An Occupational Therapy Program for Chronic Back Pain

(spinal pain, pain behavior, patient education, multidisciplinary team, coping behavior, evaluation)

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This paper describes a multidisciplinary approach to the evaluation and treatment of the patient with chronic spinal pain with particular emphasis on the cooperative roles of the physical disabilities occupational therapist and the psychosocial occupational therapist. The goal of the total program is to help patients progress from a sick role of dependent, painful behavior to a less pain-centered, more productive role—one in which they have begun to assume control over the way they feel and function. The success of the program is measured by the patient's increased activity level and improved ability to cope with the demands of home and job. A review of patient records after one year of operation showed that only 4 of 54 patients who completed both phases of the program were returning to the orthopedic back clinic as outpatients.

Chronic spinal pain is a multifaceted problem; each patient who seeks treatment challenges the health professional with a unique composite of factors that impact

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upon the pain experience (1, 2). Traditional medical approaches to the treatment of chronic low back pain, particularly surgery and exercise programs, have met with limited success (3). Treatment directed only at symptomatic relief does not resolve the functional and behavioral factors related to pain (3). The entire lifestyle of patients with chronic spinal pain is altered by pain experience and disability (1). A description of a typical back pain patient follows. They come to a treatment center after months or years of futilely seeking a cure. They are unemployed or their job is in jeopardy (see Table 1). Marital and family relationships may be strained or disrupted. They are persons who have become dependent upon pain to explain their many difficulties (1, 4). They often feel depressed and impotent to do anything about their problems. They have a "pain habit," which they communicate through the way they talk, use body language, and approach problem solving in daily living.

The purpose of this paper is to describe the role of occupational therapy as an integral part of an interdisciplinary team approach to chronic spinal pain treatment. The two-part occupational therapy treatment program that was developed offers physical and psychosocial rehabilitation (see Table 2). This program could be a model for hospitals that provide both orthopedic services and outpatient psychiatric day hospital services.

The Program

The Orthopedic Spine Unit at the Veterans Administration Hospital, Dallas, Texas, was established to better understand and treat patients with chronic spinal pain, especially patients who repeatedly visited the outpatient Orthopedic Clinic and reported no decrease in pain. The program is based upon the team concept with input from many disciplines. Patients are the most important members of their team, and take maximum responsibility for their own rehabilitation.

The goal of the program is to interrupt the cycle of constant medical attention, and to help sick patients progress from a role of dependent, painful behavior to a less pain-centered, more productive role, one in which they can begin to control their feelings and functions. The success of the program is measured by the patients' increased activity level and the improved ability to cope with the demands of home and job.

The program is divided into two phases. Phase I is an inpatient orthopedic program designed to evaluate patients and to initiate treatment. Phase II is an outpatient psychiatric day hospital program where the patients learn coping mechanisms that will help them achieve a better functional level. Patients' acceptance into Phase I commits them to continue to Phase II.

Phase I

Multidisciplinary Team. After admission to the program, patients are thoroughly evaluated by all members of the Phase I team. Both the orthopedic physician's assistant and the orthopedic surgeon perform a thorough history and physical examination to determine the possible structural causes for pain. Local anesthetic injection of trigger points, facet joints, nerve root sleeves, and the epidural space is used for diagnosis and may have therapeutic value if local steroid preparations are included with the injection (4). Surgical intervention is rarely indicated. Nearly all patients are placed on nonsteroidal anti-inflammatory drugs, because inflammation is the end result of most structural problems in the spine.

In the nursing assessment, the patient's use of pain medication before admission is established. Potentially addicting pain medication is gradually discontinued. The psychologist administers a battery of tests to assess personality factors and behaviors that contribute to a patient's perception of pain. A social worker evaluates the steps of disability compensation and family interactions. The corrective therapy assessment is based on patient response to a twice daily exercise protocol that emphasizes exercise tolerance, increasing abdominal muscle strength, stretching the hamstring muscles, and increasing flexibility of the spine.

Occupational Therapy Evaluation. Occupational therapy objectives in Phase I are: to evaluate daily vocational and home activities that may contribute to spinal pain; to reproduce physically stressful activities in order to observe physical responses, body mechanics, activity tolerance, pain reporting, and emotional responses; and to begin to educate the patient in the anatomy of the spine, techniques of relaxation, good body mechanics, and posture.

First, the patient is interviewed to analyze the demands of job and home responsibilities. Information gained is often broad, and includes work requirements such as the number of hours standing and walking, amounts of climbing and lifting (approximate weights), number of supervisory responsibilities, types of stress resulting from time deadlines, and feelings about the job and coworkers. Home respon-

sibilities and characteristics are explored, including household chores, family size, home terrain, hobbies, and social habits. The interview enables the therapist to gain an understanding of the patient's functioning and the dynamics of the pain. It is a mutual effort between patient and therapist to discover sources of physical and psychic stress in the patient's life.

The physical evaluation or activities battery comprises sitting tolerance, standing tolerance, bending and reaching, walking distances, and ascending and descending stairs. These tasks are fully discussed with the patient who, after being assured that the physician has approved the evaluation, receives the responsibility for setting limits on his pain tolerance. If the patient reports even moderate discomfort, that portion of the evaluation is discontinued. All tasks of the activities battery are timed. During the battery, the therapist observes and records posture, body mechanics, expressions of pain, coordination, tremor, shortness of breath, perspiration, and facial expressions.

To evaluate sitting tolerance, the Bennett Hand Tool Test (7) and the Crawford Small Parts Test (8), which measure gross and fine manipulation skills, respectively, are used. Observations are made of sitting posture, use of arms and hands, range of motion, and any fatigue tremors that develop.

To assess standing tolerance, the patient works at a counter top and assembles a project using carpentry tools. Since hammering requires continual movement of the paraspinus muscles, the therapist looks for signs of pain, pressure, fatigue, changes of posture, and shifting the weight to the nonpainful side.

Bending and reaching are often reported as most stressful by patients with chronic back pain. These activities are evaluated by having the patient remove 24 items of various weights one at a time, from an overhead shelf to the floor, and then back to the shelf. Observations are made of the patient's use of correct body mechanics, total body conditioning, and exercise tolerance.

Walking and stair climbing are assessed during a quarter-mile walk. The patient ascends and descends a flight of stairs, then repeats the task carrying a 2.3 kg (5 lb) weight. Generally, descending stairs is more stressful to low back pain patients since lumbar lordosis is increased (9). Ascending stairs causes flexion of the lumbar spine, thus reducing excess stress on the posterior elements of the spine and increasing the intraspinal space (9). Subjective pain reports in these situations can be diagnostic. The observations made by the therapist include gait patterns, posture, mobility, ambulation power, and walking tolerance.

When the activities battery is completed, a written evaluation is placed in the patient's chart. A team conference is held weekly to report progress and findings, to evaluate their significance, and to determine further treatment for each patient.

Occupational Therapy Treatment. Once evaluation is completed, the patient participates in occupational therapy as a member of a group. This serves as an introduction to the group process required in Phase II, and the patient learns socially appropriate ways of coping with chronic spinal pain.

The key to occupational therapy treatment is patient education. Each patient, after viewing a videotape on body mechanics (10), takes a

Table 1

PATIENT PROFILE

DESCRIPTION OF PATIENTS (N=54)

	MEAN	STANDARD DEVIATION
AGE	46.15 Years	9.56
DURATION OF SPINAL PAIN	13.71 Years	13.00
TIME UNEMPLOYED PRIOR TO ADMISSION TO HOSPITAL	30.5 Months	76.10
LENGTH OF STAY PHASE II	23.78 Days	34.26

multiple choice test. The test is used as a basis for discussion of body mechanics and the anatomy of the spine.

Principles and practice of Wolpe's Progressive Relaxation Techniques are introduced during a daily 30-minute group session, immediately followed by a discussion of pain as it relates to muscular tension and anxiety (11). The emphasis is placed on increasing patient awareness of the difference between muscular tension and relaxation. Many patients, having been tense for a long time, do not realize they can achieve deep relaxation. They learn that they cannot be anxious and, simultaneously, completely relaxed (12).

Occupational therapy, scheduled for 1 hour, twice daily, helps maintain a more normal activity level and discourages prolonged bed rest with resultant deconditioning. The activities offered include leather work and small woodworking projects because these are appealing to men. The activity goals serve to increase tolerance to work-related activities, reduce tension, and monitor body mechanics. The therapist provides feedback on body mechanics when appropriate and reinforces correct working methods. There is continual opportunity for informal group discussion about lifestyles, roles, and attitudes in preparation for Phase II, where the same topics will be covered in more depth, especially the concept that the patient can be responsible for "changing the pain habit."

Phase I lasts from 7 to 10 days. When the Phase I team determines that the patient is ready for Phase II, a brief meeting of the orthopedic surgeon, patient, and Phase II occupational therapist takes place. At this meeting, the patient's medical findings are reviewed, and the patient is told that the next phase of treatment will begin immediately and that he or she is expected to stay in the Phase II program for at least two weeks.

Most orthopedic patients resist the idea of an emotional component to their pain and may oppose entering Phase II because they think the staff will negate their pain or "think it's all in my head." The occupational therapists are key figures at the transition conference because they are perceived by the patients as a continuing thread through Phase I and Phase II. From Phase I, occupational therapy is now familiar to the patient, which makes occupational therapy in Phase II nonthreatening. The patient is not, however, as clear about the rest of the program in Phase II and anticipates it more anxiously.

Phase II

The Day Hospital is an intensive, crisis-oriented, outpatient, psychiatric treatment unit, based on a multidisciplinary team concept. The team is led by a psychiatrist, and includes a psychologist, nurse, social worker, occupational therapist, and secretary. The program is group-oriented with each staff member interacting with each patient daily either informally or while leading or co-leading group therapy sessions and didactic groups. The team meets daily to plan the treatment for each patient. A 2-hour staff meeting is held weekly to discuss patient progress. The patient contributes to this meeting a self-evaluation form on his participation and performance in the program during the previous week.

For the first week the occupational therapist closely monitors the spinal pain patient who now is reporting for treatment on his own initiative. Most of the patient's first day is spent in occupational therapy being evaluated and attending the occupational therapy session. By the second day the patient is functioning within the regular 7-hour routine of the Day Hospital. He participates in two intensive group therapy sessions that use Transactional Analysis, Gestalt psychotherapy, behavior modification techniques, and others. In an additional didactic group session the patient will learn assertiveness training and other self-help modalities. The occupational therapy session includes an activity session, daily walking exercise, and a continuation of the relaxation therapy and body mechanics classes from Phase I.

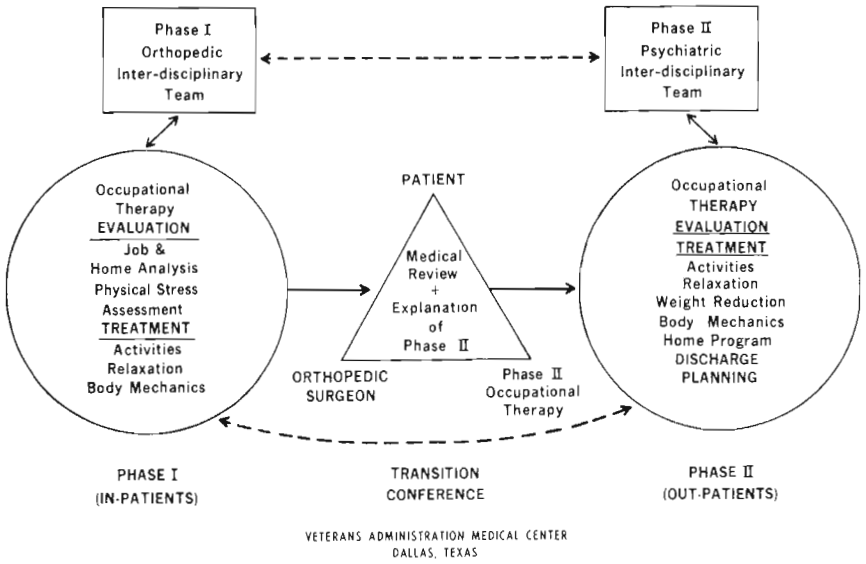
The patient's goals for the first week are to adjust to the increased physical activity and to become accustomed to group therapy sessions. For many, it is new and uncomfortable to hear others talk about personal problems and feelings. The patient who appears ambivalent about his ability to tolerate the program is encouraged to participate as fully as possible.

The patient's goal for the second and subsequent weeks is to use the total Day Hospital program more actively in defining problems, making decisions, and setting realistic goals for the future. At the end of the second week, the patient may either extend or terminate treatment.

Occupational Therapy Evaluation. In the occupational therapy evaluation, which is similar to that developed by Shoemyen (13), the therapist observes the patient at work on four different tasks (drawing, clay, mosaic tile, and carving) and invites the patient to comment about his productions. Questions about the evaluation, as well as spontaneous interpretations of the patient's work, are discussed, and future program planning is empha-

Table 2

THE ROLE OF OCCUPATIONAL THERAPY IN A CHRONIC SPINAL PAIN PROGRAM



sized. The therapist notes behaviors indicating frustration tolerance, organizational ability, levels of depression, anxiety, hostility, dependency needs, and body image. Information from the occupational therapy evaluation is shared and coordinated with the evaluations of other team members and a team treatment plan is formulated.

Occupational Therapy Treatment. All patients attend a 1½ hour occupational therapy session daily. The environment is designed to be a close approximation of mainstream living, in that patients assume considerable responsibilities for janitorial duties, administrative tasks, and teaching each other activities. Patients who initially grimaced when negotiating a curb, descend 18 steps several times daily to check the kiln or to work on their projects briefly between group sessions. The program focuses on the patient's ability to responsibly interact with others in sharing space, tools, and materials. Peer pressure is the primary influence on behavior.

The day-to-day approach used in therapy is based on an operant conditioning model. The clinic serves as a laboratory for the patient to test and practice newly gained insights and behaviors, and to demonstrate the techniques he has learned in body mechanics classes and relaxation therapy. Initially, the therapist actively seeks out the smallest positive change in behavior to reinforce, such as acknowledging the patient who smiles occasionally or walks around the clinic without using a cane. A first attempt at assertive behavior is reinforced, since it could reflect the patient's willingness to state his needs openly and directly, rather than to use "pain" talk and "painful" body language as a means of communication and as a basis for interpersonal relationships.

A wide variety of modalities are available to the patient, graded from simple structured projects introduced in Phase I, to complex, heavy, or creative activities. The patient is encouraged to set appropriate limits on physical tolerance, to pace the work speed, to use principles of good body mechanics, and to ask for needed help in lifting or positioning heavy objects.

While increasing work tolerance, the patient contracts with the therapist for gradually expanded work/recreational activities at home and in the community. It is assumed that the patient can do all or most of the activities of daily living, if he is willing to learn concepts of energy conservation and work simplification, and to modify self-defeating ways of working. The goal is to work on a task until a mutually agreed upon unit of work is completed. Long and complex tasks are broken into smaller units with time ranges indicated for completion. The patient learns to work without using anticipation of pain as a cue for ceasing activity. Typically, the patient reports a sharp decrease in time spent in bed rest as time in the activity program increases.

In social interactions, complaints about pain and painful body language are not reinforced by attention. The patient who persists is told that it serves no purpose to focus continually on pain. The patient who spontaneously reports a cessation of pain while engaged in a certain activity is helped to recognize that he has achieved a measure of control over the pain experience. Each patient is assured that he has the capacity to lengthen such periods and to make them more frequent.

Some patients with low back pain delay their progress by over-zealous behavior; that is, by being overly compliant and dependent. The patient says, "I'll do anything you say, if you think it will help me," and then performs in a minimal fashion, blaming the staff and program for lack of progress. If the therapist confronts the patient about this behavior, the patient may respond in the opposite extreme by working beyond his tolerance, causing physical distress. The self-help concepts of the program are restated for these patients to help them overcome their dependency on the staff and to understand how they might undermine their own treatment.

Discharge planning starts early in Phase II. The patient is asked to formulate goals and to share discharge plans with members of the groups. Each patient is cautioned against leaving the program precipitously. An exit interview is scheduled on the patient's last day in the program in which progress and future plans are reviewed. The patient is encouraged to continue the self-help techniques learned in the program, and to call or write the Day Hospital when some part of the discharge plan, such as returning to work, is accomplished.

Conclusions

A method of treatment by an interdisciplinary team that uses a variety of approaches to identify and meet the complex needs of the patient with chronic back pain has been described. After the first year of the program certain results and problems are apparent.

The occupational therapy program, which has required no new personnel or facilities, is deemed cost effective. All patients were integrated into existing case loads. At no time were there more than ten patients in the total program. Fifty-four patients were seen in both phases of the program during the first year; of these only four have returned to the orthopedic clinic from which they were referred.

Since reporting pain is subjective, occupational therapists, from the beginning, focused on observable graded activity levels as an indicator of improvement. Typically, at discharge, the patient was walking two miles per day, sitting for 1½ hours at a time, and remaining active for a full day at tasks comparable to those experienced on the job or at home. All had discontinued the use of potentially addicting pain-killing drugs and only two continued to use crutches and canes. Most patients who had not worked in years were not confident of their improved condition to give up disability pensions and return to full-time employment. This was particularly true of older patients and those with multiple complicating health problems.

With a continuing review of the patient group, the multidisciplinary approach to chronic back pain appears to have met the goals of increased activity level, less pain-centered behavior, and reduced requirements for medical attention. The contribution of occupational therapy is to teach patients how to take care of themselves physically and emotionally, and to provide the setting in which to translate didactic information and psychological insights into practical life experience.

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