck. You should feel just a little bit of shaking or trembling in these muscles as you tense them. Can you feel that now?

O.K., fine. We'll move to the muscles of the chest, the shoulder, and the upper back. We're going to combine quite a few muscles here. I'll ask you to tense these muscles by taking a deep breath, holding it, and at the same time pulling your shoulder blades together; that is, pull your shoulders back and try to make the shoulder blades touch. You should feel significant tension in your chest, shoulders, and upper back. Can you feel this tension now? O.K., fine.

Then we'll move on to the muscles of the abdomen. In order to tense the muscles in this region, I'm going to ask you to make your stomach hard; just tense it up as though you were going to hit yourself in the stomach. You should feel a good deal of tension and tightness in the stomach area now. Can you feel that tension? O.K., fine.

After relaxing the muscles in the stomach area, we'll move on to the muscles of the legs and feet. We'll begin with the right upper leg, the right thigh. I'll ask you to tense the muscles of your right upper leg by counterposing the one large muscle on top of the leg with the two smaller ones underneath; you should be able to feel that large muscle on top get quite hard. Can you feel that now? O.K., good.

Then we'll move on to the muscles of the right calf, the right lower leg. I'll ask you to tense the muscles here by pulling your toes upward toward your head. You should be able to feel tension all through the calf area. Can you feel that tension now? O.K., fine. Then we'll move on and tense the muscles of the right foot. In order to do this I'll ask you to point your toe, turn your foot inward, and at the same time curl your toes. Don't tense these muscles very hard, just enough to feel the tightness under the arch and in the ball of the foot. Can you feel that tension now? O.K., good.

We'll then move to the muscles of the left upper leg and tense and relax those muscles just as we did on the right side, then the muscles of the left lower leg, again using the same procedures as we used on the right side, and finally the left foot, tensing it and relaxing it just as we did on the other side.

Do you have any specific questions about getting tension in any of the sixteen muscle groups that we've covered?

The therapist should at this point take time to ensure that the client has been able to get tension in all the muscle groups covered and has understood how to produce this tension. Some clients may ask if they have to remember all of the tensing strategies. The therapist should assure them that he or she will be repeating the tensing instructions for each group as the first training session progresses.

O.K., fine. Now there are some points I would like to make about this procedure before we begin. I'm going to be asking you to pay very careful attention to the feelings of relaxation that appear in the various muscle groups. Since we'll be starting with the right hand and the right lower arm I'm going to be using them as a reference point against which to compare the next muscle group. So, for example, when we're working on the right biceps I'll ask you "Does the right biceps feel as relaxed as the right hand and right lower arm?" In other words, as we go through this procedure I will be asking for comparative judgments on your part so that we can be assured that each muscle group gets as deeply relaxed as the one before it.

Another important point to remember is that I will ask you to release the tension you build up in these muscle groups immediately on my cue. Please don't let the tension dissipate gradually. For example, when you've been tensing the muscles in the right hand and right lower arm, I'll ask you to relax, and when I do, I'd like you to completely and immediately release all the tension that's present in the right hand and lower arm. Do not gradually open the hand; let all the tension go at the same time.

Once we have relaxed a group of muscles there is some advantage in not moving that group of muscles. Thus, I'll ask you not to move in the chair unnecessarily; however, feel free to move in any way that helps you continue to maintain a comfortable position at all times. In other words, don't be afraid to move, but don't make any unnecessary movements during the session.

I'm also going to ask you not to talk to me during this session; we will communicate by means of hand signals on your part. Thus, for example, I might ask you to signal that your right hand and the right lower arm are completely relaxed by lifting the little finger of your right hand.

The hand signal should be made with the hand that is closest to the therapist.

If your right hand and right lower arm felt completely relaxed, you would then signal this to me just by lifting your little finger; if you felt that these muscles were not completely relaxed, there would be nothing for you to do. Not signaling would indicate to me that some tension still remains.

I expect that this first session will take us about 40 to 45 minutes to complete, so you might like to visit the restroom before we begin.

If this proves unnecessary, or after it has been accomplished, the therapist should ask the client to remove or loosen any constraining items such as watches or tight belts. The client should also remove eye glasses; as noted earlier, be sure to check for the presence of contact lenses. These should be removed prior to relaxation training.

Many of these procedures will become much clearer to you as we go through them. Do you have any further questions at this point?

The therapist should answer all pertinent questions in such a way that the client understands the procedures that are to come and is ready to begin training.

O.K., fine; now I'm going to ask you to put your chair in the fully reclined position. I'll dim the lights in the room so that we can effectively cut down external stimulation. We can now begin. Just close your eyes, keep them closed throughout the session, and get into a good comfortable position in the chair.

Alternative Tensing Strategies

For the many clients who have some difficulty achieving tension through the procedures outlined in the preceding section, some alternative tension-creating strategies can be employed on several of these muscle groups.

Some clients have difficulty getting tension in the biceps by pressing the elbow down against the chair. The therapist should ask such a client to press the elbow down and at the same time pull the elbow inward toward the body. This will usually produce tension in the upper arm while leaving the lower arm and hand relaxed. The therapist should avoid having the client tense the biceps by lifting the lower arm and hand off the chair, that is, by bending the elbow. But if all else fails, this procedure can be employed (the order of tensing the arm muscles should be reversed; in other words, the muscles of the biceps should be tensed and relaxed prior to dealing with the muscles of the lower arm and hand). This alternative should be used only in cases in which no other tensing strategy produces the desired results.

The muscles of the forehead can be tensed by asking the client to produce an exaggerated frown, that is, by "knitting the brows." This technique usually suffices if the original strategy of raising the eyebrows fails.

Clients who have difficulty producing tension in the neck by simultaneously tensing two opposing sets of muscles in the front and back of the neck can often achieve satisfactory results by pressing the head back against the chair; that is, by using their neck muscles to exert pressure against the chair. This is a less desirable means of tensing the neck muscles since it does not involve counterposing muscles; one group of muscles or the other is likely to be left out of the procedure. However, it is a reasonable alternative if all else fails.

An alternative means of tensing the muscles of the chest, shoulders, and upper back is for the client to imagine that two strings hanging from the ceiling are attached, like a puppet's, to the shoulders and are being pulled upward. This should produce an exaggerated shrug of the shoulders and the desired tension.

There are two alternative strategies for getting tension in the abdominal region. Instead of asking the client to "make the stomach hard," the therapist can ask the client to either pull the stom-

ach in as far as it will go or push the stomach outward. Neither of these procedures is as effective as the standard strategy, which actually produces counterposing of muscles in the abdomen. One of these three techniques almost always succeeds, however.

For clients who find it difficult to produce tension in the thighs in the standard fashion, the therapist can suggest that the client lift the leg very slightly, thereby producing tension in the upper leg. Again, this procedure is likely to involve only one set of muscles and is not recommended as standard procedure.

An alternative tensing procedure for the calves involves asking the client to point the toes away from the head rather than to pull the toes upward toward the head. This is a very good alternative strategy and will succeed with most clients who are unable to get tension with the standard procedure.

This list of alternatives is not exhaustive. The therapist may find that they do not succeed with a particular client's tensing problem, or that a client may have difficulty achieving tension in a group for which we have presented no alternative strategy. In either of these cases, the therapist must devise a strategy that will produce the desired tension in the problem muscle group. At this point, the therapist's concern should not be with adhering to standard procedures but rather with creating an alternative approach through which the client can create tension. The client and therapist should work together (as they must throughout relaxation training) to solve any problems that arise. Failure to find solutions to such problems could have important implications for the success of the training program, since the production of adequate tension is a necessary condition for the building of skill in relaxation.

Another problem the therapist may face is that the client may feel a certain muscle group has not been dealt with. (For example, a client may state that, while the muscles of the upper back feel well relaxed after application of standard techniques, the muscles of the lower back remain tense.) This does not happen often, but if such a situation occurs, the therapist must develop a tensing strategy that allows the client to achieve relaxation in these muscles. This can best be accomplished by asking the client to try tensing the muscle group in any way he or she thinks might be effective. The client should describe how the tension is produced so that the therapist can give appropriate tensing instructions at later sessions.

Chapter 6

Session 1: Basic Procedures

After the client has understood and accepted the rationale underlying PRT, and after the therapist is assured that all of the client's questions have been satisfactorily answered, relaxation training can begin. This training should follow the sequence outlined to the client during rationale presentation. That is, the sixteen muscle groups discussed and practiced with the client during the rationale presentation should be covered in the initial training session. The sequence should be identical to the sequence used during rationale presentation, and the muscle tension procedures agreed upon with the client should be employed throughout. For example, if an alternative tensing procedure for the biceps was decided on, then that same procedure should be employed in the training itself.

THE BASIC PROCEDURE

Recall that the order in which the muscle groups are dealt with is as follows:

1. Dominant hand and forearm
2. Dominant biceps

3. Nondominant hand and forearm
4. Nondominant biceps
5. Forehead
6. Upper cheeks and nose
7. Lower cheeks and jaws
8. Neck and throat
9. Chest, shoulders, and upper back
10. Abdominal or stomach region
11. Dominant thigh
12. Dominant calf
13. Dominant foot
14. Nondominant thigh
15. Nondominant calf
16. Nondominant foot

In teaching relaxation to a client, the following sequence of events must occur with respect to each muscle group:

1. The client's attention should be focused on the muscle group.
2. At a predetermined signal from the therapist, the client tenses the muscle group.
3. Tension is maintained for a period of 5–7 seconds (this duration is shorter in the case of the feet).
4. At a predetermined cue, the client releases the muscle group.
5. The client focuses attention upon the muscle group as it relaxes.

DIRECTING THE PROCEDURE

The therapist can easily direct this sequence of events by employing a relatively standard set of instructional statements. To accomplish the first step in the sequence outlined above, the therapist should say, for example, "O.K., now I'd like you to focus

all of your attention on the muscles of your right hand and lower arm."

Once the first step is accomplished, the therapist can direct precise onset of the tension cycle by saying, for example, "Alright, I'd like you to tense the muscles in the right hand and lower arm by making a tight fist, now." Notice that the tensing statement includes an instruction as to how to achieve tension and a reminder of which group the client is to focus on. The client should be made aware of the fact that the word "Now" is the tension cue and should not actually begin tensing until the therapist says "Now." Having a specific tension signal is important because the therapist needs to accurately time the exact length of tension; the client should not be allowed to begin tensing randomly.

The third step in the sequence consists of having the client hold the tension for 5–7 seconds. During this interval, the therapist should be helping the client focus on the feelings associated with tension by making statements like "Feel the muscles pull; notice what it's like to feel tension in these muscles as they pull and remain hard and tight." The therapist should restrict the length of these statements so that they coincide with the length of the 5–7 second tensing period. It is important that the therapist keep the client's attention focused on the feelings associated with tension.

The therapist should terminate the tension period with a standard statement like "O.K., relax." At this point, the muscle group is released, and the therapist must keep the client's attention focused on the feelings in the muscle group as it relaxes. To achieve this, the therapist should spend about 30–40 seconds making statements designed to focus the client's attention on the relaxation process as it is occurring. In these statements, the therapist merely points out what is happening. Thus, the client should be made a passive and careful observer of these processes.

The statements made by the therapist should therefore be suggestive, not prescriptive. For example, immediately after the word "Relax," the therapist could say, "Just let these muscles go, noticing the difference between tension and relaxation, focusing on the feelings in this muscle group as it becomes more and more relaxed." (See Appendix B for a full presentation of the kinds of statements that can be made at this point in the procedure.)

The therapist should at all times avoid making direct sugges-

tions or prescriptive statements such as "Relax these muscles more and more," or "These muscles are becoming more and more relaxed now." There are two reasons for this word of caution. First, the use of direct suggestion may result in the production of hypnosis-like phenomena in the session. This is to be avoided for reasons discussed in Chapter 11. Secondly, direct suggestions may be at variance with what is going on from the client's point of view. Thus, if a given muscle group is not relaxed and the therapist is making statements like "These muscles are deeply and completely relaxed," the client will either fear that his or her own performance was inadequate or believe that the therapist is incompetent. Although we would prefer our clients not to think of us as incompetent therapists, even that is preferable to a client feeling incompetent or inadequate. These concerns can disrupt the state of relaxation the therapist is attempting to create. Therefore, the therapist's verbal behavior during the relaxation periods should consist simply of indirect statements designed to encourage the client to focus attention on the muscle group being relaxed.

After 30–40 seconds of relaxation "patter," the tension-release sequence is repeated. The therapist says, for example, "O.K., again I'd like you to tense the muscles in the right hand and lower arm, now." After 5–7 seconds of tension, the client is instructed to relax and again hears indirect statements about relaxation and paying attention to relaxation, this time for 45–60 seconds. As relaxation training with a given client progresses, the second tension-release cycle often becomes unnecessary to achieve the desired degree of relaxation. However, it is usually a good idea to repeat the cycle, since the result will generally be an even further reduction of tension in the muscle group. Also, the client may not know what deep relaxation feels like and might think that a group is completely relaxed when it is not as deeply relaxed as it will be after a second tension-release cycle.

Assuring Complete Relaxation

For these reasons, each of the sixteen muscle groups is tensed and relaxed twice. Before moving on to the next muscle group, however, the therapist must determine whether deep relaxation has, in fact, been achieved in the muscle group in question. This

is best accomplished by the use of the hand signal agreed upon during the rationale presentation. After the 45–60 seconds of relaxation following the second tension cycle, the therapist should say, for example, "OK, if the muscles in your right hand and right lower arm feel completely relaxed, I'd like you to signal by lifting the little finger on your right hand." (Remember that the signaling hand is the one closest to the therapist.) For all but the initial hand and forearm group, make a statement such as "If the muscles of——are as deeply relaxed as the muscles of——, please signal to me." The intergroup comparisons are as follows:

1. The dominant biceps to the dominant hand and forearm
2. The nondominant hand and forearm to the dominant hand and forearm
3. The nondominant biceps to the nondominant hand and forearm
4. The forehead to the nondominant biceps
5. The central section of the face to the forehead
6. The lower part of the face to the central part of the face
7. The neck to all facial muscles
8. The chest, shoulders, and back to the neck
9. The abdomen to the chest
10. The dominant upper leg to the abdomen
11. The dominant lower leg to the dominant upper leg
12. The dominant foot to the dominant lower leg
13. The nondominant upper leg to the dominant upper leg
14. The nondominant lower leg to the nondominant upper leg
15. The nondominant foot to the nondominant lower leg

Later in training (see Chapter 7), when fewer muscle groups are employed, each group should be compared to the one immediately preceding it.

If the client signals that the group in question is completely relaxed (or as relaxed as the group to which it is compared), the therapist might say, "OK, fine, just allow these muscles to go

right on relaxing while you shift all of your attention to the next muscle group, the right biceps." Then the entire procedure is repeated with the next group. It is seldom true, however, especially in early training, that a client will signal complete relaxation every time this information is requested. In fact, a therapist who receives a signal of complete relaxation every time during a first session should suspect that the client may be extremely acquiescent and, though not fully relaxed, afraid to "give the therapist any trouble." The therapist can usually assess the presence of this attitude during the questioning that occurs after the first session (these questions will be covered later in this chapter).

Clients also tend to give some fairly obvious nonverbal clues to incomplete relaxation. If a client is signaling complete relaxation in every muscle group and at the same time is fidgeting in the chair, fails to display slow and regular breathing, often opens the eyes, attempts to talk to the therapist, or shows other nonrelaxed behaviors, the therapist should not be convinced by the relaxation signals being given. During the session the therapist may alleviate this problem by making a statement like "Please be sure not to signal relaxation unless you really feel deeply relaxed in the group in question." The client should also be reminded that it is acceptable to signal the absence of relaxation (i.e., to fail to signal relaxation) and that the client should not be concerned about "disappointing" the therapist. The client needs to realize that the goal of the session is to produce a very relaxed experience, not to "go through the motions" of relaxing. (These problems and many others are considered in some detail in Chapter 9.)

In case of failure to get a relaxation signal after two tension-release cycles have been completed, the standard procedure is simply to repeat the tension-release cycle. Refocus attention, ask the client to tense the muscle group for 5–7 seconds and again relax, and then present 45–60 seconds of indirect relaxation suggestions. At this point, another signal for relaxation can be requested. This procedure is usually successful ultimately, but it should not be repeated endlessly. If a client is still not signaling relaxation after the muscle group has been tensed 4–5 times, the therapist should attempt an alternative solution to the problem (see Chapter 9). Further extension of the procedure is ill-advised,

because it may cause client fatigue or even pain in the muscle group being tensed.

Three Changes in Procedure

If the client has no serious difficulty achieving relaxation in any particular group, the training session continues. The procedure is generally the same for each of the sixteen groups, but there are three exceptions.

First, as noted earlier, the muscles of the feet should not be tensed for longer than about 5 seconds because of the danger of cramping. (The possibility of cramping should not be mentioned to the client because such a communication might cause unnecessary anxiety.) Indeed, the tension period should be shortened for any muscle group that cramps easily in a particular client. For example, if a client has difficulty with cramps in the calves, the therapist should shorten the tension cycle for this group and may even suggest that the client not tense this group quite as hard as the others. The client should be informed that the tension cycle will be shortened, and that this will eliminate the cramping problem.

The second change from the standard relaxation training procedure appears when the muscles of the chest, shoulders, and upper back are being relaxed. Beginning here, breathing cues should be added to the indirect suggestions following tension. That is, starting with the chest muscle group and continuing through all the remaining groups, the therapist should introduce indirect suggestions about breathing into the patter. After allowing a group of muscles to relax, the therapist might say, "Notice your slow and regular breathing." The therapist should also begin pacing the rhythm of the verbal suggestions to coincide with the client's breathing.

The third change in the therapist's verbal behavior involves asking that the client take a deep breath and hold it on tensing each of the muscle groups that follows the chest, shoulders, and upper back. The client should be told that from this point on, "I will be asking you to take a deep breath and hold it as you tense each muscle group and to let that breath out as you release the tension." This changes the therapist's statement with respect to

initiating tension. After focusing the client's attention on, for example, the abdomen, the therapist should say, "O.K., by taking a deep breath and making these muscles hard, I'd like you to tense the muscles in the abdominal region now." Notice that we have simply added the instruction to take a deep breath in order to remind the client to follow the new procedure.

This "breath-holding" technique has at least two distinct advantages. First, it associates the release of breath with feelings of relaxation. This can be quite helpful in learning deep relaxation, especially when practicing at home. Second, it is likely to ensure very deep relaxation of the chest and the abdominal regions. Because these regions are usually, if not always, associated with the kinds of tension individuals experience in various real-life situations, it is very important to ensure that the client has considerable skill in relaxing these areas.

SUMMARY AND ASSESSMENT

After the client has signaled relaxation for all sixteen muscle groups, the therapist is ready to make a final assessment of the client's state of relaxation. The therapist should first summarize the muscles that have been relaxed and instruct the client to allow them to continue relaxing. This is accomplished by saying, for example,

> O.K., we've now relaxed the muscles in your arms and hands; just allow them to continue relaxing. We've relaxed the muscles in your face and neck; go on allowing them to remain deeply relaxed. We've relaxed the muscles of your chest, shoulders, upper back, and abdomen; allow these muscles now to become even more deeply relaxed. We've relaxed the muscles of your legs and feet; just allow these muscles now to remain deeply and completely relaxed.

When the summary has been completed, the therapist can easily assess the client's state of relaxation by saying, "Now I would like you to signal if you feel the slightest tension in any muscle group anywhere in the body." If the client does not signal, this is an indication that he or she is completely relaxed all through the body. At this point the therapist may want to make certain

that the client has heard the question by asking a supplementary question such as, "O.K., I'd like you to signal if you feel completely relaxed all through your body." If the client signals at this point, the therapist has confirmation of the client's state of relaxation and can terminate the session according to the procedures outlined below.

If the client does not indicate complete relaxation at this point, the therapist should locate and eliminate any remaining tension. This can be done relatively easily by informing the client that the sixteen muscle groups of the body will be named and that he or she should signal at the mention of a muscle group that has not achieved complete relaxation. The therapist should then begin to slowly list the muscle groups. Whenever the client signals, indicating that tension is present in the muscle group, the therapist should take note of this and then ask the client to signal if there is tension in any other muscle group in the body. If the client signals at this point, the therapist should continue listing muscle groups until any tension still present in the body has been specified; otherwise, the only tension present has already been detected.

Once the trouble has been localized, the corrective procedures exactly repeat those outlined previously; that is, the group can be tensed and relaxed once again. This usually will eliminate any residual tension that has built up over the course of the session. (The presence of tension does not always mean that the group was never relaxed. Clients will often report the return of some tension in a muscle group that had previously been relaxed.) The therapist should direct two more standard tension-release cycles before attempting an alternative tensing strategy.

The therapist should obtain a signal from the client that the group is indeed now completely relaxed and then repeat the original assessment question; that is, "I'd like you to signal now if you feel any tension anywhere throughout your body."

When the therapist is assured that no residual tension exists anywhere in the body, the session can be terminated. Prior to termination, however, it is advisable to allow the client a minute or two to enjoy the state of complete relaxation. During this period, the therapist may either remain silent or, at 15–20 second intervals, make indirect suggestions designed to keep the client's attention focused on the pleasant state of relaxation. These sug-

gestions should remind the client to pay attention to what it feels like to be completely and deeply relaxed.

TERMINATING RELAXATION

After this "enjoyment period" has been completed, the therapist should terminate the session. The client should be told that the therapist will count backward from 4 to 1 and that on the count of 4, the client should begin to move the legs and feet; on the count of 3, the arms and hands; on the count of 2, the head and neck; and on the count of 1 the client should open the eyes. The therapist should also suggest feelings of well-being and relaxation, for example, "Then, on the count of 1, I'll ask you to open your eyes, feeling quite calm and relaxed, very pleasantly relaxed, just as if you'd had a brief nap." This remark about a brief nap is very helpful to the many clients who "awake" after an initial session feeling somewhat dizzy and disoriented—they may have never experienced the depth of relaxation they achieved in this first session. Because arousal from deep relaxation is similar to waking up, this statement at the end of the termination instructions can help to allay any concerns the client might have about these feelings.

POSTRELAXATION QUESTIONING

At this point the therapist should ask an important set of postsession questions in a somewhat structured fashion and pay careful attention to the answers. First, the therapist should ask an open-ended question such as "How do you feel?" or "How was that?" or "How did you like that?" The client's answer will probably be an overall reaction to the procedure itself and may contain a variety of general statements. Next, the therapist should begin collecting more detailed information by asking specific questions about any problems that occurred during the session, for example, "What was the trouble in getting the neck muscles relaxed?"

In this way, the therapist can explore with the client any areas in which relaxation was not routine. If the entire procedure was relatively easy, then the therapist can ask a more general ques-

tion such as "I'd like you to think back over this session and tell me if at any time you had any problems getting the various muscle groups relaxed." The client is then likely to mention some problems or questions he or she might have had that were not communicated to the therapist during the session.

Whether problems are brought up by the client spontaneously or uncovered by the therapist through this questioning, it is important that some resolution of the problems is agreed on. If an alternative tensing strategy is required, this should be determined. If at some point the therapist did not communicate adequately to the client, this should be clarified. The point of delineating these concerns is to create a list of problems to be eliminated so that the relaxation procedure can become routine and trouble-free. (In Chapter 9, we have included all the problems that have arisen in our experience with PRT, but there is no guarantee that an unusual problem will not be encountered by the therapist. Each therapist must create his or her solution to such a problem.)

During this problem-resolution period, the therapist should at all times maintain an air of confidence. Problems should be dealt with in a routine fashion. The therapist should indicate that such difficulties often arise, and that corrective procedures are available. The therapist should then assure the client that the problems will in all probability disappear as the client practices the new procedures.

After any problems which arose during the session have been discussed and resolved, the therapist can ask the client to describe—in his or her own words—what relaxation feels like. The importance of this account lies in helping the therapist understand the kinds of sensations being experienced by this particular client, and can also aid in adapting the relaxation patter to that client in subsequent sessions.

For example, if the client says that his or her limbs felt lighter or that he or she began to feel somewhat warmer or cooler, the therapist should note this information and include it in later sessions as part of the indirect suggestions. For example, in the case of a client who experiences a warm feeling and heaviness in the limbs, the therapist could in subsequent sessions say, "Notice the warm, heavy feelings of relaxation flowing into these muscles

now as they become more relaxed." The therapist can thus avoid making statements or indirect suggestions that are inappropriate for a given client.

At this time, the therapist should ask if anything that was said during the initial session made it more difficult for the client to relax. If the client mentions such statements, they should of course be eliminated from future sessions. A therapist should also ask if any statements facilitated the client's relaxation, and these should be emphasized in subsequent sessions.

Assigning Home Practice

When all information regarding problems arising during the initial session seems to have been presented, discussed, and resolved, and the therapist feels informed about what to say in future sessions, the session can be brought to a close by giving the client a description of the at-home practice procedure to be followed. The importance of at-home practice cannot be overemphasized; the therapist should repeat the learning analogy, making it clear that relaxation is a skill which must be practiced if it is to improve. The client should be encouraged to practice every day, twice a day, for periods of about 15–20 minutes each time, with at least three hours separating the two daily practice sessions.

The client may ask why the practice session can be so short when the initial session was so lengthy. The therapist should explain this discrepancy by giving two answers: (1) the initial session was an introduction to the procedure, and, with practice, the client will be able to attain deep relaxation more quickly, and (2) the client's own experience of bodily sensations will allow him or her to more efficiently pace the practice. The slower pace used by the therapist may not be needed to achieve relaxation. Most clients, even early in training, find that a 15–20 minute practice session is more than adequate.

The therapist and client should also discuss in detail the client's home situation and decide on a physical setting for practice. If the client does not have a comfortable reclining chair, several alternatives, such as a bed or couch, can be substituted. The client should simply lie down with his or her head on a pillow. Another alternative is a large, comfortable overstuffed chair with

a footstool. If neither of these solutions is feasible, the therapist should find some alternative arrangement that will provide a comfortable location for relaxation practice.

In addition to appropriate furniture, two conditions should be met to promote successful at-home PRT practice. First, the client should practice where interruptions by other people, telephones, doorbells, and the like is unlikely. Meeting this requirement may involve considerable discussion and planning by the client and the therapist. Second, the client should be cautioned to practice relaxation only at times when time pressure is not a problem; for instance, practicing should not take place 15–20 minutes before the client has an appointment.

The ideal practice situation is one in which the client has nothing to do for a reasonably long period of time and can focus full attention on relaxation. Although quiet times of the day vary for different people, it is often helpful to suggest times such as after work, just after dinner, or just before retiring at night. However, satisfying the requirements for appropriate furniture and freedom from interruptions and time pressure should take precedence over reserving any particular time of day.

The client must be motivated to practice. The therapist should use all of his or her clinical skill to encourage regular practice and not be too tolerant of the client's excuses for not practicing. The therapist should remind the client that failing to practice has serious implications for the speed with which skill in relaxation will be learned.

THE THERAPIST'S VOICE

In progressive relaxation training, how the therapist speaks is just as important as what is said. Subtle features of volume and inflection are of vital importance in the adequate presentation of PRT to the client.

The therapist should begin the first relaxation session in a conversational tone—in other words, at the same volume used in the rationale presentation. Over the course of this first session, however, the therapist's voice should become progressively quieter, consistent with the client's progressively increasing relaxation. At no time, however, should the therapist speak so softly that the client will have difficulty hearing instructions and

suggestions. The therapist should be careful not to introduce hypnotic or seductive components into the voice quality; rather, the tone should be smooth and quiet, perhaps even monotonous, but not purposely hypnotic. In addition to speaking more softly as the session progresses, the pace of speech should change so that the therapist is speaking considerably more slowly by the time the relaxation session is one half to two thirds completed.

The Tension-Release Voice Cycle

Within the context of an overall reduction in the volume and pace of the therapist's speech, there should be a cyclical aspect based on the content of what is said. That is, the therapist's voice should sound quite different when giving instructions to tense muscle groups than when giving indirect suggestions to relax and focus attention.

As the therapist gives the signal to tense a muscle group, his or her voice should increase in volume, speed, and tension. This should be clearly perceptible to the client and can best be achieved if the therapist actually tenses a muscle group in his or her own body (perhaps the most convenient group for this purpose is the dominant hand and lower arm). This tension will be reflected in voice quality. At the point of giving the cue to relax, the therapist's voice should again change as he or she releases the tension in the muscle group. The therapist might even want to exhale noticeably while giving the cue word "Relax." In other words, there should be a sharp distinction between the end of the tension period and the beginning of the relaxation period, not only in terms of the instructions but in terms of the sound of the therapist's voice. The difference helps the client distinguish between relaxation and tension.

Some Words of Caution

At no time during the session should the therapist's voice take on overly dramatic or theatrical qualities. Rather, it should be used as an instrument with which to facilitate the relaxation process. The client's reaction to both voice quality and the content of the therapist's speech should be discussed during the postsession question period. The therapist should query the cli-

ent to ensure that there was nothing in the quality of his or her voice that was disruptive to the relaxation process.

In Chapter 5, we cautioned that the therapist should not attempt to memorize a speech to deliver during rationale presentation. The same caution is offered here: although we feel that it is helpful to follow the general rules and procedures associated with voice quality, pacing, volume, and the like, this must be carried out in the context of each therapist's own speaking style. What is most important is that the therapist sound natural, confident, and competent.

Chapter 7

Variations on the Basic Procedures

Once a client is capable of achieving deep relaxation with tension-release cycles in sixteen muscle groups, the therapist can begin instituting a series of procedures designed to decrease the amount of time and energy necessary to achieve deep relaxation.

COMBINING MUSCLE GROUPS

The sequence begins with procedures designed to ultimately decrease the number of muscle groups involved in relaxation to four. Following successful completion of that section of the PRT program, the therapist can introduce a procedure known as "recall." In the recall procedure, actual tensing of muscles is eliminated and the client learns to remember the feelings associated with tension and release. Control over muscle tension will be good enough at this stage that the production of actual muscle tension will no longer be necessary to create relaxation.

After the recall procedure has been mastered, relaxation begins to occur throughout the entire body rather than in specific muscle groups. In the final step of the program outlined in this chapter, the client can learn to achieve deep relaxation through

the use of a counting procedure that requires neither muscular tension nor recall procedures.

There are many advantages to having a technique through which the client can voluntarily control tension and produce relaxation throughout the body without performing any observable "exercises." The most obvious advantage is that the client can employ relaxation techniques in situations where it would be impossible or inappropriate to recline with the eyes closed. When relaxation becomes a skill that the client can "carry around" and use in any troublesome situation, it can be employed in the service of many goals, for example, when the client is entering an unfamiliar situation and needs a way of easing tension that might arise. Having such a tool can greatly increase the client's confidence in such situations. The recall and counting procedures can also be used as part of the differential relaxation technique discussed in Chapter 8, and can play a vital role in the development of the numerous applied relaxation skills described in Chapter 12.

Relaxation Procedures for Seven Muscle Groups

In the seven-muscle-groups version of PRT, as in those to follow, the most important consideration is that the client be fully informed about forthcoming changes in procedure. The therapist should familiarize the client with the combined muscle groups that will be employed in the seven-group procedure. The original sixteen groups are combined as follows:

1. The muscles of the dominant arm are tensed and relaxed as a single group; thus the hand, lower arm, and biceps muscles are combined. The means of achieving tension throughout the arm and hand can vary from client to client; perhaps the easiest procedure is to ask the client to hold the arm out in front of him or her—with the elbow bent at about 45 degrees—and make a fist, thus tensing not only the muscles of the hand and lower arm, but also the biceps. As an alternative, the client could leave the arm supported on the arm of the chair and, while bending the arm at the elbow, make a fist and press the elbow down and/or in. Of course, any alternative tensing strat-

egy which produces the desired tension may be used; these alternatives have been outlined because we have found them useful.

2. The muscles of the nondominant arm constitute the second group and are tensed and relaxed in the same way as group 1.
3. The next group in the sequence combines the three formerly separate facial muscle groups by asking the client to perform simultaneously all three tension procedures previously employed separately. To achieve this, the client should be asked to raise the eyebrows (or frown), squint the eyes, wrinkle up the nose, bite down, and pull the corners of the mouth back. This should produce tension all through the facial area. (Some clients may at first have difficulty combining some of these groups; if so, they should be encouraged to practice the combinations. The therapist should ensure that the particular tensing strategy employed is maximally efficient since this will increase the probability of learning the new skills.)
4. The fourth muscle group is identical to the group employed in the sixteen-group procedure: the neck and throat. This group is tensed just as before.
5. The fifth muscle group involves combining the chest, shoulders, upper back, and abdomen. To achieve tension, the client should be asked to take a deep breath, hold it, and pull the shoulder blades back and together, while at the same time making the stomach hard (or pulling it in or pushing it out).
6. The muscles of the dominant thigh, calf, and foot constitute the sixth group of muscles. To produce tension here, the client should be asked to lift the leg off the chair slightly while pointing the toes and turning the foot inward. Again, this may be difficult at first, and the client may have to experiment to ascertain the best procedure for getting adequate tension. Any procedure is acceptable as long as the client reports achieving tension throughout the entire area.
7. The procedure employed for the seventh group (the non-

dominant thigh, calf, and foot) is identical to that used for group 6.

At the conclusion of the first session in which these seven groups have been employed, the therapist should question the client to uncover any problems that might have occurred. This question period should be a shortened version of the questioning that followed the first training session. The therapist should make certain after this first seven-group session that the procedure is clear and that tension was achieved in all groups without particular difficulty. It is also most important to determine that the depth of relaxation was satisfactory to the client.

During the first session with a reduced number of muscle groups, the client may report that relaxation was not quite as deep as it had been using the more familiar sixteen-group procedure. This should not be cause for alarm, however; the therapist should simply ask the client to practice at home using the shortened procedure, and report at the next session as to whether it has resulted in increased relaxation depth and efficiency. A week of practice will usually result in a satisfactory report.

Mastery of these abbreviated procedures will take practice, just as the original procedure did, and the therapist should be prepared for slight setbacks that may occur at each transition point in the relaxation training program. The client's verbal report should, however, indicate that overall progress is continuing and that the procedure is continually becoming more efficient. If, after two or three weeks, the client continues to report less relaxation than with the sixteen-group procedure, the therapist should ascertain which muscle groups are not becoming well relaxed. The components of these groups may have to be practiced individually before reinstituting the use of combined groups.

Relaxation Procedures for Four Muscle Groups

This procedure represents a further condensation of procedures already employed. The groups are combined as follows.

1. The first of the four groups consists of the muscles of the left and right arms, hands, and biceps. They are com-

bined into one group and are tensed at the same time simply by asking the client to combine whatever tensing strategies he or she had been using for each arm separately. This may mean that the client is either lifting both arms off the chair and bending them at the elbows or resting them on the chair and making fists in both hands.

2. The second group is made up of the muscles of the face and neck. In order to get tension throughout this area, the client should be asked to tense all of the facial muscles while at the same time employing the tension procedure for the neck. This should produce adequate results, including the trembling which is characteristic of tension in the neck region.
3. The third muscle group includes the muscles of the chest, shoulders, back, and abdomen. There is no change from the seven-group procedure.
4. The final group to be tensed in this procedure consists of the muscles of both the left and right upper leg, calf, and foot, and again requires that the client simply combine the tension procedures he or she had been using in tensing each leg separately. This procedure can usually be mastered with little difficulty. However, problems sometimes result from the use of inappropriate chairs. If there is any danger that tensing both legs at the same time will cause the client to lose balance and slip out of the chair, the therapist should remain at the previous seven-group level; that is, he or she should allow the client to continue tensing one leg at a time, thus creating a five-group technique.

Once the client has learned to achieve deep relaxation using four muscle groups, the relaxation procedure should take less than ten minutes. While this represents a considerable saving of time, the procedures outlined in this section are not designed simply to allow relaxation to occur more quickly. The therapist should not be intent on setting speed records. The major goal is development of the client's ability to easily achieve deep relaxation at any time. The fact that this can occur rapidly is a sec-

ondary benefit. If the therapist has inadvertently placed an emphasis on speed, there may be difficulty in moving to the recall procedure, because the client will have had too little time to focus closely enough on the feelings associated with relaxation.

RELAXATION THROUGH RECALL

The recall procedure differs markedly from all of the preceding procedures, because it does not require the client to create muscle tension. It does require full use of the client's increased ability to focus on tension and relaxation, however.

Before beginning the initial recall session, the client should be fully informed about the procedures to come. The therapist should be certain that the client understands these procedures and is ready to attempt them.

Relaxation with recall employs the same four muscle groups used in the previous procedure: both arms as the first group; face and neck as the second; chest, shoulders, back, and stomach as the third; and legs and feet as the fourth.

In the recall procedure, the therapist need only provide for two sequential events: the careful focusing of the client's attention on any tension in a particular muscle group, and instruction to the client to recall the feelings associated with release of that tension. In order to help the client focus attention, the therapist could say, "O.K., now I'd like you to focus all your attention on the muscles of your arms and hands and very carefully identify any feelings of tightness or tension that might be present there now. Notice where this tension is and what it feels like."

Following the focusing of attention, the therapist can go directly into the relaxation mode by saying, for example, "O.K. . . . and relax, just recalling what it was like when you released these muscles, just letting them go and allowing them to become more and more deeply relaxed." The therapist should continue the indirect-suggestion patter for about 30–45 seconds. This procedure is thus analogous to the tension-release system, but it eliminates the actual production of tension.

At the conclusion of the 30–45 seconds of indirect relaxation suggestions, the therapist should ask for a signal from the client if the particular muscle group feels completely relaxed. If the client signals, the therapist should continue to the next muscle

group. If the signal is not forthcoming, the therapist should say, for example, "O.K., again I'd like you to focus all your attention on the muscles of your arms and hands, this time very carefully identifying where the residual tension is, focusing all of your attention on it, noticing what it feels like." The therapist should then give the relaxation cue and another 30–45 seconds of indirect suggestions involving focused recall of relaxation.

If serious trouble is encountered in getting a particular muscle group relaxed the therapist should employ the earlier procedure of tensing the muscle group. The therapist should, however, continue to attempt to use recall on all other muscle groups, and in fact should encourage the client to use recall on all groups during at-home practice sessions. The client should be reminded that practice will increase skill with the recall procedure and that initial difficulties will be overcome. This expectation is almost always fulfilled.

Except for eliminating the creation of actual tension, this procedure is in other respects (including a final assessment and termination procedure) identical to the earlier stages of training.

Relaxation by Recall with Counting

Once the client has learned to achieve deep relaxation through use of the recall procedure, the therapist can add a counting procedure, which the client can use later in home practice sessions. Counting should first be included at the end of a successful recall session, just prior to its termination, but after assurance that complete relaxation has been achieved. At this time the therapist should inform the client that he or she is going to institute a procedure designed to allow relaxation to become even deeper. The therapist might say, "As you remain very deeply and completely relaxed, I'm going to count from one to ten, and, as I count, I'd like you to allow all the muscles throughout your body to become even more deeply and completely relaxed on each count. Just focus your attention on all the muscles in the body. Notice them becoming even more and more deeply relaxed as I count from one to ten."

The therapist can then begin counting, interjecting indirect relaxation suggestions somewhat as follows:

> One, two, notice the arms and hands becoming more and more relaxed now; three, four, focus on the muscles of the face and neck as they become even more deeply relaxed now; five, six, allow the muscles in the chest, shoulders, back, and abdomen to relax even more deeply now; seven, eight, notice the muscles of the legs and feet becoming more and more completely relaxed; nine, and ten.

The therapist should pace this counting to coincide with the client's exhalations. It is important to coordinate counting with breathing, because it will help the client use the same procedures when practicing at home.

Of course, as in all cases, the use of this procedure should be fully outlined to the client before it is first used. He or she should be informed that this procedure is designed to further focus attention and allow relaxation to become even more comfortable. It should not be referred to as a "deepening" procedure, because the word "deepening" connotes hypnosis (see Chapter 11). After the initial use of the counting procedure, the client should be encouraged to regularly employ counting at the conclusion of recall practice and to report on its usefulness during at-home sessions.

Relaxation by Counting Alone

Once the client has successfully integrated the counting procedure into home practice sessions, and the therapist is reasonably certain the client associates it with deep relaxation, a procedure that consists solely of the therapist counting from one to ten and giving indirect suggestions of relaxation can be attempted.

This technique is of primary usefulness as a time-saving device in the office setting, but some clients find it helpful in facing real-life stress situations. (Counting from one to ten has long been a technique for controlling anger; its usefulness is augmented through relaxation training.)

Again, the therapist should explain to the client what the procedure will involve and allow the client to ask questions prior to initiating it. The counting procedure can be identical to the one employed in the recall-with-counting procedure and should be followed by the usual assessment of relaxation.

If, at the end of the counting procedure, the client indicates that some tension remains, the therapist should locate the residual tension and have the client remove it through the recall technique or, in case that should fail, through tension and release. In most cases, any reported residual tension will be removable through the now well-established technique of recall.

The client can now attain deep and complete relaxation in a minute or less, depending upon the counting rate, and relaxation is a well-established skill that can be used in a variety of ways, some of which were mentioned in Chapter 3.

The client should be encouraged to continue practicing on a regular basis. For a client who is able to achieve deep relaxation by simply counting or through rapid recall, two relaxation practice sessions a day may be unnecessary; one may be quite enough to maintain skill at an adequate level. The client and therapist together should determine the proper amount of practice on the basis of the level of skill desired and the intended future use of relaxation skills. For example, if relaxation is being used primarily as a means of relieving insomnia, practice sessions may be unnecessary, because the client is employing relaxation skill at least once a day anyway. Other uses of the training may require more intensive practice.

Progressive relaxation training is a learned skill, not a magic wand. Therefore some provision for continued practice of relaxation should be made. The client should not be overconfident about being able to maintain the skill without practicing.

GUIDELINES FOR ESTABLISHING A TRAINING TIMETABLE

There is really only one rule to follow when determining the rate at which the therapist trains the client in the more efficient relaxation procedures outlined in this chapter: never introduce a new procedure until the client has mastered the previous one. This rule is deceptively simple, however, since it is often difficult to determine just when the client is ready to move on to the next step in training.

Before suggesting how the therapist might obtain this information, we present below a timetable for progress. This timetable is conservative; most clients proceed more rapidly than is indicated here. However, it is ultimately less disruptive to move

too slowly than to push a client through the procedures too rapidly. Any overlearning that may occur if the therapist follows the timetable presented here will probably benefit the client in the long run.

We suggest that the initial procedure (utilizing sixteen muscle groups) be employed for at least the first three sessions. If the client is being seen once a week, this would allow for two full weeks of practice and two sessions with the therapist, during which any problems arising at home can be discussed. The importance of the client's mastery of these initial techniques cannot be overemphasized. Therefore, three sessions of the sixteen-group procedure is not unreasonable.

If at the fourth session the client is achieving satisfactory relaxation without difficulty (according to the rules outlined below), the seven-group procedure should be introduced. The new procedure should be practiced by the client during the next week and employed again at the next session in order to ensure that it is being used correctly and to the client's satisfaction. The four-group procedure may be instituted at the sixth session and continued into the seventh.

The recall procedure would be introduced at the eighth session, and repeated at the ninth (perhaps with the counting procedure added, depending upon the client's reports). Counting alone may then be employed at session ten and at all subsequent sessions.

If all goes according to plan, the relaxation timetable will be as illustrated in Table 7.1.

Table 7.1
Relaxation Timetable

Procedure	Session
Sixteen muscle groups, tension-release	1, 2, 3
Seven muscle groups, tension-release	4, 5
Four muscle groups, tension-release	6, 7
Four muscle groups, recall	8
Four muscle groups, recall and counting	9
Counting alone	10

Note that, except for introducing counting at the end of session 9, the therapist conducts each new procedure at least twice before moving on to the next step.

Again, we would like to emphasize that this schedule, which suggests that the client start learning the counting procedure by the tenth session, is an idealized one. If client skill and satisfaction at each step in the training program does not justify following this schedule, there is no reason to do so. In short, the schedule must be dictated by what the client is ready for, and when.

Many clients will want to please the therapist and attempt to hide difficulties that have occurred in practice sessions. The therapist must therefore be constantly alert for indications of troubles that are not reported by the client. Perhaps the main indirect signal of the presence of problems is the client's failure to fulfill practice obligations. The client should practice the assigned procedures as directed; if this is not taking place, it may mean that the relaxation experience is insufficiently rewarding to maintain regular efforts at improving it. (This point, as well as others related to problems with practice assignments, is considered in Chapter 9.) Deviations from the "two-a-day" routine (with the exception of minor inconsistencies caused by unexpected events) normally warrant delay in moving through the training program. For example, if a client reports having practiced the procedures as prescribed two or three days out of seven, the therapist should probably not proceed to the next step in training until the client is practicing on a regular basis. It is inadvisable to mention this to the client, lest he or she give false reports in an impatient effort to make progress. Gentle but firm insistence on consistent practice should suffice. Continuity of progress is related to regularity of practice. Clients who report encountering no major difficulties in relaxation but fail to show progress in terms of increased speed, efficiency, and degree of comfort may be withholding information. (Some suggestions for assessing clients' progress in relaxation training are presented in Chapter 10.)

Chapter 8

Differential Relaxation and Conditioned Relaxation

Differential relaxation is one of the most common applications of the basic skill of progressive relaxation. It also serves as an important foundation for the development of the applied relaxation techniques discussed in Chapter 12. As Jacobson (1938) pointed out, a variety of muscles becomes tense during virtually any behavior. However, muscles necessary for the accomplishment of an activity are frequently more tense than they need to be, and muscles unnecessary for efficient performance of that behavior become tense needlessly. Thus, in both categories of muscles, tension exists that contributes nothing to effective behavior and that increases psychological stress as well. Ideally, only those muscles directly involved in an activity should be tense, and only to the degree required for efficient performance of the activity.

DIFFERENTIAL RELAXATION

Differential relaxation can help clients to approach this ideal condition. The goal is to induce and maintain relaxation in those muscles not required for an ongoing activity. Excess tension is eliminated from muscles involved in the activity, leaving only

the amount of tension necessary for efficient performance. As a result, the client will be able to perform most daily activities with a minimum of tension and a maximum of comfort.

Proper and consistent use of differential relaxation has three advantages. First, it provides many opportunities to practice, and thus improve, the skills of PRT. Second, it can help chronically tense individuals maintain lowered arousal throughout the day. Third, it allows for the development of situation-specific relaxation skills that can help individuals who become tense only in particular circumstances.

The differential relaxation procedure essentially involves the periodic identification of tension during daily activities and the subsequent relaxation of muscles that are unnecessarily tense. Identification of tension is, of course, one of the skills that is learned during basic progressive relaxation training. Relaxation of those muscles identified as tense may then be accomplished by using either tension-release cycles or recall. (The method used depends on the stage of relaxation training the client has reached at the time differential relaxation is introduced.)

Practice Procedures

The suggested program for differential relaxation involves a series of practice steps beginning with relatively quiet activities and continuing with more active behaviors. In quiet activities, nonessential muscles predominate, and practice is similar to basic relaxation. As the client continues with more complex behaviors, tension identification and elimination become quite easy.

There are three continua—*situation, position*, and *activity level*—over which the practice may develop. Lower levels of each continuum involve less distractions and may allow the client to concentrate more easily on the relaxation process. *Situation* ranges from being alone in a quiet room to being with others in a noisy place. *Position* varies from sitting to standing. *Activity level* ranges from inactivity to routine complex movements.

The client should first practice defining the essential and nonessential muscle groups used for various activities. It is important that the client not only become aware of the necessary muscle groups involved but be able to identify and be sensitive to the nonessential ones. Therapist and client should discuss var-

ious daily activities in terms of the muscle groups required for their performance.

The second task is to assign "homework" for practicing differential relaxation. The scheduling of such practice can follow eight steps that combine the values of the continua. These steps, along with a typical example of each, are presented below:

1. Sitting, nonactive, quiet place: Sitting upright in a chair in a bedroom
2. Sitting, nonactive, nonquiet place: Sitting in a cafeteria
3. Sitting, active, quiet place: Typing in a study
4. Sitting, active, nonquiet place: Eating in a cafeteria
5. Standing, nonactive, quiet place: Standing in a living room
6. Standing, nonactive, nonquiet place: Waiting in a ticket line
7. Standing, active, quiet place: Working alone at a counter
8. Standing, active, nonquiet place: Walking outside

The first step involves a transition from the usual relaxation practice position (all muscles supported, eyes closed) to a sitting posture, with the head supported by neck muscles and the eyes open. The client should be instructed to periodically relax all muscle groups using either tension-release cycles or recall. There will be residual tension remaining in eye and neck muscles, but this tension is to be minimal. All other muscles are to be relaxed.

Steps 2 through 8 involve increasing distraction as well as activity in more muscle groups. The procedure is the same: first identify, then eliminate, the tension in each nonessential muscle group. There is no need to be concerned about residual tension in muscles required for performance of ongoing behavior.

Progress in Differential Relaxation

The client's progress through the eight steps of differential relaxation should be determined by his or her ability to (1) relax nonessential muscles deeply, and to (2) relax essential muscles to a point where the tension in them is not uncomfortable. Once this goal is consistently achieved at one step, the client may con-

tinue to the next step, proceeding at his or her own pace. The speed of progress is, of course, dependent upon the frequency and quality of practice. A reasonable timetable would be the following: first week—step 1; second week—steps 2, 3, and 4; third week—steps 5, 6, 7, and 8.

This timetable assumes that the client is at least at the four-muscle-group stage in basic relaxation training and that he or she is practicing each differential relaxation step for about five minutes, four times a day. Once the client is able to relax reasonably well under step 8 conditions, the therapist should encourage frequent relaxations throughout the day. The ultimate goal can be characterized by the following example:

> A client is driving to work. He needs to use the muscles of his eyes, neck, arms, hands, right foot, and leg. After starting the motor, he identifies tension and relaxes in each of the four muscle groups, all in about 60 seconds. As he is driving, he may periodically notice tension in unused muscles or discomfort in used muscles. This is to be eliminated by recall. He parks his car and walks to his workplace. As he is walking he relaxes some tension in his facial and trunk muscles. At his desk, he gets comfortably seated and spends a few seconds eliminating tension in all muscles. He repeats this each time he sits down. Further, while doing computer work, if he notices uncomfortable tension in his arm, he spends a moment relaxing it by recall.

The client should know two things about this procedure. First, it is not intended to reduce nonessential muscles to complete inactivity. The idea is to keep activity to a minimum but not to such an extent that ongoing behavior is disrupted. Second—although it initially takes some deliberate effort to remember to use differential relaxation procedures—as the skill increases and becomes habitual, very little time and effort are required for relaxation.

CONDITIONED RELAXATION

The goal of conditioned relaxation training is to enable the client to achieve relaxation in response to a self-produced cue. This skill is useful in and of itself, and is also a valuable com-

ponent of applied relaxation training (see Chapter 12). Paul and Bernstein (1976) described the conditioned relaxation procedure as follows:

> After the client is totally relaxed, he is instructed to focus all of his attention on his own breathing, and then to subvocalize a cue word each time he exhales—such as "calm," "relax," etc. . . . The therapist repeats the word in synchrony with exhalation 5 times, and the client then continues for 15 more pairings. After repeating this procedure over a period of 4 or 5 weeks, with the client giving 20 additional pairings on his own each night following relaxation practice, the ability of the self-produced cue word to bring about relaxation may be tested in the office. This is done by having the client image a threatening situation until some degree of anxiety is experienced, then he is instructed to take a deep breath, and subvocalize the cue word on exhalation. If a relaxation response is achieved, the client may be instructed to use this cue anytime he begins to feel a slight inappropriate increase in anxiety in any real-life situation. (79)

In conditioned relaxation, the client is first trained in progressive relaxation and then taught an association between the resulting deeply relaxed state and a self-produced cue word such as "calm," "control," or "relax." Once the client has learned to use such cues to produce relaxation, he or she can reduce tension in day-to-day stress situations. For many clients, skill in conditioned relaxation results in reduced general tension and in reduced anxiety before a stressful event. The client feels less helpless when confronted by daily problems and transient stressors. Many clients report feeling less anxious about "things in general" because they know they have an effective means of controlling the tension produced by difficult life situations.

A Case Study

An example of the use of conditioned relaxation techniques as part of a more general therapeutic intervention was provided by a colleague.[1] The client was a college student in her junior year who sought help because of difficulties in relating to men, concerns about moral standards, and problems of stress arising from academic and social overcommitment. During the third session,

she reported that she sometimes became "choked" during periods of strong stress. The problem had become so acute that, on at least one occasion, she was gasping for breath and was hospitalized. Tranquilizers had been prescribed for the problem but could not prevent what was clearly a tension-produced hyperventilation problem.

The client was trained in progressive relaxation and, after a few sessions, was asked to subvocalize the words "calm, control" on exhaling while deeply relaxed. This procedure was repeated at each relaxation session and the client was asked to repeat the procedure at each home practice session. At the same time, the therapist helped the client to assess various stress-producing aspects of her life, and the number of realistic external sources of anxiety was reduced. Taking steps to reduce the number of stressful elements in the client's life while conducting conditioned relaxation training was extremely effective in this case. Over the four-month period of therapy, the client reported feeling much more comfortable, because of fewer external problems and because of an increased ability to control tension in unavoidable stress situations (such as final examinations).

Conditioned Versus Differential Relaxation

Conditioned relaxation can be taught instead of or in addition to differential relaxation, depending upon the time available and the therapist's goals. Differential relaxation is obviously the more specific of the two procedures, because it involves reduction of tension in muscle groups that are unnecessary for a given activity. This results in the maintenance of a comfortable state of arousal in any situation, stressful or not. Conditioned relaxation, on the other hand, is a more generalized skill best employed in producing nonspecific tension reduction in the face of stress.

NOTE

1. The authors wish to thank Dr. Lester Tobias for making this case report available.

Chapter 9

Possible Problems and Suggested Solutions

Relaxation training procedures do not always run smoothly, nor does progress through the various steps of training always occur without setbacks and problems. A wide variety of difficulties can occur in all phases of training, from the first to the last session or during the client's home practice. The particular set of problems the therapist is likely to encounter will vary radically from client to client and even from one point in training to another. Thus, a client who had little or no difficulty in learning the initial techniques may later experience great difficulty with more advanced methods, while another client may take many weeks to master the basic sixteen-groups procedure and then progress rapidly through the remaining procedures.

PROBLEM-SOLVING: OVERVIEW

It is difficult, if not impossible, to predict the kinds of problems that will occur in any given case. Perhaps the best way to avoid major trouble is to carefully study this manual and strictly adhere to the more important rules presented in it. In addition, the therapist should pay careful attention to seemingly inconsequen-

tial difficulties occurring early in training, because they may have significant consequences at some later point. Small errors should be corrected as early as possible so that the client does not practice incorrect procedures that might make it difficult for the client to later master the appropriate techniques.

For example, suppose a client has difficulty keeping attention focused on feelings of relaxation. If this situation is not corrected through the use of indirect suggestions and other focusing techniques, training in relaxation by recall may be extremely difficult. At this point the therapist would have to retrain the client, who has not learned to focus his or her attention during relaxation practice.

The therapist should always be alert for trouble occurring anywhere in relaxation training, but must also learn to recognize the difference between important problems and trivial problems. This is not always easy. The therapist must decide whether or not the difficulty or deviation from standard procedure is likely to decrease the probability of relaxation in an office session or during at-home practice, or cause a client to fail to achieve skill in an area that will be necessary later. (For example, practicing relaxation in a noisy, disruptive setting would decrease the probability of relaxation, and failing to ensure that the client is attending to feelings in the muscles would make later mastery of relaxation by recall difficult, if not impossible.) If the problem reported by the client or the deviation from standard procedure meets either of these criteria, the therapist should eliminate the problem and/or return as closely as possible to standard procedure. If, on the other hand, the difficulty or deviation meets neither of these criteria, the therapist should do no more than simply "keep an eye on it" so that no undesirable consequences result.

An example of an inconsequential problem would be the use of a unique alternative tensing strategy that succeeds in producing the desired tension. In this case, the most important goal is to achieve tension in the muscle group even at the expense of abandoning standard procedures. Thus, deviation from standard procedures is to be desired when the client does not benefit from adherence to them.

Another example might involve a client who finds it difficult

or impossible to relax if the chair is fully reclined. While standard procedure calls for the client to be in the fully reclined position, the client's comfort is of primary concern. The therapist can allow the relaxation sessions to occur in a semireclined or even an upright position if this facilitates the proceedings.

As a final example, the therapist might encounter a client who desires not to remove a wristwatch or eyeglasses. The probability of such a deviation seriously interfering with attainment of deep relaxation is low, and the therapist need not insist on compliance with standard rules.

As problems arise in the course of training, the therapist must make responsible decisions. Will the problem seriously affect the course of relaxation training? Is its resolution vital to the success of the program? If the problem is potentially disruptive, the therapist must take steps to resolve it. If, on the other hand, the therapist believes the problem to be trivial, he or she can treat it in a relaxed, "let's not worry about it," manner.

Above all, no client should ever be made to feel that he or she has a special problem the therapist has never faced before and that may not have a solution. If the therapist believes that the problem is trivial, the client should also understand this and not become overly concerned. If the therapist feels that the issue needs to be resolved, this should be communicated in a manner designed to keep the client's anxiety about the problem low and confidence in the therapist high. Even in the case of a problem for which there is no ready solution, the therapist should not take the approach that this unique difficulty will ultimately destroy the client's chances of learning relaxation skills. Instead, the client should for one week carefully observe the status of the problem during practice sessions. The therapist can use this week to devise a solution to this particular difficulty. In many cases, the week of practice will eliminate it. The important concern is that the client be as comfortable as possible throughout the relaxation training. He or she should be reinforced for any progress made and not made to feel inadequate or incompetent at the appearance of problems.

In the sections to follow we list of some of the most common problems occurring during PRT, along with some suggested solutions.

Muscle Cramps

The occurrence of muscle cramps during relaxation training is very disruptive and should be avoided. Cramps occur most frequently in the calves and feet. They can be avoided by asking the client to generate less tension in these problem areas for a shorter period of time (no longer than 5 seconds for the feet).

If severe cramps do occur, they are likely to disrupt relaxation, and the client may need to sit up and massage the cramped muscles. In less severe cases, however, the client should be encouraged to remain in the reclined position with eyes closed and simply move the cramped muscles while allowing other muscles in the body to remain at rest. After the cramp is relieved and the client reports no discomfort, the therapist should, for at least one minute, provide indirect suggestions for returning to the previous state of relaxation and then continue with the standard procedure, using a 3–5 second tension cycle with the group that had cramped.

If a particular client experiences cramping in the same muscle group every time it is tensed, the therapist will have to implement an alternative tensing strategy; the client and the therapist should work together to find alternative procedures.

Movement

Even though the client has been instructed not to move a muscle group unnecessarily once it has been relaxed, the therapist may observe a considerable amount of movement during a relaxation training session. This may take the form of "fidgeting" to find a more comfortable position in the chair; it may involve scratching various parts of the body, such as the ears or nose; or it may involve "stretching" various parts of the body, such as the hands or feet. Such movements can usually be ignored, especially if the therapist feels that the client is trying to get more comfortable or relieve an itch or some other momentary discomfort. They are not likely to seriously disrupt the progress of training.

However, frequent and widespread movement that occurs during virtually the entire training session (and for more than one session) is a serious problem, mainly because it indicates that the client is not relaxing. The therapist should consider the possi-

bility that the relaxation training is not being adequately conducted. The trouble may be failure to properly communicate instructions; the therapist should remind the client not to move muscle groups unnecessarily once they have been relaxed. In many cases a reiteration of instructions will be an effective solution. If, however, movement of large muscle groups continues, the therapist should improve the presentation of relaxation instructions, since it is obviously not producing the desired results.

The therapist's goal is not a client with a corpselike appearance, but one who resemble's a sleeper, moving only slightly and occasionally.

Laughter or Talking

Early in training—primarily during the first session—some clients may find the unfamiliar training procedures humorous and begin laughing. The best response to this behavior is to simply ignore it. This means not responding to the laughter in any way, treating it as if it were not occurring. If this tactic is consistently employed, the therapist can be certain that the inappropriate behavior will be eliminated, unless the therapist is behaving in a way that is the direct cause of the client's laughter (e.g., sounding very theatrical when presenting the relaxation instructions). If the therapist believes that his or her own behavior, rather than the initiation of a new and unfamiliar activity, is causing the laughter, this should be resolved during the questioning that immediately follows the first training session.

Since the client was instructed to communicate with the therapist only through hand signals, any verbal behavior displayed by the client should be discouraged.

One such class of behavior can be eliminated by ignoring it. These behaviors are most likely to occur early in the first session and are usually attempts to respond to the therapist's instructions. For example, the therapist might say, "O.K., now I'd like you to focus all of your attention on the muscles of your right hand and lower arm." The client might then say, "O.K., I'm doing that." If such behavior receives no response, the client, especially as greater relaxation is achieved, will usually stop the behavior without any specific instructions from the therapist.

If ignoring the client's verbal behavior does not eliminate it by

the end of the first session, the therapist should simply reiterate the relevant instructions to the client. This might be done as early as halfway through the first session if an especially verbose client is disrupting presentation of the relaxation instructions.

The most important verbal behaviors of a client during a session are reports of serious problems that require immediate therapist attention. An example of this might be a report of some extreme discomfort; verbal behaviors of this type should not be ignored.

Thus, except in the case of statements by the client that indicate a serious problem, most talking and laughing can be eliminated by either ignoring them or reiterating instructions not to talk.

External Noise

Ideally, relaxation training should take place in a soundproof room. This is almost never possible, however, and it is likely that some noise from outside the consulting room will intrude. The client will be stimulated by the sounds of telephones, passing airplanes, or, as in one case in the authors' experience, a jackhammer. The therapist should take all possible steps to minimize such external noise.

Although the ideal of a completely quiet room should be approximated as closely as possible, in many cases there is nothing that a therapist can do about noise. Rather than be discouraged by the situation, however, the therapist should simply proceed as if the noise did not exist. Of course, if it is impossible for the therapist to make himself or herself heard over the interference, a new location should be sought. In most cases, as long as the client can hear the therapist, even loud outside noise will not have an ultimately destructive effect on the progress of relaxation training. Indeed, the presence of such noise will increase the client's skill in home-practice relaxation sessions, because it is unlikely that the client's home environment includes a completely quiet room. If the client can learn relaxation skills under less than ideal conditions, he or she can certainly practice them under such conditions. In addition, if the skills are to be applied in real-life situations, the presence of real-life noise during the

learning process will be helpful in terms of generalization or applicability.

Spasms and Tics

The therapist may notice the presence of muscle spasms during relaxation training, especially in clients who are initially very tense and who have not had much experience with deep relaxation. These may be described by the client as "twitching," "tics," or "jerking." They are muscle spasms that are correlated with muscle relaxation and occur in many people as they fall asleep. Their occurence during a session, however, may be disconcerting to the client, and, while they do not constitute a major problem, it is important that the therapist respond properly to the situation. If the spasms do not seem to be disrupting the progress of relaxation, any comments on them can be made after the session is over; otherwise, the therapist should state that spasms should not be a matter of concern, that they simply indicate that relaxation is going well, and that the client should neither worry about nor try to prevent them. The client and therapist can discuss this in more detail after the session. The therapist can mention that spasms are very common and often occur prior to sleep. He or she should also point out that such spasms are noticeable during a session because the client is awake, focusing on his or her muscles, and probably not used to experiencing deep relaxation in a waking state.

Intrusive Thoughts

Perhaps the most disruptive problem the client can experience in PRT is intrusion of distracting thoughts that can provoke anxiety or other emotional arousal. The client may begin focusing on these intrusive thoughts rather than continue giving full attention to feelings of tension and relaxation.

This class of problems must be dealt with effectively if the therapist is to succeed in training the client in relaxation skills. The presence of intrusive thinking will probably become evident to the therapist early in training, and the time to deal with it is at the conclusion of the first session in which they occur. Note

that we are dealing specifically with intrusive thoughts, not just any thoughts. Thoughts which are not incompatible with relaxation need not be eliminated; the client does not need a "blank mind" in order for relaxation training to be successful.

Anxiety-Producing Thoughts

There are two major classes of intrusive thoughts. The first of these includes thoughts that result in anxiety, fear, or discomfort for the client simply because they are present. These thoughts may relate to the reason the client sought professional help, or they may stem from other sources. The client may focus on financial difficulties, crises at home, suicidal thoughts, or any of a wide variety of upsetting matters. Unfortunately it is usually not sufficient to simply tell the client to "stop thinking about those things." Some alternative technique for keeping the client's attention focused upon the task at hand is required. We have found two interrelated procedures to be helpful.

The first is for the therapist to talk more, keeping the client listening to and focusing on instructions, without leaving even five or ten seconds of silence during which the client's thoughts might begin to wander. The therapist should couple the increased patter with reiterated instructions to the client to remain focused on his or her voice. While this tactic is usually helpful in keeping the client from "wandering off" during the office sessions, it obviously cannot maintain the client's focused attention during practice sessions at home. Therefore, some additional procedures are helpful.

The best means of helping a client avoid the disruptive effects of anxiety-producing thoughts is to determine an alternative set of cognitions on which to focus. Feelings of relaxation are often not sufficient to provide a consistent focal point of attention so the client and therapist should confer and specify a set of neutral or pleasant images to focus on during home practice or even during office sessions. The therapist should ask for a description of a time when the client was very relaxed and happy, perhaps on vacation or at some time during childhood. Specific content does not matter, as long as it was a pleasant (or at least neutral) setting and time that the client enjoys thinking about. The time, situation, and setting should be discussed in detail, so that the

therapist can help the client focus on these images by describing them clearly.

If possible, the therapist should try to extract from this "pleasant image" some rather monotonous, relaxing factors to add to the patter. For example, if the pleasant image involves lying on a beach on a summer day, the therapist should take advantage of the rhythmic way that waves strike the beach and mention that the client can "almost hear the sound of the water lapping against the shore." The therapist should integrate some aspect of the image into the relaxation patter so that relaxation and the image merge; the therapist does not want the client to focus on the pleasant image and exclude the ongoing process of relaxation. Further suggestions on the use of relaxing imagery are provided in Chapter 12, which focuses on applied relaxation training.

Sexual Arousal

The second major category of intrusive thoughts relates to the appearance of sexual arousal in the client during relaxation sessions. It must be recognized that there are many potentially seductive aspects of the PRT procedure. The therapist and client are together in a dimly lit room, the client is in a recumbent or semirecumbent position, and the therapist is suggesting pleasant images and feelings in a soft voice.

The therapist should not become overly concerned if the client displays some sexual arousal during a session, but regard it as just another type of intrusive thinking that interferes with relaxation training. As such, it is a subject for discussion during post-session questioning.

Of course, if the arousal and the concern it produces in the client are of such magnitude that the client's concentration is disrupted, the therapist would be wise to interrupt the session and discuss the relevant issues immediately. Whether the problem occurs with a member of the opposite sex or with a member of the same sex, it is best to suggest that the client's reaction to the situation is not unusual. The therapist can even name the aspects of the situation that are seductive, just as they are listed here. It should be emphasized, however, that as the client practices at home, he or she will learn to focus on the new skill itself

rather than on the therapist's presentation technique. The client should be reassured that this is not an uncommon or major difficulty and that there is no cause for anxiety.

The therapist should remember that sexual arousal may often develop, early in training especially, and that if it is treated relatively casually it will not become a major source of disruption. If as time goes by, however, it becomes clear that "real" sexual attraction is becoming a problem for the client, the therapist will want to take whatever steps he or she sees as necessary in this clinical situation.

Sleep

One of the most common, and certainly most annoying, problems that can arise in the course of PRT is having the client fall asleep during a training session. Although this certainly indicates that the therapist is not doing anything to upset or arouse the client, sleep must be avoided if relaxation skills are to be learned efficiently. The therapist must first determine if and when the client is asleep and then devise techniques for keeping the client awake in subsequent sessions.

Determining that a client is asleep is not always as easy as it might seem. It is sometimes difficult to discriminate a sleeping client from one who is signaling incomplete relaxation. For example, the therapist may ask the client for a signal if the muscles in the abdominal region are completely relaxed; if there is no signal, the therapist can request another tension-release cycle in this area and determine from the response, or lack of it, whether or not the client is asleep. This is the procedure to use when training is in the observable tensing and relaxing phase.

A good alternative procedure for later phases of relaxation training is to ask for a double confirmation of consciousness. The therapist should ask for a signal if the muscles in question feel completely relaxed. If there is no signal, and the therapist suspects that the client may be asleep, he or she can then ask for a signal if the muscle group in question is not completely relaxed. Unless the client is asleep, the therapist will receive a response to one of these two questions. This simple technique can save the unwitting therapist from continuing to repeat recall cycles with a sleeping client.

The double confirmation procedure should be used frequently with clients who tend to fall asleep easily, and only occasionally with other clients. However, at the recall phase it should be used, at least now and then, for all clients.

If the therapist ascertains that the client is asleep, he or she should continue to give suggestions or make requests in a progressively louder voice until the client responds. These continued suggestions or requests can be spaced at 10- to 15-second intervals, and the therapist should be careful not to startle the client and disrupt the state of relaxation that has been achieved. A client who reports falling asleep regularly when practicing at home should simply be encouraged to attempt to remain awake until the entire practice procedure has been completed.

Here are a few additional techniques for avoiding sleep during relaxation training (on the part of the client, that is; the problem of the therapist falling asleep has not yet been fully researched):

The therapist should instruct the client to sleep for at least eight hours on the nights before relaxation training sessions. Although this may be difficult for some clients, the goal should be approximated as closely as possible. The therapist should also avoid scheduling training sessions early in the morning or immediately after a client has eaten a meal.

The therapist should also determine whether to begin speaking louder and less monotonously. After listening to tape recordings of the sessions and asking the client's opinion, the therapist can decide how much to adjust voice volume and tone. However, there should be no need to shout to keep the client awake. Making only slight changes in voice quality usually suffices.

For more extreme cases, the client should be given direct instructions to focus on the sound of the therapist's voice while keeping the muscles of the body deeply relaxed. These instructions should be integrated into the relaxation patter, not just given before the session. Thus, the therapist should interject into the patter such statements as the following: "Noticing now that as these muscles become more and more deeply and completely relaxed, you're able to focus very clearly and alertly on the sound of my voice," or "Focusing all of your attention now on the sound of my voice and the sound of your smooth and regular breathing as the muscles become more and more deeply relaxed."

Should these procedures fail to eliminate the sleep problem,

the relaxation intervals should be reduced to a maximum of 30 seconds so that the client spends a bit less time focusing on relaxation in silence. The therapist should be careful to strike a balance between keeping relaxation depth above the level that produces sleep but below the point at which it is not different from the normal waking state. Drastic reduction of relaxation intervals is not recommended except in the most extreme cases and after other techniques designed to avoid sleep have been given a fair trial (including sufficient home practice).

Coughing and Sneezing

Coughing and sneezing are not usually major problems and can usually be ignored, especially when a client is in good health and the coughing or sneezing occurs only once or twice during a session. The therapist may take notice of these interruptions only to provide brief reassurance to the client that coughs and sneezes will not interfere with relaxing. The client should also be told that it is O.K. to cough or sneeze again if necessary, since attempting to inhibit the behavior would result in increased muscle tension.

If disruptive coughing and sneezing is the result of an illness, the therapist should decide whether the session should be postponed until the client's symptoms abate. A client with a severe head cold, for example, may have neither the ability nor the inclination to remain motionless and ignore discomfort long enough to achieve relaxation. If it seems that the session will lose all effectiveness through continued interruptions, it should be postponed.

Perhaps a more frustrating problem is "smoker's cough," which is likely to cause trouble whenever the client is asked to take a deep breath and hold it. Many heavy smokers find it difficult to refrain from coughing when taking a deep breath. In such cases, the client should take a breath while tensing, but not inhale quite so deeply. Another alternative is to ask the client to exhale (not too vigorously) while these muscles are tensed and then to resume normal breathing as the muscles are released. Should both the shallower inhalation and the exhalation procedure fail to eliminate the problem, the therapist might consider eliminat-

ing any link between breathing and muscle tension. The client should, of course, be given some time to practice the alternative procedures before the therapist abandons them.

Inability to Relax Specific Muscle Groups

Often a client will report continuing difficulty in relaxing specific muscle groups. This may occur even in cases where the therapist and client have developed an alternative tensing strategy (as outlined in Chapter 5). The alternative strategy may work only temporarily. If a client again reports experiencing difficulty, the therapist should immediately find a new procedure. If a variety of alternative strategies have been employed without success, the therapist can begin to suspect that the problem stems from the presence of intrusive thoughts (see our discussion of that topic). In most cases, however, the inability to achieve relaxation in particular muscle groups will disappear with regular practice of alternative tensing procedures.

Some clients may feel that the standard relaxation procedure does not produce complete relaxation because a relevant muscle group (e.g., the muscles of the lower back) has been neglected. The therapist and client should work together to develop a tensing strategy for those muscles (e.g., having the client lift himself or herself very slightly out of the chair using the lower back muscles). Thus, in cases of residual tension in a muscle group not included in the standard procedure, the therapist should simply develop a new tensing strategy rather than ignore the problem area because it is not mentioned as part of the procedure outlined in Chapters 5, 6, and 7.

Strange or Unfamiliar Feelings During Relaxation

Deep relaxation can produce unusual sensations in the body, either because the client has never before focused on feelings of relaxation, or has never before been deeply relaxed. The reported feelings often involve disorientation; the client may feel that he or she is floating and may not be able to determine the position of the arms and legs in relation to the rest of the body. Such disorientation is often accompanied by feelings of warmth, tin-

gling, coolness, or other sensations. On occasion these feelings can be frightening to the client, and the therapist should respond reassuringly.

First, the therapist should mention that these feelings are commonly experienced when learning relaxation techniques and that they provide evidence that the client is successfully acquiring relaxation skills. The client should be encouraged to enjoy, rather than fear, the sensations associated with deep relaxation. If these instructions fail to provide adequate reassurance, the therapist can ask the client to open his or her eyes and, without moving, simply look around the room and at his or her own body, then continue relaxation with the eyes closed. The client should be told to perform this reorientation activity at any time, either in the office or at home, whenever strange feelings cause anxiety. The therapist should tell the client not to fear new sensations, but realize what they are and learn to eliminate any anxiety they cause.

"Losing Control" During Relaxation

Occasionally, the systematic tensing and release of various muscle groups and the focusing of attention on consequent sensations (all of which are necessary for the success of relaxation training) are themselves part of the client's problem. This occurs most frequently in clients who tend to "lose control" of their behaviors or emotional states. In these cases, routine employment of the standard relaxation procedures is ill-advised. The subjective experiences involved in relaxation may seem strange and, unless these feelings are interpreted as pleasant, controllable experiences, the client may feel even less in control.

We have had two cases of this type. The first client's problem involved fear of tensing his muscles! He said that, in the past, deliberately doing so resulted in feelings of dissociation, loss of control, and "flashback" scenes of early childhood fears. The second client complained of "losing control" and "going crazy" whenever he was alone or when staring at an object. Standard relaxation procedures would have required these clients to perform behaviors that were stimuli for anxiety.

Problems of this nature can be resolved by adding three special steps to the basic PRT procedures. First, even more attention

must be given to discussing the subjective experiences that the client is likely to notice during therapy. It must be stressed that it is the client, not the therapist, who is producing these experiences and that though they may be somewhat new, they will be very pleasant.

Second, introduction of the basic procedures should be more gradual. The first session may include no more than an extended version of the demonstration session that typically precedes actual relaxation training. That is, the client should sit in a straight chair with the eyes open, and the lights should be left on. The therapist should then model the tension-release cycles of the various muscle groups while the client imitates the procedures and reports on any subjective sensations as they occur. Attention should be repeatedly drawn to the fact that the client can control tension and relaxation and the feelings they produce. The therapist should help the client identify and label the feelings that occur during the session. The therapist's instructions should remain conversational in tone. Homework assignments should be patterned after this session: lights on, sitting upright, eyes open.

As the client makes progress in developing relaxation skill, conditions may be made increasingly similar to the standard training procedure. Recommended changes, in progressive order, are (1) having the client recline, (2) dimming the lights, and (3) having the client close the eyes. The therapist's voice should gradually become less conversational and begin to approximate a more monotonous tone.

Finally, during postsession questioning, more attention should be directed toward ensuring that the positive expectations established earlier are being fulfilled. The client should describe any novel sensations and be assured that these feelings are commonly reported consequences of deep muscular relaxation. It is wise to remind the client that the goal of relaxation skill training is to *increase* the client's control over subjective emotional states.

"Internal" Arousal

Occasionally, clients will report that at the end of a relaxation training session they have no tension in any muscle groups, but that they feel "tight" or tense "inside." They may feel tense or

even anxious internally while experiencing deep relaxation peripherally. The therapist should explain to the client that internal tension involves muscles that are not under voluntary control, whereas the relaxation training procedure directly affects muscles under voluntary control. The therapist should also point out that these voluntary and involuntary systems are interrelated and that, with practice, "shutdown" of the peripheral muscles will eventually produce relaxation at the internal level.

The therapist should do everything possible to ensure that the client does not worry about the problem, or feel that he or she is unusual or strange. Relaxation will spread from the peripheral voluntary groups included in relaxation training to the central nonvoluntary groups that remain somewhat aroused. As the client's ability to deeply relax voluntary muscles increases, heart rate, respiration, and other internal processes "slow down" in like manner.

If such resolution of the problem fails to occur, the therapist can be sure that the client has not received adequate training in the relaxation procedures themselves. The therapist should closely examine the presentation of training procedures to ensure that relaxation in all muscle groups, especially those directly adjacent to the arousal (the muscles of the chest, the back, and the abdomen), is being achieved.

Failure to Follow Instructions

Sometimes, clients do not correctly follow instructions. This is especially likely to occur early in training. There are two main reasons for failure to comply with instructions: either the client has forgotten or misinterpreted the instructions, or he or she is attempting to control the therapy situation by behaving independently of them. Because there are many instructions and they often seem complicated, it is probably better to assume that the client has simply failed to understand or correctly interpret the instructions as given. The instruction that is not being carried out appropriately should therefore simply be repeated.

For example, the client may be tensing a muscle group prior to the "now" signal, thereby making it difficult for the therapist to accurately time tension cycles. Or the client may be releasing tension gradually, or independently initiating his or her own ten-

sion cycles, while the therapist is giving relaxation instructions. The therapist should simply remind the client of the standard procedure by saying, for example, "O.K., that was fine. Now remember, next time do not begin tensing the muscle groups until I give you the signal 'now,' " or "O.K., you're doing fine, just remember to release all the tension at once rather than letting it go gradually," or "Remember to tense muscle groups only on my instruction. Stay focused in on the sound of my voice and try as best you can to do the things I tell you to do." The therapist is in the role of a teacher reminding a student of the procedures to be followed. He or she should not be punitive or overbearing.

If the client is attempting to gain control of the treatment situation, the therapist response should be identical to that outlined in the previous paragraph: simply continue to reissue the same instructions so the client does not take independent action. Thus, if instructions to tense only on cue have been given twice and the client is still tensing independently, the therapist should continue repeating the tension cycle on the same muscle group until the client tenses on cue. Whether failure to follow instructions is an innocent error or not, the therapist must maintain control of the situation and not allow the session to proceed when the client is being uncooperative. If the therapist feels that lack of cooperation is a problem area that relates to other concerns that brought the client to the therapist, it should be discussed, usually after the relaxation session has concluded. If the problem is such that the session cannot continue until it is resolved, the relaxation training procedures may have to be terminated until a resolution is reached.

Problems with Practicing

Some clients fail to carry out relaxation practice assignments at home. There are two major reasons why clients do not practice as instructed. The first involves features of the client's home environment or daily schedule that make it difficult for the client to accomplish, or to remember to try accomplishing, the practice assignments. The second class of reasons is more serious; the relaxation procedures themselves may be unrewarding to the client because they are not producing the reduction in arousal that is the goal of the training.

Whatever the reason for failure to practice, there is one aspect of therapist behavior that should remain constant. This is emphasizing the importance of practice to the client. The therapist can make analogies to physical conditioning, learning to read, or any other form of skill development, but it must be clear to the client that skill at relaxation will not develop unless practice occurs regularly.

In cases in which modifiable factors in the environment are preventing adequate practice, the therapist and client should work out more suitable arrangements. This may mean changing the time of practice or the physical setting, or even arranging for the client to use written reminders of practice times. Whatever the details, the environment must be changed so that the probability of regular practicing is increased.

If the client says that the new arrangements are satisfactory and still fails to carry out regular practicing (this may be evident either through self-report or through failure to show progress in the sessions; see Chapter 10), the therapist should look for problems in the relaxation training procedures that may be responsible for the client's lack of enthusiasm. If the client can achieve deep and satisfying relaxation in the office sessions, he or she should be willing to attempt to produce the same state at home. The therapist must ensure that deep relaxation is occurring in the office; if it is not, the training procedure must be improved.

If the client continues to fail to practice even after a suitable practice situation has been arranged and relaxation has been achieved in office sessions, the therapist should tell the client, for example, "We will not be able to proceed to use faster and more efficient relaxation techniques until we get the early stages mastered, until we have evidence that you are practicing these procedures as they need to be practiced."

If the client continues to fail to practice after the environment has been set up to facilitate it, after the procedures themselves have been made maximally efficient, and after a contingency such as that outlined above has been presented, this lack of cooperativeness may need to be discussed in the context of other problems in the client-therapist relationship.

Words and Phrases to Avoid

As noted in Chapter 6, the therapist should ask the client after the first relaxation training session about the things he or she said to aid or impair the client's ability to relax. The therapist should also get some indication of what the client feels is happening as relaxation occurs and use these descriptions as part of subsequent relaxation patter. The therapist should also learn which words or phrases are incompatible with relaxation. Besides whatever information is gathered from the client, however, we feel that there are certain words and phrases that should be avoided in any relaxation session, simply because they are likely to produce negative feelings in a significant number of people.

Avoid references to an already present physical weakness or defect. For example, if a client is noticeably overweight, the therapist should avoid statements like "Notice the feelings in the muscles as they become heavier." References to sagging or drooping muscles should also be avoided in such cases. And even in some clients of normal weight, such statements are likely to strike especially sensitive chords when used in connection with the muscles of the neck, abdomen, and face.

As always, the therapist must use his or her own good judgment in avoiding any references that might cause the client anxiety or embarrassment. There are many alternative words and phrases that can be used (see Appendix B), and the risks associated with upsetting a client are too great to employ "loaded" statements. For example, in the case of facial muscles, rather than saying "loosening up," the therapist can say, "smoothing out."

The therapist should also avoid saying anything to the client that implies that the relaxation procedures could produce any physical harm. Thus, the therapist should avoid making statements like "O.K., tense these muscles hard and tight now, tense them to the breaking point," or "Tense the muscles until they feel like they could snap." Also, the therapist should not ask the client to "strain" his or her muscles, but rather to tense them.

A Final Word About Problems

Whatever difficulties present themselves during a particular relaxation session, one cardinal principle should never be violated: the client should leave the therapist's office feeling better than when he or she entered it. If upsetting material is to be discussed in a session, it should be discussed prior to, not following, the relaxation training segment of that session. Of course, minor problems in the relaxation procedure can be discussed immediately after relaxation. However, it should be understood that after a successful relaxation session the client is usually in a state of calmness and well-being that lasts for some time. The therapist should not do anything to disrupt this feeling. If, immediately after a training session, a client brings up a "loaded" topic, the therapist is wise to remind the client that, since time is limited, this would be very good material with which to open the next interview. (Of course, if the subject brought up by the client is something that the therapist has been wanting to discuss for a long time, the therapist may prefer to violate the rule stated above. This should, however, be a rare exception.) Whenever possible, relaxation training should be the last, and very pleasant, activity that takes place during the session.

Chapter 10

Assessing a Client's Progress

In this brief chapter we discuss factors which indicate that the client is making appropriate progress in relaxation training. The following suggestions are supplements to, not substitutions for, the therapist's clinical skill at determining, for example, whether information given by the client is accurate.

REPORTS AND QUESTIONS FROM THE CLIENT

The therapist should note spontaneous reports from the client that relaxation is beginning whenever the reclining position is assumed. This indicates that the environmental stimuli associated with relaxation have begun to trigger the relaxation process. As training progresses, the therapist should feel that he or she is almost wasting time toward the end of a given session, because the client's body should appear completely relaxed even before all muscle groups have been dealt with. Reports from the client should substantiate this: "It seemed like an effort to tense the muscles of my legs because they were so deeply relaxed already."

Other indicators of increasing skill are statements by the cli-

ent that he or she is feeling more generally relaxed, even when the relaxation procedure is not being practiced. On an everyday basis, the client should feel generally less aroused and upset. Of course, if such statements do not come from the client spontaneously, the therapist should feel free to explore these areas as training progresses. Normally, however, a rapidly improving client will provide such information prior to specific inquiry, or in response to some very general question such as "How are things going?"

Another indication of increasing skill that might be misinterpreted as lack of enthusiasm is an inquiry by the client as to whether the second practice session each day is still necessary. The therapist should determine whether the reason the client is asking is because the skill is now so well-developed that the second practice session has become superfluous. In general, it is better to have the client continue "two-a-day" practicing until the therapist has instituted the counting procedure. A bit of overlearning is not likely to be harmful and can help in applying the procedure to various tension-producing real-life settings (see Chapter 12 on Applied Relaxation).

Indications During Relaxation Sessions

An important indicator of progress is the amount of time spent in each session. If all is going well, the procedures used in the office should take progressively less time. If, after three or four sessions, the client is still giving frequent signals of failure to gain deep relaxation or is signaling other kinds of problems, the therapist should be suspicious about the client's reports of regular practice.

Increasing skill will also result in less movement during relaxation. The client should ultimately, without actually being asleep, resemble a peacefully sleeping person. In addition, the client's breathing should slow markedly over the course of any session.

Indications of the presence of deep relaxation in a client are such signs as a slack jaw. Although a client may start a session with his or her mouth closed, toward the end of later sessions the face should be very relaxed and the lips may part. The position of the feet also indicates degree of relaxation. They may

move from being parallel to one another until they turn away from each other at about 45 degrees. This is something to look for in any session, and it can be expected to occur earlier in each session if good progress is being made.

If the client is not making appropriate progress, the therapist should carefully delineate the problem impeding progress and institute procedures designed to correct the situation.

Chapter 11

Hypnosis, Drugs, and Progressive Relaxation

We have included a brief chapter on hypnosis and drugs as they relate to relaxation training for two reasons. First, the therapist should understand the nature of progressive relaxation and be aware of both the similarities and the differences between its effects and the relaxation produced by drugs and hypnosis. Second, clients frequently ask questions regarding these matters.

DIFFERENTIATING BETWEEN APPROACHES

Because hypnosis is a well-known technique, clients often see similarities between popular notions of hypnosis and what they experience in relaxation training. Unfortunately, the misinformation and mysticism commonly associated with the hypnotist can be an obstacle to effective relaxation training. Some clients fear they will reveal personal information, will not remember events taking place during sessions, or will be made to do embarrassing things. Consequently, the therapist should be able to explain to the questioning client the differences between the two techniques and the differences in their effects.

The pervasiveness of antianxiety drugs can also affect client

attitudes about relaxation. Some clients become impatient with the time and effort required in training, and question why the therapist doesn't simply arrange for an anxiolytic drug prescription.

The Nature of Relaxation

Relaxation training has been found to reduce subjective tension and affect a variety of other physiological processes. One may ask how it is possible that the tensing and releasing of various skeletal muscle groups, combined with indirect suggestions, can result in changes in other bodily systems. Research has as yet produced few answers to this question. Various theories of emotion have interrelated voluntary muscle activity, internal autonomic activity, and cognitive activity in numerous ways, placing primary importance on one or another. Current thinking emphasizes the role of the brain in mediating the interaction among these three types of activity. Decreased autonomic arousal can be caused by a person's thought (cognition) and by decreased skeletal activity. Similarly, subjective feelings of anxiety may be eliminated by indirect suggestions or removal of the autonomic and skeletal components of those feelings.

Whether it is the physiological aspects of relaxation or the "good feelings" accompanying it that produce beneficial results, research indicates that benefits do occur in terms of lowered physiological arousal and subjective stress.

Hypnosis

There is still much uncertainty as to the nature of hypnosis. It has been characterized as a special state of consciousness, a socially influenced pattern of role-taking, and some combination of the two. Regardless of its nature, some aspects of hypnotic procedures are similar to some features of relaxation training. Consequently, it is important to discuss the differences between them to separate PRT from both the connotations and the disputes that have surrounded hypnotism.

As Paul (1969) has pointed out, hypnotic and relaxation procedures have at least seven characteristics in common: (1) limited sensory intake, (2) limited body activity, (3) restricted

attention, (4) deliberately monotonous stimulation, (5) altered body awareness, (6) closed eyes, and (7) administration of motivational instructions. Both procedures aim at focusing the client's attention on certain bodily and psychological experiences. The primary difference between the two techniques is in the method of producing those experiences. In PRT, the bodily sensations are produced through tension and release of the client's muscle groups.

Other contrasting features of PRT include the following: (1) suggestions of relaxation, warmth, and the like are indirect and used only to focus the client's attention on what is actually happening at the level of muscular arousal, (2) the skill is acquired through a learning experience over which the client has control, and (3) the goal of PRT is to have the client become relaxed with focused attention; rarely does the hypnotherapist induce hypnosis for the sake of inducing hypnosis.

Of course, it should be noted that hypnosis and relaxation training have been used, alone and in combination, in both psychotherapy research and clinical practice. Indeed, both can produce the desired effects of subjective pleasure, focused attention, and lowered physiological arousal.

There are reasons for choosing PRT over hypnosis in cases requiring tension reduction. First, as already mentioned, hypnosis carries with it undesirable connotations and concerns for some clients. Secondly, relaxation is a skill that a client can practice, become expert in, and use in everyday life.

Drugs

There are two issues to discuss with respect to drugs. First, anxious clients for whom PRT is indicated may already be taking some type of tranquilizing agent. Secondly, some therapists use drugs as a supplement to, or most often as a substitute for, relaxation training.

Very little is known about the effectiveness or generalizability of relaxation skills learned under the influence of the anxiolytics and antidepressants that are currently so popular in the medical community. Since relaxation is a learned skill, it is difficult to say whether that learning will occur effectively in the presence of these drugs, or whether the learned skill will generalize to the

nondrugged state if the client terminates drug usage after therapy. Therefore, if at all possible it is best if clients can discontinue the use of psychoactive drugs prior to initiating relaxation training.

During the first assessment interview, if PRT appears to be indicated, the therapist should ask whether the client is taking any form of prescription drug. In most cases, arrangements to discontinue drug use will require the therapist to consult with the physician who prescribed the medication.

Chapter 12

Applied Relaxation Training

Teaching clients to achieve deeply relaxed states through the PRT methods described in this manual lays a solid foundation for the ultimate application of relaxation coping strategies to daily living. Our intention, however, is not merely to teach clients how to relax and then have them do so in periodic breaks during the day. Our ultimate goal is to have them *apply* relaxation as a coping skill throughout the day (especially in response to anxious experiences) and eventually to develop a habitually more relaxed approach to life.

To this end, we employ *applied relaxation training* procedures, which involve four basic elements:

1. self-monitoring, to learn to detect the occurrence of any shifts away from a relaxed state,
2. deployment of relaxation responses whenever incipient anxiety cues that signal such shifts are detected,
3. in the therapy office, systematically practicing and rehearsing the use of relaxation coping skills in response to those early anxiety cues in order to facilitate the frequent and successful use of the skills as coping responses, and

4. training the client in several different techniques for eliciting a relaxation response, and encouraging experimentation with and flexible deployment of those techniques throughout the day.

SELF-MONITORING AND EARLY CUE DETECTION

It is useful for clients to understand that we are all capable of responding to the world through several channels (i.e., attentional, affective, imaginal, conceptual, physiological, and behavioral) that interact with one another from moment to moment and that, together, create whatever states we are experiencing. Thus, what we think affects how we feel, but how we feel also affects what we think. Both of these affect how we behave, but how we behave also affects how we think and feel. Further, all of these processes are taking place in the context of a physiological system that is simultaneously influencing (and being influenced by) attentional, cognitive, emotional, and behavioral responses as well. The internal cues that tell us what our overall state of being is at any particular time include every one of these interacting channels.

The implication of this multichannel view for understanding anxiety is that anxious experience is also seen as a process that takes place over time and involves habitual sequences of responses in all of these interacting channels. For example, we rarely move immediately from a state of tranquility to a state of intense anxiety. Even panic attacks can take up to ten minutes to develop to their peak. Thus, anxiety tends to build up over time as the various response channels contribute to that anxious experience. We describe this anxious process-over-time to our clients as the "anxiety spiral."

The treatment implication of this way of viewing anxiety is that efforts to intervene will be more effective if we can become aware of the anxiety process as it is occurring, and if we can learn to identify the earliest cues from any of the relevant response channels that signal a movement in the direction of anxious responding. For this reason, self-monitoring of anxious experience is one of the basic aspects of applied relaxation techniques. It is very important for clients to fully understand the nature and

purpose of self-monitoring before proceeding with other aspects of applied relaxation training. Accordingly, we provide a thorough explanation of this element, as exemplified below.[1]

> You are learning through progressive relaxation training how to produce a deeply relaxed state. Now I would like to describe to you the various ways in which you can learn to apply this developing skill to your daily life.
>
> Perhaps the most important thing is to learn to identify during the day the earliest signs that you are starting to become anxious. Often these early signs have to do with environmental events or stressors that are either present or anticipated. But just as important are the internal cues that indicate that you are beginning to become anxious. These internal cues will likely include anxious thoughts, scary images, anxious bodily sensations, other negative emotional feelings, and anxious or avoidant behaviors. So I will ask you to begin observing yourself and your anxious experience and to try to identify the very earliest cues of your anxiety. I would like for you to start to monitor yourself and how you feel and to begin to become aware of even minor shifts in your tension and anxiety and of the cues that are associated with those shifts.

It is often useful to mention to the client early in this introduction to self-monitoring that we can regard self-monitoring as a "treasure hunt" that helps promote the necessary focusing of attention on anxiety cues. The therapist can acknowledge that increasing one's awareness of anxiety cues may well result in a temporary increase in the experience of anxiety, but that in the long run this self-monitoring will pay off in reduced anxiety once new relaxation coping responses are learned and then applied whenever early anxiety cues are detected.

> One of the reasons that self-monitoring is important is that often when we are anxious, it can seem as though the anxiety has come on suddenly and unexpectedly, usually because we only notice it once it has reached a high level. So, with more careful monitoring, you will find that becoming anxious is actually a process. For example, you may find that at some point you were having worrisome thoughts about your finances, along with images of bad things happening because of financial difficulties, and then you noticed that your hands got clammy and your throat got dry. Then

you noticed your heart beating faster, and you started to worry about your health, which led back to worrying about finances. Note in this example that each new response that occurred in the anxiety process created even more overall anxiety over time. I would like you to begin observing your anxiety process, so that you become aware of each of these types of responses and how each one contributes to making you feel more anxious as the process continues. Try, especially, to become aware of what started the shift toward increasing anxiety. In this example, it was the initial worrisome thoughts about your financial situation. I would like you to become more and more familiar with these early cues as you pay closer attention to your daily internal experiences.

So anxiety involves a spiral of interactions among thoughts, images, feelings, behaviors, and bodily sensations. These elements tend to follow the same or a similar course each time, because they are habits from the past. Each time the sequence occurs, it is stored in memory where the links in the sequence are strengthened, making them more habitual and more ready to be activated the next time an anxiety cue of any type is detected. So the more I worry about something, the stronger the worry gets, the more things remind me of it, and the more upset I'll become the next time it is triggered. These facts have important implications for learning effective relaxation coping techniques to reduce and eliminate anxiety:

(1) It is not our reactions to things that are the problem; it is our reactions to our reactions that are the problem. How we choose to respond to our initial anxious experience can determine whether that experience will continue and worsen and become more likely to reoccur in the future or whether that experience will be brief and mild and become less likely to happen. By learning applied relaxation techniques, you will learn to react to your initial anxiety reactions with a more adaptive coping response that will lead to briefer and less intense anxious experiences and eventually to less likelihood that the anxiety will occur in the first place.

(2) The earlier you catch the beginning of the anxiety spiral, the weaker it will be, and therefore the more effective your relaxation coping response will be in reducing or eliminating the anxiety.

(3) Each time a relaxation coping response occurs, it has three important effects. First, the body and mind learn a new meaning for the anxiety cue. Instead of it meaning growing anxiety and distress, it will mean, "Time to use my relaxation coping response." Second, by cutting the anxiety spiral off early, the rest of

the anxiety sequence does not occur, so it is not strengthened in memory; in fact, it is weakened. Third, a new sequence, namely "anxiety cue immediately followed by a relaxation coping response," is stored in memory and strengthened. Because of these three effects, anxiety cues, instead of growing as they usually do, are actually shrinking in number and strength. Relaxation coping responses are becoming more practiced, stronger, and more habitual, so they are triggered more readily and frequently and with less effort.

Another implication of what I have said so far is that frequent application and practice of coping responses is the ideal way to change anxious experience. This will be accomplished by showing you numerous ways to apply the relaxation coping response to daily living circumstances and by having you rehearse and practice these methods right here in the office, using imagery and other techniques. I'll have more to say about rehearsal and practice methods in a moment. But for the time being, let me get back to the very crucial foundation for applied relaxation training: learning to self-monitor in order to detect early cues within your thoughts, images, emotions, bodily feelings, and behaviors that trigger and contribute to the development of anxiety spirals.

There are a number of ways in which you can start daily self-monitoring. One way is to "check in" with yourself on an hourly basis—to stop whatever you are doing and identify any feelings of tension, any sensations of anxiety, or any distressing thoughts or images. Another way is to "check out" your body and mind for signs of anxiety every time you change tasks or enter a new situation. And, of course, monitor what is occurring inside of you whenever you notice yourself becoming tense, anxious, or worried. Each time that you do identify a cue, please spend a moment recognizing what the anxiety feels like and become fully aware of all of the cues associated with it.

To be sure that the client understands what is expected in self-monitoring and early cue detection, practice these tasks in the therapy office. Here is one example of how the therapist might do this:

Why don't we try this now? Close your eyes and take a minute to become aware of how you are feeling. Then tell me on a scale from 0 to 100 where your anxiety/tension level is right now and what that feels like.

The therapist can then ask the client for the specific internal cues that he or she used to determine this rated level of anxiety. It is important to go over this procedure slowly and thoroughly, and then to repeat the process, asking the client to see if she or he can identify any other internal experiences that were missed the first time.

Having assessed the client's current affective state, the therapist can then ask the client to create more noticeable internal cues by deliberately causing increased anxious experience through the use of imagery. For example:

> Tell me about a recent event that made you feel anxious. What was the situation? When did you first notice that you were becoming anxious, that is, what were the earliest cues? What other internal reactions can you remember occurring?

Having obtained this preliminary descriptive information, the therapist works with the client to specify the content of a precise mental image of the situation and the sequence of events that transpired. The client can then be asked to imagine that same scene as if it were actually taking place, paying attention to all of the external cues that would be present (e.g., sights, sounds, tactile sensations) in order to maximize the vividness of the image. The client should be asked to pay especially close attention to the internal reactions that occur in response to the image, so as to begin to identify and describe the earliest anxiety cues and the sequence of subsequent cognitive, somatic, and emotional reactions that make up the anxiety spiral. Here is how the process might be presented:

> Please close your eyes and imagine yourself in this anxiety-provoking situation. Spend the next minute imagining that it is actually happening, as if it were really taking place right now. And notice the reactions that are occurring as you visualize yourself in this situation. . . . Now rate your overall anxiety level on the 0 to 100 point scale. O.K., now open your eyes and tell me what anxiety cues you noticed during the image and the order in which the cues occurred.

The therapist can now ask the client to recall the anxious image again, this time instructing the client to watch for even earlier cues and for any other features of the anxious experience that might have been missed during the first imagery effort.

Using imagery in this way achieves two goals. First, it gives the therapist a good idea about some of the characteristic internal reactions the client experiences when he or she becomes anxious. Second, it helps the client learn, and gives a chance to practice, the type of self-monitoring that we want her or him to do as often as possible in daily life. The session might close as follows:

> Between now and the next session, please begin to do this type of self-monitoring frequently throughout the day. To help you to remember to do this often, let me suggest that you "check in" with yourself and identify your internal reactions once an hour, as well as at any change in activities, and at any time when you notice anxiety.

Although these initial suggestions are certainly useful for getting clients started in self-monitoring, the therapist should realize that, by themselves, they are unlikely to be sufficient to encourage the amount of frequent monitoring that is really necessary. Further and more explicit reminders need to be established. Therefore, the therapist's next task (either now or in the next session) is to help the client to plan additional ways to remember to check his/her anxious experiences frequently during the day. Anxiety is often so habitual that clients can experience an episode of tension, worry, or apprehension for quite a long period before they even remember that they are supposed to be objectively observing their experience and discovering new early cues. For this reason, it is important that they self-monitor frequently during the day, regardless of how much anxiety they may have at those moments. Some examples of additional environmental reminder cues that we have used with various clients in the past follow.

1. Post-it notes with a big letter, "M" (for "Monitor"), written on them and placed in various locations at work and in the home can prompt frequent monitoring. To avoid

habituation and consequent loss of attention to these cues, the location and/or color of the notes should be changed periodically.

2. Every time the telephone rings, the client can monitor his/her state. This cue is particularly useful with clients for whom delays in answering the phone cause some increased tension. Ask them to delay picking up the phone until the third ring, observing the growing tension or anxiety that occurs during the delay.
3. Certain people who periodically show up in the client's daily environment can serve as reminders for self-monitoring. People who are a source of stress, as well as those who are a source of comfort or safety, can function equally well in this regard.

As the therapist and client become more familiar with the types of anxious experience and its components that are common in the client's life, specific behavioral reactions associated with anxiety can be earmarked as important reminders to observe the process and, more importantly, to identify other internal cues (thoughts, images, bodily sensations) and the external cues that preceeded them. Doing so helps to identify increasingly early anxiety cues. Here are just a few examples of some common anxiety-related behaviors experienced by our clients that can serve as internal reminder cues:

1. Hair twisting. One client noticed during her first week of self-monitoring that during most of the times when she was becoming anxious, she would start playing with her hair.
2. Walking or talking quickly. Several clients have noticed that these behaviors speed up during periods of stress and tension.
3. Nail-biting.
4. Foot-tapping or finger-drumming.
5. Muscle tension. This is probably the most common somatic cue seen in anxious clients, especially in those whose anxiety is diffuse. Although the site of noticed ten-

sion varies from client to client, excessive tension in the neck and shoulders is frequent.

6. Worrisome thinking. This is a common early internal cue for developing anxiety among diffusely anxious clients. Like other anxious experiences, a worry episode can begin and continue for several minutes before clients become aware that they are worrying. Because worrying can contribute substantially to the overall anxiety experienced in the daily lives of chronically anxious individuals, targeting its occurrence for self-monitoring and learning to catch it earlier and earlier can be important precursors to eventual successful intervention.

To prepare clients to focus on early anxiety cues, the therapist should inform the client that, at the beginning of each future session, they will be asked, "What new, earlier cues did you discover this week?" Knowing that this question will be posed every week, the client is more likely to remember to engage in the important homework of self-monitoring, to view it as an important task, and to be motivated to work hard at becoming proficient at detecting early cues to anxiety.

Once self-monitoring is introduced, it is also useful to ask the client to begin to rate—from 0 to 100 or on some other meaningful scale—his or her anxiety level periodically during the day (e.g., upon awakening, at each meal, and at bedtime). The client should also use a daily diary to record observations of anxious experiences and the cues associated with them. This procedure helps the client to remember anxious experiences and discovered cues so that they can be discussed at the next therapy session.

BASIC INSTRUCTIONS TO THE CLIENT FOR APPLIED RELAXATION

Depending on the presenting problem, client characteristics, or overall therapeutic strategy selected, the therapist can choose to introduce applied relaxation methods themselves at the same time as the self-monitoring is described or after the client has had a week or two to successfully practice identifying early anxiety cues. The therapist who chooses to teach the client PRT tech-

niques as a central, and sole, coping method would probably postpone detailed instructions in applied relaxation until the client has learned efficient and effective relaxation skills. If the therapist decides to train the client in diaphragmatic breathing techniques (discussed below) as a means of creating an immediately deployable relaxation response, it would be a good idea to give instructions about applying this anxiety-coping response right along with instructions on how to self-monitor for early cues for anxiety. These combined instructions might sound like this:

> Self-monitoring is the first basic element in learning applied relaxation techniques. The second basic element involves applying your relaxation coping response to the early cues of anxiety and tension that you detect through self-monitoring. In other words, I will ask that, when you are "checking in" with yourself and identifying early cues of anxiety, you also respond to these cues by relaxing them away and letting them go. Practicing applied relaxation in this way will reduce your anxiety and stress level generally throughout the day and will also help you to cope much better with specific episodes of anxiety or the occurrence of specific stressors in your environment. This is because you will be learning to respond to very early cues with an effective coping response that keeps the anxiety spiral from developing; this is just the opposite of your current reactions. With frequent practice, your new coping responses can become automatic, eventually resulting in your leading a more relaxed life.

We give our clients a "homework" handout after we have introduced them to both PRT and applied relaxation (see Appendix C). Referring to this handout between sessions can help clients remember how to practice these techniques. We introduce in-session applied relaxation practice and rehearsal methods as follows:

> Most clients find that the hardest part of self-monitoring and applied relaxation is remembering to catch early cues frequently and to use their relaxation response as soon as they detect them. So the third basic element of our work together involves practicing these first two elements right here in the office. To do this, we will not only have you practice self-monitoring for early anxiety cues

and then quickly use your relaxation response, but we will also use imagery to *deliberately create* early anxiety cues, and then have you use applied relaxation to cope with them.

In-Session Self-Monitoring and Applied Relaxation Training

Instructions for in-session self-monitoring and applied relaxation might be given as follows:

> During our session, if at any time you notice any shift in the direction of greater tension or anxiety, please let me know right away. Because your fears, worries, and anxieties are the primary focus of our work together, we can be sure that these noticeable shifts will take place quite often as we talk about these things. So be sure to let me know when they do. If it is agreeable to you, I can also serve an initial monitoring role for you by letting you know when I notice a shift in your state that might indicate increased feelings of tension or anxiety. In either case, though, as soon as that shift is detected, we'll immediately spend a moment relaxing the tension and anxiety away before proceeding with whatever we were talking about.

By using these methods within the therapy session we create numerous opportunities for clients to practice the same self-monitoring and applied relaxation skills that we encourage them to employ on their own in their daily lives. Ideally, early anxiety cue detection and applied relaxation episodes should take place at least three to five times per session. Most of the responsibility for noticing anxiety shifts in the client will initially rest with the therapist.

There are at least two main reasons why, in early sessions, clients rarely inform their therapist of detected anxiety or tension cues. First, although it is easy for clients to discuss their general fears and anxieties with us, it is often embarrassing for some of them to actually admit that episodes of anxious experience are happening in the moment. Second, clients tend to become so engaged in what they are discussing with their therapist that they easily forget they are to be self-monitoring and reporting any shifts in their physical, emotional, and behavioral states at the same time. Indeed, they will face the same challenge of remembering to do these crucial tasks in their daily lives.

As with habitual anxiety spirals themselves, ignoring their earliest signs is effortless. Helping clients to change their anxiety spiral "habit" first requires us to help them break another habit—that of ignoring the spiral. This, in turn, means that we have to provide frequent prompts, especially in initial sessions. That prompting should be faded out, however, as we increasingly encourage the client to play a more active role in creating in-session opportunities to practice applied relaxation.

When an anxiety cue is detected by either the therapist or the client, the therapist should immediately ask the client for a rating on the 0 to 100 point scale and then instruct the client to relax away the anxiety for a few seconds, using whatever relaxation techniques have been effectively established through prior training and homework practice. In early sessions, this can be done with the eyes closed while fully reclined; in later sessions, the applied relaxation can occur with the eyes open and without changing posture. The therapist should obtain another scale rating right after the relaxation application. Evidence of rating reductions after deployment of the relaxation response compared to before the deployment provides continuous feedback to both the therapist and the client about the growing effectiveness of the client's applied relaxation skill. Finding no change suggests the need to pay more attention to problems that the client may be experiencing with relaxation itself, with its application, or with the severity of the anxiety associated with the topic being discussed when the increased anxiety was noticed.

Imaginal Rehearsal of Applied Relaxation: Self-Control Desensitization

The development of systematic desensitization and other exposure therapies led to highly effective treatments for specific phobias and other circumscribed anxiety problems wherein specific fear cues could be identified. But their relevance has been less obvious in dealing with more diffuse anxiety and tension problems in which the external triggers for the anxiety response were more obscure, pervasive, and constantly changing, as well as those in which internal (cognitive) triggers appear to play a role of equal or even greater importance. As long ago as the early 1970s, therapists and researchers recognized that the rehearsal

of relaxation responses during the *imagination* of stressful or anxiety-provoking events might provide an efficient means for learning a coping response generalizable enough to be applicable not only to the specific situations dealt with in therapy but to any future situation in which anxiety might be experienced. The goal of such therapy methods was to help clients learn how to cope with, rather than to permanently overcome, feared events. Several imagery-based treatment techniques emerged from this line of thinking, including self-control desensitization (Goldfried, 1971), stress inoculation training (Meichenbaum, 1975), and anxiety management training (Suinn, 1990).

These techniques provide an ideal way to create clients' typical anxiety cues in the therapy office and then practice and rehearse the application of new relaxation responses to cope with the cues. Because of its relative simplicity and flexibility, we have mainly used a variant of Goldfried's self-control desensitization in dealing with our own clients. Its procedures, and an outline of how we introduce them to clients, follows:

> The second rehearsal method we will use is called self-control desensitization. Briefly, this involves having you relax and then, while you are relaxed, having you repeatedly imagine anxious situations and the various cues (physical reactions, worries, thoughts and images) that are part of your anxiety spirals. As you are imagining these anxious events and begin to notice increases in anxiety and tension, I will ask you to use your relaxation coping response to let go of the anxiety and to return to a relaxed state. Then I'll ask you to continue imagining yourself in that situation, but now you will be imagining relaxing yourself in the situation. This self-control desensitization is a very useful method for teaching you how to experience your worrisome and anxiety-provoking situations and thoughts without fear. It will also help you to reduce the frequency and intensity with which they occur.
>
> There is a major advantage to practicing applied relaxation using this imagery procedure. We know from a variety of research studies that practicing a skill in imagery is often just as effective in strengthening that skill as practicing it in real life. The self-control desensitization procedure will thus provide many opportunities for you to practice the skills of recognizing your typical early cues and of reacting to them with your relaxation coping response. By repetitious rehearsals that associate early cues with

use of the relaxation response, you will also find it easier to remember to quickly use your relaxation early in the anxiety spiral in your daily life.

Hierarchy Construction

Hierarchy construction is far simpler for self-control desensitization than it is for systematic desensitization or other exposure therapy techniques. We only need to identify the client's primary external and internal anxiety cues and to know whether each cue is mild, moderate, or intense in its potential for provoking anxiety. Our goal in self-control desensitization is to give clients opportunities to rehearse their relaxation coping skill in reaction to images that include a representative sample, not an exhaustive list, of their anxious situations. The hierarchy construction process might go as follows:

> At this point, let's write down on index cards each of the situations, worries, thoughts, images, feelings, and bodily sensations that contribute to your anxiety spirals. Then we'll roughly categorize them in terms of whether they provoke mild, moderate, or intense anxiety. The purpose in doing this is to allow us to begin the self-control desensitization process by working with low-anxiety situations and internal cues. As you develop more skills in learning to control and eliminate the anxiety, we can gradually move on to tackle harder situations.
>
> As you self-monitor and detect other anxiety cues between our sessions, be sure to describe them in your diary and let me know where we can place them in the mild-moderate-intense hierarchy. Then, as we work on self-control desensitization over several sessions, I will use a variety of different images that combine different bodily cues, thoughts, feelings, images, and situations, just to be sure you have ample opportunities to practice your relaxation coping responses with your major anxiety cues.

In working with the client on hierarchy construction, the therapist should make sure that she or he:

1. understands how each anxiety cue relates to the client's experience,
2. gets enough descriptive detail about each cue to make

flexible use of it during the self-control desensitization procedure,

3. obtains further information about the client's experience just before, during, and after anxiety-provoking events, and
4. identifies broad or thematic cues (such as fear of fear or fear of losing control) in addition to specific, concrete anxiety cues.

Knowing about all of these aspects of anxiety cues will make it much easier for the therapist to create relevant and appropriate scenes for use in self-control desensitization. Indeed, therapists should be able to create images "on the fly" during the procedure on the basis of their knowledge of the details of their clients' anxious experiences.

After introducing self-control desensitization in this way, the therapist can let the client know that, starting in the next session and in each session thereafter, the therapist will be adding the self-control desensitization procedure to the end of the relaxation procedure. It is also useful to inform the client that he or she will work with the therapist in selecting the initial scenes to be used, beginning with external and internal anxiety cues that are relatively low on the hierarchy.

Self-Control Desensitization Procedure

Preparation for actually beginning self-control desensitization includes: (1) imagery practice (to ensure that the client is able to generate vivid images and to experience scenes as if they were real), (2) working with the client to select an initial scene to use, and (3) instructing the client in the specific phases of the self-control desensitization technique itself.

To practice imagery and assess the client's ability to generate vivid images, ask the client to choose a pleasant, relaxing scene (perhaps lounging at the beach or in a warm bath) and to describe it in detail, including all sensory modalities. Then ask the client to close his or her eyes and visualize the scene as vividly as possible for about twenty seconds. Instruct the client to imagine being in the situation as if it were actually taking place, experiencing all of the sights, sounds, and tactile sensations that

would accompany such an event if it were really happening. Next, ask the client to describe all the details of the image and to say whether he or she was able to (1) "turn the scene on" immediately and (2) maintain the image vividly until asked to stop. If any difficulties were experienced, ask the client to visualize the image again until it is vivid and controllable. The use of additional scenes of the same type may be required to add variety for clients who need more practice in generating realistic and vivid imagery.

The next step is to work with the client to define the content of one or more scenes for use in the self-control desensitization portion of the session. This usually involves selecting an environmental situation and one or two internal anxiety cues that are relatively mild in anxiety-eliciting potential. It is important that the therapist and client agree on the content of the scene and that the client visualizes this scene in the same way each time it is presented. In order to simplify clients' initial imagery rehearsals and allow them to focus more closely on the imaginal generation of internal anxiety cues, it is often useful to choose an initial scene that occurs in the therapy office itself. Later, the therapist can select different environmental contexts from the client's list of anxiety-provoking situations, basing the choice on the mildness or severity of the anxiety associated with each situation.

Finally, as illustrated below, the therapist should carefully describe the self-control desensitization procedure, being sure to cover its four main components and what the client will be asked to do during each component:

> (1) After you are feeling completely relaxed, we will begin the self-control desensitization procedure. I will present the scene that we discussed and I'd like you to "turn it on" vividly and maintain that vividness throughout its presentation. As soon as you notice any anxiety, any tension, or any shift away from a deeply relaxed state, please raise your right index finger to signal me that this has occurred, and keep your finger raised as long as you continue to feel anxious or tense.
>
> (2) If you signal anxiety to a scene, I will ask you to continue imagining yourself in the situation, but now also to imagine that you are relaxing yourself, letting go of the anxiety and tension as you continue to experience the event. As soon as you notice a re-

turn of the relaxed state, lower your finger as a signal to me that this has occurred.

(3) I will then ask you to continue imagining yourself being in that situation for a few more moments, feeling more relaxed and calm as you experience its events.

(4) Finally, I will ask you to stop the imagery and just return your attention to being here in the office and relaxing deeply. We'll then do this same procedure with the same scene several times to give you a number of opportunities to practice coping with the situation.

At this point, progressive relaxation is administered as usual. Once the client has signaled complete relaxation at the end of the summary of muscle groups, the therapist can begin self-control desensitization, employing the scene(s) agreed upon during the first portion of the session.

Table 12.1 is a flow chart giving the procedural steps and timing parameters used to administer self-control desensitization. We include steps both for when anxiety is and is not signalled during a 60-second scene presentation. As in PRT, different therapists and researchers have used different procedures and/or timings in their administration of self-control desensitization. No research has been conducted to provide empirical guidance in what specific procedures to use. Ours are merely those we have found effective with our own clients.

Table 12.1
Procedural Steps and Timing Parameters in Self-Control Desensitization

Therapist Presents	Anxiety Signaled	No Anxiety Signaled
I. Hierarchy image with anxiety cues	Go to row II upon receiving anxiety signal	Go to row II after 60 seconds
II. Relaxation coping imagery	When anxiety signal stops, go to row III	Go to row IV after 20 seconds
III. Relaxation mastery imagery	Go to row IV after 20 seconds	
IV. Postimage relaxation	20 seconds	20 seconds
V. Repeat image, using steps I–IV		

During self-control desensitization, it is best to time image presentations with a stopwatch or a watch with a digital timer function or sweep-second hand. It also helps to keep a written record of the client's anxious experience in association with each scene presentation. Note how much time elapsed between the presentation of a scene and the signaling of anxiety (finger raised), as well as how much time it took from the onset of each anxiety signal and the indication that anxiety disappeared (finger dropped). In our experience, nearly all clients will show one or both of the following two phenomena in the course of repeatedly imagining the majority of scenes: (1) progressively longer times pass before signalling the emergence of anxious feelings, and/or (2) progressively shorter times are taken to successfully cope with anxiety elicited by a scene.

Keeping a timing record provides useful feedback to the therapist and client about the client's growing abilities to successfully cope with anxiety-provoking situations and internal cues. It is reinforcing and motivating for the client to see objective evidence of progressively effective learning as well as the value of applying new coping techniques. The timing data are also of value if progress is slow, because they alert the therapist to investigate and correct problems that may be occurring in the client's imagery, relaxation, or coping applications. Two of the most common sources of such problems are that (1) the scenes being used contain so much anxiety-provoking material that the client has difficulty in effectively coping with it, or (2) the client's habitual anxiety spiral is too readily and fully activated. In either case, the therapist should work with the client to initially lessen the scene's emotional quality. In extreme cases, Wolpe's systematic desensitization methods may first have to be employed with the scene or its internal anxiety cue elements before returning to self-control desensitization.

Here are two examples of self-control desensitization scripts that follow the procedures outlined in Table 12.1.

Example 1: Imagining a Somatic Anxiety Cue Occurring in the Therapy Office

Step I, present image:

> Visualize yourself reclined in the chair here in the office. . . . Imagine that your heart is beginning to pound. . . . You can feel your heart beginning to race and pound . . . more and more quickly and intensely. . . . You can feel the anxiety beginning to increase as you feel your heart pounding more and more. (Presented for 60 seconds, or until anxiety is signaled.)

Terminate this patter as soon as the client signals anxiety by raising a finger and proceed immediately to step II. If the client does not signal anxiety, go to step II after 60 seconds of patter.

Step II, present relaxation coping imagery: Continue the following patter until anxiety signal drops, or, if no anxiety was signaled, until 20 seconds have elapsed.

> Just continue to imagine yourself here in the office with your heart pounding as you now imagine relaxing. . . . Just visualize yourself relaxing away the tension and anxiety. . . . And as you do, imagine that the relaxation is reducing the speed of your heart . . . calm and peaceful . . . quiet and calm . . . muscles becoming more and more deeply and more completely relaxed . . . heart racing just melting away, dissipating . . . breathing becoming more and more smooth and regular . . . slow and deep . . . as you imagine yourself reclined in the office and relaxing more and more . . . just letting go of the tension and anxiety.

Continue this patter until the client stops signaling anxiety, then proceed to Step III. If anxiety was not signaled originally, use this patter for 20 seconds, then proceed to Step IV.

Step III, relaxation mastery imagery: Present for 20 seconds before proceeding to Step IV.

> Just continue imagining yourself reclined in the office . . . relaxing more and more deeply . . . muscles continuing to smooth out and unwind . . . loosening up and becoming more and more comfortably and deeply relaxed . . . nothing to do but enjoy the pleasant sensations of relaxation as the relaxation process continues to take place as you imagine yourself here in the office.

Step IV, post-image relaxation: Present for 20 seconds.

O.K., stop visualizing that scene and go on relaxing . . . allowing the relaxation process to continue to take place now . . . calm and quiet . . . peaceful and relaxed. . . . Simply enjoying the pleasant feelings of relaxation and noticing how very good it feels to be so deeply and completely relaxed.

Step V: repeat image, following the above procedures.

Example 2: Imagining a Cognitive Anxiety Cue Occurring at a Party

Step I, present hierarchy image with anxiety cue for 60 seconds or until anxiety is signaled.

Visualize yourself at a party with friends and acquaintances nearby. . . . Imagine that you are worrying about what would happen if you should do something foolish. . . . You feel the tension and anxiety building as you keep thinking about the possibility that you'll say or do something stupid. Imagine the feeling of dread increasing as you continue to worry about acting foolishly.

Terminate this patter as soon as the client signals anxiety by raising a finger and proceed immediately to Step II. If the client does not signal anxiety by the end of 60 seconds of this patter, go to Step II.

Step II, present relaxation coping imagery: Continue the following patter until client stops signaling anxiety or, if no anxiety was signaled, until 20 seconds have elapsed.

Just continue to imagine yourself at the party with friends and acquaintances nearby as you now imagine letting go of the tension and anxiety . . . and as you visualize yourself relaxing more and more in the presence of these people, imagine that the relaxation process is reducing the distressing thoughts . . . thoughts just flowing out of your head on each exhalation of your slowing and deepening breathing . . . calm and quiet . . . peaceful and relaxed . . . muscles becoming more and more deeply and completely relaxed . . . negative thoughts just melting away, dissipating . . . breathing becoming more and more smooth and regular . . . slow and deep . . . as you imagine yourself at the party, knowing your friends and acquaintances are nearby, and relaxing more and

more . . . just letting go of the tension and anxiety and the negative thoughts.

Continue this patter until the client stops signalling anxiety. Then proceed to Step III, in which the client imagines remaining in the situation, but without the anxiety cues occurring and with sensations of relaxation. If anxiety was not signaled originally, use this patter for 20 seconds and then proceed to Step IV, in which the client is instructed to terminate the imagery and merely to deepen the sense of relaxation.

Step III, present relaxation mastery imagery for 20 seconds before proceeding to Part IV.

Just continue imagining yourself at the party among your friends and acquaintances . . . relaxing more and more completely . . . muscles continuing to loosen up and unwind . . . smoothing out and becoming more and more comfortably and deeply relaxed . . . nothing to do but to enjoy the very pleasant feelings of relaxation as the relaxation process continues to take place as you imagine yourself at the party.

Step IV, postimage relaxation: Present for 20 seconds.

Stop visualizing that scene now and go on relaxing . . . just allow the relaxation process to continue to flow throughout your body and mind . . . calm and peaceful . . . breathing deeply and slowly . . . quiet and relaxed . . . simply enjoying the pleasant sensations of relaxation, noticing how very good it feels to be so completely and deeply relaxed.

Step V, repeat image, following the above procedures.

For any scene used in self-control desensitization, continue presenting the same scene until one of the following two conditions occurs:

1. Three 60-second presentations of an image do not evoke an anxiety signal, or
2. On two consecutive presentations of the same image, the client no longer signals anxiety within 60 seconds, or is

able to terminate anxiety within a few seconds after signaling the occurrence of anxiety.

At the pace determined by client progress over sessions, the therapist can continue to introduce scenes that have greater anxiety-provoking value, in which more anxiety cues are incorporated. In later sessions, several internal anxiety cues can be incorporated into each scene, so that by the end of therapy, the client is able to imagine all cues typical of his or her anxiety experience without reacting with anxiety and/or is able to rapidly terminate any anxiety reaction to the cues.

The therapist should also ask the client to practice self-control desensitization at the end of each daily progressive relaxation practice session, using images of situations and internal anxiety cues selected in the previous therapy session to ensure he or she is practicing at an appropriate level of anxiety value. The goal is to make a selection that gives both therapist and client confidence that the self-control desensitization procedure used by the client during at-home practice will be successful.

At the end of each therapy session, the therapist should carefully review with the client whatever homework assignments have been agreed on for the upcoming week. It is important that this review include not only new assignments, but also past assignments that are to be continued. If the therapist does not consistently remind the client of the need for continued practicing of skills learned earlier, the client may only remember to engage in the latest homework assignments. Indeed, we often give clients index cards that add the latest homework assignments to the list of older ones.

Once self-control desensitization therapy has begun, the client can be asked to assess its effects by entering real situations that are related to the scenes that were successfully coped with in imagination. In these *in vivo* practice situations, clients should be instructed to deploy applied relaxation whenever early anxiety cues are detected. These practice exposures provide valuable opportunities for the client to rehearse and apply new, developing relaxation coping responses to critical daily life experiences. The therapist should emphasize that, as in all such applications, these homework exposures should include the use of relaxation

coping responses before (anticipation), during, and after (recovery) stressful events or episodes.

At the beginning of each subsequent session, the therapist should be sure to review with the client the progress and results of all new and ongoing homework assignments. Depending on the stage of treatment, this might include review of (1) the week's daily diary entries, (2) the frequency and successfulness of self-monitoring, early cue detection, formal progressive relaxation practice sessions, and self-control desensitization occurring at the end of those practice sessions, (3) applied relaxation, and (4) *in vivo* exposure assignments.

In one way or another, anxiety always involves the anticipation of future negative events, but it is also the case that many stressful events in our daily lives appear suddenly, thus amplifying anxiety, tension, and other stress responses. Two methods can be added to self-control desensitization to help many clients (especially those who suffer from diffuse anxiety) learn to cope with those kinds of ongoing stressors. Each is best employed toward the end of therapy.

The first makes use of single (rather than repeated) presentations of several different scenes, each of which involves the sudden appearance of a different—and unexpected—stressor. The other method uses a single continuous imaginal story that contains several different stressors occurring sequentially throughout an imagined day. This extended scene is designed to mimic the progressive build-up of tension and anxiety over the day in response to accumulating stressful events. In both cases, the scenes to be presented are not discussed with the client beforehand, thus creating an element of surprise similar to the real-life stressful events the client often encounters.

The therapist should, of course, warn the client before employing scenes involving such unanticipated events, but without giving details. For the example, the therapist can simply say that this new and advanced phase of self-control desensitization will include scenes of stressful events (and the client's typical internal anxiety cues) that occur suddenly, without warning, and without preparation.

The therapist should come to such sessions after having prepared several novel scenes that are based upon what the thera-

pist has learned about the client's internal and external anxiety cues. When the first surprising stressor scene is presented, the client's task remains the same, that is, imagining staying in the situation; applying relaxation coping responses to reduce any anxiety that might appear; creating a peaceful, relaxed state; and signalling the appearance and disappearance of anxiety throughout. After a single presentation of a novel stressful scene, the therapist presents a different one, again only once, before proceeding to a third novel scene, etc.

If the goal is to present sequential stressors, the therapist must prepare a lengthy story ("A Day in the Life of the Client") that contains a long series of anxiety-provoking events. As this continuous set of imaginal scenes is presented, the client's task is to cope with each event as it occurs and to signal anxiety and its resolution as before. The image of any particular stress event should be maintained until the client has successfully reduced any anxiety triggered by its presentation, or for 60 seconds if the client does not signal anxiety. The story then continues with the next stressful event, and by the time the entire story is over, the client will have "lived through" (and successfully coped with) a day filled with a representative sample of typical minor hassles and major stressors.

TRAINING IN ALTERNATIVE RELAXATION TECHNIQUES

A wealth of laboratory and clinical research on PRT has established its effectiveness, alone or in combination with other therapeutic techniques, in the treatment of many psychological problems (see Chapter 13). Still, several other useful relaxation techniques are also available, and one or more of them may be especially valuable in helping virtually any client find an effective way to relax. It is beyond the scope of this book to describe these methods in detail, but we hope that the following brief outline will provide a flavor of what is available (for fuller coverage of these and other methods, see sources such as Smith, 1985).

Slowed, Paced Diaphragmatic Breathing

Breathing from the chest, especially in a shallow and rapid way, stimulates the sympathetic branch of the autonomic nerv-

ous system, the same system that is activated in stress-related fight-or-flight reactions. People can actually predispose themselves to anxious and tense inner experience by breathing in this way. In fact, many people who have panic attacks may be in a constant state of subclinical hyperventilation in which carbon dioxide is at abnormally low levels. A small incremental increase in emotional stress or physical exertion can thus result in full-blown hyperventilation and its associated physical effects, such as heart-pounding, sensations of suffocation, and dizziness, that are at the foundation of a panic attack.

Breathing more slowly and deeply from the diaphragm, on the other hand, stimulates the parasympathetic branch of the autonomic nervous system, the branch associated with relaxation. In the first therapy session, clients can be taught a rapid relaxation response, one which they can begin employing immediately to reduce daily tension and anxiety.

The therapist first explains the differing effects of thoracic (chest) and diaphragmatic breathing and then demonstrates each. (In thoracic breathing, the rib cage is expanding and contracting with each inhalation and exhalation. With diaphagmatic breathing, the rib cage does not move; rather, it is the stomach that is rising and falling.) The therapist then asks the client to recline with eyes closed and to begin breathing not from the chest, but from the abdomen, and to gradually slow the pace of inhalations and exhalations and gradually deepen the breaths. It is important to ask the client to slow and deepen the breathing pattern only to a point that is comfortable. Prescribing a specific rate of breathing (e.g., 8 to 10 cycles per minute) or encouraging the client to breathe at an excessively slow rate or depth can not only prevent a relaxation response but may cause discomfort.

After the client has engaged in diaphragmatic breathing for a minute or so, the therapist should ask him or her to describe the experience and then, just as at the end of a progressive relaxation training session, help the client to work out solutions to any problems encountered. Most clients are quite struck by the fact that a simple, voluntary change in their manner of breathing can have a pleasant, relaxing effect in a rather short period of time. After such a demonstration, it is useful to emphasize that how one breathes is one aspect of the control we all have over our emotional experience; rapid breathing contributes to anxiety,

and slowed breathing can quickly bring some degree of relief from it. Mention also, though, that we are creatures of habit, and that it will take time and conscientious practice to learn to shift from fast-paced chest breathing to slower "stomach" breathing. The shift will involve the same principles described earlier for applied relaxation: frequent practice of the technique and frequent application of it in response to early anxiety cues detected during the day.

Training in diaphragmatic breathing can be added to the end of in-office progressive relaxation training sessions, as well as to the end of the client's twice-a-day practice sessions. After introducing diaphragmatic breathing to our clients, we give them a copy of the handout reproduced in Appendix D and encourage them to refer to it between therapy sessions to help them to remember how to practice the technique.

Meditational Relaxation

There are many meditational traditions, each with its own goals, philosophies, and techniques. A "focusing device" is an element common to several of them that we have often employed in teaching our clients to relax. Having a single stimulus on which to focus is particularly helpful for chronically anxious clients whose attention is frequently drawn to distressing thoughts and images. The presence of constant worry in generalized anxiety disorder is a good example of this problem.

In such cases, we recommend that clients choose a word, a short phrase, or a static image for use as a focusing device. This word, phrase, or image should be personally significant and highly connected to feelings of peacefulness, tranquillity, safety and security, or deep relaxation. Our clients have chosen words and phrases such as "calm," "sacred heart of Jesus," "peace," "vacation," and images of sitting in front of the fireplace, lying on a beach, and the smiling face of a baby son.

These verbal and imaginal focusing devices can be incorporated into the relaxed respiration methods used in both progressive relaxation and diaphragmatic breathing. The word(s) can be slowly repeated during each exhalation, and imaginal devices can be incorporated during the application of any relaxation technique. Clients can be asked to use their focusing device

whenever they are having difficulty with intrusive mental activity during the day, or during relaxation practice or application.

Imaginal Relaxation

Imagery is a powerful cognitive activity for eliciting affective reactions. Indeed, the catastrophic images that often accompany anxious apprehension in all anxiety disorders are likely one of the primary maintainers of anxious meanings. As we have described earlier, such anxiety-provoking images make up part of the anxiety spiral and thus can serve as significant early cues for the application of relaxation coping responses.

It should not be surprising, then, that *pleasant* images can have several therapeutic uses. They can elicit a relaxation response, they can deepen relaxation generated by other relaxation methods, and, as an incompatible response, they can counteract anxiety-provoking images. We have already described the role of pleasant images in establishing a relaxing scene for evaluating the client's imagery ability and in practicing imagery prior to beginning self-control desensitization. Once clients discover in therapy sessions that these images can help produce a relaxation response, they can be encouraged to make use of such images in any of the three ways just mentioned.

Although imaginal relaxation can be helpful, its usefulness as an applied relaxation device during anxiety-provoking situations is not as great as other relaxation techniques. Its relative weakness stems from the fact that generating and focusing on pleasant imagery saps attentional resources that the client needs for dealing with whatever tasks are at hand. Lengthy imagery relaxation, for example, would not be a good idea while a client is driving an automobile or engaging in social interaction. However, generating a brief relaxing image merely to begin the relaxation process in the midst of daily activities is helpful for some clients.

Letting Go

Progressive relaxation training involves letting go of muscular tension by first deliberately tensing muscle groups and then releasing that tension. Later, the client learns merely to identify

existing tension and to let go of the tension by recalling how the muscles felt when they were released after a deliberate tension cycle. It is interesting to note that in the original PRT method, Jacobson would customarily tell clients that he was unable to instruct them in how to relax the muscles. It was up to the client merely to stop doing whatever she or he was doing that was causing tension in a muscle. Muscle tension was a "doing," whereas relaxation of muscles was a "not doing." Historically, then, it was this notion that led to the phrase, "letting go," when describing how to relax.

It is possible to apply this "letting go" metaphor not only to muscle tension but to other internal elements of the anxiety response as well, including distressing thoughts, catastrophic images, and anxiety-related emotions. Once a client has been thoroughly trained in PRT and has acquired the ability to relax by recall, the therapist can introduce the notion of "letting go" of these other elements of the anxiety spiral. The introduction might sound like this:

> Just as you have learned to let go of tension detected in your muscles, I would like you to begin experimenting with letting go of other aspects of your anxious experience. Remember that it is not our reactions to situations that are the problem; it is our reactions to our reactions. This is why we want to learn to detect these reactions to reactions (these early cues of the anxiety spiral) and to respond with a different reaction, a relaxation-coping reaction. In addition to actually relaxing yourself at these moments, it is often useful to practice letting go of worrisome thoughts, scary images, and any other aspect of your anxious experience. So when you detect some tension or anxiety, apply your relaxation response and then allow the anxious experience to simply pass through you, without reacting in other ways to it. You can think of it in terms of becoming an objective observer of your inner experience, noticing what is occurring without reacting to it. You can even imagine that these thoughts, images, and affective states are gently flowing out of you, perhaps through the top of your head or out of your fingertips or toes. You are not judging or categorizing or otherwise reacting to the internal events; you are simply observing them and allowing them to pass through you.

It is important to let the client know that you are not talking about avoiding or suppressing inner experiences. Research has

shown that doing either can actually strengthen anxious meanings. This is why we describe the "letting go" response as a deliberate, brief noticing and accepting of the anxious experience and then a gentle detached observation of it as we imagine it flowing out of us.

Present Moment Focus of Attention

Anxiety arises when we focus on threatening events that might happen in the future. The potential danger may be perceived as occurring very soon (e.g., a car swerving toward you), or in the distant future (e.g., failure in one's job). Much anxiety also has to do with the perception of unrealistic future dangers; events that are unlikely to occur and/or, if they did, would not be that problematic. In short, anxiety is an illusion. The dangers do not exist now, but only in the future. Further, the likelihood of their happening is small, and even if they happen there is often little or no major consequence to their occurrence.

This point is most clearly exemplified in cases of generalized anxiety disorder (GAD), which is characterized by chronic worry. At the most abstract and generalized level, the problem for people suffering from GAD can be stated as follows: "The world is a dangerous place, and I might not be able to cope with whatever comes down the road, so I have to anticipate all of the possible dangers in order to avoid their occurrence or to prepare myself for them." This worrying is filled with thoughts and images of bad things that might happen ("What if . . .").

Research has shown that these feared bad outcomes rarely occur. In one study, for example, people diagnosed with generalized anxiety disorder were asked to spend several weeks writing down every daily worry that they noticed and what they feared might happen. Then, when the worrisome event transpired they rated its outcome and how they coped with it. It was found that 85% of the events they worried about turned out better than expected. Among those that did turn out badly, study participants coped with the outcome more successfully than expected in 79% of cases. Even in the case of bad outcomes with which they coped badly, the participants always survived, and the events nearly always had little ultimate consequence (Borkovec, Hazlett-Stevens, and Diaz, 1999).

If anxiety is always about the future, then focusing on the present moment precludes anxiety. Helping clients to let go of the future and generate pleasant relaxation responses in the present provides a strong foundation on which they can build a more relaxed, anxiety-free life. Doing so also provides the tools and perspectives that make it easier to teach clients about the usefulness of living in the present. As clients become more proficient at reducing anxiety and tension throughout the day, they can be invited to begin focusing more and more of their attention on the present moment.

The present moment comes in two forms. The first of these is whatever task is at hand; the second is whatever stimuli and resources are available in the person's environment. Thus, the therapist can ask the client to practice focusing attention exclusively on whatever task the client is engaged in at the moment (e.g., working at the office, interacting with a friend, washing the dishes, etc.). Worries and other aspects of anxious experience have to do with the nonexistent future and thus can be let go of by gently refocusing each time they intrude on the task itself. This procedure not only reduces the occurrence of anxiety-provoking processes (and thus creates a less negative experience during the task), but also maximizes the quality of performance at whatever task is involved (anxiety typically interferes with performance). So, for example, by focusing exclusively on a social or business interaction—not on worries about the future—the client will probably find that interaction is more likely to be pleasant and to produce good outcomes.

Of course, most of us are not always fully engaged in tasks every minute of the day. Indeed, there are many moments in each day when our minds are not required to be focused on anything in particular. For diffusely anxious people, these are prime times for the mind to drift to worrisome concerns. These clients can be asked to make use of these moments to create and/or maintain a relaxed state while, at the same time, focusing their attention on the environment. At any given moment, that environment is filled with interesting or pleasant information. If clients spend all of their time preoccupied with possible events in the future (or events from the past), they will miss out on what actually exists. In short, they are not in contact with present reality.

Asking clients to pay attention to the sights, sounds, and other sensations available to them in each present moment can have some helpful consequences. First, clients cannot engage in an anxious process at the same time that they are focused on present stimulation. Second, by focusing on the present, they reconnect with what is real. Third, they can learn more about themselves and their environments, and some of the information gained could well turn out to be important and adaptive in the future. If, at the beginning of the film "Monty Python and the Holy Grail," King Arthur had not paid attention to two guards discussing how fast a swallow flies while carrying a coconut, he would not have survived his potentially fatal encounter with the wizard toward the end of the film.

In short, it would be very adaptive for our anxious clients to recapture something that was perhaps lost after childhood, namely their ability to concentrate on the present moment. Accordingly, we sometimes ask our clients to think about how young children experience the world. Young children react with strong emotion to whatever is happening. They then immediately let go of that emotion once the environmental event is over and move on to what is happening in the next moment (very rapid reaction, very rapid recovery). They tend not to hold on to the past or become preoccupied with the future. They live more in the present, and their reactions to their reactions allow them to stay connected to what is real, to what is actually happening, rather than living in the illusion of the past or future. Of course, it is adaptive for adults to plan for the future and learn from the past, but they can also usefully learn to discriminate the circumstances under which it is and is not adaptive to focus on the future and the past so that they are not condemned to anxiety and depression by "living" in a future of anticipated threats or in a past filled with regret and sadness.

Concluding Comments on the Use of Alternative Relaxation Techniques

On the basis of our clinical experience and the considerable amount of research supporting the efficacy of progressive relaxation training, we continue to emphasize its procedures and applications as the foundation for training clients in effective

relaxation coping strategies. However, clinical experience also convinces us that experimentation with the additional relaxation methods outlined above can be of considerable benefit to many of our clients. There are several good reasons why this might be the case.

First, human beings differ, and what may be of greatest use to one person may not be ideal for another. Research evidence indicates significant variability among individuals in terms of anxious experience and in the functional relationships among different response systems involved in their anxiety. Although research has yet to identify clearly which types of relaxation techniques are best suited for different kinds of people, there is every reason to believe that providing clients with several different relaxation strategies maximizes the likelihood of finding the one(s) that will have the most beneficial impact.

Additionally, clients sometimes report that one technique (e.g., meditational relaxation) is most beneficial when they are experiencing one kind of symptom (e.g., a "racing" mind or distressing intrusive thoughts), whereas another method (e.g., PRT) is most helpful when they are most aware of a different symptom (e.g., tension and general apprehension). Having both techniques readily available allows clients to choose and flexibly deploy the strategy that will be most effective at a particular time.

Second, the advantages of teaching and learning multiple relaxation methods are consistent with more general research on stress, which indicates that the number of coping responses that people feel they have available predicts how well they will actually cope with major life stressors. It is yet to be established exactly why this is the case, but two explanations seem especially reasonable: (1) the more coping strategies available, the more likely it is that one of them will be found to be effective, and (2) merely knowing that one has several coping responses at one's disposal may increase one's confidence in, and expectation of, being able to cope effectively with whatever stressors come along. Whatever the case, it seems wise to introduce our clients to multiple relaxation methods.

Third, research indicates that relaxation-induced anxiety (i.e., anxiety brought on by efforts to relax) is unlikely to occur with every type of relaxation training method. Thus, for example, people who experience relaxation-induced anxiety during PRT do

not usually experience it during meditational relaxation, and vice versa.

For all these reasons, we customarily train our clients in several relaxation techniques and allow their own daily experiences with those techniques to guide us in our subsequent work with them. We ask clients to experiment with the various methods so that they can determine which techniques have which kinds of effects in response to which kinds of early cues.

NOTE

1. Our discussion of this and all other elements of applied relaxation training includes verbatim quotations illustrating how we might actually explain these elements to clients, and interspersed commentary and elaborations on those elements. As was the case in other chapters, we suggest that therapists cover the content represented by these scripts, but use their own words to do so. The scripts are not meant to be memorized and parroted.

Chapter 13

Evaluation Research on Progressive Relaxation Training

Progressive relaxation training has been applied to a wide range of psychological and physiological disorders, as well as to stress and anxiety problems in nonclinical populations. This is not surprising, given the diverse array of positive physiological, cognitive, affective, and behavioral effects associated with relaxation. Very little research on these applications was available when the first version of this book was written in 1973. Since that time, an abundance of research on various aspects of relaxation has emerged, and numerous beneficial effects of PRT have been demonstrated. From a clinical perspective, relaxation procedures are commonly used not only because of their diverse symptom relief value, but also because they often lead to rapid and noticeable effects, which increase confidence in the therapist and therapeutic procedures while enhancing therapist–client rapport.

EVALUATION RESEARCH: OVERVIEW

Although PRT and applied relaxation methods often function as effective treatments by themselves, they are also commonly used as components of combined treatment packages. This chap-

ter summarizes conclusions, drawn from our review of empirical outcome research, which apply to many of the clinical applications of these techniques. We will not review research on the many other forms of relaxation training (e.g., meditation, guided imagery, diaphragmatic breathing) that have been applied to clinical problems. We will first summarize research on the effectiveness of relaxation training methods for the anxiety disorders and depression, and then review their application in behavioral medicine and miscellaneous problems.

The present chapter is not intended to serve as a formal review or critique of the relaxation treatment literature, however. Rather, it summarizes much of the extant research with the aim of guiding the helping professional in making clinical decisions about when relaxation training might be warranted for a clinical problem. The summaries in each section are a distillation of conclusions based on a broad review of the treatment literature.

The conclusions about treatment effectiveness in this chapter were, however, derived from formal, published reviews of the experimental treatment literature, meta-analytic reviews, and the reading of recent, relevant research studies. These reviews and articles were found primarily through electronic literature searches, using terms such as "relaxation" and "therapy outcome." Because there is so much variation in how treatments can be studied, our review focused on well-controlled between-group studies, which (1) randomly assigned research participants to experimental conditions, and (2) found significant therapeutic effects for relaxation that were superior to no-treatment or placebo control conditions or were equivalent to alternative, effective psychological interventions.

The reviewed research also varies in terms of how the relaxation training was applied. For this reason, it is important to note that progressive relaxation training does not refer in this review to a specific protocol, but represents instead a group of techniques that teach muscle relaxation using many variations in procedure and length.

Table 13.1 summarizes the results of research on PRT, applied relaxation, and combined treatment packages that included relaxation training, with each type of condition that has been successfully treated. When reviewing Table 13.1, keep in mind that

some relaxation treatments for certain problems have been more widely studied than others. Similarly, research studies differ in how difficult their findings are to interpret. Many variables, such as the degree of methodologic control, the nature of control groups used, and the inclusion of follow-up assessments, to name a few, affect how much can be specifically determined about a treatment's effectiveness.

Researchers in clinical psychology have tried to address the issue of effectiveness by creating guidelines to determine whether a treatment has sufficient research support to be recommended for use. The first report of the Task Force on "Empirically Supported Treatments"—created by Division 12 (Clinical Psychology) of the American Psychological Association (1995)—proposed that "Well-Established Treatments" should have at least two methodologically rigorous between-group studies conducted by different investigators, with results showing the superiority of the therapy over a nonspecific or alternate therapy condition (or a large series of single-case design experiments demonstrating efficacy).

A second category, called "Probably Efficacious Treatments," was developed to identify treatments meeting less stringent research criteria (e.g., use of only waiting-list control groups). Table 13.1, therefore, also indicates which of the listed relaxation treatments meet the criteria for each of these effectiveness designations, according to the latest Task Force report (Chambless et al., 1998). A column with suggested references is included for those readers who wish to explore some of the available empirical research in more depth.

ANXIETY DISORDERS

The use of relaxation techniques in the treatment of clinical anxiety problems has a long history, dating back in its modern version to the original systematic desensitization procedure. This is probably due in part to the reductions in physical arousal and other anxiety-inhibiting effects associated with relaxation. Relaxation is also a commonly used, effective anxiety and stress management technique for nonclinical groups (e.g., community volunteers, college students, the elderly, nursing staffs, and

Table 13.1
Progressive Relaxation Applications Supported by Research

Problem or Disorder	Progressive or Applied Relaxation Alone	Relaxation as a Treatment Component	Suggested Review References
Specific phobia	Applied relaxation	Systematic desensitization (for animal phobia*)	Ost (1996)
Social phobia	Applied relaxation	Cognitive-behavior therapy	Heimberg & Juster (1995)
Generalized anxiety disorder	Progressive relaxation training Applied relaxation*	Cognitive-behavior therapy**	Borkovec & Whisman (1996)
Panic disorder (with and without agoraphobia)	Progressive relaxation training Applied relaxation*	Cognitive-behavior therapy**	Michelson & Marchione (1991)
Posttraumatic stress disorder		Stress inoculation training for rape victims* Progressive relaxation training plus flooding Trauma systematic desensitization	Otto, Penava, Pollack, & Smoller (1996)
Clinical depression		Coping with Depression course	Marcotte (1997); Lewinsohn, Hoberman, & Clarke (1989)

Hypertension	Progressive relaxation training	Cognitive-behavioral stress management	Rosen, Brondolo, & Kostis (1993)
		Comprehensive hypertension control treatments	
Headache	Progressive relaxation training	Progressive relaxation training plus biofeedback**	Holroyd & Penzien (1994)
	Applied relaxation		
Chronic pain	Progressive relaxation training	Cognitive-behavior therapy (for rheumatic disease**)	Wilson & Gil (1996)
	Applied relaxation	(for chronic low back pain*)	
Cancer chemotherapy	Progressive relaxation training	Systematic desensitization	Carey & Burish (1988)
		Progressive relaxation training plus guided imagery	
Insomnia	Progressive relaxation training	Systematic desensitization	Lichstein & Riedel (1994)
		Cognitive-behavior therapy	
Irritable bowel syndrome	Progressive relaxation training	Cognitive-behavior therapy*	Blanchard (1993)
Dysmenorrhea	Progressive relaxation training	Self-control desensitization	Denny & Gerrard (1981)
Tinnitus	Progressive relaxation training	Applied relaxation plus distraction	Andersson, Melin, Hagnebo, & Scott (1995)
	Applied relaxation		

* Denotes 1998 APA Task Force Report "Probably Efficacious Treatment."
**Denotes 1998 APA Task Force Report "Well-Established Treatment."

working women). It is not surprising, therefore, that these relaxation techniques are often used and researched in the treatment of clinical anxiety populations.

Specific Phobias

As a component of systematic desensitization, PRT has been used for decades to treat many specific phobias. Although exposure to the feared object or situation is the key ingredient of systematic desensitization, recent research suggests that relaxation itself may facilitate the fear-reduction process during imaginal exposures. Certainly, a large body of research has shown that systematic desensitization is an effective treatment for this type of anxiety disorder when compared to no-treatment or placebo conditions. Whereas much of the early research showing the effectiveness of systematic desensitization studied subclinical groups of phobic research participants (such as college students), clinical therapy research has also verified its effectiveness. In addition, the incorporation of the PRT component into exposure techniques has at times been shown to be more effective than exposure alone for fear of blood, closed places, dental fears, and fear of flying.

Progressive relaxation training by itself has not been shown to be an effective treatment for specific phobias, but applied relaxation has frequently been found to be better than no-treatment and placebo conditions. Indeed, applied relaxation has at times been found to be equivalent to formal therapist-directed exposure methods. Of course, in the later stages of applied relaxation treatment, clients are in fact practicing the application of their relaxation coping skills while facing their feared situation. So the inclusion of exposure in this format is still probably necessary for effective outcomes.

Blood/Injury Phobia

This may not be the case for blood/injury phobia, however, where the applied relaxation/tension component alone may actually be superior to systematic exposure treatment alone. The case of blood/injury phobia is especially interesting because, instead of reacting to the feared stimulus with increased physiologic arousal, clients displaying this phobia experience decreased

arousal and fainting. As a result, some researchers have speculated that relaxation would be counterproductive with this group. On the other hand, if applied relaxation is used to teach clients to apply the tension part of the tension-release cycle when they are feeling faint, this variation of the applied relaxation procedure may actually be the best available treatment for this phobia.

So although traditional PRT alone is not effective in the treatment of specific phobias, both applied relaxation and the exposure-plus-relaxation technique used in systematic desensitization are well supported by extensive research. When using applied relaxation with blood/injury-phobic clients, the procedure should be modified so that clients learn to use applied tension responses (instead of relaxation) during exposure to fear-relevant stimuli.

Social Phobias

Research with subclinical groups indicates that PRT as a component of systematic desensitization is effective when treating test anxiety, performance anxiety, and speech anxiety. Additionally, some evidence suggests the possibility that PRT used alone can provide benefits beyond no-treatment.

In the case of clinical social phobia, however, neither PRT by itself nor traditional systematic desensitization is effective. In fact, the social phobia treatment package that has the most research support does not even include a relaxation component, reflecting the beliefs that social phobia is primarily a cognitive disorder and that cognitive restructuring and exposure elements are most important for treatment efficacy.

Applied relaxation, however, has led to significant improvements in diagnosed social phobia. Research evidence has shown this technique to be superior to no-treatment and at times equivalent to social skills training, exposure, and cognitive techniques. Keep in mind that, as is the case for specific phobias, confronting feared situations during the later stages of relaxation-coping applications is an essential ingredient of this technique's demonstrated effectiveness. Cognitive-behavioral treatment packages that combine progressive relaxation with exposure and cognitive elements have proven superior to no-treatment and, at times, to exposure alone, but the unique contribution of relaxation train-

ing to the effectiveness of these multicomponent treatments has not yet been determined. As in the case of specific phobias, some authors have speculated that inclusion of a relaxation component may be of value because the relaxation skill addresses residual, general levels of anxiety not directly associated with the feared object or situation.

In conclusion, while PRT alone and traditional systematic desensitization do not appear to be effective treatments for clinical social phobia, both applied relaxation and cognitive behavioral treatment packages containing progressive relaxation as a component have been demonstrated to produce significant improvement in this disorder.

Generalized Anxiety Disorder

Progressive relaxation training is clearly an effective technique for reducing tension, anxiety, and physiological arousal. A large amount of empirical work also supports the technique as an effective stress management and anxiety reduction procedure for nonclinical groups. It is understandable, then, that PRT is probably the most widely used element in treatment packages for generalized anxiety disorder, a chronic anxiety condition thought by some researchers (e.g., Barlow, 1988) to be the "basic" anxiety disorder.

Early treatments for this disorder focused on formal PRT, whereas applied relaxation became more prevalent later on, especially in combination with other cognitive and behavioral intervention components. This evolution has led to the development of treatment packages that target physical, behavioral, and cognitive aspects of anxiety. Such treatment packages appear to maximize therapy outcome, especially in terms of long-term maintenance of therapeutic gains.

Progressive relaxation training has at times been shown to be effective for generalized anxiety disorder in comparison to no-treatment. Applied relaxation has received even greater research support and is listed as a "Probably Efficacious Treatment" in the APA Task Force report. Research evidence suggests that at posttherapy assessment, applied relaxation has been shown to be superior for nonspecific conditions and often equivalent to certain combined treatment packages. Such results

make sense, given that clients with generalized anxiety disorder experience high levels of diffuse anxiety, and that the goal of applied relaxation is to develop a relaxation coping skill that can be used whenever anxiety is detected throughout the day.

The most effective treatments for generalized anxiety disorder, however, integrate cognitive and other behavioral elements with relaxation approaches. Such combined treatments have been studied the most and have been found to be superior to no-treatment and placebo conditions. Packages containing cognitive therapy, gradual imaginal or real-life exposures to worrisome situations, and formal and applied PRT perform better than standard PRT alone, drug treatment, other individual treatment components, and nondirective counseling. Such multicomponent treatments are also associated with the best long-term maintenance of improvement and are considered "Well-Established Treatments" by the APA Task Force report.

In sum, PRT has a long history in the treatment of generalized anxiety disorder and other forms of diffuse anxiety. Research supports this practice and further suggests the importance of adding applied relaxation techniques, self-control desensitization and other exposure procedures, and cognitive therapy. The best available treatment package, which integrates most of these elements, tends to provide greater benefit than alternative treatments and yields the most lasting effects.

Panic Disorder with and without Agoraphobia

Like treatments for generalized anxiety disorder, early approaches to treating the anxiety and panic-attack symptoms of panic disorder included relaxation techniques for anxiety management. Subsequent research has indicated that *in vivo* exposure to feared situations is critical for modifying the avoidance behaviors characteristic of agoraphobia. The treatment packages for panic disorder with and without agoraphobia receiving the most research support, however, are quite comprehensive and contain exposure (to both external situations and internal bodily sensations), cognitive therapy, and breathing retraining in addition to relaxation training methods.

Progressive relaxation training alone might be a useful treatment for panic disorder, both with and without agoraphobia,

given its demonstrated superiority over no-treatment. In some studies, it has also been found equivalent at times to *in vivo* exposure and paradoxical intention for panic with severe agoraphobia.

Applied relaxation has even better research support; it has been shown to be more effective than no-treatment and formal PRT alone. Some research evidence suggests that applied relaxation may be better than certain cognitive therapy techniques for panic disorder with agoraphobia, and may also be equivalent to exposure alone for agoraphobia symptoms. It is important to realize, however, that research studies using applied relaxation routinely incorporate situational and/or internal sensation exposure elements into the later stages of application training.

Nevertheless, exposure and cognitive therapy are generally considered to be the most crucial elements for treating panic disorder with or without agoraphobia. Treatment packages combining these components with applied relaxation and breathing retraining have consistently received very strong empirical support. Such multicomponent treatment is highly effective; is superior to no-treatment, placebo, supportive therapy, education alone, and individual components alone; and is listed in the APA Task Force report as a "Well-Established Treatment" for these disorders.

Conclusions about the role of relaxation training in panic disorder treatment are similar to those for generalized anxiety disorder: PRT has received modest research support in the treatment of panic disorder with and without agoraphobia, but improvements are significantly enhanced with the development of the relaxation coping skills inherent in applied relaxation. Cognitive-behavioral treatment packages have the most research support, and these approaches incorporate cognitive and exposure elements in addition to relaxation methods.

Posttraumatic Stress Disorder

The treatment elements most important for posttraumatic stress disorder include exposure to both the memories of the trauma and environmental cues related to the traumatic event(s). Cognitive therapy elements designed to process the personal meaning of the events are also common. Relaxation train-

ing as a sole treatment, however, is not an effective treatment for posttraumatic stress disorder.

The majority of research currently available on posttraumatic stress disorder is in the form of case studies and single-subject research designs. However, a handful of experimental group studies has tested the effectiveness of combined therapy packages that include a relaxation component, and all have produced favorable results.

One such treatment closely resembles systematic desensitization; it pairs PRT with gradual exposure to both internal experiences of the traumatic event and trauma-related external stimuli. This type of treatment has been shown to be (1) superior to no-treatment in survivors of various violent traumas, and (2) equivalent to cognitive therapy in rape victims, according to one study.

Progressive relaxation training as an initial treatment component, followed by the primary component of flooding exposure, has also been found superior to a waiting-list control in a study of posttraumatic stress disorder among Vietnam veterans.

A treatment package known as stress inoculation training has the strongest research support among treatments for posttraumatic stress disorder that include relaxation methods. This cognitive-behavioral therapy, as modified for sexual assault survivors, combines PRT with education, coping skills, exposure, and cognitive restructuring elements. This technique has been found to be superior to supportive counseling in some studies, has been consistently better than waiting-list control, and may be equivalent to prolonged exposure and assertion training.

Overall, PRT is a component of three effective combined-treatment packages for posttraumatic stress disorder. The first includes PRT in a systematic desensitization format, the second provides PRT before flooding, and the third incorporates PRT as part of the multicomponent treatment package of stress-inoculation training.

Obsessive-Compulsive Disorder

Progressive relaxation training alone is not an effective treatment for obsessive-compulsive disorder. In fact, PRT is often used as an attention-placebo control group in treatment studies

involving this disorder. The best supported treatment for obsessive compulsive disorder, exposure with response prevention, is founded on the fact that exposure to anxiety-provoking stimuli is the crucial therapeutic ingredient. Although early treatment trials tested systematic desensitization procedures that did include a relaxation component, research evidence indicates that this therapy is generally not effective with obsessive-compulsive individuals.

DEPRESSION

Progressive relaxation training as a treatment for depression originated from the observation that symptoms of anxiety and depression tend to overlap. In addition, depression is a common reaction to prolonged stress, so implementing stress reduction procedures with clients who experience a depressive reaction to environmental stressors seemed to many clinicians to be a reasonable approach.

Some research evidence supports the use of PRT alone for mild to moderate depression. Studies have demonstrated its beneficial effects (1) compared to no-treatment, and (2) compared to placebo in women with nonclinical postpartum depression and in moderately depressed adolescents and adults. The use of a combined treatment—relaxation with coping skills, or exposure to stressors—has also received some support.

The majority of treatment studies for clinically diagnosed unipolar depression, however, focuses on the use of cognitive therapies. As with obsessive-compulsive disorder, PRT has often served as a minimal treatment control in clinical depression studies and is generally not considered very useful by itself.

However, one particular multicomponent treatment strategy for depression that includes a PRT component has been consistently supported by research evidence. This cognitive-behavioral treatment package, known as the "Coping with Depression" course, was developed by Peter Lewinsohn and his colleagues and has proven effective over no-treatment in both clinical and nonclinical adult and adolescent depression. This strategy presents cognitive techniques, training in social skills, PRT, and pleasant activity planning in a psychoeducational group envi-

ronment, while teaching self-monitoring and personal goal attainment practices.

In sum, PRT alone or in combination with other cognitive-behavioral elements might be effective with individuals experiencing mild to moderate levels of depression. Clinically severe unipolar depression is better treated with cognitive therapy approaches, but the "Coping with Depression" course (which includes progressive relaxation) may be an effective alternative.

PROGRESSIVE RELAXATION AND BEHAVIORAL MEDICINE

The practice of teaching progressive relaxation to alleviate medical or physical problems dates back to its originator, Edmund Jacobson. As the tension- and arousal-reducing properties of relaxation techniques became more widely known, relaxation-based psychological approaches to treatment continued to develop. Numerous behavioral medicine applications of relaxation techniques are now common in clinical settings. The health conditions for which relaxation training has been successfully used are considered below.

Hypertension

Progressive relaxation training and other stress management techniques, alone or as an adjunctive component to blood pressure medication, have been widely studied in the treatment of hypertension. The intense interest in such applications reflects a widespread concern with this problem; individuals suffering from high blood pressure are at risk of developing various serious cardiovascular problems.

The basic idea behind treating hypertension with relaxation techniques is that many hypertensive patients experience high environmental stress, which increases physiological arousal and maintains high blood pressure. Relaxation reduces the heightened physical arousal, thereby dampening responses to stress and lowering blood pressure levels.

Many early studies of PRT for hypertension were promising, with several experiments demonstrating effectiveness of PRT either alone or in combination with other relaxation techniques.

Relaxation was often superior to no-treatment, blood pressure monitoring, and attention-placebo. As research continued, however, it was seen that some well-designed studies failed to replicate these effects. Reviews and meta-analyses concluded that only modest effects could be derived from relaxation treatment.

Current outcome research continues to produce mixed results. Some studies demonstrates relaxation benefits beyond blood pressure monitoring or placebo, whereas several do not. Comprehensive treatment packages that combine relaxation and related stress management skills with other health behavior elements, however, are acquiring more consistent research support. It has been suggested that relaxation often leads to reductions in high blood pressure, as well as in cardiovascular risk and need for medication. In addition, most researchers agree that relaxation might provide indirect medical benefits by reducing anxiety and other stress-related emotions, such as anger and hostility, in patients with higher levels of subjective distress.

In short, the body of research on the effectiveness of progressive relaxation on hypertension is large yet somewhat inconsistent. However, PRT (either alone or in combination with other stress-reduction procedures) is clearly better than no-treatment and probably better than blood pressure monitoring. It is unclear, however, whether the beneficial effects of relaxation treatments result from active treatment components; some studies show effects superior to placebo conditions, whereas others do not. The best available treatments combine relaxation techniques and other stress management components with programs to increase healthy lifestyle behaviors.

Headache

Headaches are among the most common of chronic pain complaints. Relaxation became a popular form of psychological treatment for headaches because it was thought to reduce the physiological impact of stressful events that could trigger headaches. As a result, relaxation techniques for headache pain management have been widely researched. Tension and migraine headaches have been studied most frequently. Compared with the data from research on relaxation for hypertension, results from these intervention studies are quite consistent.

The rationale for treating tension headaches with PRT is straightforward, given its muscle tension-reducing emphasis. Progressive relaxation training, either alone or in combination with EMG biofeedback, is clearly an effective treatment for tension headaches and is another example of an APA Task Force "Well-Established Treatment." A number of studies consistently demonstrates its superiority to no-treatment conditions involving only headache monitoring, and treatment gains are maintained over the long term. Some research has also shown that PRT (alone or combined with biofeedback) is better than false biofeedback, medication placebo, and attention-placebo conditions, and is probably superior to biofeedback alone.

For migraine headaches, relaxation has been most often studied in combination with thermal biofeedback. Such a treatment package is more effective than no-treatment headache monitoring and medication placebo. Although PRT alone usually proves superior to headache monitoring alone and equivalent to thermal biofeedback alone, the combination of relaxation training and thermal biofeedback is considered to be the more effective intervention for migraines. This intervention also yields good long-term results and is another APA Task Force "Well-Established Treatment."

Applied relaxation methods also appear to be effective for headache treatment. Applied relaxation has been shown equivalent to standard PRT and better than information and attention-placebo as well as no-treatment headache monitoring. This method of relaxation training is especially promising in children and adolescents.

More comprehensive cognitive-behavioral treatment packages that include relaxation have also been effective when applied to headache. These stress-management packages typically include cognitive coping skills and training to help patients identify stressful situations that trigger their headache pain. Research supports these treatments, showing superior effects to no-treatment headache monitoring and sometimes to placebo conditions.

In conclusion, progressive relaxation training is effective in the treatment of headaches. For tension headaches, EMG biofeedback is sometimes added, to good effect. For migraines, the addition of thermal biofeedback increases its effectiveness. Applied

relaxation is also effective and might be particularly useful with children and adolescents. Stress management packages that include relaxation training have received research support as well.

Other Forms of Chronic Pain

Relaxation strategies are commonly used to treat a wide variety of chronic pain conditions other than headaches. Because of the complex nature of pain symptoms and the significant emotional distress often associated with them, stress reduction procedures have proven quite useful. Research studies of pain management techniques have focused on chronic pain conditions that vary in terms of the type, location, and cause. Most studies include clients with low back pain, and, sometimes, those with pain in the neck, shoulder, and/or joints.

Progressive relaxation training is generally an effective chronic pain management strategy for such clients. It has often been shown to be superior to no-treatment and at times to be equivalent to cognitive therapy. Applied relaxation has also been shown to be better than no-treatment. Both of these relaxation strategies provide long-term benefits. One study suggests that when teaching relaxation to clients with muscle pain disorders, modifying the procedure by replacing tension-release exercises with stretch-based movements might improve outcome.

The most effective chronic pain management strategies, however, are multicomponent cognitive-behavioral treatments that include either standard or applied versions of PRT. These packages tend to incorporate additional coping skills (e.g., cognitive therapy, distraction, and problem-solving) with behavioral treatments that emphasize goal-setting, increased activity, and modification of specific pain or "sick" behaviors. Other treatment elements typically added include pain education, medication management or reduction, exercise, and physiological rehabilitation. Such treatment packages are superior to no-treatment, standard physiologic rehabilitation treatment, attention-placebo, and PRT alone. In fact, cognitive-behavioral treatment for chronic pain is currently considered by the APA Task Force as a "Probably Efficacious Treatment" for chronic low back pain and as a "Well-Established Treatment" for pain associated with rheumatic disease.

Some chronic pain studies focus specifically on the management of pain resulting from specific diseases. For example, the comprehensive pain management packages described above are recommended for fibromyalgia, a rheumatological disorder thought to be stress-mediated and characterized by chronic diffuse pain and stiffness. Several studies support the use of cognitive-behavioral therapy pain management packages for rheumatoid arthritis and osteoarthritis-related knee pain. This "Well-Established Treatment" has proven superior to attention-placebo, education, pain monitoring, physical therapy alone, and no-treatment.

To summarize, progressive relaxation training and applied relaxation methods are effective chronic pain management strategies. They are most effective, however, when used in the context of comprehensive treatment programs that combine other stress management and behavior therapy components. Although these conclusions reflect the findings from studies of a diverse array of chronic pain problems, the available research is largely based on studies of lower back and joint pain and the pain associated with rheumatoid arthritis.

Cancer Chemotherapy

Cancer and its treatment are associated with many devastating side effects. Relaxation and stress management approaches have been used to address some of these effects. For example, the cognitive-behavioral pain management strategies described above teach effective coping skills for the pain associated with medical treatment of cancer and may also be helpful for cancer pain itself. PRT might also be useful to help maintain body weight. The positive effects of PRT for sleep have been demonstrated in cancer patients with insomnia secondary to medical treatment of their cancer.

The majority of research with cancer patients, however, focuses on the nausea and vomiting associated with chemotherapy. Often cancer patients will acquire these gastrointestinal symptoms as conditioned responses to stimuli associated with the anticipation of chemotherapy. Although PRT alone has performed better than attention-placebo and no-treatment in this setting, most of these research studies included administration of PRT

together with guided pleasant imagery. Several studies consistently show that progressive relaxation and guided imagery combined are superior to attention-placebo and no-treatment in the control of nausea, emotional distress, and physiological arousal associated with cancer treatment. At times, vomiting responses are also reduced following the use of this relaxation package.

Treatment packages that include components other than PRT have sometimes been administered for reducing the side effects of chemotherapy, but little research on these packages is available. A few studies, however, have shown that a systematic desensitization procedure that combines PRT with feared images related to chemotherapy treatment is effective, at least compared to no-treatment and attention-placebo, and may be superior to PRT alone for nausea in anticipation of chemotherapy sessions.

In short, the majority of research on relaxation for cancer patients addresses the emotional and gastrointestinal distress associated with medical treatment. Progressive relaxation training combined with guided imagery has the strongest research support, although systematic desensitization and progressive relaxation alone are also effective.

Insomnia

Insomnia is a term for several types of sleep disorder; it can be related or unrelated to other medical or psychiatric conditions. Progressive relaxation training has probably been applied to treat difficulties with initiating and maintaining adequate sleep more often than any other single problem. The history of this use of PRT dates back to its originator, Edmund Jacobson, and many sophisticated studies showing its effectiveness were conducted during the 1970s. Initial rationales for applying PRT to insomnia came from early research showing that the technique reduces physiological arousal, but later research suggested that PRT relieves insomnia by reducing cognitive intrusions.

Most insomnia research has focused on sleep disturbances not related to other medical or psychiatric diagnoses. For these insomnias, PRT has proven superior to passive relaxation, attention-placebo, and no-treatment. Equivalent effects have sometimes been reported when comparing PRT with other relaxation techniques (e.g., autogenic training, meditation, and bio-

feedback) and to other behavioral interventions (e.g., stimulus control, paradoxical instruction, and systematic desensitization).

As insomnia treatment research continued into the 1980s, the behavioral technique known as stimulus control continued to gain impressive research support. Although stimulus control is perhaps the best available single method to date, multicomponent treatments including PRT remain well supported. The multifaceted nature of insomnia has led to the development of treatment packages aimed at changing poor sleeping habits, reducing physiological and cognitive arousal, changing maladaptive beliefs about sleep, and providing educational information. As a result, multicomponent insomnia treatments typically combine sleep hygiene and education, sleep restriction and stimulus control techniques, cognitive therapy, PRT, and other relaxation techniques into a complete package. These combination treatments have proven effective, and the specific therapeutic effect of PRT as a component of these treatments has also been demonstrated.

In summary, progressive relaxation training is effective in the treatment of insomnia. Research suggests, however, that the greatest efficacy can be obtained with treatment packages that also add methods such as stimulus control and sleep restriction procedures.

Irritable Bowel Syndrome

This lower gastrointestinal condition has been linked to emotional factors such as tension and anxiety, and treatments that include relaxation training have been found to be effective. Although hypnosis may be an especially useful relaxation treatment for this problem, the treatments with the most research support tend to incorporate PRT. Progressive relaxation training alone has been demonstrated to be superior to no-treatment with symptom monitoring, but cognitive-behavioral stress management packages with a PRT component have received more substantial research support. These treatment programs typically combine PRT with bowel functioning education, thermal biofeedback, and cognitive coping skills. Such packages are clearly better than standard medical care or symptom monitoring and at times have been shown to be superior to attention-placebo. Re-

lated psychological factors (e.g., anxiety, depression, and psychosomatic symptoms) also tend to decline with successful treatment. According to the APA Task Force report, a "Probably Efficacious Treatment" for this disorder includes PRT, meditation, cognitive stress-coping skills, and assertion training.

In general, progressive relaxation training alone is better than no-treatment for irritable bowel syndrome, but it is more effective as a part of a broader cognitive-behavioral treatment approach. These combined treatments usually include cognitive therapy elements and tend to lead to long-term treatment gains.

Dysmenorrhea

The pain management effects of PRT led to its application in women experiencing the painful menstruation associated with dysmenorrhea. Although PRT alone has been found superior to no-treatment and equivalent to an activity-scheduling intervention, the majority of studies evaluating this technique have employed a self-control coping desensitization variation of the standard technique. Several studies show that PRT combined with menstruation-related fear images and imagery of effective coping leads to better outcomes than no-treatment. However, placebo effects have not been adequately ruled out. In addition, treatment results have been best for spasmodic dysmenorrhea, a specific type of dysmenorrhea associated with muscle cramping.

Tinnitus

This condition refers to hearing noises (such as ringing or buzzing) that have no external source. Although it is unlikely that relaxation brings consistent improvement in actual tinnitus symptoms, it has been found useful for reducing the accompanying annoyance and distress often reported by tinnitus patients. A small number of controlled studies indicate that PRT or applied relaxation, often combined with attention distraction or other relaxation methods, may be superior to no-treatment. One other investigation suggests that applied relaxation alone is equivalent to cognitive therapy.

Miscellaneous Disorders and Problems

The behavioral medicine applications of PRT reviewed above were chosen because they appear most frequently in abbreviated PRT and applied relaxation literature reviews (e.g., Carlson and Hoyle, 1993; Bernstein and Carlson, 1993; Ost, 1987). However, additional applications of PRT have been reported in the research literature. For example, PRT, especially when combined with other relaxation strategies, may be a useful therapy adjunct for asthma patients. Other medical conditions such as epilepsy, diabetes, and peptic ulcer disease may be better controlled if PRT is administered to reduce general stress levels and to provide a coping response in stressful situations. Commonly reported premenstrual symptoms such as dysphoria may also be effectively treated by PRT or cognitive-behavioral treatments that include relaxation. The anxiety and distress associated with medical and/or dental treatments and surgery can be reduced when relaxation training is administered phrophylactically, and this technique might also prove beneficial in the management of postsurgical pain. Pain management programs including PRT are also considered useful when treating certain muscular dysfunctions, such as temporomandibular disorders.

For psychological and emotional problems, PRT is most often employed in association with anxiety and depression. Yet PRT can also serve as an adjunct to treatments for other psychiatric and behavioral problems. Progressive relaxation may be a worthwhile component of substance abuse treatments as well as smoking cessation programs. The general anxiety- and tension-reducing effects of progressive relaxation may also be useful with schizophrenic patients and hyperactive children.

Although this review has focused on psychological and medical problems, PRT has proven useful in general populations. For example, improved athletic performance has been shown following PRT. In fact, this technique might be useful for anyone desiring an increased ability to cope with and/or recover from stress or an improvement in general well-being.

Appendix A

Content Outline for Rationale Presentation

I. Introduction
   A. The procedures to be used are called progressive relaxation training.
   B. Progressive relaxation training consists of learning to tense and release various muscle groups throughout the body.
   C. An essential part of learning how to relax involves learning to pay close attention to the feelings of tension and relaxation in your body.
   D. Learning relaxation skills is like learning other motor skills. (I will not be doing anything to you; you will simply be learning a technique.)
   E. We employ tension in order to ultimately produce relaxation.
      1. Strong tension is noticeable and you will learn to attend to these feelings.
      2. The initial production of tension gives us some "momentum" so that when we release the tension deep relaxation is the result.

F. Questions and comments

II. Tensing instructions

A. We will be dealing with sixteen muscle groups which are tensed and released. As skill develops, the number of groups will be reduced.

B. Tensing instructions for arms and hands (Determine which side is dominant.)

1. Instructions for dominant hand and lower arm (Make tight fist.)
2. Instructions for dominant biceps (Push elbow down against chair.)
3. Instructions for nondominant hand and lower arm
4. Instructions for nondominant biceps

C. Tensing instructions for face and neck (Model face-making to put client at ease.)

1. Instructions for forehead (Lift eyebrows as high as possible.)
2. Instructions for central section (Squint and wrinkle nose.)
3. Instructions for lower face and jaw (Bite hard and pull back corners of mouth.)
4. Instructions for neck (Pull chin toward chest and keep it from touching chest.)

D. Tensing instructions for chest and abdomen

1. Instructions for chest, shoulders, and upper back (Pull shoulder blades together.)
2. Instructions for abdomen (Make stomach hard.)

E. Tensing instructions for legs and feet

1. Instructions for dominant upper leg (Counterpose top and bottom muscles.)
2. Instructions for dominant calf (Pull toes toward head.)

3. Instructions for dominant foot (Point and curl toes, turning foot inward.)
4. Instructions for nondominant upper leg
5. Instructions for nondominant calf
6. Instructions for nondominant foot

F. Questions and comments (Be sure alternative tensing strategies are determined where needed.)

III. Additional instructions

A. Various muscle groups are going to be compared with one another in terms of depth of relaxation.

B. Release tension immediately on cue rather than gradually.

C. Once a group of muscles is relaxed, do not move it unnecessarily (except to make yourself comfortable).

D. Do not talk to me during this session. When I ask for a signal, please lift the little finger of the hand closest to me.

E. Notification of length of session and invitation to visit rest room

F. Removal of constraining items such as watches, rings, eyeglasses, contact lenses, and shoes

G. Questions and comments

H. Client reclines in chair.

I. Explanation of dimming of lights

Appendix B

Relaxation Patter

The material that follows is suggested for use after the therapist has said the word "relax." Do not attempt to use *all* of these statements after each tension-release cycle, since this would violate timing rules. Rather, a sampling of them in nearly any combination may be employed after any given cycle such that the therapist's behavior does not become routine and predictable.

> . . . and relax, letting all the tension go, focusing on these muscles as they just relax completely, noticing what it feels like as the muscles become more and more relaxed, focusing all your attention on the feelings associated with relaxation flowing into these muscles; just enjoying the pleasant feelings of relaxation, as the muscles go on relaxing more and more deeply, more and more completely. There is nothing for you to do but focus your attention on the very pleasant feelings of relaxation flowing into this area. Just noticing what it's like as the muscles become more and more deeply relaxed; just enjoying the feelings in the muscles as they loosen up, smooth out, unwind, and relax more and more deeply. Just experiencing the sensations of deep, complete relaxation flowing into these muscles; more and more deeply and completely relaxed. Just letting them go, thinking about nothing but the very

pleasant feelings of relaxation. Just let those muscles go and notice how they feel now as compared to before. Notice how those muscles feel when so completely relaxed. Pay attention only to the sensations of relaxation as the relaxation process takes place. Calm, peaceful, and relaxed.

Appendix C

Client Handout #1

PROGRESSIVE RELAXATION PRACTICE AND APPLIED RELAXATION

Progressive Relaxation

You have been shown how to develop the skill of relaxation. This skill, if practiced, results in increasing ability to deeply relax and, if applied properly, can result in reducing general daily tension and anxiety as well as reduced periodic stress reactions to daily events.

As daily homework between now and your next session, I will ask you to do the following: (1) Practice relaxation at least twice a day, and (2) practice identifying tension and anxiety cues during the day and attempt to relax them away using the procedures you are learning in the training sessions.

Pick two times during the day when you can spend 15–20 minutes alone for practice sessions. Be sure it's in a quiet room with no one to interrupt. Use a reclining chair or bed. Then relax yourself just as you did in the last session. That is, tense each of the muscles in the following muscle groups for about 5–7 sec-

onds, release those muscles, and then concentrate only on the pleasant sensations of relaxation for about 20–30 seconds. Repeat if necessary and go on to the next muscle group once the previous group feels completely relaxed. Spend no more than 15–20 minutes per practice session.

Muscle Groups to Use

1. Dominant hand and forearm
2. Dominant biceps
3. Nondominant hand and forearm
4. Nondominant biceps
5. Forehead and top of the head
6. Eyes, nose, and the top of the cheeks
7. Mouth, jaw, and the side of the cheeks
8. Neck
9. Upper chest, back, and shoulders
10. Abdomen
11. Dominant upper leg
12. Dominant calf
13. Dominant foot
14. Nondominant upper leg
15. Nondominant calf
16. Nondominant foot

Applied Relaxation

Using your relaxation skill effectively during the day to eliminate tension and anxiety will depend on your learning to catch the very early beginnings of bodily and mental cues indicating that you are becoming anxious. The sooner you can catch a beginning cue, and the sooner you respond with relaxing that cue away, the less anxiety will develop during the day. Eventually, you may well be able to relax away such cues automatically, without even thinking about it. It will just become a style of life for you. However, to learn this, it is essential that you practice

identifying and relaxing away those cues frequently during the day. Remembering to do this is the hard part. To help remind yourself to practice this important relaxation application, you can use the following rules:

1. Once an hour, on the hour, stop whatever you are doing and attend to what your body and mind are doing. Identify any feelings of tension, any sensations of anxiety, and any distressing thoughts, then briefly let go of those feelings or thoughts; relax them away. Then continue with whatever you were doing.
2. Every time you change activities (e.g., when you take a break from some task, when you change tasks, when you first move to a different location), do the same thing: check out your body and mind and relax away any signs of anxiety. Just become aware of the frequent beginnings of new activities or events in your day and relax yourself when you first enter the new situation or activity.
3. Any time you notice feelings of tension and anxiety or the beginnings of a worry or other distressing thoughts, practice letting go of them and relaxing them away.

You and I will also continue working on identifying additional methods of helping you to remember to use applied relaxation frequently and at the most important moments. Please realize that adopting a relaxed life style, as described above, will take time and practice. In the beginning you may notice little or no relief from following the procedures we have discussed, but as your ability to relax and let go improves with relaxation training sessions and practice, and as your ability to identify even the smallest of anxiety cues increases as you follow the above procedures, your skill at eliminating tension, worry, and anxiety from your life will increase.

Appendix D

Client Handout #2

RELAXATION BY SLOWED, DIAPHRAGMATIC BREATHING

There are two ways of breathing. One way is to breathe from the chest; the other way is to breathe from the diaphragm. With chest breathing, the chest and ribs expand with each inhalation, while the abdomen remains relatively motionless. With diaphragm breathing, the stomach expands as the diaphragm moves downward to allow air to fill the lungs. Many people habitually use a combination of chest and diaphragm breathing.

We now know some very interesting facts about these types of breathing that are relevant to controlling certain crucial aspects of anxious experience. Rapid, shallow, chest breathing stimulates the sympathetic branch of the autonomic nervous system. It is this system that becomes aroused when a person becomes anxious. Indeed, its arousal produces many of the uncomfortable bodily sensations experienced during anxiety. Slower, deeper, diaphragmatic breathing, on the other hand, stimulates the parasympathetic branch of the autonomic nervous system. It is this system that is activated when a person becomes relaxed. Its arousal produces the comfortable bodily sensations experienced

during deeply relaxed states. It is also the system that becomes activated after eating a large meal; it helps with the digestion of food. This is the reason why, after a large meal like Thanksgiving dinner, we often feel very relaxed.

The implication of these findings is that, when we breathe with our chest, we create anxiety-like sensations, and when we breathe with our diaphragm, we can create relaxation. Research has shown that, compared to other people, many of those who experience anxiety-related problems do indeed tend to breathe more rapidly and from their chest than from their diaphragm. So one important way to learn to control anxiety in daily life is to get into the habit of breathing from the diaphragm rather than from the chest and to slow that breathing down to a comfortable pace. You may initially need frequent reminders to remember to do this, but it will eventually become a habit.

From now on, try to breathe more slowly and only from your diaphragm. Let it become a habit. Whenever you notice tension or anxiety or early cues associated with them, be sure to shift to slow, deep, diaphragm breathing and pay attention to the feelings in the abdomen as it expands and falls. And whenever you "check out" your tension state during the day (e.g., on the hour; just before starting a new activity), be sure to shift to diaphragmatic breathing. At other times, when tasks are not demanding your attention (such as when you are walking somewhere, taking a short break, waiting in a line, or watching television), practice using slow, deep, diaphragmatic breathing. With frequent practice, you should notice that your body is learning to breathe from the diaphragm habitually. As this learning increases, you will be able to significantly reduce daily tension and anxiety.

References

American Psychological Association Task Force on Promotion and Dissemination of Psychological Procedures, Division of Clinical Psychology. (1995). Training in and dissemination of empirically-validated psychological treatments: Report and recommendations. *The Clinical Psychologist, 48*, 3–23.

Andersson, G., Melin, L., Hagnebo, C., and Scott, B. (1995). A review of psychological treatment approaches for patients suffering from tinnitus. *Annals of Behavioral Medicine, 17*, 357–366.

Barlow, D. H. (1988). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. New York: Guilford.

Bernstein, D. A., and Carlson, C. R. (1993). Progressive relaxation: Abbreviated methods. In P. M. Lehrer and R. L. Woolfolk (Eds.), *Principles and practices of stress management*, 2nd ed. (pp. 53–87). New York: Guilford.

Blanchard, E. B. (1993). Irritable bowel syndrome. In R. J. Gatchel and E. B. Blanchard (Eds.), *Psychophysiological disorders: Research and clinical applications* (pp. 23–62). Washington, D.C.: American Psychological Association.

Borkovec, T. D., Hazlett-Stevens, H., and Diaz, M. L. (1999). The role of positive beliefs about worry in generalized anxiety disorder

and its treatment. *Clinical Psychology and Psychotherapy, 6*, 126–138.

Borkovec, T. D., and Whisman, M. A. (1996). Psychosocial treatment for generalized anxiety disorder. In M. R. Mavissakalian and R. F. Prien (Eds.), *Long-term treatments of anxiety disorders* (pp. 171–199). Washington, D.C.: American Psychiatric Press.

Carey, M. P., and Burish, T. G. (1988). Etiology and treatment of the psychological side effects associated with cancer chemotherapy: A critical review and discussion. *Psychological Bulletin, 104*, 307–325.

Carlson, C. R., and Hoyle, R. H. (1993). Efficacy of abbreviated progressive muscle relaxation training: A quantitative review of behavioral medicine research. *Journal of Consulting and Clinical Psychology, 61*, 1059–1067.

Chambless, D. L., Baker, M. J., Baucom, D. H., Beutler, L. E., Calhoun, K. S., Crits-Christoph, P., Daiuto, A., DeRubeis, R., Detweiler, J., Haaga, D. A. F., Johnson, S. B., McCurry, S., Mueser, K. T., Pope, K. S., Sanderson, W. C., Shoham, V., Stickle, T., Williams, D. A., and Woody, S. R. (1998). Update on empirically validated therapies, II. *The Clinical Psychologist, 51*, 3–16.

Cooke, G. (1968). Evaluation of the efficacy of the components of reciprocal inhibition psychotherapy. *Journal of Abnormal Psychology, 75*, 464–467.

Davison, G. C. (1968). Systematic desensitization as a counterconditioning process. *Journal of Abnormal Psychology, 73*, 91–99.

Denney, D. R., and Gerrard, M. (1981). Behavioral treatments of primary dysmenorrhea: A review. *Behaviour Research and Therapy, 19*, 303–312.

Goldfried, M. R. (1971). Systematic desensitization as training in self-control. *Journal of Consulting and Clinical Psychology, 37*, 228–234.

Heimberg, R. G., and Juster, H. R. (1995). Cognitive-behavioral treatments: Literature review. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, and F. R. Schneier, (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 261–309). New York: Guilford.

Holroyd, K. A., and Penzien, D. B. (1994). Psychosocial interventions in the management of recurrent headache disorders: I. Overview and effectiveness. *Behavioral Medicine, 20*, 53–63.

Jacobson, E. (1934). *You must relax*. New York: McGraw-Hill.

Jacobson, E. (1938). *Progressive relaxation*. Chicago: University of Chicago Press.

Lang, P. J., and Lazovik, A. D. (1963). Experimental desensitization of

a phobia. *Journal of Abnormal and Social Psychology, 66*, 519–525.

Lang, P. J., Lazovik, A. D., and Reynolds, D. J. (1965). Desensitization, suggestibility, and pseudo-therapy. *Journal of Abnormal Psychology, 70*, 395–402.

Lewinsohn, P. M., Hoberman, H. M., and Clarke, G. N. (1989). The Coping With Depression Course: Review and future directions. *Canadian Journal of Behavioural Science, 21*, 470–493.

Lichstein, K. L., and Riedel, B. W. (1994). Behavioral assessment and treatment of insomnia: A review with an emphasis on clinical application. *Behavior Therapy, 25*, 659–688.

Marcotte, D. (1997). Treating depression in adolescence: A review of the effectiveness of cognitive-behavioral treatments. *Journal of Youth & Adolescence, 26*, 273–283.

Meichenbaum, D. H. (1975). A self-instructional approach to stress management: A proposal for stress inoculation training. In C. Spielberger and I. Sarason (Eds.), *Stress and anxiety* (vol. 2). New York: John Wiley.

Michelson, L. K., and Marchione, K. (1991). Behavioral, cognitive, and pharmacological treatments of panic disorder with agoraphobia: Critique and synthesis. *Journal of Consulting and Clinical Psychology, 59*, 100–114.

Ost, L.-G. (1987). Applied relaxation: Description of a coping technique and review of controlled studies. *Behaviour Research and Therapy, 25*, 397–409.

Ost, L.-G. (1996). Long-term effects of behavior therapy for specific phobia. In M. R. Mavissakalian and R. F. Prien (Eds.), *Long-term treatments of anxiety disorders* (pp. 121–170). Washington, D.C.: American Psychiatric Press.

Otto, M. W., Penava, S. J., Pollack, R. A., and Smoller, J. W. (1996). Cognitive-behavioral and pharmacologic perspectives on the treatment of posttraumatic stress disorder. In M. H. Pollack, M. W. Otto, and J. F. Rosenbaum (Eds.), *Challenges in clinical practice: Pharmacologic and psychosocial strategies* (pp. 219–260). New York: Guilford.

Paul, G. L. (1966). *Insight vs. desensitization in psychotherapy*. Stanford: Stanford University Press.

Paul, G. L. (1969). Physiological effects of relaxation training and hypnotic suggestion. *Journal of Abnormal Psychology, 74*, 425–437.

Paul, G. L., and Bernstein, D. A. (1976). Anxiety and clinical problems: Systematic desensitization and related techniques. In J. T. Spence, R. C. Carson, and J. W. Thibaut (Eds.), *Behavioral*

approaches to therapy (pp. 47–87). Morristown, NJ: General Learning Press.

Rosen, R. C., Brondolo, E., and Kostis, J. B. (1993). Nonpharmacological treatment of essential hypertension: Research and clinical applications. In R. J. Gatchel and E. B. Blanchard (Eds.), *Psychophysiological disorders: Research and clinical applications* (pp. 63–110). Washington, D.C.: American Psychological Association.

Suinn, R. M. (1990). *Anxiety management training: A behavior therapy*. New York: Plenum.

Wilson, J. J., and Gil, K. M. (1996). The efficacy of psychological and pharmacological interventions for the treatment of chronic disease-related and non–disease-related pain. *Clinical Psychology Review, 16*, 573–597.

Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford: Stanford University Press.

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About the Authors

DOUGLAS A. BERNSTEIN is Professor Emeritus, University of Illinois at Urbana-Champaign and Courtesy Professor of Psychology at the University of South Florida. He has written, with Thomas D. Borkovec, *Progressive Relaxation Training* and, with M. T. Nietzel and R. Milich, *Introduction to Clinical Psychology*. He is also lead author on the fifth edition of an introductory textbook, *Psychology*. He is a fellow of both the American Psychological Association and the American Psychological Society.

THOMAS D. BORKOVEC is Distinguished Professor of Psychology at Pennsylvania State University. His empirical work has involved both basic and applied research, and his therapy outcome investigations on the cognitive behavioral treatment of generalized anxiety disorder have been funded by the National Institute of Mental Health since 1984. He has published more than 120 journal articles and book chapters.

HOLLY HAZLETT-STEVENS is a post-doctoral fellow in the Department of Psychology at the University of California, Los Angeles. Her work focuses on anxiety and relaxation research.