The injured worker: assessing "return-to-work" status

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SUMMARY In workers injured on the job, the physical findings tell only part of the story. Physicians must also consider psychologic, economic, social, and legal factors when performing a return-to-work assessment.

KEY POINTS The most effective approach to avoiding long-term disability after most work-related injuries is a prompt medical evaluation and an early return to work. The process of safely returning a person to work includes performing a history and physical examination, assessing the physical demands of the job, educating the injured worker regarding the natural history of the injury, setting a return-to-work date, and recommending work restrictions if appropriate. An assessment of job satisfaction and of relationships with supervisors may be more helpful than physical findings in predicting return-to-work outcome. A formal evaluation of functional capacity can assist in this process and also assess the injured worker's motivation to return to work. A comprehensive evaluation by a multidisciplinary team may be required in persons who have been out of the workplace for more than 3 months.

INDEX TERMS: ACCIDENTS, OCCUPATIONAL; EMPLOYMENT; WORK CAPACITY EVALUATION
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OCCUPATIONAL INJURY poses an enormous challenge to physicians and other health care providers, as well as to employers, supervisors, case managers, and other participants in this complex medical-psychosocial-legal arena. Each year, 7% of US workers sustain a nonfatal work-related injury, losing an average of 19 days from work.[1] In 1989, the cost of occupational injury was conservatively estimated at $83 billion.[2] Back injury (which accounts for at least 25% of all workers' compensation claims) and cumulative trauma disorders (including carpal tunnel syndrome) are the most common work-related problems physicians confront.[3] The medical situation is frequently complicated by "nonorganic" or psychosocial issues—job dissatisfaction, compensation, litigation, depression, family stress, and others—that may dwarf the purely physical aspects of the injury.

For both the injured worker and the employer, the worst possible outcome is long-term disability. An important responsibility of the treating physician is to determine when the injured worker can safely

return to work and whether his or her job responsibilities must be restricted, temporarily or permanently.

STRATEGIES FOR REDUCING OCCUPATIONAL INJURY

Preventive programs have limited value

Preemployment screening and on-site preventive programs have proved to have only limited value in reducing work injuries. Prompt management of the acute injury, emphasizing an early return to work if possible, is probably the most effective approach to reducing long-term disability.

Screening programs have emphasized detecting strictly anatomic abnormalities or deficits in muscle strength and flexibility that, in certain occupations, increase the risk of injury and subsequent disability. Isokinetic or isoinertial testing of back-muscle strength, for example, has been suggested to identify persons at risk for back injury. A significant mismatch between the lifting requirements of the job and the worker's measured strength has been reported to predict injury.[4,5] However, isostrength testing has not been shown to validly measure the physical impairment associated with back pain and, more important, has not been well studied clinically in prevention or treatment.[6]

Failure to recognize the complexity of work-related injury, particularly back pain, and to appreciate the omnipresent psychosocial dimension dooms to failure screening or preventive strategies that focus on the purely physical or organic aspects of the problem. These complicating issues must also be evaluated in the return-to-work assessment.

Other strategies also overemphasize purely physical issues

Other strategies for preventing injury and disability, including preemployment roentgenograms, ultrasonographic measurements of spinal canal size, "back schools," workplace conditioning, back belts, and ergonomic assessment with workplace modification, are likewise limited by emphasizing primarily physical issues.[7–11]

The incidence of so-called work-related cumulative trauma disorders or repetitive-motion disorders of the upper extremity quadrupled between 1984 and 1989, an increase clearly not explainable by changes in the physical demands of the workplace.[12] Though less studied than back pain, cumulative trauma disorders are likely complicated by similar psychosocial issues, including boring, monotonous work and the availability of compensation. Not surprisingly, the huge increase in reported injuries of this type occurred just after cumulative trauma disorders were formally defined and made compensable in the mid-1980s, in spite of significant advances in ergonomic job analysis and workplace modification.

Toward a strategy that works

Clearly, screening and prevention are, at best, of limited value in reducing the frequency and severity of occupational injury. Recent studies of work-related back pain suggest a more successful approach: aggressive, early evaluation and treatment, supported by a concerned, interested employer.[13] A critical element in this strategy is a prompt return to work, even in a limited or transitional capacity. To achieve this objective, the injured worker and his or her immediate supervisors and coworkers need education, the employer must be willing and able to provide flexible transitional work opportunities, and the physician must provide competent, prompt medical evaluation and a return-to-work functional assessment and prescription. An early return to activity, including work (with appropriate restrictions if required), reduces the risk of deconditioning, depression, isolation, pain behavior, and ultimately, long-term disability.

THE RETURN-TO-WORK ASSESSMENT FOR ACUTE INJURY

Assessing the injured worker's ability to return to work is an integral component of the initial medical evaluation after the injury and all subsequent evaluations. The evaluation process may be more complex in subacute or chronic cases (more than 6 weeks after the injury), in which nonorganic issues are almost certainly present and may cloud assessment of purely physical parameters such as strength or flexibility. Such patients are more likely to be deconditioned and depressed and more fearful of returning to work.

Table 1 outlines the components of the return-to-work assessment, which the physician should perform as soon as possible after a nontraumatic musculoskeletal injury is reported. Most work injuries are not the result of external, serious trauma. Typically, the precise source or cause of symptoms cannot be identified. For example, the precise anatomic source

TABLE 1
COMPONENTS OF THE ACUTE INJURY EVALUATION AND RETURN-TO-WORK ASSESSMENT

Component	Comments
History and physical examination	Identify serious and specific causes of pain Recognize psychosocial issues
Job description	Estimate physical job demands per employee and employer report Rate as sedentary to very heavy (*Table 2*) Explore availability of light or transitional duty
Education	Explain the natural history of the problem Explain the advantages of being active Reassure regarding safety of returning to work
Return-to-work date	Establish at initial visit on basis of known natural history of the injury
Restrictions	Usually not required for sedentary-to-light work For medium-to-very-heavy work, may restrict to sedentary or light loads (*Table 2*) for up to 2 weeks For repetitive tasks, reduce duration for at least 2 weeks, rotate tasks

of low back pain is not identifiable in up to 85% of cases, and nonspecific terms such as "lumbar strain," "regional low back pain," or "lumbago" are used.[14] Similarly, "cumulative trauma disorder" and "overuse syndrome" are vague terms that only imply a presumed mechanism of injury.

History and physical examination

The primary objective of the initial evaluation is to recognize the relatively uncommon specific conditions (eg, disk herniation with radiculopathy, carpal tunnel syndrome) and the rare serious problems (eg, malignancy) presenting as work-related injuries. This usually requires only a careful history and physical examination. Imaging and electrodiagnostic studies should be performed only if indicated by historical "red flags" (fever, history of malignancy, weight loss) or clinical findings. Magnetic resonance imaging reveals "abnormalities," including disk bulging or protrusion and spinal stenosis, in up to two thirds of all persons, even without symptoms.[15] Attaching inappropriate clinical significance to such findings increases the risk of unnecessary treatment and long-term disability. Making a specific diagnosis unsupported by clinical findings increases the risk that acute back symptoms will become chronic.[16]

Another important objective of the initial medical evaluation is to identify, early on, any nonorganic, psychosocial issues that may affect compliance with return-to-work recommendations. An assessment of job satisfaction and of relationships with coworkers and supervisors may be more helpful than physical findings in predicting the return-to-work outcome.[17] Substance abuse, anxiety, passivity in coping with pain, and depression are associated with increased risk of chronicity and disability in persons with back pain.[18,19]

How strenuous is the job?

Ascertaining the physical demands of the injured worker's job is crucial to developing a return-to-work plan. This information should be sought from the patient (who actually performs the work) as well as from the employer (who may be able to provide a more formalized job assessment). Work is commonly classified as sedentary, light, medium, heavy, or very heavy on the basis of how much weight a worker must lift, and how often (*Table 2*). If the employer does not provide this classification, it can be estimated from the job description. An assessment of standing, walking, sitting, and climbing requirements may be indicated to further refine the description of the work demands. Lifting, pushing, and pulling should also be included in the assessment, both in terms of intensity and duration. Whether there are helpers or mechanical assist devices should be considered. This rating system is useful in determining return-to-work status in persons with injuries to the back, lower extremity, or shoulder. It is less useful in many upper-extremity cumulative trauma disorders.

Communicating with the employer is important not only in determining as accurately as possible the actual job requirements but also in determining whether "light duty" or transitional work is available, which may permit the worker to remain at the workplace.

Educating the patient

Injured persons often have unrealistic and inaccurate expectations about what diagnostic tests and treatment they need, when they can return to work, whether they need surgery, and what their outcome is likely to be. These misconceptions may delay their return to work. The natural history of most musculoskeletal injuries is quite favorable. For example, more than 90% of workers with back injuries return to work within 3 months, most much earlier.[20] For many injuries, particularly lumbar strain, prolonged rest is counterproductive, slowing recovery and delaying the return to work.[21,22] Many patients do not know that medical science cannot determine precisely the source of pain in many instances of musculoskeletal injury. Failure of the patient to understand this may lead to requests for more diagnostic studies and to continued concern about "what's wrong." Inappropriate diagnostic testing and fear of another injury may delay return to normal activities, including work. Educating the injured worker about these issues at the initial visit sets appropriate expectations and facilitates the return to work.

TABLE 2
CLASSIFYING THE PHYSICAL DEMANDS OF A JOB

Classification	Number of pounds an employee must lift		
	Occasionally (0%–33% of day)	Frequently (34%–66% of day)	Constantly (67%–100% of day)
Sedentary	10	Negligible	Negligible
Light	20	10	Negligible
Medium	20–50	10–25	10
Heavy	50–100	25–50	10–20
Very heavy	> 100	> 50	> 20

Modified from the US Department of Labor, reference 27

Setting a return-to-work date

Establishing, at the initial visit, a definite date to return to work further sets appropriate expectations for recovery. The return-to-work date should be based on available knowledge of the natural history of the particular injury. The median duration of an episode of acute low back pain is 7 days, and 90% of patients recover within the first 2 weeks.[23] The worker's physical job classification must also be considered. A person with a heavy job rating may require a full 2 weeks to return to duty, while a person with a sedentary job rating may return to work immediately or within a few days.

The duration of symptoms in other musculoskeletal conditions is less studied. For cumulative trauma disorders, resting the affected body part is the cornerstone of treatment, and at least 2 weeks has been recommended.[12] However, an earlier return to work can be scheduled if the job can be modified to permit the worker to rest the symptomatic limb while performing other duties. Often, "limited rest" can be provided by splinting the involved area. Returning the injured worker to work, even in a limited capacity, as soon as it is medically safe and appropriate may play an important role in preventing sick-role behavior, dependency, deconditioning, depression, fear of another injury, and other risk factors for prolonged disability.

Restrict job tasks sparingly, temporarily

Restrictions in job tasks after an injury should be temporary—rarely permanent—and based on an assessment of the physical demands of the job and the worker's current capabilities. Unfortunately, restrictions are often attached to return-to-work orders on the basis of subjective complaints of pain or on unfounded fears of further injury. Yet, subjective reports of pain correlate poorly with ability to perform physical tasks, particularly in patients with chronic pain.[24] The probability of successfully returning to work is increased when recommended without restrictions, if appropriate.[25]

Patients with back pain usually do not need restrictions on sedentary or light work, particularly if they have some freedom of movement during the workday. For medium, heavy, and very heavy work, reducing the lifting demands to the "light work" category (*Table 2*) for up to 2 weeks is reasonable. Restrictions for cumulative trauma symptoms may include mandatory rotation of job tasks to less-repetitive duties or reduced duration of the repetitive activity. These restrictions are of necessity somewhat arbitrary and must be reviewed regularly in the context of the patient's progress.

TABLE 3
REASONS FOR FUNCTIONAL CAPACITY EVALUATION

To assess work abilities and need for workplace restrictions
To assess illness behavior (symptom magnification) and motivation to return to work
To provide baseline physical performance data and assess progress during rehabilitation
To determine whether job modifications or accommodations are required

ASSESSING CHRONIC INJURY

The assessment of work capability in persons who have not returned to work after 6 or 8 weeks must address several questions: Was the original diagnosis correct? Are additional studies indicated? Are there psychosocial issues affecting the patient's symptoms and activities? Is there symptom magnification (ie, has the patient learned illness behavior)? Has the treatment provided to that point been appropriate?

Perform a functional capacity evaluation

A functional capacity evaluation assesses a person's ability to perform his or her job. It also should provide insight into the motivation of the injured worker, ie, identify symptom magnification or malingering (*Table 3*). Combined with the physician's examination, the functional capacity evaluation should aid in determining whether the worker can return to work (with or without restrictions) or whether additional rehabilitation is required. A functional capacity evaluation is usually performed by a specially trained physical therapist and requires several hours. Components include a job analysis and physical testing (to measure strength, flexibility, and cardiovascular endurance). Performance credibility—an estimate whether the patient is giving a maximal effort—is most commonly evaluated by determining the consistency of effort on physical testing. For example, a coefficient of variation exceeding 15% between three strength measurements using an isokinetic testing device raises the possibility of submaximal effort, perhaps related to illness behavior (symptom magnification).[26]

In complex cases, use a team approach

In even more complex chronic cases, evaluation of return-to-work status is best performed with the assistance of a multidisciplinary team that includes a physical therapist, an occupational therapist, a psychologist or other professional trained in assessment and management of chronic pain, and a vocational specialist. Particularly in more difficult cases, this team assessment provides an "objective" measurement of the patient's physical abilities, including lifting capacity, overall strength, aerobic fitness, flexibility, and dexterity. In reality, this assessment is not completely objective, as these measurements require that the patient give a maximal effort.

The team seeks to identify psychosocial factors that may affect a person's ability to work, such as adjustment to an illness or disability or chronic pain. In addition, it performs a job analysis to describe in more detail specific job tasks, the work environment, and general physical demands. Educational background, other training, and transferable skills are also assessed. Ideally, the individual evaluators should formulate the conclusions of this comprehensive evaluation at a "team meeting."

SUMMARY

To assess return-to-work status, one must know the natural history of the injury, what the injured person's job entails, whether there are confounding psychosocial issues, whether the worker can be given a transitional or modified job, and what physical tests are appropriate to measure work capabilities. Communication with the employer is crucial in defining some of these issues. A competent therapist or multidisciplinary team can assist in this process by performing a functional capacity evaluation, particularly in workers unable to return to work within the expected time.

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