Evaluation and Management of the Patient With Acute Back Pain

Patients with low back pain are among the largest group of health care consumers today. During an episode of acute back pain the patient may be hospitalized for diagnostic workup and medical management, processes to which occupational therapists can contribute. The occupational therapist's evaluation includes assessment of the patient's activities of daily living and understanding of back protection and pain behaviors. The therapist involves the patient in managing his or her back problem by teaching problem-solving skills and identifying appropriate life-style changes. Instruction is provided in proper body mechanics, anatomy of the spine, work simplification, relaxation, and adaptive methods of performing daily activities. Given the short hospitalization period, outpatient follow-up may be provided to facilitate the application of information learned in the hospital to home and work settings. The goal of occupational therapy is to help the patient with low back pain return to a productive life-style.

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Patients with low back pain (LBP) has rapidly become one of the most frequently occurring benign conditions in the United States. It is estimated that 65% to 85% of the population will experience LBP sometime in their lives (1-3). Approximately 50% of this group will experience occasional back pain, and 25% will consult a physician (2). As a result, the costs associated with the management of LBP exceed $10 billion annually (2).

According to the National Center for Health Statistics (4), back and spine impairments are the most common causes of activity limitation in persons less than 45 years old and the third most common in persons 45 to 64 years old. The majority of patients reporting low back pain are between 22 and 55 years old (5).

Low back injuries have become one of the most frequently occurring work-related injuries, far exceeding others in numbers and cost (6). More time loss from work is reported with employees in heavy labor jobs than with those in sedentary jobs (4). Fifty percent of injuries are reported to be in conjunction with some type of heavy lifting or mechanical task (4). Symptoms most often occur where the spine has received a mechanical stress.

Based on unemployment and compensation figures, it is estimated that 8 million mechanical back injuries are reported each year. Average expenses include medical costs at $18,000 and compensation (time loss) costs at $22,000 per patient (7).

Patients who report back pain are more likely to use health care services than persons with other complaints. Back pain is the number one reason for physician contact in the United States (1). It is estimated that 90% of patients with acute back injuries will recover spontaneously within the first two months, another 3% to 4% will receive surgery, and the remainder will require more extensive rehabilitation (8). Despite the controversy regarding the management of the patient with LBP, evidence exists that early intervention in the management of the patient with acute LBP may be effective in preventing chronic pain syndrome (1, 9).

This paper describes the role of

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The occupational therapist's role is to evaluate a patient's performance of daily activities and to educate the patient in ways to reduce mechanical stresses on the lower spine. To fulfill this role, the therapist needs a knowledge of the anatomy of the spine, body mechanics, and the pathology of the injury. The therapist may also evaluate the requirements of the patient's job before giving appropriate ergonomic advice (10). Finally, since back pain can have an overall negative effect on an individual's personality and well-being (11), the therapist's assessment of the patient's psychosocial as well as physical needs will enable the early recognition, and therefore possible prevention, of chronic pain behaviors.

Evaluation

The objectives of the occupational therapy evaluation at Columbia Hospital are to analyze activities of daily living (ADL) that may contribute to LBP, determine the patient's knowledge and practice of proper body mechanics, and assess the effect of pain on the patient's attitude and behavior.

With the implementation of prospective payment systems, physicians are very selective when admitting a patient with back pain to an acute care hospital (12). The LBP patient hospitalized today is likely to be more ill, in greater pain, and in need of complete bed rest. Thus, the initial assessment is often conducted at the bedside.

Knowledge of the patient's history of LBP is essential to plan an appropriate, individualized treatment program. The cause and duration of the LBP is discussed, and the frequency of acute episodes requiring hospitalization is determined. Repetitive incidents of work-related injuries indicate the need for a detailed work evaluation. It is also important to assess the patient's understanding of the medical condition, the treatment alternatives, and the prognosis.

Household activities are assessed in the initial interview, including the patient's positioning, level of endurance, and degree of assistance from family members or others. The physical characteristics of the home, family size, personal habits, and avocational activities are also considered. Job-related information collected includes work history, work schedule, and attitudes toward the job, management, and co-workers. Demands of the job are analyzed, including required sitting, standing, walking, climbing, bending, lifting, reaching, and operation of mechanical equipment (10, 13, 14).

Additional assessment information may be obtained directly from the employer or supervisor if the patient signs a consent form. A copy of the job description and the employer's appraisal of the patient's work record, number of absences, and attitude are beneficial and may lead to the identification of possible discrepancies between the reports of the employee and the employer. The Dictionary of Occupational Titles (15) is a valuable reference for information regarding work requirements.

When the patient's medical status has progressed beyond complete bed rest, an evaluation is performed based on the patient's demonstration of selected activities. The patient is asked to perform daily activities, including meal preparation, self-care, cleaning, gardening, and transfers. To make the evaluations consistent and to record all observations, the therapist uses a checklist that contains activities such as reaching into a high cabinet, standing at a sink to do dishes, getting in and out of a car, shoveling snow, and climbing a ladder while carrying a pail. (This checklist is used again at discharge to monitor the patient's changes in activity level and application of proper body mechanics. This tool is also useful in determining potential areas for outpatient follow-up.)

While the patient is performing the activities, the therapist observes gait patterns, level of physical endurance, posture, and evidence of bracing or other associated pain behaviors. Rigid posturing, facial grimaces, and complaints of pain are frequently observed pain behaviors. Complaints of pain are reviewed with the physician and other team members to determine if there are any contraindications for certain activities. A rating of the patient's subjective level of pain is useful to provide insight into the patient's perception of pain and to document changes (16-18). We ask the patient to rate the following areas on a scale from one to ten: intensity of pain, effect of pain on personality, ability to perform daily activities, and effect of pain on interpersonal relationships with family or friends. The patient is also asked which activities increase or decrease the pain.
The patient’s perception of pain and its effect on his or her quality of life can then be compared with objective medical findings. The presence of a significant discrepancy suggests the potential for the development of a chronic pain syndrome (8). The patient completes the rating again at discharge.

Treatment
The goal of the occupational therapist’s treatment at Columbia Hospital is to facilitate the development of problem-solving skills through patient training and education. Problem-solving skills enables the patient to set personal goals and make life-style changes.

Instruction is provided in proper body mechanics, anatomy of the spine, proper posture, work simplification, relaxation techniques, and adaptive methods of performing daily activities (19). One-to-one instruction is beneficial for introducing the initial basic information. We also provide written and graphic materials to supplement verbal instruction and to allow the patient to review information that he or she might otherwise forget because of the distraction caused by pain or fatigue (20–22). A range of pamphlets and brochures that apply back protection to a variety of settings is available in several languages and at different educational levels (23–25). Some patients learn better by observing the application of body mechanics in familiar settings during demonstrations or from videotapes. Throughout the treatment process, the educational level and learning style of the patient is kept in mind to ensure meaningful individualized instruction.

Instruction in back protection focuses on the application of principles of proper positioning for daily activities such as reaching a high shelf, sitting to drive a car, or bending to pick up an object from the floor. Prior to instruction we consult with the physician and the other team members to determine the principles to be taught because differences in approach exist based on philosophy and pathology (12, 26–30). For the majority of patients, instruction focuses on when to use the pelvic tilt and when to emphasize maintenance of a lumbar lordosis. An understanding of the principles of body mechanics is enhanced if the patient is familiar with the anatomy of the back. Visual aids such as an actual skeleton or a photograph of one facilitate learning.

To assist the patient in applying back protection principles in ways that are meaningful, we instruct the patient to analyze activities he or she has identified as problems and then apply the new solution to the problem. Lifting grocery bags, moving the lawn, vacuuming, getting out of a bathtub, putting on socks, and engaging in sexual activity are frequently mentioned problems.

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pain. Imagery can be used during relaxation to distract the patient so that their perception of pain will influence activity less.

The use of electromyogram (EMG) monitoring can be helpful in teaching the patient to move in a less guarded manner and in providing immediate feedback on the patient’s ability to decrease muscle tension (36, 37). Recorded relaxation exercises form the basis for a home program that can be carried over into daily activities.

Outpatient Follow-Up

An outpatient occupational therapy program may be indicated following hospitalization to ensure the patient’s return to a productive and independent life-style. Outside the hospital setting the patient encounters more opportunities to practice the principles of body mechanics and pain control. These opportunities and the problems they present are reviewed, analyzed, and solved with the therapist on an outpatient basis.

The patient’s application of proper body mechanics in the home environment is evaluated during a home visit (38). Recommendations for modifying the home of LBP patients have included the installation of grab bars in the bathroom or leg extenders for chairs, and the rearrangement of cabinets or work areas. During the visit, homemaking activities are also examined for the application of proper back protection.

The therapist may decide to make an on-site evaluation of a job for several reasons (10, 39). The patient, physician, or therapist may express concern that the job tasks place excessive strain on the low back. They may also question the patient’s capability of returning to his or her job. The therapist may wish to develop a work simulation program. In our setting, arrangements are made to observe the work site after the initial interview. The observation may result in recommendations such as modifying the job, determining methods of performing the job using proper body mechanics, developing a work simulation and conditioning program, and/or selecting an alternate job site.

Work simulation and physical conditioning programs are used to improve a patient’s capability to return to work.

**Summary**

During the hospitalization of a patient experiencing an episode of acute LBP, the occupational therapist uses activity analysis and problem solving in evaluating the patient’s performance of daily activities. Following this evaluation, the therapist instructs the patient in proper body mechanics, teaches techniques for pain control, and recommends adaptations for the work and home environments.

Work evaluation and job simulation present an exciting opportunity and challenge for the occupational therapist. A knowledge of anatomy and kinesiology, combined with the ability to analyze the components of a job, enables the occupational therapist to provide ergonomic advice to patients and employers.

**REFERENCES**


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Cordelia Myers Writer's Award

The American Occupational Therapy Association is pleased to announce that Winifred E. Scott has been chosen to receive the AJOT Cordelia Myers Writer’s Award for the 1985 volume year. Her paper, “Variables That Contribute to Leadership Among Female Occupational Therapists,” published in the June issue, was considered by the AJOT Editorial Board members to be the best piece of professional writing by a first-time contributor to AJOT during the 12-month period.

The AJOT Editorial Board members and the AJOT staff extend their congratulations to Ms. Scott.