

Chapter 4 Disability Prevention and Management

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This chapter outlines the important role that physicians can play in preventing disability. Disability is commonly defined as absence from work or loss of work attributed to a medical condition. A diagnosis of a medical condition need not result in disability unless there also is a loss of functional capacity and ability to work.

Disability episodes entail the use of sick leave, short- or long-term disability, Family Medical Leave (FMLA), workers' compensation benefits, even disability retirement benefits, and may result in job loss. Employers spend 6-8% of their total payroll for benefit programs that cover employees during medically-related absence.

According to a recent survey of occupational physicians, fewer than 10% of work related injuries should require workers to take more than a couple days off work. This contrasts markedly with the 24% of injured workers who receive temporary disability benefits. This suggests that up to 80% of paid temporary disability is medically unnecessary.

Delay in return to work is attributed to a variety of factors:

- The employer has a policy against light duty
- The employer cannot temporarily modify a job
- The treating doctor is unwilling to force a patient back to work
- The treating doctor feels caught in the middle between the employer's and employee's version of the situation
- Too little information about the physical demands of the job has been provided to the treating physician
- Either the injured worker or the employer, or both, lack motivation to accomplish the return to work

Most medically-unnecessary disability days are the result of slow or inadequate communication between the physician and the employer, lack of temporary modified work or permanent work accommodations, legal disputes and administrative delays.

Physicians are routinely asked by their patients to sign forms or write notes to authorize absence from work. However, very few of these requests require absence from work. Most of the time, absence from work is medically unnecessary but may be justifiable, depending on the circumstances (See Table 1.).

Situation	Medically Justifiable?	Medically Necessary?
A fully recovered patient asks the doctor to delay his return to work for a week.	NO	NO
A pregnant patient with high blood pressure is confined to bed in order to prevent toxemia.	YES	YES
A patient with a mild back strain stays out of work because his doctor sent a note saying he can't lift three-pound cartons.	YES	NO
A convalescing patient cannot go back to work due to a company policy against light duty.	YES	NO

Table 1. Medically justifiable/medically necessary absence from work.

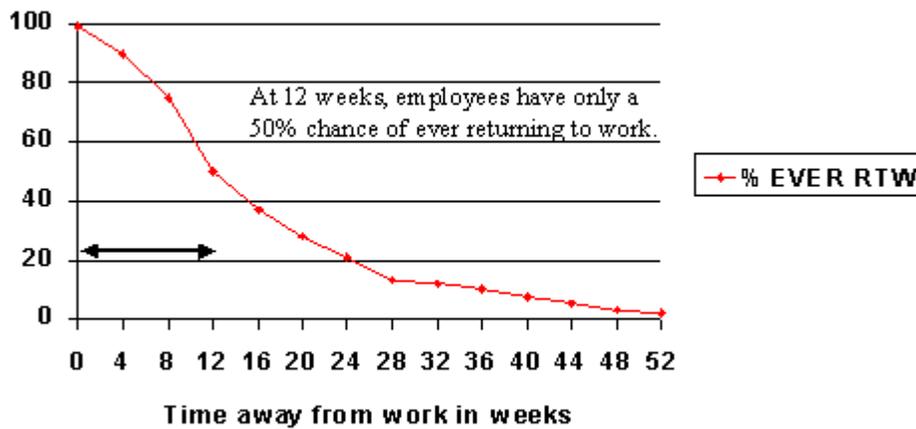
Delayed Recovery

The vast majority of workers who have work-related injury/illness and file a workers' compensation claim will be treated and return to work without unexpected delays. A small but important percentage of injured workers will experience delayed return to work with disability duration [well](#) beyond what would be predicted by the initial diagnosis.

Patients can begin developing a disabled mindset after as little as 2 - 4 weeks off work. The observant clinician can see the patients' face change, their speech patterns alter, and their body language change as they start wondering whether they will ever be able to work again, and they start getting the idea that maybe they ARE disabled now. These reactions are uncommon in patients who are disabled by self-limiting problems like recovery from elective surgery, but are a serious risk in patients who are disabled due to soft tissue injuries and other kinds of self-reported conditions lacking objectively-determinable indicators of biological severity.

Long disability predicts bleak outcome. The longer workers stay away from work, the more likely they are to be permanently disabled. By the time a worker has been off work 3 months, he or she has only a 50% chance of ever returning to work. By 12 months, it is only about 2% (see Fig_1).

Figure 1: Time Is Of The Essence



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Many studies have documented that a few injured workers account for a disproportionate percentage of WC costs. One study of WC claims in the U.S. found that 25% of all claims accounted for 97% of the total costs (Webster and Snook, 1984). When considering only back pain claims, the statistics are even more striking. For example, Hasheni et al (1997) found that 10% of low back claims were responsible for 86% of the total costs for all types of workers' compensation claims.

These findings are consistent across benefit programs and across geographical jurisdictions. They are in part explained by the fact that severe injuries (e.g. head trauma, spinal cord injuries) require expensive treatment with prolonged rehabilitation and significant residual disability. But the high cost claims are not all biologically severe injuries and illnesses. In fact, many high cost cases start out as minor musculoskeletal conditions such as lumbar sprain or upper extremity overuse but end up in prolonged absence from work, often without objective pathology.

The term *delayed recovery* has been applied to patients with unusually prolonged recovery that is out of proportion to objective clinical findings. These patients suffer physical, emotional and financial hardship as a result of their prolonged absence from

work. They are a source of frustration for the physicians who care for them because their symptoms can neither be easily explained and do not respond to standard therapeutic interventions. The costs associated with this group of patients for medical treatment, wage replacement and lost productivity have a significant negative impact. Given the high costs to society of lost productivity and the high human costs of disability to an injured worker, long-duration work disability is a serious public health problem.

RISK FACTORS

Studies have consistently shows a poor correlation between physical *impairment* and duration of disability or return to work, and also between traditional demographic variables (age, sex, education, etc.) and disability duration. This suggests that other variables explain the prolonged disability and delay in return to work. Many factors that appear to have predictive value are *non-biological*. For example, it is increasingly clear that the interaction between the worker and the work environment is key: job satisfaction and perceived stress, for example.

Current evidence suggests that understanding delayed recovery, chronic pain and disability requires a *biopsychosocial* model (e.g. Turk and Flor, 1999), which reflects a complex interaction between physical, emotional, social and economic variables.

Information in the medical and social science literature consistently identifies a number of specific factors that can be broadly categorized by their association with the injured worker/patient, the employer or treating physician (see Table 5).

The Injured Worker/Patient

There are a number of psychological factors including personality traits, perceptions of the social environment and attitudes or beliefs about illness, as well as history of psychiatric diagnoses and history of sexual and other abuse that have been correlated to delayed recovery. For example, psychological distress and *perception* of severe disability are associated with poor outcomes, while a positive attitude about return to work does predict timely return to work.

Underlying depression is often an important etiologic factor in delayed recovery. Surveys of workers with chronic disability indicate that delayed recovery may be directly related to inadequate coping skills in response to life stressors, and that disability can provide a socially acceptable way to express feelings like depression. Unfortunately, treating physicians often fail to screen for psychiatric comorbidities and even when they are uncovered, many patients have no coverage or inadequate access to mental health services, so depression often goes undiagnosed and untreated.

Delayed recovery usually involves chronic pain, although other subjective symptoms

such as fatigue or paresthesias may also occur. The management of chronic pain is difficult for a number of reasons:

Pre-existing psychological distress (commonly anxiety/depression), individual differences in personality and cultural background, can all modulate the experience and reporting of pain symptoms. Beliefs about the etiology of the pain and social reinforcement of pain behaviors can also contribute to the delay in recovery and perpetuation of suffering and disability.

Secondary Gain

In reviewing the literature on delayed recovery, the powerful influence of social and psychological rather than medical factors is striking. Social and psychological forces can counteract the desire to get better and reinforce the disabled role. An individual is more likely to amplify and cling to particular symptoms (a behavior known as somatization, described in more detail below) when it results in *secondary gain*, i.e. environmental reinforcement of illness behavior. Three types of secondary gain have been described:

- Sympathy, attention and support (including financial)
- Being excused from responsibilities, obligations, duties or challenges
- Ability to influence important people by virtue of their acceptance of the individual as sick/disabled

Immediately after an injury or illness, there is often an outpouring of support from family, friends and co-workers that may reinforce the individual's feelings of dependency and entitlement. With the special status of disability, there are lessened expectations in regard to work, and family roles are changed. Often the disabled worker is excused from responsibilities in daily life. When the perception exists that work is causally related to the injury or illness, there is also a feeling of *entitlement*, i.e. a sense that the individual has suffered an injustice and that society owes them something. This is amplified by any system that awards benefits contingent on proving disability.

Somatization

Somatization is a common reflection of emotional distress and presents with a preoccupation with and unconscious exaggeration of physical symptoms. It is the explanation for real symptoms in the absence of an identifiable physical disorder. ~~It is estimated that 25 — 50% of patients in the primary care setting complain of symptoms that have no serious underlying cause, and that psychosocial factors explain the patient's motivation for seeking medical care.~~ Somatization explains much of what clinicians label as “non-specific pain” in the low-back, neck, hand and chest, and it undoubtedly explains why many people with mild degenerative conditions file workers compensation

claims ~~(see Figure 2)~~. It is estimated that 50 – 70% of patients with a diagnosable ~~psychiatric DSM-IV~~ disorder initially present with somatic (physical) symptoms ~~that ; and these symptoms often~~ obscure the ~~primary~~ psychiatric distress (most commonly depression) from the physician's view.

When workers are faced with life changes (which may involve work, family or personal issues) and have inadequate coping skills, somatization with resultant disability and delayed recovery provide a socially acceptable way to express unacceptable feelings such as depression (see Weinstein, 1978). An illness or accident can transform excessive stress, tension and dependency needs into acceptable forms of disability that temporarily increase self-esteem and provide a more acceptable justification for existing symptoms (psychological secondary gain).

The willful faking of symptoms known as *malingering* is occasionally the cause of delayed recovery. True malingering (i.e. intentionally defrauding the insurance system) is rare but ~~does occur~~^{real}. Differentiating a true malingerer from a patient with symptom magnification and chronic illness behavior can be difficult. A common feature in both these groups is inconsistency between history, physical examination and performance of standardized tasks. Erratic and variable grip strength measurements and inconsistent results on range of motion testing should raise index of suspicion. Waddell signs or similar validity checks on physical examination provide additional clues. Referral to an experienced forensically-trained independent medical examiner may be necessary in order to distinguish between malingering and symptom magnification when there are persistent complaints in the absence of objective findings. ~~Information from outside the exam room (e.g. informal observation in the waiting room or while the patient is on the way into or out of the office building) is often useful. In some cases, more extensive surveillance including clandestine monitoring may appropriately be recommended.~~

Wage Replacement

There are specific provisions of the WC system that may at times provide a perverse incentive relative to return to work:

- 1) Most jurisdictions provide wage replacement at something less than full pay. However, for low wage workers, the fact that TD benefits are not considered taxable income results in take-home pay that approximates their usual income.
- 2) The provision of financial compensation for *permanent disability* is a double-edged sword. For severely injured workers with significant residual impairment, monetary compensation is justified on the basis of decreased earning potential. However, the fact that increased severity of impairment is widely presumed to require longer duration of work absence and more extensive medical treatment provides an incentive to stay off work for susceptible employees. This perverse

incentive is reinforced by legal representation since the attorney is paid on a *contingency* basis related to the dollar amount of the PD award or settlement.

Medical–Legal Issues

Disputes often arise in the life history of a WC claim. Formal litigation may result in relation to a number of issues including liability, causation, degree of impairment, apportionment of residual disability, or need for medical care. Once a claim is litigated, the resolution is typically delayed for a year or more, and during this time the injured worker is not motivated to return to work because of the concern that it would adversely affect his/her claim. Typically the injured worker is evaluated by multiple physicians who order a wide variety of diagnostic tests. This tends to reinforce the individual's belief that there is something seriously wrong. There is also the tendency for these patients to amplify and exaggerate their subjective complaints when they view the physician as having the legal and administrative power to determine their benefits. The observation that patients often recover quickly after their case is settled provides further evidence that current compensation laws foster disability behavior.

Occupational Factors

There are a number of variables related to the work environment that correlate to risk of delayed recovery (see Table _5_). In particular,– recent studies have found that the workers' perception of the work environment is predictive -- perceived stress in the work environment, quality of relationships, and job satisfaction, for example.

Firm size is another variable that seems to be a consistent predictor of disability duration, with larger employers associated with shorter duration of disability. A number of reasons have been suggested to explain this observation:

- 1) Smaller firms have higher turnover and less access to information about disability prevention
- 2) WC premium is “experience rated” for larger firms, providing incentives for disability management
- 3) Larger firms have greater flexibility in creating modified/transitional work

The Treating Physician

Because most physicians (even Occupational Medicine specialists) never receive formal training in disability prevention and management, their lack of expertise in this area can create barriers for return to work. When patients have persistent complaints, the physician's first response may be to order more diagnostic tests, often invasive in nature, rather than considering the non-medical factors that may be fostering illness behavior and inhibiting return to work. Operating in the medical model and ignoring the psychosocial

determinants of illness, the untrained provider prescribes more time off from work. This common therapeutic pattern may actually prolong recovery and further reinforce the sick role. If treatment goals are focused on alleviation of symptoms rather than improvement of functional capacity, there is an increased risk that the patient will begin a downward spiral from anger and helplessness to depression, withdrawal, loss of identity and finally into the sick role and chronic disability. Failure to include transitional work as an integral part of the treatment plan results in medically unnecessary time off work with resultant physical deconditioning, and increased emotional distress. Lack of information about the physical demands of the job may frustrate physicians, and make them less likely to release their patients to transitional work assignments.

Many physicians who treat patients with work-related injury/illness are not comfortable with the evaluation of patients' psychological status and the potential for psychosocial factors to create significant barriers to recovery. Referral for specialist evaluation should be considered whenever there are persistent complaints or when symptoms are unresponsive to standard medical treatment. Evaluation by a psychologist or other mental health professional can help the primary care physician to:

- 1) Determine specific psychological and behavioral issues related to the patient's pain behavior and disability.
- 2) Provide insight on aspects of the patient's history and current situation with bearing on the delayed recovery.
- 3) Recommend appropriate treatment goals and intervention strategies.

Clinical Management

People share three main pillars of identity: physical being, work or calling, and relationships. When any of the three are disrupted, it is destabilizing. If more than one are disrupted, it can cause a major alteration in one's sense of self.

Bodily integrity

Loss of bodily integrity threatens identity and causes denial, anger, grief, depression, and uncertainty. People who lose a part of their body or even just a bodily function grieve for it and go through stages of adjustment as though a part of them has died. Acceptance is the final and necessary stage.

Work

Work may be a calling, a career, or simply a paycheck, but it is one of the most basic statements about one's self. For most people, the threatened or actual loss of work threatens identity and causes anxiety, depression, and loss of self-worth. Because work is so central to their lives, people may insist on returning to work before it is safe to do so because their identity is so wrapped up in their work.

Relationships

People who are unable to work due to illness or injury have had two of their three identity pillars destabilized. They are apt to react to the combined disruption of their

bodily integrity and their loss of work with a variety of psychological disturbances, and that puts strain on their third pillar -- relationships.

Family life is disrupted when the breadwinner is home sick. The sudden disappearance of all the daily social interchange with co-workers can create a significant vacuum in people's lives. Thus, loneliness is added to the list of problems caused by time off work. A significant fraction of disabled persons develop marital, family, and substance abuse problems.

Ways to Improve Functional Outcomes

Whenever a patient develops a disabling illness or injury, there is ~~universal~~ anxiety regarding the prognosis and in particular the impact on life's activities. How the condition will interfere with everything from mobility and activities of daily living to work and recreation is a primary concern of ~~every~~one who is faced with a new medical condition. Physicians can foster patient trust and improve compliance if they are willing to devote time and attention to these concerns at every visit.

Accurate diagnosis and effective treatment are not the purpose of healthcare, but rather a means to the end of restored/preserved comfort and function. A fundamental purpose of health care is to help people get their lives back to normal. Anything that speeds this transition is a part of the healing process. In this context, answering questions and filling out forms that get patients safely back to their normal activities and work becomes an important part of the treatment process.

Assessing the Situation

These four "bedside" tests are useful in identification of overlooked or neglected issues that need attention.

- A. The Return-to-Work Screening Test identifies cases that require extra attention or referral.

This brief conversation with the patient consists of three questions:

1. It looks like you are going to have some problem with your [right hand, left foot, back, breathing, balance, vision, stamina, etc.] for a while. What impact will that have on your ability to do your regular work the usual way?
2. Have you figured out a way to work around that issue while you recover?
3. Will you have any problems with your boss or co-workers about modifying your job temporarily?

This test puts the burden on the employee (who is most familiar with the situation) to make the match between his/her current physical condition and what he/she knows of the job demands and work environment, but also requires him/her to reveal potential conflicts or problems. Sometimes, the answers will make it clear that this case will require extra attention.

B. The Grocery Store Test is a quick way to sort out whether absence from work is medically-required.

The physician asks: If this patient owned a "mom 'n pop" corner grocery store and had no-one to cover for her or him while out of work, would s/he be able to find a way to get to work and be safe there? If YES, the patient could find a way to work comfortably and safely, then absence from work is probably not medically required even though it may be medically justifiable. If NO, because there is no known accommodation that would enable the patient to work, the doctor should specify in writing what the impediment to return to work is, and let others decide whether they can remove it.

If NO, because the patient must be home in bed all day, is too weak to leave the house, needs to be in the hospital or other treatment facility, then there are clear medical reasons why the patient should not be released for work. These situations tend to improve rapidly, so it is wise to predict when the patient's functional status is likely to have improved enough to permit some functional work, and to set up an appointment to reevaluate the return to work issue at that time.

C. The Obstacle Question identifies environmental or logistical issues that are causing disability.

The physician asks the patient this question: "What SPECIFICALLY is the obstacle preventing you from working today?" If the answer is not concrete enough, the physician asks again, "And what SPECIFIC effect does that have on your ability to be at work today?"

This line of questioning shifts the focus away from justifying or rationalizing disability and puts the focus on finding a way around it. This question will uncover environmental and logistical barriers for RTW. The identified obstacle needs to be addressed by the physician or referred to someone else in order to get this patient back to work.

Many problems uncovered by the Obstacle Question are simple to fix by the appropriate party once they are uncovered. In a couple of minutes, the physician, the medical office staff, the insurance adjuster, a nurse case manager, a physical therapist, a vocational rehabilitation counselor, or the employer's in-house medical, benefits, or safety staff may be able to solve it.

D. The Molehill Sign indicates when motivational issues are causing disability.

This sign is named after the saying "making a mountain out of a molehill." If a seemingly minor health problem is having a major impact on the patient's daily life and work, the Molehill Sign is positive. (A good measure of a person's commitment to something is the amount of inconvenience or discomfort they are willing to endure for it.)

A positive Molehill sign points towards problems with motivation, meaning problems with incentives, intentions, feelings, beliefs, or the ability to cope. A search should begin for the underlying source of the apparently weak motivation. Every employee with apparently low motivation is a potentially productive one, especially if the situation is viewed as an opportunity for [performance](#) improvement. The person with the motivation

problem is not always the person with the injury or illness. It can also be someone who has control over the resources and opportunities for recovery but refuses to use them. For example, a sizable fraction of patients with delayed recovery were in difficult supervisor-employee relationships.

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The Therapeutic Use of Rest and Activity

Regardless of the diagnosis, Rest and activity prescriptions should be included as a formal element in every treatment plan. It may be useful to think of activity and rest (or lack of activity) as therapeutic drugs, with specific indications and contraindications.

Rest

Rest has been known from antiquity to be beneficial in the healing process, and it is currently prescribed for everything from myocardial infarction to backache. It has dramatic analgesic effects for most musculoskeletal conditions and often is the only treatment necessary. But in recent years, there has been an increasing awareness that too much rest can be harmful. Muscle fibers atrophy with immobilization with decreased cross-sectional area and potential for oxidative enzyme activity. Prolonged bed-rest leads to loss of muscle mass (1.0-1.5% per day), cardiopulmonary deconditioning (15% loss of aerobic capacity in 10 days), bone mineral loss with hypercalcaemia and hypercaluria, and increased risk of thromboembolism.

Exercise

It is generally accepted that regular physical activity reduces risk and decreases morbidity and mortality from a wide variety of conditions. There is also abundant evidence that maintaining activity has significant psychological and social effects that are critical to the prevention of delayed recovery after work-related injury or illness. ~~The development of a rational treatment plan, regardless of the diagnosis, should include specific prescription for rest and activity.~~

Mobility and Activities of Daily Living

The term mobility can refer to range of motion for an injured extremity or to postural states or degrees of ambulation. The term activities of daily living includes activities associated with personal care, eating, sexual activity, normal household activities, driving a car and use of public transportation.

Early in the rehabilitation process, the activity prescription may be focused on mobility. After an ankle sprain or fracture, for example, there is an appropriate period for gradual increase in dependent positioning and weight bearing. With an acute impingement of the shoulder, there are simple range of motion exercises that are recommended and certain movements (overhead reaching) to be avoided. For patients with acute low back pain, the focus may initially be on gradual increasing periods of sitting, standing, and walking.

There is a consistent trend toward earlier mobility, ambulation and return to normal activity during the rehabilitation from a wide range of conditions from myocardial infarction and abdominal surgery to skeletal fractures and minor musculoskeletal

conditions such as strain/sprain and tendonitis. There are various published scales that measure mobility (Table 2) and ADL related endpoints (Table 3), which can be adapted and used in managing a progressive return to normal activities. These endpoints can be used for monitoring recovery as well as in writing activity prescriptions.

Activity	Quantitative Description	Qualitative Description
Walking	In terms of time or distance	Ability to walk for short/long time or distance
Sitting	Time seated	Type of chair, difficulty getting up
Standing	Time in minutes or hours	For prolonged periods; as long as desired
Lying down and getting up	NA	Difficulty getting in/out of bed or turning over
Staying in bed	Hours per day; number of days	Most of the time; more than normal
Climbing stairs	Number of steps or stories	Using a banister; climbing more slowly
Transportation	Time tolerated	Traveling by car; traveling anywhere

Table 2. Graded Scale of Mobility Related Activities Based on Selected Functional and Quality of Life Indices

- Leaning forward without difficulty, leaning over a sink for 10 minutes
- Bending over, kneeling and crouching without difficulty, picking up objects from the ground without support
- Getting dressed and undressed, putting on shoes and socks without difficulty
- Using the toilet
- Washing oneself completely without difficulty, washing hair, brushing teeth, getting in/out of a bathtub
- Eating a meal without difficulty

- ~~☐ Doing errands without difficulty, picking up bags weighing at least 2 kg without difficulty~~
- ~~☐ Doing housework without difficulty or resting; doing the laundry, vacuuming, moving tables, making the bed, not avoiding heavy housework~~
- ~~☐ Stretching to lift objects on the ground or overhead, reaching a high shelf, carrying a large suitcase~~

~~Table 3: Selected Functional and Quality-of-Life Criteria of Optimal Performance of Activities of Daily Living~~

Structured Exercise

Clinical evaluation to identify specific dysfunction must precede development of a treatment plan. This includes a complete history and physical exam to document clinical signs and symptoms and physiologic testing when indicated, including both static and dynamic measurements of musculo-skeletal function. Information related to the physical demands of job tasks is also essential in the development of a rehabilitation plan aimed at recovery of pertinent functions with appropriate endpoints.

The specifics of the initial exercise prescription should be based on objective findings and specific goals, and adjustments made based on response to treatment. Ideally, the physician and therapist are working closely enough so that the general parameters and goals of therapy are defined by the physician, but the actual daily routine is formulated by the physical therapist. Although general guidelines can be written for progression of therapy following a specific injury, exercise/activity prescriptions must be individualized.

Physical Therapy endpoints

The initial goal of therapy is to decrease pain so that functional movement can be performed. During this phase of rehabilitation (ideally lasting less than 2 weeks), passive modalities may be beneficial (e.g. ice, heat, ultrasound, electrical stimulation). These modalities may help decrease inflammation and pain, thereby allowing patient reassurance and development of self-confidence. At this point, education regarding anatomy, pathophysiology and body mechanics is emphasized. Once acute tissue injury has resolved and acute pain is under control, re-conditioning should begin and the injured worker must take a more active role in the rehabilitation process. The patient needs to understand that recovery and return to normal function is within his/her control. Decreased use of passive modalities for pain relief is encouraged and active exercise for neuromuscular mobilization, improved flexibility, muscular strength and aerobic conditioning are emphasized.

Range of Motion

The initial goal for most common musculo-skeletal injuries is to regain range of motion (ROM). This is followed by a focus on muscular strength, then power and endurance.

Throughout the rehabilitation process, strength of uninjured parts and cardiovascular endurance should not be neglected. Improvement in ROM can be achieved with a combination of exercises that are performed passively, actively or actively with assistance.

Strength

As the injured worker progresses with ROM, strengthening exercises can be initiated. During the early stages of active exercise, training can occur every day. As the workload increases to about 25% of the non-injured muscle group, the frequency should be reduced to every other day. This permits cellular adjustments in the muscle tissue that facilitate maximal strength gains.

Strength can be increased through a combination of isometric, isotonic, and isokinetic exercises. Isometrics can be used early when there is still a need to limit ROM and even can be used when the patient is immobilized to help control atrophy.

With either isotonic or isokinetic exercise, strength should be developed initially by slow speed, low weights and multiple repetitions. Once muscle strength is near 80% of the unaffected limb, the patient can begin working on power and endurance which are improved by lifting weights more quickly at faster contractile velocities.

In many cases, a strengthening program can be designed to reproduce the motions that are actually necessary to perform the specific job tasks at work (work hardening).

Cardiovascular Fitness

Most injured workers are deconditioned, have a low physical work capacity, and are frequently overweight. Aerobic exercise can improve work capacity, provide endorphin release for pain control, facilitate weight loss and improve overall cardiovascular fitness.

Before initiating a cardiovascular fitness program, patients with significant chronic disease should be screened to rule out contraindications to aerobic exercise and should be medically monitored at least initially to ensure an appropriate protocol.

For maximal gain in CV fitness, the activity should utilize large muscle mass and be performed for a prolonged period in a continuous rhythmic fashion. Walking, swimming, jogging/running, cycling, and cross-country skiing are good examples. Other activities such as figure skating, and dancing can also improve aerobic capacity and are less tedious than cycling or treadmill walking, but these activities do not provide as much control of intensity, and they should be employed cautiously until a base level of fitness is established. Jogging/running should be avoided in spine-injured patients since these activities transport impact loading to the spine. Lower impact CV activities such as bicycling, swimming, walking, and stair climbing would be better choices.

~~Most injured workers are deconditioned, have a low physical work capacity, and are frequently overweight.~~ Exercise frequency of three days per week may initially be adequate for promoting strength and cardiovascular conditioning.

Return to Work (RTW)

It is important to create an environment in which the worker will feel successful and be protected from reinjury. A failed effort to return to work creates a very high risk for prolonged disability. Returning people to their normal work with instructions to use common sense sets an expectation of self-care and recovery, and produces better outcomes than do overly-protective restrictions and limitations. Patients who have fears or anxieties about their return to work may need a schedule that assures success by starting slow and steadily increasing work demands at regular intervals. Returning someone to work every other day for the first week is one possibility. Whenever possible, the patient should be told that restrictions and limitations will be progressively reduced at each follow-up visit in order to set an expectation of progressive recovery of function. Most temporary restrictions and limitations should last no more than 90 days. Otherwise, the patient may need to be considered for permanent accommodations or some other long-term employment solution.

Patients who need reassurance or who are concerned about possible abuse by their employers should be offered extra support:

- Encourage patients to find an advocate at the company, who will most likely be in the medical, personnel, or safety departments
- Request them to call the physician or visit the office after the first day back at work to report progress and any problems
- Request them to call the physician if they are having trouble during their on-the-job-recovery.

The following approach to uncomplicated disability cases allows the physician to act as fact-finder and medical advisor, and to meet the employer or insurer's need for timely information without compromising the needs of the patient. It shifts the burden for determining the return to work date and arranging appropriate work to the employer, where it belongs.

1. Decide if any and all work is specifically medically contraindicated. Unless confinement to bed or home is medically-indicated and required by the treatment plan, the employee should be medically cleared for on-the-job recovery.
2. Identify any obvious mis-match between the demands of the patient's regular job (or any proposed light duty job) and the patient's condition.
 - (a) If the situation is unclear, request more information.(Examples: Job description including usual and proposed modified duty tasks, data on physical demands of the proposed tasks/job, functional capacity evaluation of patient by physical therapist, worksite inspection.)

- (b) State sources of information and but avoid relying solely on the patient or the employer. ~~Ask for input from the other party, or for objective data or for third-party corroboration.~~
 - (c) In the face of uncertainty, a referral is preferable to delay. Refer to someone with expertise in determining ability to work and supporting patients in modified duty. Alternatively, suggest an independent medical evaluation.
3. There are three intervals that will be useful to those who need to make decisions.
- (a) how much time it will take until the medical condition is fully resolved,
 - (b) how long it will take for a "next step" improvement in functional capacity, and
 - (c) when the patient's next appointment is.
4. If a return to the usual job is not medically appropriate at the present time, describe the workers' current abilities and the circumstances under which the worker can safely/successfully participate in an on-the-job recovery program. The employer's (or insurer's) willingness and ability to eliminate obstacles and arrange an appropriate on-the-job recovery will determine the date when the employee actually gets back to work.

- (a) Employers are more likely to find work when they are told what the employee CAN do. It is helpful if the physician mentions the parts of the usual job that the employee can now perform, or examples of tasks that are medically appropriate.
- (b) Describe any "medical restrictions": what the patient SHOULD NOT be allowed to do, or what the employer SHOULD do to accommodate the patient's restrictions. These are specific medical concerns or protective circumstances that allow patients to function safely at work during recovery.

Determining restrictions IS a medical issue. Medical restrictions should not be modified without physician agreement, since the physician is concerned about a risk that the worker or employer may not see. (See Table 4)

- (c) Describe the "functional limitations": what the patient CANNOT or IS UNABLE to do. Limitations are the shortfall between the patient's current physical stamina, agility, strength, cognitive ability, etc., and the job.

~~Physicians get involved following illness or injury because functional ability changes, and the physician's knowledge of the natural history of recovery provides useful information. Functional limitations are not really a medical issue, since all people have a limit to what they can do—their functional capacity. These determinations are obviously part of every hiring decision. It is safe for a worker and employer to mutually agree on a~~

~~modification of work demands as recovery progresses.~~

~~-Functional limitations are not really a medical issue, since all people have a limit to what they can do – their functional capacity. Physicians get involved because injured or ill patients’ ability to do their normal job may have changed, and because the physician’s knowledge of the natural history of recovery is useful. It is usually safe for a worker and employer to mutually agree on a lessening of limitations as recovery progresses.(See Table 4)~~

	Restriction	Limitation
Person with a recent history of seizures	Should not work at heights due to risk of falling	Fully capable of performing all tasks
Person with diabetes	Should avoid rotating shift work due to the adverse effects of circadian rhythm disruption on glycemic control.	Fully capable of performing all tasks
Person recovering from inguinal hernia repair	May not lift more than (x) pounds for (y) weeks to avoid wound dehiscence and failure of surgical repair	Worker may or may not perceive him/herself as fully capable of performing all tasks
Person with chronic shoulder pain and weakness due to rotator cuff damage	<u>Activity poses minimal medical risk of further damage</u>	Incapable of lifting > 10 lbs overhead; unable to tolerate frequent or repetitive overhead work.

Table 4. Examples of medical restrictions and functional limitations.

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~~role of resistance training in persons with and without cardiovascular disease, with specific reference to health and fitness benefits, rationale, the complementary role of stretching, relevant physiological considerations, and safety.)~~

Abenhaim L, Rossignol M, Valat JP, Nordin M *et al*: The role of activity in the therapeutic management of back pain: Report of the International Paris Task Force in Back Pain. *Spine* 2000;25(4):1S(Comprehensive literature review and recommendations re activity in the treatment of back pain—with relevance for all musculoskeletal conditions

Functional Capacity

A key element in the RTW process is the physician's assessment of the injured worker's current functional status. Physicians generally include questions about the impact of the current medical problem on daily activities and function during the regular medical history and review of systems, and then extrapolate that information to the work environment. Over time, most physicians develop a sense of the practical impact of particular medical conditions on functional ability. For example, the ability to drive the car, climb stairs, carry bags of groceries, or lift small children can all be related to work activities with similar functional demands. When the situation is unclear, a next step is to ask the patient to describe and demonstrate the activities that are currently a problem. The physician can assess the patient's level of effort and authenticity while observing the patient. Alternatively, the patient can be sent to the physical therapist for a functional capacity evaluation (FCE). It is better to target the specific functions that are in question, rather than request a comprehensive assessment of all possible functions.

Even the most sophisticated measurement tools and methods are only approximations of real life functional capacity. However, understanding the distinction between *capacity*, *current ability*, *tolerance* and *risk* will help clarify the issues and provide a context for interpretation of functional capacity testing data:

Capacity is a measure of the individual's optimum ability assuming that adequate training has occurred to maximize strength, flexibility, endurance and motor skills. A competitive athlete or a fully trained and conditioned worker acclimated to the job, are examples of individuals who are functioning at or near capacity. This can theoretically be measured but rarely is. What is usually measured is *current ability*. When a physician is involved, current ability is often less than it was previously due to the impact of injury, illness, and deconditioning. Ability often improves over time -- increased back to normal or even up to optimum capacity with healing, appropriate training, and physical conditioning. All the elements of musculoskeletal ability (strength, flexibility, endurance and motor skills) can be improved with exercise, and conversely will decrease with inactivity ("Use it or lose it"). This is the basic theory of work conditioning and work hardening programs.

Tolerance is distinct from current ability in that it involves motivation and mood. It is a psychophysiological concept that can vary from day to day despite the same level of physical ability. It refers to the ability to sustain work at a given level, and is limited by subjective symptoms such as pain and/or fatigue. The availability of rewards and the perception of secondary gain, as well as personality traits and mood can all affect a person's *tolerance*.

- Capacity \geq Current Ability \geq Tolerance

Risk is about probability or the statistical likelihood of an outcome. Ideally, we would like to be able to predict risk of injury or other adverse outcome when an individual with a specific diagnosis is returned to work, but probabilities and statistics are of limited value when a worker or employer needs guidance on what to do in their particular situation. There are a few prospective studies that provide information regarding risk of developing a specific musculoskeletal condition such as low back pain (e.g. Bigos, 1991). One guiding principal however is to consider both the severity and reversibility of any potentially adverse outcome as well as the likelihood of its occurrence. Protecting the health and economic well-being of the worker is not the only issue; co-workers and the public must also be protected, and the employer has some interest in avoiding legal and economic harm.

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Progress Reports and Disability Reports

Doctors' Oral and Written Reports

Employers and benefit administrators require doctors to communicate with them either orally or in writing. These reports may take the form of progress reports, medical releases, return-to-work slips, doctors' notes, or pre-printed forms. Most commonly,

~~Progress reports and disability reports are communications provided to parties outside the healthcare delivery system, in the form of oral reports, forms, or letters. For example, doctors are often asked to corroborate or verify the existence (or absence) of medical problems, or to provide opinions on issues such as a patient's ability to return to work. These reports are based on the physician's medical knowledge but provide a basis for a practical or business decision by someone else. In other words, they serve non-medical purposes that are highly significant to others.~~

Often the patient's comfort, safety, and income depend on the timeliness and accuracy of these reports. ~~Progress reports also are important for their educational value. Patients will be listening and looking hard at their~~ Moreover, the patient may see the doctor's answers to the employer's and insurer's questions. ~~The progress report may well be seen by the patient~~ as an accurate description of the current and future situation.

~~Progress~~Doctors' reports are often the required basis for decisions by others. Many governmental and private benefits programs require that information provided by treating physicians serve as the basis for eligibility and benefit decisions. These are sometimes called medically-driven programs. The language of the doctor's answers is very precisely interpreted, and the decisions others make will either be "yes" or "no." Although medical issues are seldom black and white, employment and benefits decisions ~~must have to~~ be.

In the context of the workplace, a progress report may do the following things:

- A. legitimize time off so patients are not disciplined by their employers for non-attendance
- B. initiate wage replacement benefits to employees who are/have been off work ~~under sick leave, workers' compensation, or disability benefits programs~~
- C. corroborate existence of a "qualifying disability" and thus the need for reasonable accommodation under the Americans with Disabilities Act (ADA)
- D. describe work capacity or limitations and restrictions ~~for patients who are being considered for light duty.~~
- E. provide medical clearance, e.g., for new jobs or hazardous assignments.

Delay in providing progress reports will delay the delivery of services and benefits. This can create financial hardship and slow patients' recovery, thus leading to further disability and increased risk of delayed recovery.

Medical Confidentiality

Information about what an employee can and cannot do at work and how that will change over time is not considered medically confidential, although it should probably be considered private and distributed on a need-to-know basis. Information about diagnosis, treatment, dates of service, etc. is medically confidential and should be handled in compliance with applicable state and federal law.

Employers and insurers see the physician's duty to answer questions provide information in a way that may differ from the way physicians see it. Employers see themselves as the customer along with the patient and think their need for information is reasonable. — because they are paying for the employees' medical care through their benefits programs. ~~Employers~~ They may be surprised and offended if a physician calls a request unethical and flatly refuses to give them any information. Physicians should treat employers courteously and provide them with appropriately limited information. may not realize they are asking physicians to do something unethical. Employers and insurers are offended when doctors flatly refuse to meet their need for information — because they think their needs are reasonable. Physicians who assert that there is no ethical duty owed to employers and insurers can still treat them politely, and with courtesy.

In workers' compensation, both the employer and the benefits administrator have the right by law to at least some information about the alleged work-related injury or illness -- enough for the employer to investigate the incident, manage its safety program, and make decisions on how to handle the claim. State laws vary on the extent of the lack of confidentiality. It is generally preferable to restrict the release of medical information to the employer's benefits or medical department, but other departments at some employers will insist on seeing want to see medical details. Workers' compensation is specifically excluded from the HIPAA regulations, although most physicians are not aware of that fact and ~~set up~~ their office procedures will be set up to be HIPAA compliant.

Disability benefits claim administrators need information about the condition causing a disability in order to manage the benefits claim. Many benefit policies are worded so that benefits are denied if information is not furnished by the treating physician. The patient will need to authorize its release. Usually, an authorization to release medical information is part of the application form for benefits. Many medical offices prefer to get the patient to sign their own release, however. Under HIPAA, the physician is responsible for releasing the minimum necessary information. HIPAA does not consider disability insurers to be a covered entity.

There are a small number of predictable questions that physicians are asked in disability claims. Traditionally, many employers and insurers have relied on doctors to decide when employees return to work. Today, enlightened employers and insurers make the return to work decision based on factual information about work capacity provided by physicians:

1. What are the medical findings, diagnosis, prognosis, treatment history and plan?
Note: Employers (as distinct from benefit administrators) do not need to know much of this except prognosis and functional capacity.
2. When will the employee be able to return to work? Full duty? LightModified duty? (also called lightmodified, limited, or transitional work)
3. What are the patient's limits and restrictions?
4. Is the problem work-related?
5. Has the case reached medical stability or maximum medical improvement?

6. Is there any permanent impairment?

~~People who must make return to work and benefit decisions will read the physician's report carefully in order to find answers to the questions listed below.~~

- ~~1. Is the employee telling us the truth?~~
- ~~2. Is the employee being cared for by a good doctor?~~
- ~~3. Does the employee need to be off work? If not, what CAN the worker do safely?~~
- ~~4. How long will it be until he/she is back to normal?~~
- ~~5. Will there be permanent disability?~~
- ~~6. Does this situation meet the definitions contained in the insurance policy, benefits policy, or laws / regulations?~~
- ~~7. How much money do we have to set aside to pay for this case?~~
- ~~8. Is the case now ready to close / settle?~~
- ~~9. Could this problem have been prevented? Are there going to be more of these cases coming?~~

Multi-party RTW Programs

Employers and insurers have historically been quite tolerant about employees who go off work on the various forms of disability leave, but that is changing. The idea that injured and sick employees should remain at home until they have fully recuperated and can do their regular job is becoming obsolete. Return-to-work programs for workers' compensation cases continue to spread within the employer and insurance community, although there is variation between companies in how actively, intelligently and fairly the programs are actually operated.

In workers' compensation and the short- and long-term disability arena, the payers (employers and insurance carriers) are responsible for wage replacement in the form of temporary disability, permanent disability and vocational rehabilitation benefits and therefore have a financial incentive to optimize the rehabilitation process and facilitate a timely return to work.

With the failure of "managed care" to control escalating costs of workers' compensation medical services, workers' compensation insurance carriers are paying more attention to the 50% of the claims expense dollar that is spent on wage replacement. Given the magnitude of medically unnecessary temporary disability, interventions that address return to work barriers can be expected to provide significant return on investment.

~~Unlike unilateral payer interventions to control utilization of medical services,~~ Management of disability through return to work programs is by its nature a collaborative process. Because improving functional recovery and return to work is

beneficial to all parties, implementation provides a sense of shared purpose among the key players (injured worker, employer, physician and claims administrator) that fosters improved communication and improves outcomes.

Modified work programs facilitate return to work for both temporarily and permanently disabled workers with a doubling of RTW among the workers who were offered modified work compared to employees without access to any form of modified duty. The number of lost workdays per disabling injury was also cut in half when companies implemented modified work programs. In most cases, modified work ~~has been~~ ~~was also~~ part of a broader program, simultaneously including other interventions such as early reporting, use of treatment guidelines, and organizational and ergonomic modifications.

Program elements that appear to be important for a successful return to work program include:

- 1) The establishment of better communications among the key players (medical providers, injured worker, supervisor, and claims administrator) in order to support the employee.
- 2) Management and front line supervisor training and buy-in regarding the importance of the program to employee health and employer productivity
- 3) Willingness of management to be flexible in modifying existing jobs or temporarily assigning employees to alternative jobs which are consistent with the injured employee's current physical limitations

On occasion, worksite intervention programs have failed to produce the expected results. This can occur when employees or union representatives perceive that the only motivation for the return to work programs is cost reduction without genuine interest in promotion of worker health and wellbeing. Workers and their supervisors will not want to participate if they see that the program pressures vulnerable people back to work prematurely, especially if it fails to protect them during recovery.

A major consulting opportunity for occupational physicians is to develop strategies for smaller employers ~~who usually lack not only occupational health services and formal disability management programs, but also lack a range of modified work opportunities. The occupational physician can be very helpful to small employers~~ who lack internal professional staff and often receive little assistance from workers' compensation insurers.

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URLs

[ACOEM Consensus Statement: The Attending Physician's Role in Helping Patients Return to Work after an Illness or Injury]
<http://www.acoem.org/guidelines/article.asp?ID=55>

[National Institute of Disability Management and Research (Canada)]
<http://www.nidmar.ca/>

(This online workshop module is designed for workplace representatives who will be assisting with the development of return to work plans and provides an opportunity to explore the knowledge and skills needed to interact with the workers' compensation board and enhance the likelihood of successful returns to work.)

~~[Steven Sells' disability management page]
<http://www.disabilities.com/>~~

~~(A disability management site for individuals and professionals dealing with disabilities and disability-related issues.)~~

[Webility Corporation]

<http://www.webility.md> (This company provides 2.5 hours of on-line CME in disability prevention and return-to-work communications authored by Jennifer Christian, MD, MPH, one of the chapter authors.)