Behavior Therapy for Pain Management
(Reprinted from <u>Pain Management Psychotherapy: A Practical Guide</u>
by Bruce Eimer, Ph.D. & Arthur Freeman, Ed.D.

I enjoy convalescence. It is the part that makes the illness worthwhile.

--George Bernard Shaw

Behavioral interventions directly address the problem of promoting compliance with pain treatment. Because noncompliance is a major problem that often depotentiates the efficacy of treatments for pain patients (Meichenbaum & Turk, 1987; Turk etal., 1983), behavioral interventions are an essential component of PMP. Pain management therapies that ignore behavioral issues are doomed to fail. Although this is a strong statement, it generally holds true: In a sense, behavioral interventions are the glue that hold everything else together.

Fordyce (1976, 1988) contributed greatly to the field of pain management by elucidating the role of operant behavioral conditioning principles in the genesis and maintenance of pain behavior problems. These principles not only appear to govern the natural history of such problems, but also provide effective guidelines for formulating a behavioral cure. As in all good therapy, however, the pain management therapist must be consistent and persistent in applying operant and respondent conditioning techniques, and cognitive therapy techniques as well, in the remediation of pain behavior problems. By "consistent," we mean (a) having an adequate cognitive-behavioral and psychophysiological conceptualization of the case, and understanding of the patient's physical and medical problems, (b) providing the patient with clear rationales and definitive instructions that are adequately broken down into implementable steps,(c) sticking to the principles of the program, and (d) not vacillating by shifting the focus or the ground rules arbitrarily. By "persistent," we mean that the therapist must be diligent in following up on problems with patients, and conscientious in not giving up. This involves determining the reasons for noncompliance, and addressing them to promote compliance.

Behavioral Excesses and Deficits

The mainstay of the behavioral approach is the targeting of operationally defined indices of behavior for assessment and

modification. Behavioral excesses as well as deficiencies are targeted for intervention (Fordyce, 1976, 1988; A. Lazarus, 1989; O'Donohue & Krasner, 1995; Spiegler, 1983; Wolpe, 1990). Excesses (also termed, positive behavioral symptoms) would include behavioral habits that occur frequently enough to be deemed maladaptive. Behavioral deficits (also termed, negative behavioral symptoms) would include adaptive behaviors that are in short supply (such as coping strategies), as well as avoided behaviors that are considered healthy and necessary to successful adaptation (such as being employed and working). PMP targets behavioral excesses for reduction or elimination, and for replacement by more adaptive behaviors. Likewise, behavioral deficits are targeted for remediation through shaping and positive reinforcement procedures.

Pain Behaviors and Well Behaviors

The term <I>pain behaviors <I>refers to maladaptive or dysfunctional behaviors in response to pain that are associated with continued pain and disability (Keefe & Williams, 1992; Pilowsky, 1995; Sanders, 1996; Turk & Matyas, 1992). In contrast, the term well behaviorsrefers to adaptive or functional behaviors in response to pain that are associated with diminished pain and disability. Both pain behaviors and well behaviors can either be overt or covert. <I>Overt pain behaviors <I>are externally observable behaviors that indicate the person emitting the behaviors is in pain.

Positive and Negative Behavioral Symptoms

Overt pain behaviors can be sorted into two categories: positiveand <I>negative <I>behavioral symptoms of pain. Common examples of positive behavioral symptoms (behavioral excesses) are (a) <I>nonverbal pain behaviors <I>such as limping, grimacing, moaning, rubbing parts of the body that hurt, muscle guarding and bracing, stiffening, movement avoidance, pacing, screaming, and crying; (b) <I>addictive behaviors <I>defined as seeking and using pain medicine or other substances for purposes other than pain relief such as to tranquilize anxiety; and (c) <I>verbal pain behaviors <I>such as complaining about pain; making statements communicating hopelessness, helplessness, depression, anger, fear, anxiety, and other indications of emotional distress or suffering; and making excessive requests for assistance. Common examples of negative behavioral symptoms (behavioral deficits) are lying down, reclining, or sleeping excessively (termed downtime); avoidance of activities; withdrawal; cognitive problems such as concentration difficulties and forgetfulness; loss of libido; inertia; loss of motivation;

and not working.

Conversely, overt well behaviors are functional, externally observable, cognitive, and emotional responses to pain that are not "ruled by pain." This category would include following an activity schedule, using pain medicine on a time-contingent as opposed to a pain-contingent basis, following sleep hygiene principles, and exercising or working according to a predetermined and realistic quota, rather than on the basis of one's momentary pain tolerance.

Covert pain behaviors are internally emitted by the person in pain and, hence, usually nonobservable by others. These include dysfunctional automatic thoughts and negative self-talk associated with depression, anxiety, fear, and anger; morbid images and daydreams (e.g., intrusive recollections and visions of oneself being helpless, in agony, becoming worse); bad dreams and nightmares; excessive awareness of and preoccupation with pain sensations; and internal physiological events, such as actual pain sensations, sympathetic nervous system responses associated with autonomic hyperarousal, and emotional perceptions of anxiety, fear, sadness, and anger. Conversely, covert well behaviors are functional, internal, cognitive, emotional, and physiological responses to pain.

Assessing Pain Behaviors

Evaluation of a pain patient is not complete without including an assessment of pain behaviors. This almost always involves obtaining the patient's perceptions of his or her behavioral responses to pain. Frequently, significant others who know the patient well are also interviewed with the patient's permission. Following Sander's (1996) "basic indications for operant conditioning effects in chronic pain patients" (p.118), we ask questions to determine (a) whether the patient exhibits overt pain behaviors; (b) if so, whether overt pain behavior is related to time of day, particular situations or places, persons present, or particular activities; (c) whether overt pain behaviors are acknowledged and responded to by others, and if so, by whom and how; (d) whether overt pain behaviors are followed by positive or negative reinforcers, or punitive responses, and if so, what they are; (e) whether overt pain behaviors reflect symptom exaggeration or magnification; and (f) whether the patient associates increased pain with increased activity and returning to work.

Interview about Pain Behaviors

We typically interview the patient about pain behaviors. If

there are significant others, and we have the patient's permission to talk with them, we ask them variants of the same questions. The following standard questions can identify areas of behavioral dysfunction:

¥ Do you know the present cause or causes of your pain? What do you think they are? What is maintaining your pain problem? Why do you think you continue to have pain?

¥ At what time of day is your pain the worst?

¥ How does movement affect your pain?

¥ Do certain activities make your pain worse? How about better? What are these activities?

¥ How does exercise affect your pain?

¥ Do you ever require an assistive device to walk? What? How often? When?

¥ Do you ever ask others for help because your pain prevents you from doing something on your own? What do you ask for help doing? How often? Whom do you ask? How do they respond to your request?

¥ How do you think other people treat you? How do you feel about this? Do people show you as much respect as you would like? If not, why not?

¥ Do other people know you are in pain? How do they know this? Do you tell them? Or, do they see it?

¥ Do you have any limitations as a result of your chronic pain? What are they?

¥ Can you work? If not, why not?

¥ Do you ever complain about your condition? How often? To whom? How do they usually respond?

¥ How often do you lie down each day because of pain? How long do you lie down or rest? How do you feel after you get up compared with the way you feel before resting?

¥ What medications do you take for pain? What are the doses? How often do you take each medication?

¥ Do you take pain medicine at fixed times each day, or do you take it based on when you need it?

¥	Who prescribes your pain medication?

¥	Where do you fill your prescriptions for pain medicine?

¥	Has anyone ever said to you that you take too much pain medicine?

¥	Have any doctors ever refused to treat you because they thought you took too much pain medicine?

¥	Have you ever been treated in a hospital or clinic for addiction to pain medicine? For addiction to other drugs? For abusing alcohol? Have you ever gone to a doctor just to get a pain medicine prescription?

¥	Have you ever been unable to get out of bed or wake up because you were on heavy pain medicine?

¥	Has anyone ever said to you that you seem drunk, out of it, or punchy? Who? When? Were you on a lot of pain medicine at the time? If so, what was the name of the medicine? How much were you taking?

¥	Do you believe that you have a problem with taking too much pain medicine? Does anyone else feel you have a problem with taking too much pain medicine?

¥	Would you say that you are very afraid of moving wrong and re-injuring yourself?

¥	Financially, are you doing better now, by not working, or would you do better financially if you went back to work?

Behavioral Problems of Chronic Pain Patients

The failure to reduce pain behaviors is usually associated with the failure to restore a patient's functionality. Because a patient's functionality is measured in terms of appropriate, adaptive, and functional behaviors, PMP should include interventions aimed at increasing the frequency of such behaviors. Behavioral principles and techniques are applicable across a wide range of PMP and rehabilitative interventions. Several common behavioral problems, however, require the focused implementation of behavioral techniques, along with the application of other modalities, such as cognitive therapy and hypnotherapy. These problems fall under the Six Dysfunctional D's of chronic pain: (a) deconditioning, (b) disability, job dissatisfaction, and work dysfunction, (c) depression, (d) other types of emotional

distress (e.g., anger, hostility, anxiety), (e) disturbed sleep, and (f) deficient cognitive and behavioral skills (e.g., cognitive deficiencies in attention and memory, deficient social and assertiveness skills). When there are strong reasons to suspect opioid drug-seeking compelled by motives other than pain relief (e.g., to experience the drug's psychic effects), then this becomes a "Seventh D" that must be addressed. The balance of this chapter is devoted to discussing the management of behavior problems in the context of PMP <I>coaching principles.<I>

Managing the Use of Analgesics for Pain Management

There continues to be much resistance among physicians to prescribing opioids to chronic pain patients because of the widespread fear that patients will abuse these drugs and become drug-dependent (S. Hill, 1987; Twycross, 1994). Yet, there is little evidence that chronic pain patients who do not have a prior history of drug abuse, are prone to becoming addicted if strong opioids are responsibly prescribed for analgesic purposes (Portenoy & Foley, 1986; Porter & Jick, 1980; Twycross, 1994). In fact, studies reveal that long-term use of opioids for pain relief is not associated with the development of psychological dependence (Portenoy & Foley, 1986; Twycross, 1994). The terms psychologically dependentand addiction are used synonymously. As quoted by Twycross (1994), based on the World Health Organization's (1969) definition, both terms refer to "behavioral and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychic effects, and sometimes to avoid the discomfort of its absence. Tolerance may or may not be present" (p.947).

Drug abuse appears to be much more strongly related to factors such as underlying personality and social environment (Millon, 1995), as opposed to the seeking of relief from pain (Twycross, 1994). Unless there is strong evidence to the contrary in a particular case, it appears to be more clinically useful to conceptualize the problem of opioid drug-seeking by chronic pain patients as a problem stemming from poor pain control, as opposed to being a symptom of an addictive personality disorder. The primary reason that most pain patients seek analgesic medications is for pain relief.

This book is not an appropriate place to discuss the controversies, procedural issues, and guidelines pertaining to prescribing analgesic medications for pain patients. Several comprehensive sources include Portenoy (1996b), Portenoy and Kanner (1996b), Portenoy and Payne (1992), and Twycross (1994). Several points need to be made here, however, to serve as basic clinical guidelines for

nonphysician PMP therapists whose patients present with problems related to opioids and nonopioid adjuvant analgesics. The guidelines in the following sections are derived from Portenoy (1996b), the other sources cited earlier and from our clinical experience.

Conferring with the Patient's Physician

Ethical and professional standards require that the nonphysician psychotherapist defer to a patient's treating physicians when it comes to the pharmacological management of their pain. It is both unethical and unprofessional for the nonphysician therapist to advise patients about the use of pharmaceuticals without conferring closely with their treating and prescribing physicians.

Pain Patients with a Preexistent Substance Abuse Disorder

Patients with dual diagnoses (e.g., a psychiatric disorder and a substance abuse disorder, or a chronic pain syndrome and an addictive disorder) are usually harder and more complicated to treat than patients with a single diagnosis. Chronic pain patients with a preexisting substance abuse disorder frequently present as opioid drug-seekers. The therapist needs to clinically conceptualize the factors motivating the drug-seeking for each case. Frequently, such patients are motivated by factors other than pain relief, and the pain problem just makes matters worse. Effective treatment of these patients falls within the domain of addictions psychiatry and medicine.

If the primary problem is addiction, pain medicine is likely to be abused. Pharmacologically oriented pain management specialists such as Portenoy (1996b) suggest that comorbid personality/character pathology probably is a contraindication for the use of opioids for pain management. As discussed in Chapter 4, however, there may be particular qualifying factors for opioid therapy that should be acknowledged. Our general experience has been that pain management is unlikely to be effective until such individuals are actively in recovery from their addictive disorders.

When we assess a new pain management referral that falls into this category, we usually recommend that an evaluation also be conducted by a psychiatrist specializing in addictions. Often, the first course of action is to admit the patient into an inpatient, physician-directed, detoxification program. On discharge, a definitive program of intensive, outpatient addictions treatment should be in place. Treatment should guide the person through the phases of recovery and emphasize relapse prevention and maintenance strategies

(Marlatt & Gordon, 1985). It is also essential for the patient to actively participate in an appropriate, ongoing recovery program such as a Twelve Step or Rational Recovery group (Ellis, McInerney, DiGiuseppe, & Yeager, 1988). PMP can be incorporated into the primary addictions treatment program, once the patient is well on the way in recovery.

Drug Tolerance

Current consensus among pain pharmacologists is that the problem of drug tolerance in chronic pain patients has been overestimated (Twycross, 1994). In fact, there is evidence that tolerance to the adverse side effects of opioids used in the management of certain chronic pain conditions (e.g., cancer pain) develops more readily than does tolerance to analgesia (Bruera, Macmillan, Hanson, & MacDonald, 1989; Twycross, 1994).

Obtaining the Patient's Informed Consent

When a pain patient is deemed an appropriate candidate for opioid pain management, it is advisable to require that the patient give informed consent before the initiation of opioid therapy (Portenoy, 1996b). Responsible opioid pain management demands that only one physician and pharmacy write and fill the prescriptions. It is sometimes a good idea to formulate a written contract to be signed by the patient and the key members of the patient's pain management team (e.g., prescribing physician, treating physicians, physical therapist, and psychotherapist) (Portenoy, 1996b). A patient's misinformation also needs to be corrected at the outset of opioid pain therapy. Patients should be helped to understand what the likely side effects and risks of continued use of opioids can be (e.g., some cognitive impairment, particular physical side effects, likelihood of physical dependence for pain relief but low risk of true addiction).

Fixed-Interval Dosing

The consensus among experts (Portenoy, 1996b; Portenoy & Foley, 1986; Twycross, 1994) is that in cases of continuous or frequently recurring pain, opioids should be administered on a fixed time-interval dosing basis for maximum pain management effectiveness. PMP therapists often see patients who are using both opioids and nonopioid adjuvant analgesics on an as-needed (PRN) basis. This is considered maladaptive because "as needed" means that consumption of the medication is pain contingent. If there is pain behavior, there is pain medication. If there is no pain behavior, there is no medication. This in effect tends to reinforce pain behavior,

whereas an important pain treatment goal is to reduce its frequency. Removing major sources of reinforcement for pain behavior is one means of doing this. Therefore, pain medicine should not be pain behavior contingent. The adaptive alternative is fixed-interval dosing. Another advantage of fixed-interval dosing is that it maximizes continuous blood levels of the analgesic and therefore tends to dampen pain before it flares up.

If a patient is using opioids and/or nonopioid adjuvant analgesics on an as-needed basis, the psychotherapist should discuss with the patient the advisability of conferring with the prescribing physician. With the patient's consent, it is usually expeditious for the psychotherapist to discuss the matter on the telephone with the prescribing physician. Then, based on the outcome of that conversation, it is usually recommended that the patient set up an appointment with the prescribing physician to agree on and make necessary adjustments in the writing and use of the prescriptions.

Aberrant Drug-Related Behaviors

If there is ever new evidence suggestive of "aberrant drug-related behaviors that raise concern about the potential for addiction" (Portenoy, 1996b, p.257), it requires the immediate attention of the prescribing physician and the dispensing pharmacy. These behaviors include the concurrent abuse of alcohol or any illicit recreational drugs, borrowing or stealing drugs from others, forging prescriptions, repeatedly escalating doses on one's own, "losing" prescriptions, seeking prescriptions from sources other than the agreed primary source, drug-hoarding, and an apparent deterioration in the patient's functionality. Responsible opioid therapy in the face of any of these is impossible. Additional red flags are repeated visits to hospital emergency rooms for pain medication, multiple indications of noncompliance with pain therapies, and nonnegotiable resistance by the patient to recommended adjustments or changes in the therapy. Again, <I>each case should be evaluated on an individual basis by the patient's prescribing physician.<I>

Periodic Assessments of Mental and Functional Status

The nonphysician PMP therapist can perform an important function by conducting periodic assessments of the pain patient's mental and functional status. Patients receiving ongoing opioid pain management therapy should be regularly assessed to evaluate (a) degree of analgesia or comfort derived from the drug therapy; (b) drug side effects, such as cognitive interference, lassitude, and fatigue; (c) physical

and psychosocial functional status; and (d) aberrant behaviors (Portenoy, 1996b).

Degree of Analgesia

Analgesia effectiveness is easily evaluated with the Pain Tracking Diary and the Daily Pain and Thought Record. In the therapist's office, visual analogue and numerical pain ratings can be obtained by having the patient fill out the Global Pain Rating Scales at each visit (see Chapter 6). Periodically the patient can also fill out one or two of the following instruments: the PPQ-PAC, the Brief Pain Status Questionnaire, the SF-MPQ, the original MPQ, the P-3, or the PCI.

Drug Side Effects

Drug side effects such as cognitive interference are easily evaluated by examining the patient's mental status (discussed in Chapter 2), and interviewing significant others. In addition, cognitive and neuropsychological screening tests can be useful for evaluating percepto-motor functioning (e.g., the Bender Visual Motor Gestalt Test), sustained attention, reaction time, and vigilance (e.g., a Continuous Performance Test, or the Speech-Sounds Perception Test and Seashore Rhythm Test of the Halstead-Reitan Neuropsychological Test Battery), and memory (e.g., the California Verbal Learning Test or the Wechsler Memory Scale). The interested reader should refer to Lezak (1995) for a review of these measures and other alternatives.

Physical and Psychosocial Functional Status

Physical and psychosocial functional status is best assessed via clinical interview, mental status examination, behavioral observation, and interviewing significant others. In addition, instruments such as the Pain Interference and Impairment Index, the Multidimensional Pain Inventory, the Illness Behavior Questionnaire, the Pain Experience Scale, the Pain Coping Inventory, and the Job Dissatisfaction Index (to be discussed) can be useful.

The Painkiller Trap

Portenoy (1996b) states the following primary consideration: "The guidelines [for opioid pain management] highlight the need to consider concurrent treatments and continue a therapeutic focus on functional restoration. Opioid therapy is not a substitute for a comprehensive pain management approach that incorporates psychologic and rehabilitative therapies" (p.268). We have already mentioned the most

noticeable side effects of opioids (i.e., cognitive impairments, sedation, fatigue). Other potential physical side effects are nausea, vomiting, pruritus, urinary retention, constipation, hypotension, and respiratory depression (Twycross, 1994). Adjuvant pain-relievers such as nonsteroidal antiinflammatory drugs (NSAIDs), acetominaphen, and aspirin compounds can cause gastrointestinal side effects and analgesic rebound pain, especially in chronic headache patients (Schoenen & de Noordhout, 1995). In cases of analgesic rebound pain, medically supervised withdrawal from the analgesic drug is usually necessary and requires a brief inpatient stay.

Behavioral Guidelines for Cutting Back

There are several useful guidelines for helping nonaddicted and non-drug-abusing pain patients cut back on both opioid and nonopioid pain medications:

1.   The nonphysician pain management psychotherapist should always work in conjunction with the patient's prescribing and treating physician.

2.   It is usually best to delay cutting back on pain medicine until the patient has learned some effective pain coping strategies, anxiety management skills, and relaxation and self-regulation methods, as discussed elsewhere in this book. This criterion can be measured through patient self-report, reports of significant others, and examination of the patient's diaries. For example, on the PTD, pain levels ought to be somewhat lower, and there ought to be some evidence of the successful application of pain coping strategies. On the DPTR, we look for evidence that the patient can identify and dispute dysfunctional automatic thoughts.

3.   Working in conjunction with the prescribing physician, once all the above considerations have been addressed, we recommend a program of graded reduction in the doses taken of the drug targeted for weaning. Once again, referring to the tool of bibliotherapy, we recommend that patients read Marcus and Arbeiter (1994). They recommend that patients gradually wean themselves from the target drug following the "20 percent rule":

Case Example

Julie, who suffered from chronic back, neck, and headache pain, agreed to comply with a graded program of reduction in her excessive use of Tylenol with codeine. She was using anywhere from two to three tablets of Tylenol with codeine

every 3 to 4 hours. Her prescription read two tablets every 4 to 6 hours as needed. In collaboration with her prescribing physician, we agreed on the following drug weaning protocol: (1) She agreed to stick to the prescription as written for the first week, but on a fixed time-interval dosing pattern (i.e., two tablets every 4 to 6 hours--two tablets at wakeup, two tablets at lunchtime, two before dinner, and two at bedtime). (2) For the second week, she was to take one and a half tablets at regular 4- to 6-hour intervals. (3) The third week, she was to cut down her intake to one tablet at regular 4- to 6-hour intervals. (4) At the fourth week, she was to cut down to a half tablet every 6 hours. (5) The fifth week she was to take a half tablet every 8 to 10 hours. (6) The sixth week she was to take a half tablet at the same time just once a day. (7) By the seventh week, she was to be "Tylenol with codeine free." Her physician also began her on the NSAID Naprosyn 375 mg, to be taken with food twice a day, and he prescribed an initial low dose (10 mg) of the antidepressant Elavil at bedtime. Julie successfully completed the drug-weaning program. In working with her, we had her record her pain levels, medication use, coping strategies, uptime activities, and downtime in her Pain Tracking Diary and Activity Schedule. She also recorded her pain levels, emotional symptoms, negative automatic thoughts and her cognitive disputations in her Daily Painand Thought Record. These data records were reviewed during each PMP session.

4. "Pain cocktailing" and dose fading strategies can help patients decrease their reliance on pain medications (Fordyce, 1976). Following Fordyce (1976), the term pain cocktailrefers to an orally consumed liquid preparation containing a mixture of active pain medication and nonactive ingredients. On an inpatient pain treatment unit, a pain cocktail would be administered on a fixed-interval schedule as opposed to on an as-needed basis (e.g., at three fixed times each day). Over an adequate period of time, the potency or concentration of the active analgesic ingredients would be faded or decreased. Evidence of withdrawal symptoms may indicate a too rapid decrease. The pain cocktail concept can also be implemented on an outpatient basis under a knowledgable prescribing physician's direction. All other nonemergency pain treatment interventions for "old pain" are also administered on a planned, time-contingent as opposed to an unplanned, pain-contingent basis. Any acute occurrences of new pain are appropriately medically evaluated and treated.

On an outpatient basis, the pain cocktail might consist of a fixed number of pills taken at regular intervals during the day. These pills might include an opioid analgesic, an antidepressant, nonopioid adjuvant analgesics (e.g., a NSAID,

muscle relaxant, acetaminophen, or aspirin compounds), and perhaps, vitamin and mineral supplements. The idea is to work out a specific plan, under one prescribing physician's direction, for gradually reducing the doses of painkillers administered at each daily fixed interval. This closely and carefully, medically supervised graded reduction needs to be carried out over a long enough time period to minimize untoward physical withdrawal effects. In addition to a graded reduction in analgesic doses, the fixed time intervals between doses can also be gradually increased, so as to effect a graded decrease in fixed number of doses.The concept is similar to the nicotine fading procedure often used for treating cigarette smokers that involves systematically directing them to smoke cigarette brands containing less and less nicotine, until they finally "kick the habit" (Fox, 1985). The success of the graded reduction program depends on: (a) adequate patient motivation; (b) the absence of a true addictive disorder; (c) the absence of a serious characterological or personality disorder; (d) a collaborative working relationship with the patient; and (e) a collaborative relationship with one prescribing, involved physician.

The Problem of Disturbed Sleep

Disrupted and disturbed sleep patterns are very common in pain patients. The relationship between disturbed sleep and pain is a reciprocal one. Pain often makes it difficult for an individual to fall asleep and stay asleep. On the other hand, a nonrestorative pattern of sleep deprivation can lead to mental and physical fatigue, muscle fatigue, the development of muscle tender points, more pain, feelings of malaise, depression, loss of cognitive efficiency, and cognitive impairment (McCain, 1995). It is therefore important to assess pain patient's sleep problems and to devise strategies for improving the restorative properties of their sleep. Borrowing a metaphor from Corey and Solomon (1989), sleeping with severe pain can be like trying to sleep on a "bed of thorns." It is certainly "no bed of roses."

Corey and Solomon (1989) describe an excellent program for retraining healthy sleep behavior patterns based on stimulus control and response control principles. We frequently apply these principles successfully to retrain sleep-deprived pain patients by using the following steps:

1. Establish with the patient a regular wake-up timein the morning.

2. Explain to the patient the importance of "waiting until you are sleepy before going to bed" (Corey & Solomon,

1989, p.156). The rationale is provided that the bed and the bedroom should be treated as discriminative stimuli that set the occasion for only two specific responses--sleeping or sex. A corollary to this principle is the idea that the bedroom should be a discriminative stimulus for relaxing responses only (e.g., reading, watching television).

3.   Explain to the patient why he or she should stop trying to fall asleep.This makes intuitive sense to most patients. The rationale is that certain things have to come spontaneously, and that they do when a person is relaxed and not trying to make them happen. Sleep happens to be one such phenomenon. People who have sleep onset insomnia often err by "trying to fall asleep." Rather than inducing sleep, this often results in their becoming more anxious and uptight. To circumvent this, Corey and Solomon (1989) suggest that a person lie awake in bed for no more than one half-hour. It is recommended that if the individual is unable to fall asleep by the end of that time period, then he or she should get out of bed, leave the bedroom, and do something soothing and relaxing in another part of his or her living quarters. When the individual begins to feel sleepy and ready to go to bed again, he or she should return to bed. However, once again, if sleeplessness recurs, the individual should not lie in bed awake, trying to fall asleep for more than 30 minutes. This principle should be observed at any time during the night if the patient awakens and is unable to return to sleep.

4.   To augment the program, equip the patient with a soothing relaxation technique to employ while lying in bed or just before retiring. We often make for patients in session a hypnotic relaxation/sleep tape. These tapes are personalized based on patient input and feedback. We consider our tape a success when a patient reports that he or she never gets to listen to an entire side of the tape because he or she always falls asleep on it! Our basic guidelines for making a relaxation/sleep tape are to incorporate comforting, soothing, and personalized images and words, delivered and trailing off in a low, drowsy, dreamy, hypnotic, monotone. It is important to deliver suggestions on the tape in a permissive fashion. Sleep problems are usually associated with cognitive distortions such as absolute thinking and harsh internal demands. On the tape, we usually incorporate slow counting down (e.g., starting from one hundred), interspersed with positive, individualized suggestions that are intended to be both distracting and comforting. If our tape is a bit boring, that is okay too, as this is likely to make it work better (i.e., put the patient to sleep). Sometimes, we add soothing background music if a patient thinks it will make the tape more sedating.

A basic script for recording such a tape is provided in Appen-dix U. Although this script can and should be individualized, the fundamental sequential components or stages of the script are (a) an introductionthat presents a permissive mind-set or framework; (b) a section that guides the listener to begin settling inward,and that acknowledges the presence of painful sensations; (c) a section suggesting that the listener bring to mind an image of a calming and safe place.In this section, counting backwardfrom one hundred, for deepening the listener's absorption and relaxation is begun; (d) a section that gently guides the listener to think of pain relief imagery,as the counting down is continued; (e) a section delivering permissive suggestions that the listener listen to his or her own body;(f) a section delivering permissive suggestions to cease self-punishment;and (g) a final section delivering appropriate <I>positive and supportive suggestions.

<I> 5. Further drawing on stimulus and response control principles, it is important to persuade the patient not to plan on taking naps during the day. This does not preclude taking regular and planned breaks to perform relaxation techniques such as guided imagery, progressive muscle relaxation, meditation, and self-hypnosis. The rationale is that napping tends to further disrupt normal sleep patterns and make it more difficult to sleep through the night.

6. Explain to the patient the important role of physical exercise and activity in the maintenance of a balanced sleep-wake cycle. We advise patients to experiment with the best times of day for them to exercise. As pointed out by Corey and Solomon (1989), patients who are invigorated by physical exercise should not exercise for several hours before retiring for the night.

Job Dissatisfaction

Job dissatisfaction is at the top of the list of risk factors for failure to return to work. This is intuitively obvious. Work-injured low back pain patients who are not back to work after a year or more are not likely to return to their preinjury jobs (Fordyce, 1995). Interestingly, compensation for lost work is not a sole predictor of rate of recovery from injury or rate of return to work (Beals, 1984; Lancourt & Kettelhut, 1992). A work-injured pain patient's <I>degree of perceived control<I> over his or her work situation and degree of job satisfactionappear to be important mediators of an injured worker's likelihood of return to work (Beals, 1984; Fordyce, 1995; Lancourt & Kettelhut, 1992; Yelin, 1986). The key outcome predictive question is not only whether a disabled pain patient resumes his or her former job

or occupation, but also whether that patient returns to some form of functional work, where the term "functional" is defined from the patient's perspective. Unfortunately, but understandably, many disabled pain patients are reluctant to admit to any return to functionality given their fears of repercussions such as the loss of compensation and benefits. However, in order to fully evaluate pain treatment effectiveness, future outcome studies must find ways to address this concern. In addition, the absence of depression, anger and hostility, extreme fear of pain, avoidant behaviors, symptom magnification and exaggeration, and positive evidence of adequate compliance with physical exercise and reconditioning regimens are associated with positive rehabilitation outcomes and return to functionality (Bigos etal., 1991; Gatchel, 1994; Gatchel, Polatin, & Kinney, 1995; Gatchel, Polatin, & Mayer, 1996; Hazard, Haugh, Green, & Jones, 1994).

Work Dysfunction

Pain-related work dysfunction usually arises from the interaction of several factors (Bigos etal., 1991; Feuerstein & Zastowny, 1996; Fordyce, 1995; Linton & Bradley, 1996; Sanders, 1995b). Unless these factors are accurately assessed and then addressed, efforts at remediating this complex problem are unlikely to be successful. Work dysfunction is highly prevalent in this country. For someone who has been dissatisfied with his or her job, chronic pain may make that job more of a challenge, and possibly aversive. Many individuals with chronic pain who are vocationally challenged, may face further adversity as a result of their employer's unwillingness to make job modifications to accommodate their pain problem or disability.

Assessing Job Dissatisfaction

Given the centrality of job dissatisfaction in the matrix of pain complaints, work dysfunction, and disability claims, the assessment of job dissatisfaction is an essential part of the disability examination process. Therefore, we have developed a clinical self-report checklist that can assist a clinician in evaluating a disabled pain patient's job dissatisfaction. The Job Dissatisfaction Index (JDI) is a measure in development. It is displayed in Appendix V. The purpose of this 32-item questionnaire is to enable the clinician to assess how a patient feels about his or her <I>last<I> or <I>present<I> job. The JDI can be given as a structured interview, but typically it is administered as a self-report checklist to the patient who is asked to answer each question by circling either YES or NO. Some YES/NO questions are followed by questions that ask the respondent to explain his

or her answer.

The JDI contains questions that assess the person's current work status, the worker's perceptions of his or her current level of disability, perceptions of financial equity, perceptions of job security, interpersonal problems on the job, perceptions of the fairness of the worker's treatment and whether justice was done, job enjoyment and pride in one's work, and perceptions of the adequacy of the worker's training, motivations, and feelings.

The JDI is useful in the assessment of work dysfunction, especially in workers' compensation cases and as part of disability and vocational evaluations. The JDI may predict the likelihood of a pain patient's return to work. The following clinical guidelines are helpful in interpreting the patient's pattern of responses on the JDI:

1. For coding purposes, a "yes" response is coded as a "1" and a "no" is coded as a "2." The code column gives the number (1 or 2) of the clinically work dysfunctional or clinical response for each item. The clinician circles the number in the code column for each item for which the dysfunctional response was selected.

2. The number of circled codes are added up (not the actual numbers). This sum gives the total number of items answered in a way that reflects job dissatisfaction. When more than half of the 32 items are answered in this direction, we have found that job satisfaction is low and dissatisfaction is high. This seems to correlate clinically with a dimmer likelihood of return to work.

3. An additional consideration are "Yes and No" responses to the items. These indecisive responses reflect the presence of dissatisfaction and reservations. For clinical purposes, such "on the fence" responses are coded as reflecting job dissatisfaction. They are included in the total sum of items indicating job dissatisfaction.

4. We also look at the patient's response to item 22. The question reads:

Are there any days in which you are absolutely unable to attend work? YesNo

<I>If yes, how many days per week?<I> per month?

Why are you absolutely unable to attend work on these days?

The answers to these questions have differing

significance depending on the job. Generally speaking, however, the less time flexibility and tolerance for missed days there are in a position, the more significance this item will have.

Employer and Employee Accountability

The evaluation of work dysfunction should include assessing both employer and employee accountability and responsibility. Job analyses are a necessary component of a comprehensive vocational assessment. Too often, a job analysis is not done, or if it is, it excludes the resources within the workplace for making appropriate job modifications.

A Biopsychosocial Perspective

The assessment of work dysfunction should proceed from a biopsychosocial perspective (Gatchel, 1996; Turk, 1996) that includes a periodic psychiatric and psychological examination. The intervals between assessments should be based on the unique factors of each case: type of work, work setting, resources within the work setting for modifying the job or work environment to accommodate the patient's needs, job security, level of training required for the job, and the patient's level of job satisfaction and work history. The assessment should also include an evaluation of the patient's injury, physical pathology, and chronic pain, duration of time out of work, motivation to return to work, and secondary gains likely to be operative. Additionally, a patient's physical and cognitive work capacities, and support systems in place, need to be assessed and factored into the return-to-work equation. The longer an injured worker remains out of work and is receiving disability payments, the dimmer are the chances of his or her returning to work (Fordyce, 1995; Sanders, 1995b).

PMP for pain-related work dysfunction typically needs to address the preceding systemic complex of factors. Vocational retraining often focuses narrowly on checklist cataloging of general vocational preferences, sometimes followed by training for a specific job. Perhaps more than with any other facet of psychosocial therapy, work dysfunction can benefit from a team or network approach. First, taking a thorough history ofthe patient's work problems is in order. Second, the reality factors cited earlier need to be addressed using a case management approach incorporating behavioral and systemic interventions. Behavioral contingency contracting plays an important role. Psychological as well as economic, interpersonal, and physical factors need to be considered along with pre- and postpain job dissatisfaction. When pain becomes an apparent "easy out," it is essential to deal with

the loaded issue of secondary gains. Cognitive distortions require using cognitive therapy techniques, whereas emotional traumas related to work, pain, suffering, and disability respond to an integrated combination of cognitive therapy and memory review, reexperiencing, and reprocessing techniques (such as EMDR, as discussed in Chapter 7).

Behavioral Coaching Principles

Behavioral principles of effective coaching (as in athletic disciplines and sports medicine) are highly applicable to PMP and pain rehabilitation.

The Premack Principle

The main idea of the "Premack Principle" (Hilgard & Bower, 1966; Premack, 1959), is to enhance positive motivation to engage in an initially undesirable, nonreinforcing activity (such as exercise) by rewarding such engagement with the opportunity to engage in an alternative, desirable, positively reinforcing activity. In other words, "for any pair of responses the more probable one will reinforce the less probable one" (McGlynn, 1985, p. 166).

Case Example

Jim suffered from chronic low back pain, leg pain, and fibromyalgia. He had been diagnosed as having several bulging lumbar discs. His orthopedic surgeon recommended a conservative course of treatment (i.e., a physical therapist supervised home exercise program), which he stated offered Jim the best chance of avoiding back surgery. However, Jim never seemed to be able to find the time to do his exercises, and he remained severely deconditioned. Recently, Jim told his pain management psychotherapist that his pain was getting worse again. Consultation with the orthopedist yielded the recommendation to "get going" on the exercise program. Because of Jim's lack of motivation, the pain management therapist suggested the following plan: Eating was a "high-frequency behavior" for Jim, who loved to eat and especially enjoyed ice cream. So, the therapist recommended that Jim make "eating ice cream" contingent on completing a set of his back exercises.

Successive Approximation and Shaping

Using the principle of successive approximation, or shaping, the patient gradually develops a desirable level of intensity, duration, and frequency of a target behavior or activity. Aiming to reach a behavioral criterion all at once is both unrealistic and foolish and smacks of all-or-nothing

thinking. Many chronic pain patients are severely deconditioned. Therefore, an effective pain rehabilitation program assures progress by utilizing a shaping strategy, whereby each small step moves the patient closer and closer to the eventual goal. In setting up a behavioral reactivation or physical rehabilitation program, pain patients, many of whom are immobilized by anxiety and depression, should not be pushed to do too much at once.

Case Example

In Jim's case, Jim's PMP therapist conferred with Jim's physical therapist to design a home exercise program that could be built up gradually. Initially, Jim agreed to start a flexibility and strength training exercise program by coming three times a week to the gym at the physical therapist's office. For the first couple of weeks, no home exercises were assigned. Then, beginning in the third week, Jim was instructed to do certain exercises at home, on the days that he did not go to the gym. The intensity level, the number of repetitions, and the number of sets of each exercise, were very gradually increased. Once Jim mastered the assigned exercises and reached a desired performance criterion, additional, more demanding strengthening, flexibility, and aerobic exercises were added.

The Pacing Principle

<I>Pacing<I> refers to the need for pain sufferers to regulate and remain in control of the frequency, intensity, and duration of their energy-expending activities. Everyone has limitations on the energy they have to expend on different activities; chronic pain patients may have smaller reserves than others. Coping with daily pain uses up energy. Perhaps as a reaction to their energy limitations, perhaps as a result of all-or-nothing and black-and-white thinking, many chronic pain sufferers tend to vacillate between avoidant withdrawal and overexertion. Although such behavior often reflects the desire of pain sufferers to make up for lost time and accomplish something, it is usually dysfunctional because it can lead to exhaustion, pain flare-ups, or reinjury. Coaching patients to pace themselves requires teaching the related principle of flexibility, frustration, and ambiguity tolerance.

Flexibility, Frustration, and Ambiguity Tolerance

The goal of this coaching principle is to promote the patient's acceptance that "it pays to be flexible" (in more ways than one). Pain patients who tend to vacillate between total inactivity and doing too much can profit when they

learn how to tolerate the frustration of not finishing an important task. It is a human tendency to want to complete that which is incomplete. Human beings generally seek to achieve stability and certainty wherever there is ambiguity. However, learning to tolerate ambiguity can be adaptive.

Pain patients with an obsessive-compulsive bent may find this notion goes against their grain. When energy is in short supply, however, conservation is essential, and it is not always possible to accomplish everything that was intended in an allotted time period. Positively motivated persons with chronic pain will often tell themselves that they can accomplish "just a little more" in a given day. When this turns out to be a cognitive distortion, the feeling of being overwhelmed can trigger a pain flare-up. Therefore, the therapist must coach pain patients to assess realistically how much they can do in an hour, in a day, and so on.

Having pain patients keep an Activity Schedule (Freeman etal., 1990; Freeman & Reinecke, 1995) can help them practice and test out new self-pacing skills that are taught and coached in session. It can also increase a patient's positive reinforcement from pleasant activities. However, the Activity Schedule (including "pain," "pleasure," and "mastery" ratings) needs to be realistic.

Patients are coached in planning their days and their week using a standard Activity Schedule form (Freeman etal., 1990). A blank form is provided in Appendix W. They are asked to schedule a short but fixed block of time (around 20 minutes), at the end of each week, to plan their following week. The therapist also should suggest that patients schedule 10 to 15 minutes at the end of each day for planning the details of the following day, and for reviewing how that day went. During their day, after they complete each activity, they are asked to check that activity off on the Activity Schedule, or write it in, and to rate that activity on several0-to-10 scales (see Appendix W).

Reactivation Therapy Outcome Measures

These data, recorded on the Activity Schedule, provide several useful behavioral reactivation therapy outcome measures for the therapist to track and share with the patient when appropriate. The treatment goal is for each of the following measures to go up: (a) compliance versus noncompliance with the task assignment; (b) average daily and weekly pleasure ratings; (c) average daily and weekly mastery ratings; (d) average daily and weekly number of activities rated above 7 on pleasure; (e) average daily and weekly number of activities rated above 7 for mastery; (f) average

daily and weekly number of hours filled with pleasurable activities; and (g) average daily and weekly number of hours filled with mastery activities.

Shaping Uptime and Reducing Downtime

By recording their pain levels four times daily in their Pain Tracking Diary, patients can establish their average daily baseline pain. By recording the amount of time spent lying down or reclining because of pain or fatigue, patients can establish their average daily downtime. To assist patients to learn how to pace themselves effectively, and to help them shape a healthier, more active lifestyle that is not contingent on pain, we follow the suggestions of several pain management authors (Caudill, 1995; Corey & Solomon, 1989) and ask patients to record several additional ratings on their Activity Schedule including their "preactivity baseline pain level" (BP), which is defined as a person's starting pain level when beginning a potentially pain triggering activity. Patients record a baseline pain number from 0 to 10 in that activity's box before they start a potentially pain-triggering activity (e.g., BP = 3).

Next, patients are instructed that as soon as they note their baseline pain rising more than 2 points while they are engaging in the pain-triggering activity, they are to stop the activity and record their increased pain level, or "new pain" in the activity box as well as the exact amount of uptime they engaged in the activity. They are then told to break from the activity and not return to it until their pain level returns to its original baseline. This downtime is also recorded in the appropriate box on their Activity Schedule. These data provide several additional behavioral reactivation therapy outcome measures for the therapist to track: (a) average uptime and average total daily uptime (*goal:* to increase); (b) average downtime and average total daily downtime (*goal:* to decrease); (c) The average ratio of uptime to downtime (*goal:* to increase); (d) average number of mastery and pleasure activities completed without downtime (*goal:* to increase); (e) average baseline pain levels (*goal: *to decrease); (f) instances of pain rising 1 or 2 points above baseline; (g) instances of pain rising 3 points above baseline; and (h) instances of pain rising more than 3 points above baseline (goal:to decrease).

Discriminating between Hurt and Harm

Our two main goals are (a) to help patients learn to discriminate between hurtand *harm, *and (b) to help patients divorce their activities from being controlled by pain. Our first goal is attained by coaching patients to

"listen to their bodies" and attend to minimal or prepain cues. A small increase in pain during many activities (a minimal or prepain cue of a 1- or 2-point rise in pain, in some cases, on a 0-to-10 pain scale) is to be expected, and is not typically a sign of harm. In general, however, when pain rises more than 2 points while performing a pain-activating activity, it is usually wise to stop, because it may be a warning sign of overexertion. It is usually better to build up, or shape, one's endurance gradually (the amount of time and intensity with which one can perform an activity) than to attempt to build it up bullishly by ignoring marked increases from baseline pain levels (pain rising more than 3 points above baseline). We often tell patients, "Bullishness often turns into foolishness when it leads to reinjury."

Self-Pacing and Shaping Steps for Divorcing Activities from Pain

Frequently, we realize our second goal by coaching patients to comply with the following self-pacing and shaping steps:

1.   The patient is instructed to stop an activity when he or she experiences pain rising 3 or more points above baseline.

2.   The patient is told to break from the activity until the pain returns to its preactivity baseline.

3.   At that point, the patient resumes the activity, but is to cut it back by one-quarter, one-third, or one-half (i.e., cut back time, intensity, speed, weight--whatever is relevant), so that resumption of the activity is unlikely to trigger another rise in pain.

4.   The patient paces himself or herself by doing the activity at the easier, below-baseline level and is instructed to maintain the same pace for the next few times he or she engages in that activity. The idea is to complete the activity without having to stop because of pain and to gradually build up or "shape up" the activity's difficulty level.

5.   The patient confers with us to formulate an exact shaping plan for gradually building up to and beyond the baseline activity level that originally triggered the 3-point or more rise in pain. This plan should not trigger more than a 1- or 2-point rise in pain at each step (i.e., if the patient cuts back enough and then builds up gradually enough). Recall that the goal is to enable the patient to perform the activity without an associated increase in pain.

Caveats and Problems

Because patients report variable responses to the shaping and pacing strategy, it is important to follow this protocol on an individual case basis; the numbers are not written in stone. It is best to apply the principles, but to adapt the actual amount of increased pain from baseline to signal the intentional shift to downtime, the amount to cut back, and the speed or pace of building up to each patient. Many patients cannot do anything without experiencing a marked (3 points or more) increase in pain. We typically handle this by markedly scaling back the initial intensity and duration of these patients' activities, and shaping up in very small increments. This strategy requires an excellent therapeutic relationship to provide enough leverage for the intensive coaching needed. Although the therapist has to be consistent, it is also important to retain flexibility with difficult, fearful, and avoidant patients who evidence marked movement phobia and fears of reinjury (i.e., kinesophobia). Still, one of the biggest obstacles is patient impatience, which is often a reflection of cognitive distortions.

A related problem is that many patients have difficulty quitting when they are in the middle of an activity, even when their pain levels rise the requisite 3 points or more. It is important that patients understand the necessity of recording their pain levels so that they can pace themselves. Patients' cognitive distortions, revealed in self-talk such as "must do's," "absolute demands," and all-or-nothing thinking, drive them to overdo activities. These patients often believe that tiny, "baby steps" are not worth taking at all. They want to see marked improvement immediately or they tend to disqualify everything. Therefore, cognitive distortions need to be corrected to make any real progress.

As stated by Corey and Solomon (1989, p.69), the purpose of a behavioral shaping and pacing reactivation program is not to finish each and every activity, but rather to "re-program the pain system." The goal is to dissociate activity from pain. As discussed earlier, relative to cutting back on painkillers, we want patients to become comfortable with working to a fixed schedule as opposed to working to tolerance. Because many patients markedly resist changing their activity behavior, it is necessary to guide them to discover what they are telling themselves that prevents them from pacing and prioritizing their activities. Also, we often suggest that patients consider the costs of such thinking and behavior:

Patient:So, yesterday, my wife and I were going to go to

dinner.

Therapist:What time was it?

Patient:It was around 6:00. I had a pretty full day. I had exercised for an hour in the afternoon, I had taken my kids shopping to buy a present for the twins' birthday party, and I had accomplished a few other things during the day. Well, my wife tells me to take a shower, after she took one. Mind you, the baby-sitter had already arrived. And, I told her that if I showered, number one, it would take me a while, since I was tired, even though I had meditated and napped for an hour. And two, I told her that if I had to shower, I would be too tired to go out. Then boy, did she flip out at me!

Therapist:Did you shower?

Patient:No!

Therapist:Did you two go to dinner?

Patient:Yes.

Therapist:Do you think you did too much on Saturday?

Patient:Yes!

Therapist:How can you perhaps better pace yourself next Saturday?

Patient:Not try to fit so much in during the day, if I know I have to go out at night!

Therapist:What were you thinking as you were doing one activity after the other during the day?

Patient:Boy, am I getting a lot done today!

Therapist:That desire is understandable. But what was the cost?

Patient:I exhausted myself to the point where I was too tired to take a shower!

Therapist:And really to go out with your wife!

Patient:But what can I say to myself to pace myself better when I am so driven during the day?

Therapist:That might be a good thing for you to experiment with for homework. You might write your self-talk on your

activity schedule, or on your Daily Pain and Thought Record. Next week, let's review what you have discovered that seems to be the best way to tell yourself to slow down and pace yourself. How does that sound to you?

Rewards and Penalties

There are two parts to the principle of "positive reinforcement" or "rewards and penalties." The first part is that behaviors that are positively reinforced or rewarded are more likely to recur. The second part is that given the necessary motivation, self-punishmentin the form of an appropriate, self-administered penalty can effectively promote a patient's compliance with therapy homework. The Premack Principle discussed earlier represents the use of positive reward or reinforcement. Patients are coached to reward themselves for sticking to the program. For example, one patient agreed to reward himself by putting aside a couple of dollars at the end of each day that he kept his pacing and activity schedule. On the other hand, he agreed to penalizehimself for each day he did not keep his pacing and activity schedule by taking twice that amount and putting it in an envelope destined to be donated to a cause he detested.

Much research has shown that people in general, and pain patients in particular, respond most favorably when their well-intended, honest attempts to learn something new or cope are framed or reframed in a favorable light. People in general, and pain patients in particular, respond more positively to the perception of success than they do to negative feedback, censure, and criticism (Arena & Blanchard, 1996; Blanchard, Kim, Hermann, & Steffek, 1993; Holroyd etal., 1984). The implications of this finding are:

Give your patients plenty of positive feedback. Reframe lapses, noncompliance, setbacks, and adversities as advantages. They can be reframed as opportunities to learn something useful. Reframe most patient behavior as basically well-intentioned, although possibly irrational, misdirected, or inefficient. Turn adversity into advantage.

The Persistence Principle

Persistence refers to the idea that the PMP therapist needs to model patience, tenacity, perseverance, determination, and resolve, which are qualities that we want the pain patient to adopt in working toward successful rehabilitation and recovery. People who suffer from treatment-resistant, persistent pain states understandably feel like giving up at times. The therapist needs to acknowledge this in an understanding and empathic manner. However, it is also

essential to convey that because pain is persistent, so must be the patient and the therapist. Persistence and perseverance are promoted when the therapist, in working with patients, ardently and consistently follows the five principles described previously: (a) Premack Principle, (b) Successive Approximation/Shaping, (c) Pacing, (d) Flexibility/Frustration Tolerance/Ambiguity Tolerance, (e) Positive Reinforcement/Rewards and Penalties, and employs the cognitive model through the frequent use of cognitive disputation and rational responding.

The Principle of Observational Learning

The old adage that "children learn more from what they see and hear their parents do than from what their parents say," exemplifies the social learning principle of observational learning(Bandura, 1986). This principle refers to "the learning that occurs from the observation of others" (Matson, 1985). This powerful principle is directly applicable to the therapist-patient interaction in PMP. A related corollary is the social psychology principle that people are more apt to imitate models that are respected as having high status and perceived as being similar to them (Bandura, 1986). Certainly, therapists and health care professionals with academic degrees are often accorded high status in light of their assumed education, training, and professional skills. Relative to the similarity factor, we often suggest to our supervisees and trainees, that timely and judicious sharing of information about one's own battles with pain or physical illness may help build rapport. Telling patients stories about other people with similar problems who have been helped to manage their pain instills hope and counters hopelessness.

Training patients to use effective pain coping strategies requires that the therapist take a hands-on approach that includes <I>direct modeling, participant modeling, <I>and guided practice.As we use the term, direct modeling refers to the practice of plainly and explicitly demonstrating to a patient how to implement specific coping strategies. Participant modeling refers to the use of physical prompting and tactile contact with the patient to train particular responses that successively approximate the desired goal response. Finally, guided practice refers to coaching a patient to shape successively closer approximations of the desired goal response. This involves alternating between direct modeling of a particular behavior, participant modeling, patient practice, and the therapist's contingent provision of feedback to the patient.

The importance of observational learning is apparent in the implementation of biofeedback and relaxation therapies.

When training a patient to reduce his or her autonomic arousal, the therapist needs to be an at-ease model of calm, effortlessness, and composure, which is the ideal goal state intended for the patient. Thus, before conducting a biofeedback or relaxation training session with a pain patient, the therapist ought to use his or her own biofeedback self-regulation skills to get focused and calm. In contrast, if the therapist is unfocused, distracted, or nervous, the patient will pick this up, and it is likely to impede the relaxation therapy.

Controlled Diaphragmatic Breathing Training

The principle of observational learning is illustrated in the following example of controlled diaphragmatic breathing training,along with shaping, successive approximation, and the strategic use of corrective feedback and positive reinforcement:

Patient:Doctor, what can you teach me to help me better manage my pain?

Therapist:I suggest that we start with a simple physical exercise, in the form of a healthy breathing technique that you can use to relax and reduce your pain. You can watch me doing this form of breathing now.

   The therapist begins to demonstrate diaphragmatic or abdominal breathing with one hand placed on his abdomen, or belly, and the other hand on his chest. He demonstrates "hand on belly" pushing outward or rising up and away from the body as he inhales and his belly "inflates." He then demonstrates "hand on belly" pushing inward or falling into the body as he exhales and his belly "deflates."

Therapist:Would you like to try this?

Patient:Sure.

Therapist:Position your hands like mine and just breathe. (<I>Patient positions hands<I>) Okay, place your feet flat on the floor. Now, as you breathe in and out, notice how much movement you feel and see where your hands are. Feel and watch your hands. Most of the movement is coming from where?

Patient:From my chest.

Therapist:That's exactly right. That is the way most of us normally breathe. Now the form of breathing in this exercise is the opposite of that. Instead of your chest doing most of the work, it should be your belly or abdomen. Like this

(<I>Therapist demonstrates<I>). You p--u--l--l the air down into your lungs by expanding your stomach as you inhale. Then, you p--u--s--h the used air up and out of your lungs by pushing in with your abdominal muscles as you breathe out.

The therapist allows the patient to do this for about a minute and then asks the patient to stop, take a break, and relax. The therapist asks the patient about the exercise and then continues:

Therapist:Now, let me suggest an image that you might hold in your mind that can help you make your tummy rise and fall a bit more easily and effortlessly. Imagine that there is a big colorful beach ball in your belly. As you inhale through your nose, imagine that you are inflating this beach ball through a long air tube that starts in your nostrils where the air valve is. Imagine that this air tube travels all the way down through your throat and chest into your belly, where the ball is. Pull the air down into that inflating beach ball in your belly. In your mind, as you inhale, follow the flow of air down your air tube from your nostrils as the air is pulled down into your lungs by the pressure of the inflating ball in your belly. Can you get such an image?

If the patient cannot visualize the image, the therapist should work with the patient to generate an alternative image. If visual imagery does not work at all, then the therapist should rely on tactile and kinesthetic props such as having the patient place his or her hands on the belly and chest, having the patient recline in a supine or semisupine position, or by placing an object, such as a book or a pillow, on the patient's stomach. Then, the patient can be instructed to try and make the object on his or her belly slightly rise with each inhalation, and fall with each exhalation. The therapist can set the pace and rhythm of inhalation/exhalation cycles by counting in the following fashion: <I>inhale--one, two, and exhale--one, two; inhale--one, two, and exhale--one, two;<I> and so on. As the patient begins to get the knack of this form of breathing, the therapist can lengthen the inhalation and exhalation counts to shape a slower and deeper breathing pattern (i.e., to decrease the number of breaths per minute). However, the therapist must take care to proceed slowly, and to provide abundant positive verbal reinforcement and immediate, corrective verbal, visual, and tactile-kinesthetic feedback to the patient. The therapist should also reassure, inform, and educate anxious patients.

The therapist goes on to convey to the patient the importance of regular but brief daily practice sessions. Initially, it is suggested that the patient limit each

practice session to three sets of four inhalation/exhalation cycles per set to avoid straining the diaphragm and abdominal muscles. The patient is instructed to separate each set with about a half-minute to a minute of rest. During the rest periods, the patient should become absorbed in a pleasant image such as watching the ocean waves at the beach or feeling "waves of relaxation" washing over him or her. Initially, each breathing session will require about 5 minutes. The therapist instructs the patient to practice six times per day. As with any physical exercise, the number of repetitions in each set should be <I>gradually<I> increasedto <I>shape<I> increased strength and endurance. As the number of repetitions per set are increased, so will the time required to do the exercise. Therefore, as the practice sessions become lengthier, the number of practice sessions per day should be cut down. The final training goal is for the patient to be able to do 20 continuous minutes of controlled diaphragmatic breathing, with perhaps one or two short rest breaks during the 20-minute session, at least once a day and ideally twice per day.

The Generalization of Training Principle

Generalization of skills trainingor <I>transfer of training<I> involves designing ways to promote the application or transfer of skills learned in the office and practiced in ideal circumstances, to the less than ideal daily situations that the patient encounters naturalistically.

For example, in biofeedback-assisted relaxation training, initially, patients are given the opportunity to close their eyes and recline on a comfortable chair in a quiet, dimly lit room, perhaps even with soothing background music, if this is appealing to the patient and promotes relaxation. However, as relaxation and self-regulation skills are developed, the patient gradually is encouraged to perform the self-regulation procedures in the office, under circumstances that more closely approximate the real world. The patient may be asked to sit up, then to sit in a hard chair, and finally to practice the procedures standing up. Also, lights may be turned on, eyes are usually open, and distracting sounds may be introduced. Additional stressors may be introduced, such as asking the patient to perform mental arithmetic or think of current problems while being coached simultaneously to perform an appropriate self-regulation or low arousal relaxation technique. Correspondingly, once the patient has mastered the skills in ideal circumstances, the patient is then instructed, in between sessions, to begin practicing the skills in less than ideal circumstances, "on the go," in the office, while

driving, stopped at a traffic light (with the eyes open, of course), when in pain and under stress, and so on.

Cue-Controlled, Pain Management Coping Strategy Training

This training involves teaching pain patients to control their anxiety in response to pain by performing a specific, well-rehearsed coping strategy in response to a privately produced signal or cue(McGlynn, 1985). This facilitates generalization of self-regulation coping strategies to varied settings because the cue, which is "portable," takes on the properties of a "pain-relieving trigger." In session, after patients have attained a relaxed muscular state, they are instructed to pair this state with a self-selected, appropriate cue-wordor cue-phrasesuch as "easy," "comfortable," "let go," "just be," "pain-free," or "stay calm." The procedure involves repeatedly pairing the verbal cue (which is subvocalized or privately rehearsed by the patient) with a physical response that is under the patient's voluntary control (e.g., each controlled exhalation that comes with taking slow, deep breaths). Alternatively, a nonverbal cue, such as a pleasant or relaxing image, can be employed in place of, or in addition to, a verbal cue.

For example, one patient paired her controlled deep breathing (inhalations and exhalations) with an image of the waves and the surf washing out (paired with inhalation) and washing in (paired with exhalation) at the beach. Another patient initially paired a pain-relieving replacement image of "bathing in the cool, soothing deep blue water of a country pond" with the physical coping responses of stretching, controlled deep breathing, and a 12-muscle-group progressive relaxation sequence. Over the course of seven sessions, the progressive relaxation sequence was reduced to 3 muscle groups. By the eighth PMP session, the patient reported that just bringing up the pain replacement image, taking a stretch, and taking several slow deep breaths, served to calm him and reduce his anxiety in response to several frequent pain-activating triggers.

Finally, coping skills should be well learned in ideal circumstances before implementing generalization training. The desired endpoint is to help patients learn to employ relevant and effective coping strategies whenever pain-activating trigger situations occur.

Operant Conditioning

The behavioral principle of operant conditioning,as stated by Sanders (1996), "asserts that all overt behavioral responses are significantly influenced by their consequences and the

surrounding context in which they are emitted" (p.112). This is highly evident with chronic pain patients. Overt and covert pain behaviors are influenced by contextual variables that include internal, activating events and consequential events (thoughts, images, memories, and physiological events) and external, activating events and consequential events (the situational and interpersonal context, interpersonal "triggers," other people's reactions, situational expectations and demands, etc.). Likewise, "well behaviors" (functional and adaptive coping behaviors) are also influenced by these contingencies.

Interpersonal Feedback Contingencies

Overt pain behaviors are what other people witness when they come into contact with a pain sufferer. The interpersonal feedback that is contingent on the occurrence of these behaviors in turn influences the pain sufferer's future responses. Other people's responses can serve as positive or negative reinforcers, as punishment, or aversive stimuli, or as discriminitive stimuli or stimulus cues for either pain behaviors or well behaviors. For example significant others can act in an oversolicitous, punitive, distracting, or supportive manner. These responses can be measured in several ways including paper-and-pencil questionnaires, self-report inventories that evaluate the patient's perceptions, (e.g., the Multidimensional Pain Inventory: Rudy, 1989; Turk & Rudy, 1992), interviewing the patient, interviewing significant others, direct observation, and asking patients and/or significant others to keep pain diaries (Keefe & Williams, 1992).

Positively reinforcing interpersonal feedback or circumstances, such as with solicitous responses or financial compensation, increases the probability that associated pain behaviors will recur. In other words, when a pain sufferer's behaviors lead to the procurement of desirable or pleasant stimuli (i.e., positive reinforcers), then those behaviors are strengthened, or positively reinforced. On the other hand, negative reinforcers are behaviors or events that serve to remove, or enable the pain sufferer to escape from, aversive or punitive stimuli. They too increase the probability of recurrence of the pain sufferer's associated behaviors.

As discussed by Sanders (1996), the use of a cane by a back pain patient can serve as a negative reinforcer if it reduces pain and the risk of falling, associated with ambulation. Thus, the cane is more likely to be used in the future. Likewise, a spouses's repeated assistance of a low back pain patient with activities of daily living, such as

dressing or bathing, can serve as a powerful negative reinforcer by temporarily helping to reduce pain:

Therapist:Does your wife help you at all with dressing or bathing?

Patient:With dressing she does. When I wake up, or before bed, when I am feeling stiff and tired, I often ask my wife to put my socks and shoes on, or to take them off. I ask her for help because it is painful for me to bend to do these things. On a number of occasions I injured myself bending to put my socks and shoes on.

Therapist:Do you think that it is a good idea to ask your wife for help with this?

Patient:Yes. I do. I hate being this way, but I am in pain.

Therapist:Do you think that your wife helping you get dressed when you can do it without her help really helps you get better in the long run?

Patient:Probably not in the long run. It's just in the short run. It helps me avoid the stress and the pain of stretching and bending to put my shoes and socks on.

Extinction or Nonreinforcement

The principle of extinction,or nonreinforcementis central to the application of the principle of operant conditioning with chronic pain patients. The premise is that ignored behaviors (i.e., not reinforced) eventually will diminish, become extinct, or be extinguished. Pain behaviors, as discussed, are frequently reinforced by well-meaning significant others, such as a patient's spouse. It is often important to assess others' responses to a patient's pain behaviors. Chronic pain patient-spouse behavioral interactions may predict patient disability (Romano etal., 1995).

Functional Analysis of Significant Others' Responses to Pain Behaviors

Operant approaches to PMP (Fordyce, 1976; Fordyce, Roberts, & Sternbach, 1985; Keefe, 1994; Keefe & Dunsmore, 1992; Roberts, 1986; Sanders, 1996) emphasize the importance of performing functional behavioral analyses at the outset of therapy and periodically throughout its course. This involves assessing the antecedents and consequents of targeted, operationally defined problems, followed by the development and implementation of a treatment plan.

For example, if excessive complaining and pain gesturing (e.g., groaning, rubbing the sore spot, avoiding movement, muscle bracing, or verbal complaining about pain) are targeted for modification, the operant behavior therapist would recommend (a) ignoring these behaviors to extinguish them, and (b) selectively delivering positive reinforcement for agreed-on replacement behaviors considered adaptive (e.g., standing up straight, sitting for more than 10 minutes without pain posturing or complaining, bending to pick something up, lifting light packages, maintaining a positive affect).

The operant behavior therapist would also want to work with the pain patient's significant others (usually family members) to coach them to carry out the program. The most frequent reason behavior programs fail is lack of follow-through and generalization in the patient's everyday home environment (Sanders, 1996; Spiegler, 1983; Wolpe, 1990). However, it often is a challenge to modify the resistance of significant others who regularly come into contact with the patient.

Fordyce stresses teaching a pain patient's significant others to ignore the patient's pain complaints and to restrain themselves from being oversolicitous and helpful (Fordyce, 1976; Fordyce etal., 1985). The rationale offered is that the only way the patient can be rehabilitated (i.e., returned to functionality) is to do more and more things for himself or herself without assistance. Significant others are seen to err on the side of either doing too much for the pain patient in response to the pain sufferer's pain gestures, or to err on the side of being punitive and hostile. In fact, in clinical situations, we often see these two reaction tendencies occurring side by side as significant others vacillate between feelings of guilt for not doing enough to help their loved one (and hence, becoming overresponsible and oversolicitous), and feelings of anger and resentment for doing too much and carrying all the burdens (and hence, becoming punitive, undergiving, and hostile).

In Fordyce's operant-behavioral approach, significant others are routinely coached to develop their awareness of the natural tendency to vacillate between these extremes. They learn to inhibit their responses (or not respond) to the triggers to becoming oversolicitous or overhelpful, and to self-reinforce their responses to the cues for being supportive and encouraging of the pain patient's responsibility and autonomy. The pain patient is helped to see that he or she is subject to these contingencies and changes as well. Thus, the pain patient learns to anticipate these behavioral tendencies and to recognize the ones that

reinforce helplessness and pain posturing as well as those that reinforce functionality and resourcefulness. The pain patient is coached to engage in behaviors that reduce the probability of responding to significant others' oversolicitousness or to significant others' punitiveness, and that increase the probability of initiating self-directed and self-efficacious responses.

A possible trap that inadvertently can result from the teaching of an operant-behavioral approach is the unintentional encouragement of all-or-nothing thinking. We emphasize that rational responses by significant others to the person in persistent pain preclude black-and-white polarized thinking. It is important to coach significant others and the pain patient to see shades of gray. It is our position that it is often better to scale behaviors and experiences, than it is to categorize them as either wholly appropriate or inappropriate.

A major problem with pain is that it is largely a subjective experience. Other people cannot see a person's pain or quantify its severity in the same way that they can see and quantify the severity of an obvious physical limitation, disability, or deformity such as a paralysis, paraplegia, and so forth. The only outward indications of pain are what the person communicates either verbally, gesturally, or in movement patterns. Thus, nonreinforcement of pain behaviors can conceivably be misapplied as a result of gross insensitivity. In fact, pain behaviors inadvertently can be reinforced by an angry, resentful, or chastising spouse, or significant other. However, resentment just breeds more resentment. Very frequently, therapeutic intervention needs to be directed at encouraging a compromise between the harsh demands of an angry spouse and the reflexive tendency of the pain sufferer to perpetuate disablement through withdrawal and avoidance:

Case Example

A 39-year-old married man who suffered from ankylosing spondylitis and myofascial pain syndrome told his therapist that his wife was insensitive to his pain. He admitted that his wife carried more than her share of responsibility for the performance of household duties which she was quite vocal in communicating. However, he stated that whenever he tried to take a more active part in performing certain household chores such as taking out the trash, his wife would make disparaging and critical comments such as that he was too slow, too inefficient, or just plain lazy. This made him angry and he would then retaliate by cutting back again and "laying low." He stated, "If she does not show me any

appreciation, then I might as well just not do anything!" She stated, "I just can't imagine that my husband's pain is so bad that he cannot help around the house more than he does, which is nothing." The therapist asked her if she would be willing to "try out what it feels like to be more understanding as after all you cannot possibly feel your husband's pain nor would he want you to." She softened up and the therapist added, "but just enough so as not to encourage him not to do anything--moderation is the key here." The therapist suggested to his patient, "You're just going to have to make an effort to do a certain predetermined amount irrespective of pain, that is, if you want to improve the quality of your marriage--oh, and it will help with your pain also. Your pain has to learn that it's not the boss--you are."

The Punishment Principle

Pain and punishment are often used synonymously, because pain, by definition, is unpleasant or aversive. Thus, pain often serves to punish (or decrease the future probability of recurrence of) behaviors that precede its occurrence. In the example under the heading "Interpersonal Feedback Contingencies" of the patient whose wife helped him put on his socks and shoes, pain, occurring contingent on the patient's attempts to put on his socks and shoes without assistance, served as a punishment for putting his shoes and socks on by himself. It therefore reduced the probability of his doing it himself the next time. In this case, not attempting to do it himself the next time and asking his wife for help were negatively reinforcing by facilitating the avoidance of more pain. The main treatment implication of this principle is to modify the operants that lead to pain by applying the principles of pacing <I>and<I> shaping, along with the other behavioral, cognitive, and educational principles described earlier.

Punishment and Negative Reinforcement

It is clinically significant that the occurrence of pain typically serves as a punitive stimulus, whereas pain's removal typically serves as a negative reinforcer. Pain as a punitive stimulus can have biologically adaptive value by warning a person of the potential for reinjury and can thus serve to prevent it by inducing the person to cease the pain-producing, potentially injurious behavior. However, this adaptive role mostly applies to acute pain. With chronic pain, the behaviors that are mostly punished (i.e., suppressed) are adaptive behaviors. In the preceding example, the patient's independent dressing behaviors were suppressed by pain. On the other hand, with chronic pain, behaviors

associated with the removal or avoidance of pain (such as the patient's asking his wife to put on his shoes and socks) are negatively reinforced, and therefore strengthened.

These negatively reinforced pain behaviors are often dysfunctional and maladaptive because they typically lead to <I>psychosocially<I> punitive consequences (e.g., censure, loss of admiration and respect, disrespect, loss of self-esteem, interpersonal conflict, disability). Note that punishmentcan refer either to the presentation of an aversive stimulus (e.g., interpersonal conflict, censure, and reprimand) or to removal of a desirable stimulus (e.g., loss of admiration and respect, loss of money, esteem, and loss of interpersonal harmony).

Exercise and Deconditioning

Another example of the reciprocal roles played by punishment and negative reinforcement in the maintenance of a chronic pain syndrome is observed in the pervasive problem of physical deconditioning. Pain patients frequently avoid regular exercise because, at least initially, it often leads to more pain. In other words, exercise can be punishing in the short run. Consequently, the avoidance of exercise can serve as a negative reinforcer in that it briefly spares a patient from excess pain (although not in the long run). One goal of the PMP therapist, working in tandem with the patient's treating physician and a physical therapist, should be to promote physical reconditioning by positively reinforcing regular exercise. This can be managed by employing the operant behavioral concepts of extinction, shaping, successive approximation, and pacing, along with cognitive restructuring. An excellent and highly motivating chapter on pain rehabilitation exercises, entitled "Relaxing and Strengthening Your Body," is contained in Marcus and Arbeiter's (1994) book, Freedom from Chronic Pain,which is often prescribed reading for patients. For example:

Therapist:I understand you hate to do your back exercises?

Patient:They take up too much time, and frankly, I often hurt too much to do them!

Therapist:Did you ever think of the possibility that it also hurts too much NOT to do them?

Patient:Yes. But, it takes so much energy to do exercises regularly, and I often overdo them.

Therapist:Yes. That is a danger. Tell me, when you overdo your exercises, is it usually because you do them too fast,

because you're impatient to get them all done?

Patient:Yes. That's definitely it!

Therapist:What usually goes through your mind when you decide that it is time again to do your assigned physical therapy exercises?

The therapist should assess the patient's automatic negative thoughts and beliefs about exercise and help the patient dispute them by suggesting that (a) a regular routine of exercise can reverse the negative effects of physical deconditioning and help the patient stay out of pain, and (b) it helps to believe that exercise and movement are good for you and will make you feel better. The therapist also stresses the importance of being committed to exercising, having a dedicated time and place to exercise, and wearing comfortable clothing. It is also important to convey the need to be aware of any tendency to engage in pain behaviors that can dilute the beneficial effects of exercise or sabotage the intent to do them in the first place. These include making excuses not to exercise, mismanaging time, complaining, moaning, and bracing and guarding muscles. Finally, the therapist should stress concentrating on the exercises while exercising, and rationally responding to negative automatic thoughts.

Determining the Causes of Patient Noncompliance

Another behavioral principle of effective PMP is that it is essential to determine the exact causes of patient noncompliance with the treatment. For example, it is important to know whether the main reason a patient did not do the therapy homework, or is not making therapeutic progress, is because he or she holds certain blocking beliefs, still lacks the requisite skills, cannot cope with the attendant anxiety, or has significant others who are reinforcing the opposite responses. Often, assessment reveals that it is a combination of these things. On other occasions, the problem may largely be due to one or two factors.

A particularly problematic area where both skill deficits and blocking, dysfunctional beliefs usually operate in concert, has to do with anger, hostility and aggressive behavior evidenced by some chronic pain patients. Unless these problems are effectively addressed, PMP as well as other rehabilitative therapies is usually headed for failure (Burns etal., 1996; Fernandez & Turk, 1995; Hendler, 1981; Kerns, Rosenberg, & Jacob, 1994; Kinder & Curtiss, 1988). It has been our experience that many chronic pain patients can benefit from some form of assertiveness training. Frequently,

patients reduce their destructive, hostile and aggressive behavior when they recognize that it is usually easier, more effective, and more comfortable to behave assertively when faced with an interpersonally imposed obstacle or frustration.

Assertiveness Training

<I>Assertiveness,<I> as opposed to aggressiveness or hostility, can be defined as the ability to stand up for oneself in an argument, defend one's position, and protect one's rights without losing control. Assertiveness means being able to say no, make one's preferences and decisions clear about matters of direct concern, and express one's feelings or disagreement in a clear and appropriate manner. It also involves being able to set limits and make choices about what one will do or not do in the context of an interpersonal interaction. Many pain patients lack skills that would allow them to do these things. For detailed descriptions of assertiveness training techniques, see Bower and Bower (1991) and Catalano and Hardin (1996).

There is an apparent relationship between chronic pain and the traits of<I> alexithymia, emotional illiteracy,<I> and <I>somatic hyperresponsiveness<I> (Blumer & Heilbronn, 1989; Engel, 1959; Grzesiak, 1996; Sternbach, 1974). It may be that many chronic pain sufferers who lack assertiveness skills, and hence the ability to express their disagreement or register their disapproval through appropriate social channels, express their disagreement and disapproval somatically, through their bodies. It is not possible at this stage of our knowledge to claim without reservation that assertiveness deficits are a causal factor for some forms of chronic pain. However, it is indisputable that living with the limitations imposed by many chronic pain states can expose a person to potential conflicts with other people and institutions with competing interests. Therefore, assessing a pain patient's assertiveness skills and improving them if they are deficient are behavioral treatment priorities. Deficits in assertiveness skills could be partly responsible for the prevalence of anger and hostility evidenced by many chronic pain patients. Thus, assertiveness training (AT) could help to reduce the problems of impulsive, hostile, aggressive, acting out behavior evidenced by some chronic pain patients. For example:

Therapist:How are you doing?

Patient:Terrible. I was ready to punch out my physical therapist the other day.

Therapist:What happened?

Patient:He hurt me. He kept making me do those exercises until I screamed out in pain. And then he still said, "Come on, if you want to get better, you are going to work harder!"

Therapist:You say "he made you" do exercises? I think you mean that he asked you to do some exercises, which you began to do. Sounds like when you began to hurt, you possibly didn't say anything until the point where you could no longer tolerate it. Is that true?

Patient:No. I told him I couldn't do them!

Therapist:At what point? Before you started to do them, or after you started doing them, and got to the point where you hurt too much?

Patient:Before I started.

Therapist:So, then you began to do them anyway. Why didn't you just stop when you felt it hurt too much?

Patient:I didn't know what to say!

Therapist:How about saying, "I'm in a lot of pain now, I want to stop"?

Patient:I guess.

Therapist:Would that have worked?

Patient:Probably.

Therapist:Let's role-play together to try it out. I'll make believe I'm George (<I>the physical therapist<I>) and you play yourself. Make believe you are in the physical therapist's office now. "Okay, Thomas, I'd like you to do two sets of ten repetitions of this exercise."

Patient:I'll start now.

Therapist:Okay.

Patient:(<I>After a minute<I>) "I can't do this!"

Therapist:"Why not?" (<I>as the physical therapist, George<I>)

Patient:"It hurts too much."

Therapist:"Okay, let's make it easier. Stop the exercise." (<I>as George<I>). Was that too hard, to express yourself and notify George that you want to stop?

Patient:Nope.

Therapist:Good. You spoke up. You set a limit and said "no more"! That's called assertiveness, or standing up for yourself before you get to the point where you feel like a victim and then want to kill!

Respondent and Covert Conditioning Approaches

Respondent or covert conditioning approaches to chronic pain target internal behaviors such as mental images, self-talk, and feeling states (Cautela & Kearney, 1986; Spiegler, 1983; Wolpe, 1990). Emphasizing a stimulus-response or classical conditioning framework, this translates operationally into modifying the internal stimulus triggers to dysfunctional and disabling pain states. A list of covert conditioning techniques (McMullin, 1986) would include teaching the pain patient how to employ covert extinction, covert positive reinforcement, covert desensitization, covert avoidance, covert escape conditioning or negative reinforce-ment,and covert aversive conditioning or self-administered punishment to modify covert stimulus triggers and responses to persistent or recurring pain.

Covert conditioning approaches to chronic pain emphasize treating internal or covert thoughts and images as behaviors. An internal functional analysis of these covert behavioral events precedes any intervention. Then, specific covert behaviors (i.e., thoughts or images) determined to fall into a stimulus-response chain of covert and overt events are targeted for modification. The following covert conditioning techniques are usually employed in combination. As in the operant conditioning paradigm, one technique (e.g., covert negative reinforcement: stopping a thought or behavior) often immediately leads to another technique (e.g., positive reinforcement: starting another thought or behavior).

Covert Reinforcement

Covert negative reinforcementor <I>escape conditioning<I> includes thought-stopping and redirection of attention to positive thoughts or images. Covert positive reinforcementincludes (a) self-praise for engaging in a desired behavior; (b) "changing the channel" on an undesirable thought or aversive image by thinking of something else; and (c) thinking of rewarding and pleasant thoughts or images contingent on engaging in a desirable

behavior, such as emptying the trash or not complaining about pain for an hour.

Covert Extinction

Covert extinctionincludes the application of practical techniques to break the chain of negative behavioral events that follow a pain-related thought or image. Whenever the pain patient catches himself or herself thinking a negative thought related to pain, he or she should be coached to ignore it and to refocus on whatever he or she was previously doing or thinking.

Covert Reciprocal Inhibition, Counterconditioning, and Systematic Desensitization

Following the pioneering work of Wolpe (1990) on <I>reciprocal inhibition <I>and systematic desensitization,the pain patient is taught to pair an aversive stimulus (e.g., thinking about pain) with a pleasant stimulus (e.g., a relaxing or comforting image). In this paradigm, thinking about pain might be conceptualized as an unwanted conditioned stimulus that produces undesirable conditioned responses such as depression and withdrawal. As soon as the patient catches himself or herself needlessly thinking about pain (negative conditioned stimuli), he or she is coached to shift the focus to a stronger, pleasant thought, image, or activity (the desired conditioned stimulus) that produces a desired conditioned response (e.g., relaxation, calm, self-efficacy feelings). The stronger, desired conditioned stimulus is paired repeatedly with the weaker, negative conditioned stimulus. Theoretically, eventually, the negative conditioned stimulus (pain thoughts) will elicit the desired conditioned response (e.g., relaxation, calm, self-efficacy feelings or a neutral state).

In the traditional systematic desensitization approach pioneered by Wolpe, a hierarchy of anxiety-provoking images or thoughts from least upsetting (bottom of the hierarchy) to most upsetting (top of the hierarchy) is first constructed. Items are then rated and ranked based on a 0-to-10 or 0-to-100 scale of subjective units of disturbance (SUDs). Then, the counterconditioning process is carried out starting at the bottom of the hierarchy with the least anxiety-provoking stimulus (lowest SUDs rating) and proceeding up the hierarchy. At each step of the desensitization ladder, the patient is asked to imagine the thought connected to that step on the ladder. The thought is then paired with the counterconditioning reciprocally inhibitory response (e.g., relaxation, a pleasant replacement image). The pairing procedure is continued until the patient

reports that the SUDs level has gone down to 0, indicating that the thought is no longer anxiety-provoking, or upsetting. The therapist continues to move the patient up through each of the steps of the desensitization hierarchy or ladder in this manner. The clinical application of covert reciprocal inhibition and counterconditioning is illustrated in the following example:

Case Example

Mr. D. was a 29-year-old married man who had sustained severe neck, back, and leg injuries 4 years before in a motor vehicle accident. The accident left him in severe and constant pain, along with a marked rage problem. His rages frequently resulted from minor frustrations such as an insensitive comment by someone or a feeling of being victimized. Mr. D. was not receptive to formal relaxation training or to the application of a formal hypnosis induction given his emotional lability, restlessness, anxiety, and irritability. He was receptive to "talk therapy" and therapeutic conversation, and had good rapport with his therapist. They agreed that when his pain flared up, so did his temper, and that when he acted out, while it gave him a temporary feeling of tension release, it actually reinforced his severe pain. Mr. D. agreed to listen when his therapist offered to show him another way to release tension and reduce pain.

The therapist modeled the following sequence: Whenever Mr. D. felt frustrated for whatever reason, he should complete the sentence, "I am mad because..." Then, he should complete the sentence, "I want to ..." (usually do something destructive), "but I want pain-relief more." He was instructed to say this to himself even if he did not feel it was true. This man knew right from wrong and it was agreed that even if the statement did not seem true, he still needed to restrain himself from acting out. He was also told to "change the channel" to something pleasant after he said the statements to himself (covert positive reinforcement). At that point, he was instructed to praise himself for having good control and to also say to himself, "If I can control my rage, then I can control this (expletive) pain!"

There is considerable overlap between respondent or covert conditioning approaches and operant approaches to PMP. The covert respondent approaches incorporate operants as well. It is also apparent that cognition plays a major role in the chain of behaviors targeted by both operant and respondent behavioral intervention paradigms. No one approach can accomplish all that needs to be accomplished for the successful rehabilitation of a chronic pain patient. An

informed integration of techniques and constructive integration of theoretical models is necessary to make meaningful advances in the treatment of something as complex and multidimensional as chronic pain. The multidimensional and multifactorial nature of the problem necessitates what A. Lazarus (1989) terms "technical eclecticism."

PART THREE: HYPNO-BEHAVIORAL PAIN MANAGEMENT

CHAPTER 9

Hypno-Behavioral Pain Management Psychotherapy Strategies

The point of therapy is to get unhooked, not to thrash around on how you got hooked.

--Maryanne Walters

The Applicability of Hypnosis to Pain Management

The construct of *hypnosis* is used to represent both a particular state of consciousness and the method employed for inducing such a state. In many ways, the construct is quite elusive, given the abundance of myths and misconceptions about hypnosis. There are several excellent scholarly sources that review the current state of research and knowledge on the neurophysiology and phenomenology of hypnosis (Cheek, 1994; Edmonston, 1986; Hilgard & Hilgard, 1994; Rhue, Lynn, & Kirsch, 1993; Rossi, 1993; H.Spiegel & D.Spiegel, 1978/1987; Weitzenhoffer, 1989a, 1989b). This chapter covers what is clinically relevant for our purposes: how therapeutic hypnosis can induce a greater responsiveness and receptivity to pain management strategies and interventions.