

# International Handbook of Occupational Therapy Interventions

## Chapter 37

# Pain Management: Functional Restoration for Chronic Low-Back-Pain Clients

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*Movement is not that dangerous, I can make it!*

—Client

**Abstract** *Functional restoration* is a concept for intervention of low back pain that has been developed by Mayer et al. (1985). It relies on the concept that disability and participation restriction among clients with low back pain is the result of complex interactions among pain, physical deconditioning induced by inactivity, and psychosocial issues. The social cost, mainly indirect costs, induced by sick leave payments for chronic low back pain is high, and this has led to the development of multidisciplinary programs that include occupational therapy interventions.

**Keywords** Coping behavior • Ergonomics • Low back pain • Sick leave • Weight lifting

## Definitions

*Chronic low back pain* is pain of the lumbar region lasting for more than 3 months.

*Functional restoration* is the intervention program for nonspecific low back pain (i.e., infectious and tumor diseases are excluded) and other musculoskeletal diseases. The program is not aimed at reducing the level of pain, but rather focuses on physical reconditioning and coping strategies (Schonstein et al., 2003).

## Background

Low back pain is a biopsychosocial issue. Treatments exclusively aimed at the biomedical aspects of low back pain, such as prescription of analgesic medicine, surgery, and corsets, are effective in the acute phase.

Multidisciplinary functional restoration programs have been used in the chronic phase of low back pain since 1980s. Although differences among the various programs exist, they share a common framework, including (1) physical reconditioning, which is achieved by the clients' participation in intensive physical activities; (2) psychological counseling aimed at the development of coping mechanisms; and (3) modifications of the work environment (Poireau et al., 2007; Schonstein et al., 2003).

## **Purpose**

The objective of the functional restoration programs is that the clients return to work and resume social and leisure activities.

## **Method**

### ***Candidates for the Intervention***

Functional restoration is indicated for clients suffering from chronic low back pain of nonspecific origin. Some programs are embedded in public policies aimed at reducing sick leave and enrolling only clients with work contracts (Loisel et al., 2003).

### ***Epidemiology***

The incidence of chronic low back pain in developed countries ranges between 60% and 90%. The prevalence is estimated at 5%. In the majority of cases (85–95%) pain and disability disappear within 3 months (Müllersdorf and Soderback, 2000).

### ***Settings***

The functional restoration programs are conducted by multidisciplinary teams and provided in rehabilitation outpatient facilities. They usually last for 3 to 5 weeks, and clients participate full time or part time.

## **Results**

### ***The Role of the Occupational Therapist***

Occupational therapists (OTs) are responsible for the following:

- Assessments of activity limitations and participation restrictions using various available assessment instruments [e.g., Dallas pain questionnaire (Lawlis et al., 1989); Oswestry Low Back Pain Questionnaire (Fairbanks et al., 1980) or Capability to Perform Daily Occupations, an assessment adapted to occupational performances (Schult, 2002).
- Evaluation and retraining of activities directly related to work tasks, such as weight-lifting tasks. A client's ability to lift weights is measured using the progressive isoinertial lifting evaluation (PILE) (Mayer et al., 1988). The clients are required to lift blocks from the floor and place them on shelves at the level of the person's shoulder. The lifting capacity is measured by increasing the weight, starting with 5 kg (men) and 2.5 kg (women) and stepping up by 5-kg (men) and 2.5-kg (women) increments. The score is represented by the maximum weight that can be lifted.
- Investigation of the work tasks that are required by the clients to be performed during a workday. Based on the information, a training program is designed in which the client performs the work tasks in a simulated or real-life environment.
- Information on the benefits of physical activities. Clients often believe that reduction of performances of activities is necessary to treat their pain. The level of this restricting behavior is assessed by using the Fear-Avoidance Beliefs Questionnaire (FABQ) (Wadell et al., 1993).
- Thereafter, OTs and team members provide coherent information and demonstrate attitudes that promote the clients' active coping, aimed at decreasing clients' fear and avoidance of movements and increasing performances of daily activities and participation in social life.
- Counseling in which the client, relatives, coworkers, and managers participate to decide on possible modifications of the work environment. These interventions are individually performed at the workplace. They are directed to (1) physical aspects of the work environment, such as limiting weight lifting and the possible use of weight-lifting devices; and (2) management aspects of the work organization, such as possible cooperation between coworkers, and supervisors' attitude to the worker.

## *Clinical Application*

### **Occupational Therapy Within a Multidisciplinary Pain Management Function Restoration Program**

The programs are usually organized as intensive outpatient programs lasting 5 weeks with a full-time schedule. The interventions are performed in the rehabilitative setting, conducted in groups of five to 12 clients, or by individual counseling at the workplace.

The duration of the programs varies from 10 to more than 200 hours (Poireau, 2007). The OT sessions account for approximately one third of all activities during the program.

The content of a functional restoration program includes the following:

- *Physiotherapy*: training of muscle flexibility, trunk muscle strengthening, and aerobic exercise for 1 to 3 hours per day
- *Sports activities*: for 1 to 6 hours per week
- *Occupational therapy*: clients perform weight-lifting tasks, or simulation of work tasks using, for example, gardening, bricklaying, for 1 to 2 hours per day
- *Psychological counseling*: performed in individual sessions or during group activities
- *Counseling*: during workplace visits

### **How the Intervention Eases Impairments, Activity Limitations, and Participation Restrictions**

Functional restoration programs allow clients to “work in spite of pain” and thus resume performance of activities that help clients return to work.

### ***Evidence-Based Practice***

The functional restoration program has proved effective for (1) the main outcome measure of increasing participation of low back pain clients in returning to work; and (2) decreasing the number of days on sick leave (Jousset et al., 2004; Kaapa et al., 2006; Kool et al., 2007; Poireaudeau et al., 2007; Schonstein et al., 2003), and increasing the muscle endurance (Roche et al., 2007). These results are strongly dependent on the social security system of the country in which the program is conducted (Poireaudeau et al., 2007).

### **Discussion**

The precise design of the functional restoration programs vary among rehabilitation clinics around the world. At present, there is restricted evidence for which intervention parts (Schonstein et al., 2003) or intensity (Roche et al., 2007) is required of the program to bring about a positive effect. Moreover, the cost-effectiveness of these programs also warrants further studies.

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