



Disability Management of Injured Workers

A best practices resource guide for physical therapists

College of Physical Therapists of Alberta
University of Alberta, Department of Physical Therapy
Alberta Physiotherapy Association
Workers' Compensation Board - Alberta

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physiothérapie
Alberta Physiotherapy Association



**COLLEGE OF
PHYSICAL
THERAPISTS
OF ALBERTA**



**Workers'
Compensation
Board**
Alberta

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Suite 1350, 5555 Calgary Trail
Edmonton, Alberta, Canada
T6H 5P9

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ISBN 0-9687043-3-6

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Forward

This project is a collaborative venture between four stakeholder groups in the physical therapy profession. Representatives from education, regulation, practice and a payer organization came together to develop a resource guide intended to support physical therapists in the treatment of injured workers.

During the development of the guide it became apparent that this model of disability management has broad application to all injured workers, regardless of the funding system. However it is written with a focus on return to work as a primary goal of rehabilitation. The project partners believe this guide contains physical therapy best practices as we know them today, with the understanding that such documents are always a work in progress. This guide and supporting appendix will be updated and refined over time.

Collaborative projects such as this are successful because of the dedication of many people. Special thanks goes to the project team, lead by consultant Rhoda Reardon of the Institute for Work and Health, Toronto. The team includes:

Dr. Doug Gross,

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Thanks also to the many clinicians and clinic owners who were surveyed and provided information on their disability management practices.

Thanks to the physical therapists, other health care professionals and representatives from various stakeholder groups who attended a project workshop.

Thanks to the organizations that provided supporting resource materials including the WCB-Alberta, the Insurance Bureau of Canada, and the Canadian Council of Life and Health Insurers.

A much appreciated grant was received from the Canadian Institutes of Health Research to support the knowledge transfer aspect of this project, critical to translating evidence into practice.

And finally thanks to Naomi Côté and Rona Marak from the WCB-Alberta who assisted in the editing and design of this guide.

Introduction

Musculoskeletal pain or injury is the greatest cause of work disability. Physical therapists, as primary health care practitioners, are key providers in the care and rehabilitation of injured workers because of their ability to accurately diagnose and treat musculoskeletal conditions and make appropriate activity recommendations.

Physical therapists are educated to integrate best practices and use available evidence in all areas of practice, including return-to-work interventions. However, best practice and related evidence is not always readily accessible.

With this mind, representatives from the College of Physical Therapists of Alberta, University of Alberta's Department of Physical Therapy, Alberta Physiotherapy Association, and Workers' Compensation Board - Alberta came together to discuss the development of a best practices resource guide. The project team identified the following project objective:

To develop and disseminate a best practice resource guide to support the physical therapist management of injured workers.

Further, the project has been guided by the principles and assumptions that physical therapists:

- Are educated as managers of disability and understand that case management is an important component of care.
- Provide invaluable input that is essential to the successful development and dissemination of best practices information.
- Value initiatives that translate evidence into practice.
- Benefit from easy access to information that supports the management of injured workers.
- Recognize that primary rehabilitation goals may differ, depending upon the funding system. Goals range from return to work to the broader goal of achieving optimal physical functioning in all aspects of life.
- Need to build strong and effective relationships with other stakeholder groups involved in the delivery of services to injured workers.

About the resource guide

The resource guide is for the physical therapist disability management of injured workers with musculoskeletal injuries.

Each section describes a branch of the model in greater detail and provides practical suggestions on how to establish the suggested connections. Not all of the connections need to be established for the injured person to successfully return to work.

At the back of the guide, you'll find a description of the project methodology followed by a literature review on the management of work-related musculoskeletal conditions. The guide assumes physical therapists will be able to adapt many of the suggestions and apply them to other environments that the injured worker must function in on a daily basis. For example, there are many areas where the word work could be interchanged with the word function.

The appendix (on the CD and available on www.cpta.ab.ca and www.albertaphysio.org) provides supplementary information to better enable physical therapists to carry out the connections described in the guide.

The appendix contains the following sections:

- Practical tips on disability management
- Outcome measures
- Resources related to:
 - Workers' Compensation Board – Alberta
 - Auto insurance
 - Health insurance

Model for the physical therapist disability management of injured workers

Physical therapists need to collaborate with an extended return-to-work team and make the right connection at the right time.

Case Manager
& Physical Therapist



Workplace
& Physical Therapist



Physician
& Physical Therapist



Health Care Provider
& Physical Therapist

Maximizing the Worker -Physical Therapist Connection



In the disability management of injured workers, it is essential that the connection between the physical therapist and worker is optimized in every case. Understanding the person within his/her unique context is fundamental to planning and delivering the right intervention, as well as facilitating a successful return to work. It is important to make this connection early by speaking with and listening to the person. The injured worker must be a partner in his/her rehabilitation and not just a passive recipient of care. The following information describes what the physical therapist should consider when making the worker-physical therapist connection.

Understand the Worker

As a physical therapist, it is important to understand the worker's musculoskeletal status (physical examination) as well as his or her social and occupational context. Key areas to consider during the initial assessment (in addition to the physical examination):

- Gain an understanding of the individual's job demands.
- Explore concurrent health problems.
- Try to determine if there are work or home issues that may impact rehabilitation.

- Understand how the worker is responding and coping with the problem. This includes understanding whether medications or other substances are being used for pain relief or as coping strategies.
- Ask questions and use standardized measures (i.e. questionnaires) to learn of any concerns, fears, expectations or beliefs about the worker's injury, pain and future recovery (you'll find outcome measures and tools that will help predict return-to-work outcomes in the appendix).
- Determine if the worker is currently receiving care from any other health care provider(s) and evaluate how this care impacts the physical therapy management.
- Understand the individual's beliefs and concerns about the insurer, such as WCB, or the workplace. Act within the constraints of privacy legislation to provide further information and communicate specific concerns to the case manager handling the claim.
- Be alert for any other potential barriers to return to work and recovery (see the appendix for more information about yellow flags and return-to-work barriers).

Introduce the concept of return to work early

Once you have gained an understanding of the factors influencing the worker, it's time to set the stage for facilitating early return to work.

- Clarify that return to work is a primary goal of physical therapy care, bearing in mind that evidence suggests early return to work, or staying at work if possible, is a form of therapy.
- Determine what the worker believes is the likelihood they'll return to work.
- Collaborate to come up with ideas about how to modify the worker's job to allow him/her to work (i.e. changes in seating, positioning of self or equipment).
- Educate and reassure the worker, to minimize any negative beliefs or expectations about the injury, recovery and return to work (i.e. focus on the overriding positive prognosis of acute musculoskeletal problems).
- Create an action plan to address any workplace barriers that would prevent a return to work by collaborating with the worker, case manager and employer.
- Determine if workplace policies or programs exist to provide accommodations for returning workers and whether they are applicable to this situation.

Formulate a return-to-work plan

When you're creating a treatment plan, keep the focus on return to work and involve the worker.

- Ensure the focus remains on function and return to work, and that these goals are viewed to be just as important as the relief of pain or related symptoms.
- Promote return to work and functional goals along with the treatment goals of relieving pain/symptoms.
- During the first physical therapy session, develop specific return-to-work goals with the worker and target realistic expectations of rehabilitation.
- Write down the goals and provide the worker with a copy.

Establish set routines to check progress towards the goals – encourage workers to participate in charting and discussing their progress.

Maximizing the Case Manager -Physical Therapist Connection



Collaboration between the physical therapist and the representative of the insurer / payer is important both for the effective management of the injured person as well as successful business relations. Not every case will require a lot of collaboration, but establishing contact at the outset can facilitate communication if the individual's course is altered or problems arise. To maximize this connection, the physical therapist needs to have some understanding of the payer/insurer's organization (i.e. WCB; private health or auto insurer; employer) and the regulatory environment in which they function.

Establishing contact with the injured worker's case manager

- The case manager is a key member of the return-to-work team and clinicians should learn who is managing the worker's file from the insurer's perspective.
- Work with the case manager to discuss roles and decide who will do what in managing the injured worker's return to work (i.e. who will contact the employer to obtain information on the worker's job demands).
- Adhering to the tenants of privacy legislation, mutually decide how you will communicate – electronic or surface mail, fax or telephone.
- Find out the type of information the case manager requires to accomplish his/her job.
- Clearly state the physical therapy objectives and ensure that you understand the payer/insurer's objectives.
- Inform the case manager of your diagnosis, rehabilitation plan and return-to-work goals. Provide information about the projected timeframes for recovery of function and return to work.
- When discussing return to work, provide specific details about the worker's functional abilities or limitations as they relate to the work environment. Case managers require these details for return-to-work planning and job modification. Some case managers will direct you to speak to the employer. Generally, case managers appreciate descriptions that relate directly to a worker's ability to function in their own workplace using work-related terms. For example, instead of stating how much weight a

nurse can lift, state their ability to lift an IV pump from the bottom of the pole to chest height, several times in succession with or without modifications such as sitting on a stool.

- Use standardized forms when appropriate (i.e. WCB or auto insurance reporting forms).

For workers not progressing as expected, make the connection

- Inform the case manager about individuals who are not progressing, require more time for rehabilitation (i.e. some post-surgical cases) or require a referral to others for care.
- When changing course by trying another intervention, inform the case manager about the reasons why and agree on new timeline targets. Evidence of effectiveness and rationale for trying another intervention should be shared with the case manager.
- Be persistent about communication.

Work collaboratively to solve return-to-work problems

Most often the insurer/payer has experience dealing with workers and their employers. Seek his/her assistance to solve problems. Some situations where his/her expertise in case management intervention might be helpful include:

- Addressing conflicting opinions between various health care providers on return to work.
- Addressing workplace barriers to return to work.
- Contacting the employer when there are problems.
- Dealing with persons who are non-compliant with rehabilitation or have attendance problems.
- When pre-existing conditions are affecting recovery.
- When help is needed in obtaining other medical information.
- When recovery is not progressing as expected.

You'll find information from the different payer/insurers including WCB, health, and auto insurers in the appendix.

Maximizing the Workplace -Physical Therapist Connection



Evidence suggests that return to work is more likely to occur when health care providers work closely with employers. Some clinicians connect with the workplace as a routine part of their physical therapy management. It's a good idea to do so in cases where you are uncertain about the workplace, job demands or return-to-work provisions.

In other cases, carefully consider when and if direct contact is necessary as not all cases will require this direct contact. In some situations, the case manager will be responsible for obtaining the necessary information about the workplace. The individual who speaks for the workplace will vary and may be:

- a manager
- the worker's direct supervisor
- an in-house or external disability manager
- a human resources representative
- a health and safety representative
- a union representative (in some cases)

Reasons for directly contacting the workplace

- To obtain information that will help you develop return-to-work goals and planning, such as when the injured person is uncertain about their job or return to work potential.
- To understand the workplace's return-to-work programs/policies.
- To investigate if there are workplace barriers to return to work.
- To gain a general impression of the workplace culture or specific issues (such as the role of the union, supervisor's attitude, etc.) that would pertain to the worker's return-to-work plan.
- To provide the necessary information to facilitate the injured person's return to the workplace.
- As a routine part of a facility's business practices.

Clarifying job demands with the employer

- Identify the primary workplace contact who will be helping the injured worker return to work.
- Understand the person's job demands – a task description is often sufficient, but sometimes analysis of job demands is required. Inquire about transportation and work scheduling, as these are not often included in formal job descriptions but may significantly impact a return to work.
- Obtain written descriptions, where possible, and include them in the person's physical therapy record.
- Identify any conflicts, or other concerns, that may impact return to work (such as distinguishing work performance issues from physical function issues).

Planning for a return to work

- Understand the employer's expectations about return to work (i.e. are they insisting that the worker only return when 'fully' recovered?).
- Use existing return-to-work programs/policies. When these are not available, determine if the workplace is open to creating an environment that will accommodate the individual's return (such as modifying tasks, equipment/tools, changing hours of work, etc.).
- Discuss how a physical therapist can assist with return to work (e.g. education regarding the nature of musculoskeletal disorders, determining appropriate modification or accommodation).
- Determine if the workplace is open to having the physical therapist visit the work site to assess the job tasks or assist the supervisor to plan for appropriate accommodation. Then proceed with negotiating with the payer/insurer for details of performing the service.
- Describe an individual's abilities and limitations using terminology and examples that directly relate to the individual's work environment.

Maximizing the Physician -Physical Therapist Connection



In some cases, it is important for the physical therapist to make a connection with the treating physician(s). This may be the worker's family physician or a specialist. In either case, chances are the worker sees the physician as the most trusted advisor regarding his or her health.

However, at times the physician does not have adequate information about the worker's functional ability or required work demands. The physical therapist can provide valuable information about the worker's job and potential to return to work, thereby assisting the physician with return-to-work planning. Successful outcomes are more commonly achieved when all health care providers agree on return-to-work goals and recommendations.

The physician should be contacted to:

- Communicate that further medical testing is needed.
- Communicate that projected return-to-work timeframes need to be modified.
- Discuss functional and return-to-work barriers.
- Obtain support from the physician to implement the return-to-work plan.

- Inform the physician when the worker is ready to return to work.

If your return-to-work recommendations are not shared by the physician

- Discuss this with the physician, providing a brief rationale for your recommendations.
- Emphasize that return to work is a form of therapy, and early return to activity and appropriate work can decrease the overall length of disability. Return to work is not contraindicated for injured workers with chronic pain and has been shown to have physical, functional and social benefits.
- If consensus cannot be reached, contact the case manager and suggest the need for further occupational medicine assessment. Case managers are helpful in finding a third medical professional who can render a useful opinion on the worker's readiness for return to work.

Maximizing the Health Care Provider -Physical Therapist Connection



In some cases it will be important for the physical therapist to make a connection with another health care provider who is treating the injured worker. This may be an occupational therapist, chiropractor, psychologist or a massage therapist.

Create a collaborative approach

Ideally, all care providers will be focused on similar goals and will collaborate to build on each other's unique expertise and contributions. The team should strive to provide the injured person with consistent messages about their condition and return to work. It's important to:

- Agree early on who will take on the primary role as disability manager.
- Work toward achieving consistency in return-to-work goals and messages.

- Share discipline-specific information with other providers, maintaining client confidentiality. In most cases, the injured worker must provide consent for the physical therapist to discuss the care plan with other health care providers.
- Establish how the multiple care plans complement each other, identifying and resolving any duplication of service or conflicting treatment advice.

Project methodology

The project included five phases.

- Phase 1 Understanding the current evidence related to return to work.
- Phase 2 Identifying educationally influential physical therapists.
- Phase 3 Understanding the current practice of Alberta's physical therapists in the disability management of injured workers.
- Phase 4 Developing a model for the physical therapist disability management of injured workers.
- Phase 5 Creating a best practices resource guide.

Each phase is briefly summarized:

Phase 1: Understanding current evidence related to return to work

A review of the literature on return to work challenged the traditional idea that treatment is the most important factor leading to injured persons successfully returning to work. There is a growing body of research that shows traditional health care, including clinic-based treatments, are limited in terms of facilitating return to work.¹ Alternative strategies such as workplace and employer contacts, assisting people to remain at work or return to work early, and negotiating meaningful modified duties are more effective for sustaining productive work.

Phase 2: Identifying educationally influential physical therapists

A process of formally identifying and soliciting the help of educationally influential physical therapists was an integral part of the project. 'Educational Influential' (EI) is a term coined by a knowledge-transfer researcher, Roland Hiss.² Hiss demonstrated that health care professionals achieve much of their on-going learning from peers who they self-select as mentors and teachers. He showed that these individuals share common characteristics and that it is possible to systematically identify them by surveying a group of health care professionals within a practice community.

Physical therapists who, through peer nomination, have excellent technical, teaching and humanistic characteristics were identified through an online survey using Hiss' methodology. These physical therapists were invited to the Phase 4 workshop and their feedback solicited as the drafts of the guide were developed. The EIs assist with ongoing knowledge transfer.

Phase 3: Understanding the current practice of Alberta's physical therapists in the disability management of injured workers

Selected clinicians were surveyed to better understand current return-to-work practices. Factors identified as critical to successful return-to-work outcomes, include:

- Understanding current return-to-work evidence.
- Integration of evidenced-based suggestions such as routinely contacting the workplace.
- Confidence in return-to-work decision-making.

The clinicians also demonstrated an awareness of a wide variety of resources that supported their practice approach.

Phase 4: Developing a model for the physical therapist disability management of injured workers

Using the results of the literature review and interviews, the project consultant developed a draft model for the physical therapist disability management for injured workers.

A workshop was then held to review and refine the draft model and generate information to support the contents of an evidenced-based best practice guide. The group envisioned a toolkit of resources for physical therapists that included the model, supporting guide and appendix.

Phase 5: Developing the best practices guide

Following the workshop, the guide was developed based on feedback from workshop participants, clinical physical therapists, occupational therapists, physicians, insurance representatives, as well as other key stakeholders with expertise in the area of occupational rehabilitation and return to work.

Extensive work went into the identification and development of resources for the appendix that accompanies the guide. Outcome measures to facilitate clinical decision-making about the injured worker population are formatted so that clinicians can readily adapt them for use in their facility. Where possible, information from insurers/payers has been included to help physical therapists to understand the various compensation systems that affect injured workers.

Background literature review

For the purpose of creating a model for the physical therapist disability management of injured workers, available scientific evidence was reviewed and synthesized. The literature was searched, focusing on clinical practice guidelines and systematic reviews of intervention effectiveness. When these were not available, clinical trials and other sources of evidence were considered. Retrieved articles were not critiqued or appraised systematically.

Management of acute work-related musculoskeletal conditions

In the first six weeks following an injury event, some scientific evidence supports the following physical therapy management strategies:

1) Diagnosis

Physical therapists should perform an assessment and make a diagnosis early in the therapeutic encounter, then refer for appropriate medical investigation or treatment if necessary.³⁻¹²

Signs of serious pathology (red flags) should be ruled out during the initial assessment. Further investigation or treatment may be required in the case of suspected fracture, ligament or tendon rupture, or other undiagnosed serious pathology.

We acknowledge that in the majority of regional pain conditions, no specific diagnosis can be made and many diagnostic tests currently used clinically (i.e. manual palpation tests) lack supportive evidence of sensitivity or diagnostic accuracy.¹²

2) Prognosis

In addition to making a diagnosis, physical therapists should attempt to perform an early prognostic screen of injured workers to identify return-to-work barriers.^{4,5, 13-19}

Research has been done to evaluate the prognosis for return to work following musculoskeletal injury, with most studies focusing on low back pain, the most commonly compensated condition.

Generally, the prognosis for return to work appears to be good²⁰, however some injured workers are at risk for prolonged work loss or recurrent problems. Risk factors for prolonged work loss have been identified and come from a variety of domains including:

- medical (e.g. injury severity, radiating pain, duration of the problem);
- background (older age, female sex, smoking status);
- work place (e.g. heavy work, job dissatisfaction, low co-worker or supervisory support);
- psychological (e.g. depression, fear of pain, poor expectations of recovery, high perceptions of disability);
- social (e.g. low family support, poor workplace support, breadwinner status);
- system factors (e.g. insurance policies, legal claims).^{15-17, 21-23}

While a precise prediction regarding the likelihood of return to work is rarely possible, physical therapists should attempt to identify those workers at risk of work loss and provide interventions tailored to address identified barriers or refer to other qualified health professionals or programs.

3) Reassurance / overcoming negative beliefs

Worker psychological factors such as fear of major pathology, poor recovery expectations, or other negative emotions and beliefs have been found to greatly influence return to work.

Therefore, providing reassurance and motivation to recover can be critical and an effective intervention (i.e. “The pain usually improves within days or a few weeks. Most people can get going quite quickly, even while they still have some pain.”; “Sometime aches and pains can last for quite a long time. But that doesn’t mean it’s serious. It will settle eventually – even though it’s frustrating that no one can predict exactly when.”)^{4, 14, 24-33}

Physical therapists should also avoid reinforcing negative beliefs or attitudes (i.e. “Your problem is the worst I have seen in a long time.”; “Your spine is very unstable.”; “I can’t be sure what you have until I see results of the imaging study.”).

4) Activity and exercise prescription

While vigorous exercise may not be indicated in early stages following musculoskeletal injury,³⁴ physical therapists should counsel injured workers on appropriate activity. In most cases of musculoskeletal injury, workers should be advised to stay as active as possible, which should include returning to work or some form of appropriate modified work duties.^{4,6-12, 31, 34-45}

Except in post-surgical cases, recommending specific activity restrictions has not been shown to accelerate recovery.⁴⁶ In fact, providing activity restrictions in cases of non-specific disorders may actually hinder recovery.⁴⁷ Additionally, vigorous exercise programs may not be indicated in early stages following musculoskeletal injury.³⁴

A goal or quota-based exercise program, meaningful for the injured worker to improve compliance, should also be provided, monitored and progressed as appropriate.

5) Focus on function

Physical therapists should assess and routinely monitor injured workers functional ability.^{18, 34, 48-54} Ideally, assessment is performed through the use of standardized self-report or performance-based outcome measures.⁵⁵

Assessment should take place at initial assessment and at preset intervals during treatment to monitor improvement and inform discharge and return-to-work planning. This will allow physical therapists to monitor progress and make ongoing management decisions regarding whether to continue or stop treatment. Focusing on function, including work ability, has been found to facilitate early return to work more effectively than pain or symptom-based treatment.⁵⁶

6) Communication

Effective and timely communication between all stakeholders is critical to a successful return to work.^{12, 47, 48, 50, 57}

Physical therapists should communicate to involved stakeholders all aspects of treatment including the injured worker's diagnosis, identified return to work barriers, treatment plans and specific work abilities and precautions (stakeholders include the injured worker, employer, case manager, physician, and occupational health nurse, if available).

Various forms of communication should be used including telephone and in-person conversations, completion of standardized forms, report writing, as well as use of electronic media. Physical therapists should be aware of the requirements of freedom of information and privacy legislation.

7) Modified work

In cases where a return to full work duties is not yet achievable, physical therapists should actively pursue modified work possibilities with injured workers and their employers.

Occupationally-based treatment programs using participatory ergonomics or other forms of negotiated return to accommodated work have been found to be more effective than purely clinic-based treatment.^{18, 48-50, 58} Again, effective communication is critical in this area. Physical therapists may be required to undertake worksite visits to identify appropriate modified work duties.

8) Avoid pain-based treatment

Accumulating evidence suggests that pain-based treatment with physical, electrical or thermal modalities is not effective at promoting return to work and should be avoided if at all possible.^{4, 12, 36-40, 59} Pain coping strategies, if needed, should lead to independent pain management or be of a time-limited nature.

Management of “chronic” work-related musculoskeletal conditions

After the first six weeks following an injury event, some scientific evidence supports the following physical therapy management strategies:

1) Confirmation of diagnosis

In chronic cases, making a diagnosis becomes much less important than in the early stages following injury, as workers have typically undergone thorough medical investigation. However, performing a musculoskeletal examination and ruling out serious pathology can assist in promoting trust and reassurance.³⁻¹¹

2) Prognosis

As with acute conditions, making an informed prognosis and identifying return-to-work barriers can assist in setting realistic return to work goals and providing tailored intervention programs.^{4,5,13-18} Duration of work loss is a critical factor. The longer a worker is off work, the lower the likelihood they will (ever) return to work.

3) Cognitive-behavioural intervention

Physical conditioning or multidisciplinary rehabilitation programs incorporating a cognitive behavioural component are effective at promoting return to work for workers with chronic conditions.^{41,60-63} Such programs typically incorporate quota-based activity and exercise programs and aim to change workers’ beliefs about their injury, perceptions of disability and recovery expectations.

Physical conditioning programs that do not incorporate a cognitive-behavioural component do not seem to be effective at promoting return to work. Consultation with a psychologist may be helpful, and virtual multidisciplinary teams of community providers have been shown to produce good results when trained to perform such psychologically-based intervention.⁶⁴

4) Focus on function

As in acute conditions, physical therapists should assess and routinely monitor functional ability to facilitate timely return to work.^{18,34,48-54,65,66} Function-based rehabilitation is more successful than pain-based treatment.⁵⁶

5) Communication

Effective communication is critical and physical therapists should communicate return to work barriers, treatment plans and specific work abilities and precautions to all involved stakeholders including employers, case managers, physicians, and occupational health nurses.^{47,48,50,57}

Physical therapists should also be aware of previous health care interactions and review management notes from other providers if available.

6) Modified work

The longer an injured worker remains off work, the worse their prognosis becomes. Therefore, physical therapists should make every effort to negotiate return to accommodated work.^{18,48-50,58}

If the injured worker is not job attached, physical therapists should identify and communicate current and likely future work abilities to the case manager to enable vocational rehabilitation or supported job searching in conjunction with physical therapy treatment.

7) Modalities

In chronic conditions, even more importantly than in acute cases, pain-based treatment with physical, electrical or thermal modalities should be avoided.^{4,36-40} Once a painful condition becomes chronic, permanently altering the injured worker's pain and symptomatology is unlikely. However, functional ability can be improved and return to work obtained despite the pain.⁶⁷

References

1. **Franché RL, Cullen K, Clarke J, et al.** *Workplace-based return to work interventions: a systematic review of the quantitative literature.* Journal of Occupational Rehabilitation 2005;15:607-31.
2. **Hiss R, Macdonald R, Davis W.** *Identification of physician educational influential in small community hospitals.* Association of American Medical Colleges Annual Conference on Research in Medical Education, 1978.
3. **van Tulder MW, Tuut M, Pennick V, et al.** *Quality of primary care guidelines for acute low back pain.* Spine 2004;29:E357-62.
4. **Waddell G, Burton AK.** *Occupational health guidelines for the management of low back pain at work: evidence review.* Occupational Medicine (London) 2001;51:124-35.
5. **Burton AK, Waddell G.** *Clinical guidelines in the management of low back pain.* Baillieres Clinical Rheumatology 1998;12:17-35.
6. **Foye PM, Cianca JC, Prather H.** *Industrial medicine and acute musculoskeletal rehabilitation. 3. Cumulative trauma disorders of the upper limb in computer users.* Archives of Physical Medicine and Rehabilitation 2002;83:S12-5, S33-9.
7. **Foye PM, Stitik TP, Marquardt CA, et al.** *Industrial medicine and acute musculoskeletal rehabilitation. 5. Effective medical management of industrial injuries: from causality to case closure.* Archives of Physical Medicine and Rehabilitation 2002;83:S19-24, S33-9.
8. **Marquardt CA, Cianca JC, Foye PM, et al.** *Industrial medicine and acute musculoskeletal rehabilitation. 2. Acute cervical spine and shoulder injuries in the industrial setting.* Archives of Physical Medicine and Rehabilitation 2002;83:S7-S11, S33-9.
9. **Prather H, Cianca JC, Marquardt CA, et al.** *Industrial medicine and acute musculoskeletal rehabilitation. 4. Evaluation and management of the injured worker with a lower-extremity injury.* Archives of Physical Medicine and Rehabilitation 2002;83:S16-8, S33-9.
10. **Prather H, Foye PM, Cianca JC.** *Industrial medicine and acute musculoskeletal rehabilitation. 1. Diagnosing and managing the injured worker with low back pain.* Archives of Physical Medicine and Rehabilitation 2002;83:S3-6, S33-9.
11. **Prather H, Foye PM, Stiens SA, et al.** *Industrial medicine and acute musculoskeletal rehabilitation. 6. Occupational health for special populations.* Archives of Physical Medicine and Rehabilitation 2002;83:S25-32, S3-9.
12. **Group AAMPG.** *Evidence-based management of acute musculoskeletal pain: A guide for clinicians.* Australian Government National Health and Medical Research Council, 2004.
13. **Gatchel RJ, Polatin PB, Noe C, et al.** *Treatment and cost-effectiveness of early intervention for acute low-back pain patients: a one-year prospective study.* Journal of Occupational Rehabilitation 2003;13:1-9.
14. **Linton SJ, Boersma K, Jansson M, et al.** *The effects of cognitive-behavioral and physical therapy preventive interventions on pain-related sick leave: a randomized controlled trial.* Clinical Journal of Pain 2005;21:109-19.
15. **Crook J, Milner R, Schultz IZ, et al.** *Determinants of occupational disability following a low back injury: a critical review of the literature.* Journal of Occupational Rehabilitation 2002;12:277-95.
16. **Truchon M, Fillion L.** *Biopsychosocial determinants of chronic disability and low-back pain: a review.* Journal of Occupational Rehabilitation 2000;10:117-42.

References continued

17. **Pincus T, Burton AK, Vogel S, et al.** *A systematic review of psychological factors as predictors of chronicity/disability in prospective cohorts of low back pain.* Spine 2002;27:E109-20.
18. **Helliwell PS, Taylor WJ.** *Repetitive strain injury.* Postgraduate Medical Journal 2004;80:438-43.
19. **Boersma K, Linton SJ.** *Screening to identify patients at risk: profiles of psychological risk factors for early intervention.* Clinical Journal of Pain 2005;21:38-43; discussion 69-72.
20. **Pengel LH, Herbert RD, Maher CG, et al.** *Acute low back pain: systematic review of its prognosis.* British Medical Journal 2003;327:323.
21. **Fabrizio AJ.** *Work-related upper extremity injuries: prevalence, cost and risk factors in military and civilian populations.* Work 2002;18:115-21.
22. **Feuerstein M, Shaw WS, Lincoln AE, et al.** *Clinical and workplace factors associated with a return to modified duty in work-related upper extremity disorders.* Pain 2003;102:51-61.
23. **Linton SJ, Gross DP, Schultz IZ, et al.** *Prognosis and the identification of workers risking disability: Research issues and directions for future research.* Journal of Occupational Rehabilitation 2005;15:459-74.
24. **Sullivan MJ, Stanish WD.** *Psychologically based occupational rehabilitation: the Pain-Disability Prevention Program.* Clinical Journal of Pain 2003;19:97-104.
25. **Cole DC, Mondloch MV, Hogg-Johnson S.** *Listening to injured workers: how recovery expectations predict outcomes--a prospective study.* Canadian Medical Association Journal 2002;166:749-54.
26. **Mondloch MV, Cole DC, Frank JW.** *Does how you do depend on how you think you'll do? A systematic review of the evidence for a relation between patients' recovery expectations and health outcomes.* Canadian Medical Association Journal 2001;165:174-9.
27. **Buchbinder R, Jolley D.** *Population based intervention to change back pain beliefs: three year follow up population survey.* British Medical Journal 2004;328:321.
28. **Buchbinder R, Jolley D.** *Effects of a media campaign on back beliefs is sustained 3 years after its cessation.* Spine 2005;30:1323-30.
29. **Buchbinder R, Jolley D, Wyatt M.** *Population based intervention to change back pain beliefs and disability: three part evaluation.* British Medical Journal 2001;322:1516-20.
30. **Buchbinder R, Jolley D, Wyatt M.** *2001 Volvo Award Winner in Clinical Studies: Effects of a media campaign on back pain beliefs and its potential influence on management of low back pain in general practice.* Spine 2001;26:2535-42.
31. **Snook SH.** *Self-care guidelines for the management of nonspecific low back pain.* Journal of Occupational Rehabilitation 2004;14:243-53.
32. **Crombez G, Vlaeyen JW, Heuts PH, et al.** *Pain-related fear is more disabling than pain itself: evidence on the role of pain-related fear in chronic back pain disability.* Pain 1999;80:329-39.
33. **George SZ, Fritz JM, Bialosky JE, et al.** *The effect of a fear-avoidance-based physical therapy intervention for patients with acute low back pain: results of a randomized clinical trial.* Spine 2003;28:2551-60.

34. **Abenheim L, Rossignol M, Valat JP, et al.** *The role of activity in the therapeutic management of back pain. Report of the International Paris Task Force on Back Pain.* Spine 2000;25:1S-33S.
35. **Hagen KB, Hilde G, Jamtvedt G, et al.** *The cochrane review of advice to stay active as a single treatment for low back pain and sciatica.* Spine 2002;27:1736-41.
36. *Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for shoulder pain.* Physical Therapy 2001;81:1719-30.
37. *Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for neck pain.* Physical Therapy 2001;81:1701-17.
38. *Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for knee pain.* Physical Therapy 2001;81:1675-700.
39. *Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for low back pain.* Physical Therapy 2001;81:1641-74.
40. *Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions: overview and methodology.* Physical Therapy 2001;81:1629-40.
41. **van Tulder M, Malmivaara A, Esmail R, et al.** *Exercise therapy for low back pain: a systematic review within the framework of the cochrane collaboration back review group.* Spine 2000;25:2784-96.
42. **Maher CG.** *A systematic review of workplace interventions to prevent low back pain.* Australian Journal of Physiotherapy 2000;46:259-69.
43. **Burton AK, Waddell G, Tillotson KM, et al.** *Information and advice to patients with back pain can have a positive effect. A randomized controlled trial of a novel educational booklet in primary care.* Spine 1999;24:2484-91.
44. **van Os AG, Bierma-Zeinstra SM, Verhagen AP, et al.** *Comparison of conventional treatment and supervised rehabilitation for treatment of acute lateral ankle sprains: a systematic review of the literature.* Journal of Orthopedic & Sports Physical Therapy 2005;35:95-105.
45. **Nash CE, Mickan SM, Del Mar CB, et al.** *Resting injured limbs delays recovery: a systematic review.* Journal of Family Practice 2004;53:706-12.
46. **Hiebert R, Skovron ML, Nordin M, et al.** *Work restrictions and outcome of nonspecific low back pain.* Spine 2003;28:722-8.
47. **Hall H, McIntosh G, Melles T, et al.** *Effect of discharge recommendations on outcome.* Spine 1994;19:2033-7.
48. **Franche RL, Cullen K, Clarke J, et al.** *Workplace-based return-to-work interventions: a systematic review of the quantitative literature.* Journal of Occupational Rehabilitation 2005;15:607-31.
49. **Anema JR, Cuelenaere B, van der Beek AJ, et al.** *The effectiveness of ergonomic interventions on return to work after low back pain; a prospective two year cohort study in six countries on low back pain patients sicklisted for 3-4 months.* Occupational and Environmental Medicine 2004;61:289-94.
50. **Loisel P, Lemaire J, Poitras S, et al.** *Cost-benefit and cost-effectiveness analysis of a disability prevention model for back pain management: a six year follow up study.* Occupational and Environmental Medicine 2002;59:807-15.

References continued

51. **APTA.** *Occupational Health Physical Therapy Guidelines.* American Physical Therapy Association, Amended 1997:APTA website.
52. **Kunkel M, Miller SD.** *Return to work after foot and ankle injury.* *Foot and Ankle Clinics* 2002;7:421-8, viii.
53. **Beurskens AJ, de Vet HC, Koke AJ, et al.** *Measuring the functional status of patients with low back pain. Assessment of the quality of four disease-specific questionnaires.* *Spine* 1995;20:1017-28.
54. **Bombardier C.** *Outcome assessments in the evaluation of treatment of spinal disorders: summary and general recommendations.* *Spine* 2000;25:3100-3.
55. **Finch E, Brooks D, Stratford P, et al.** *Physical rehabilitation outcome measures: A guide to enhanced clinical decision making.* 2nd ed. Toronto: Canadian Physiotherapy Association, 2002.
56. **Kool JP, Oesch PR, Bachmann S, et al.** *Increasing days at work using function-centered rehabilitation in nonacute nonspecific low back pain: a randomized controlled trial.* *Archives of Physical Medicine and Rehabilitation* 2005;86:857-64.
57. **Williams RM, Westmorland M.** *Perspectives on workplace disability management: a review of the literature.* *Work* 2002;19:87-93.
58. **Shrey DE.** *Worksite disability management model for effective return to work planning.* *Occupational Medicine* 2000;15:789-801, v.
59. **Childs JD, Fritz JM, Flynn TW, et al.** *A clinical prediction rule to identify patients with low back pain most likely to benefit from spinal manipulation: a validation study.* *Annals of Internal Medicine* 2004;141:920-8.
60. **Guzman J, Esmail R, Karjalainen K, et al.** *Multidisciplinary rehabilitation for chronic low back pain: systematic review.* *British Medical Journal* 2001;322:1511-6.
61. **Guzman J, Esmail R, Karjalainen K, et al.** *Multidisciplinary bio-psycho-social rehabilitation for chronic low back pain.* *Cochrane Database of Systematic Reviews* 2002:CD000963.
62. **Schonstein E, Kenny D, Keating J, et al.** *Physical conditioning programs for workers with back and neck pain: a cochrane systematic review.* *Spine* 2003;28:E391-5.
63. **Gross DP, Battie MC.** *Work-related recovery expectations and the prognosis of chronic low back pain within a workers' compensation setting.* *Journal of Occupational and Environmental Medicine* 2005;47:428-33.
64. **Sullivan MJ, Ward LC, Tripp D, et al.** *Secondary prevention of work disability: community-based psychosocial intervention for musculoskeletal disorders.* *Journal of Occupational Rehabilitation* 2005;15:377-92.
65. **Gross DP, Battie MC, Cassidy JD.** *The prognostic value of functional capacity evaluation in patients with chronic low back pain: part 1: timely return to work.* *Spine* 2004;29:914-9.
66. **Deyo RA, Battie MC, Beurskens AJ, et al.** *Outcome measures for low back pain research. A proposal for standardized use.* *Spine* 1998;23:2003-13.
67. **Gross DP, Battie MC.** *Functional capacity evaluation performance does not predict sustained return to work in claimants with chronic back pain.* *Journal of Occupational Rehabilitation* 2005;15:285-94.

