Saskatchewan Workers' Compensation Board

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Primary Chiropractic and Physical Therapy

Soft Tissue Treatment Guidelines

Effective Date: 06 July 2018

Contents

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PREFACE

The WCB Health/Medical Services Unit developed these guidelines for soft tissue injuries, with input from biomechanical health care consultants and the Chiropractors' Association of Saskatchewan and the Saskatchewan Physical Therapy Association.

These guidelines have been developed to address typical soft tissue injuries. The time frames identified here do not apply to post-surgical injuries or fractures.

When a worker will exceed soft tissue guidelines, the treating chiropractor or therapist will contact the WCB chiropractic or physiotherapist consultant by phone or email leaving a message with sufficient detail to explain why soft tissue guidelines will be exceeded.

Written documentation to support this explanation is to follow the telephone contact. This written documentation can be included in the regular WCB reporting template if this is timely and, if not, in a narrative report or email communication. The written documentation is to include the date of the initial telephone contact with the DC or PT consultant.

DEFINITIONS

Soft Tissue

Soft tissue includes muscle, tendons, fascia and ligaments, which includes articular capsule (i.e. mechanical back pain).

Soft Tissue Injury

Soft tissue injury is an injury to one or more soft tissue structures including muscle, tendons, fascia and ligaments (articular capsule or ligament) that connect the skeletal structure.

Soft tissue injuries generally include strains, sprains and contusions. Soft tissues also can be injured as a result of:

- Direct trauma;
- Over-use;
- Over stretching;
- Whiplash-type injuries (i.e., caused by a motor vehicle accident).

Soft tissue injuries do not include:

- Direct or indirect trauma to bones (i.e., fractures);
- Nerves (i.e., carpal tunnel syndrome or neuropraxia);
- Vascular (i.e., complex regional pain syndrome);
- Post-surgical soft tissue recovery.

Intervention

An intervention is an appropriate WCB coded service provided to the injured worker by the treating practitioner during the acute, sub-acute or chronic phase of the injury.

This intervention or service can include the following:

- Initial examination and treatment which may include patient history, physical examination, necessary treatment (biomechanical treatment, movement patterns, myofascial therapy, electrotherapy), advice and reassurance.
- Subsequent Visit (including review of history and examination as necessary) and treatment (biomechanical treatment, movement patterns, myofascial therapy, electrotherapy), advice and reassurance.
- Initial Conditioning Assessment.
- Individual Conditioning Instruction.
- Group Supervised Exercise Therapy.
- Functional Conditioning.
- Patient Education.
- Return to work planning.

BASIC SOFT TISSUE INJURY TREATMENT PROGRAM

A. Zero to Four Weeks Post-Injury

Interventions

1. After conducting an initial assessment of the injured worker, chiropractors andphysical therapists may provide a maximum of 10 interventions* within the first four weeks that could include:
    a. Biomechanical intervention (Code 400 and 401 DC or Code 2000 and 2001 PT);
    b. Regional conditioning instruction (Code 410 – Individual Conditioning Instruction DC and Code 2008 – Individual Regional/Global Conditioning PT).

In most cases, it is recommended that regional conditioning should be done at home during this period. If, as a health care practitioner, you feel an injured worker requires in-clinic regional conditioning, you should deliver the intervention using one-on-one individualized exercise instruction for a typical intervention period (i.e., 20 minutes).

    c. At least one “one-on-one” educational session with the injured worker, lasting at least 20 minutes (Code 414 DC - Education and Code 2011 PT –Education).

During an educational session, you should explain:

i. The stages of tissue healing.
ii. Self-management including self-directed reactivation strategies.
iii. The recovery and return-to-work process (Return-to-work during the early stages of recovery is safe when clinically appropriate).
iv. Pain management, where indicated.
v. Maintenance of normal activity such as walking, swimming and suitable employment is appropriate with safe clinical findings.

2. At your discretion, you may use multiple interventions in a day; however, each intervention will be counted as part of the ten interventions allotted during this stage of tissue healing. When an injured worker enters primary treatment later than the first week post-injury, the number of interventions should be prorated to the four-week mark. For example, where treatment commences at three weeks post-injury, five interventions can be provided.

Return to Work

3. Chiropractors and physical therapists should make at least one return-to-work planning contact with the employer (Code 407 DC RTW Plan and Development and Code 2002 RTW Planning and Monitoring.) The contact should be a telephone conversation; a letter mailed to the employer will not fulfill this requirement.

4. While an employer can accommodate the injured worker's current restrictions, return-to-work planning and reporting should proceed, with the agreement of the primary care provider (if not you). The return to work schedules should be communicated to all parties using WCB's Practitioner Return to Work (PRTW) form.

5. Return-to-work planning sessions with an injured worker are not counted as part of the ten interventions during this treatment period.

Reporting

6. The CHI/PTI, and or the CHP / PTP should include a paper measure score (Roland Morris, Quick DASH, Neck Disability, or Lower Extremity Spinal Function, as appropriate) estimate on work restrictions (if any) and, a firm date on return to work in any capacity. This return to work may not be at the usual job duties, however the worker should beable to enter the work place albeit in a reduced functional capacity, as soon as is possible.

Billing

7. During the first four weeks post-injury, the WCB will not fund group supervised, global and functional conditioning and functional testing.

8. The WCB will fund, but does not count the following items as interventions:
    a. Initial assessment.
    b. Return-to-work planning.
    c. Telephone calls or consultations (Code 405C and Code 2015).

B. Five to Eight Weeks Post-Injury

Interventions

9. Chiropractors and physical therapists may provide a maximum of 23 interventions between five and eight weeks that could include:
    a. Biomechanical intervention (Code 401 DC and Code 2001 PT).
    b. Regional conditioning instruction (Code 410 – Individual Conditioning Instruction DC) and (Code 2008 – Individual Regional/Global Conditioning PT).
    c. Patient education session (Code 414 DC and Code 2011 PT).
    d. Global conditioning (Code 411 DC and Code 2007 PT). See below for situations that warrant global conditioning.
    e. Functional conditioning (Code 408 DC and Code 2004 PT) See below for situations that warrant functional conditioning.
    f. Return-to-work planning (Code 407 DC and Code 2002 PT).

Global and Functional Conditioning

10. Functional and global conditioning sessions are used only in situations where the customer is not progressing in treatment or on a return-to-work plan where conditioning allows for tolerance development that cannot be safely introduced in the workplace.

11. Before you begin functional conditioning, you may need to conduct a functional assessment (Code 415 DC and Code 2012 PT.) Only one functional test is allowed during this period without approval.

12. However, you may not need to conduct functional testing if your physical examination findings and return to work discussions with the injured worker indicate he/she feels capable of performing his/her critical job demands. Return to work capacities can be determined from daily functional conditioning records and observations and does not always require a formal functional assessment.

File Review

13. Following WCB guidelines, WCB Case Management staff will review the injured worker's file at seven weeks post-injury to evaluate the risk of prolonged recovery and determine if a Multi-Disciplinary Assessment Team Review (MATR) is needed.

14. This review may involve the WCB asking you as the injured worker's practitioner regarding:
    a. The injured worker's timeframe for recovery.
    b. The injured worker's timeframe for return to work, if a return-to-work plan has not been communicated to the WCB, employer, injured worker and primary care provider (if other than yourself).

15. As a practitioner or therapist, you should be prepared to discuss progress in recoveryand return to work to help the WCB determine if either:
    a. Reasonable progression is occurring, or
    b. You feel a multidisciplinary assessment is required.

16. The WCB may ask the injured worker be sent to an Assessment Team Review at this time if:
    a. Objective clinical and functional progress is not being attained;
    b. There are yellow or red flags present with little progress in recovery;
    c. A return-to-work plan is not in progress.

NOTE: Return-to-work planning/telephone calls would not be counted as part of the interventions delivered during this treatment period.

C. Nine to Twelve Weeks Post-Injury

Interventions

17. After conducting an initial assessment of the injured worker, chiropractors and physical therapists can continue with a maximum of 16 interventions during this period as long as the worker is involved with a return-to-work program that is progressing.

18. Return-to-work planning/telephone calls would not be counted as part of the interventions delivered during this treatment period.

19. Where the injured worker is participating in a return-to-work plan and non-endurance progressions are required, functional conditioning is permitted if the injured worker's material handling tasks are greater than what has been measured during the rehabilitation program. For example, you can use functional conditioning if the injured worker requires lifting to heavy industrial, as per the Dictionary of Occupational Titles (DOT), and the worker is presenting with substantially reduced lifting levels.

20. If you anticipate that the treatment may exceed 12 weeks, please contact the consultant to discuss.

Assessment Team Review (MATR)

21. A multidisciplinary assessment should be requested if you as the treating practitioner do not see improvement (or resolution) of the patient's condition including:
    a. Objective clinical findings,
    b. Clear change in self-reported functional outcome scores,
    c. An estimation of recovery approaching 10/10, and
    d. A clear plan for return to work including a clear plan to return to full duties at work.

22. In situations where no functional improvement has occurred and/or the injured worker is not in the workplace and awaiting a MATR, the recommended treatment frequency is one to two times a week with biomechanical and / or regional conditioning as appropriate.

23. NOTE: WCB's Case Management Staff and a Chiropractic or Physical Therapy Consultant may have reviewed the injured worker's file before nine weeks as part of their efforts to identify injured workers who would benefit from assessment team review. As part of this review, team members will ensure vocational (RTW) interventions have been occurring and that WCB's standards of care and treatment protocols have been implemented.

ENHANCED SOFT TISSUE INJURY PROGRAM

24. If, as a chiropractor or physical therapist, you feel that the injured worker's condition warrants more than the maximum number of interventions in any of the time frames discussed in this document, please telephone the Chiropractic / Physical Therapy consultant at the WCB offices.

25. Please contact the consultant by telephone or via email prior to the discussion, so that the consultant has a chance to review the file before you speak. During the call, you and the consultant will discuss your customer's needs, clinical findings, and your evidence-based rationale to request an enhanced treatment program.

26. The goal of this discussion ensures that:
    a. Injured workers receive the right treatment at the right time,
    b. Injured workers at risk of prolonged recovery are routed to an Assessment Team Review promptly to reduce the risks of chronic disability.

RECURRENT TREATMENT

27. If the worker has a permanent work injury related impairment and or permanent restrictions determined by WCB, the worker may be eligible for recurrent treatment. Recurrent treatment should be provided based on reported objective physical and functional findings.

28. If the worker returns for recurring treatment, the WCB will pay for the initial evaluation and one intervention at the time of evaluation, but treatment will not be funded until the case manager has confirmed ongoing treatment is supported.

29. After approval is granted, the number of interventions per flare should not exceed six(6).

30. If you have not received approval with a decision regarding care within two (2) business days, please phone/email the WCB consultant to ask for clarification regarding ongoing care.

31. The goal of treatment for a recurring condition is to assist the worker to maintain their function and treat flare-ups (which results in reduced function). This can be accomplished by:
    a. A review and progression as appropriate, of any home based coping strategies,
    b. Provision of a few treatment interventions (typically not to exceed six (6)), and
    c. An expectation that the worker will be discharged again to manage on their own once the flare-up resolves.

CONCLUSION

32. The goal of the Soft Tissue Guidelines is to assist the worker to return to full function and to return to all work duties in a timely manner using interventions which are shown to be helpful in the literature. The nature of the interventions changes over time, moving from passive, protection strategies in the first few hours to active function-based interventions as is appropriate given the stage of healing.

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Management of Soft Tissue Injuries For

Injured Saskatchewan Workers

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July, 2014

INTRODUCTION

Saskatchewan WCB and other insurance funders have followed the trend to pay for interventions, which demonstrate clinical efficacy. i There is a trend to measure performance based on adherence to clearly defined guidelines. ii

There is always a tension between the use of guidelines and the needs of an individual patient, however clinicians do need to consider guidelines when making clinical decisions.

Providers should carefully weigh the relative benefits and risks of each treatment option. [iii] Treatment decisions must be made on an individual basis, given the skill set of the treatment provider [iv] with an understanding of evidence-based treatment protocols and national guidelines. [v] [vi] While it is often argued that the needs of an individual patient may be different than a management guideline, there should be, on a population basis, evidence that interventions decisions are linked to improvement in patient function. [vii]

BACKGROUND

Description of the condition

Trauma to soft tissue can result in a range of tissue damage from a mild contusion to actual tissue rupture. If the integrity of the tissue is compromised resulting in a partial or complete tear of the tissue, a complex healing mechanism results. In general terms, different tissues [viii] - skin, tendons, ligaments, muscles and bones respond to tissue injury in generally the same manner, given a similar amount of tissue damage, however there are tissue specific differences as well.

OBJECTIVES

The first objective of this paper is to review and update the evidence underpinning the assumptions surrounding the management of soft tissue injuries of Saskatchewan workers who were injured on the job. Secondly, actual data from management of Saskatchewan injured workers, was considered to determine if there was support for the soft tissue guidelines model.

Methods

Criteria for considering studies

The primary literature was searched from 1990 to April 30, 2014 using the Cochrane Library, PUBMed, and EMbase using the following search terms. The Institute for Work and Health web site listings of papers was also scanned from 2007 to April 30, 2014.

- Ligament OR Tendon OR Muscle AND stages of healing AND Human
- Ligament OR Tendon OR Muscle AND sprain AND Human AND rehabilitation AND physical therapy
- WCB rehabilitation
- WCB rehabilitation OR Treatment Guidelines WCB
- Soft Tissue Injury AND Evidence Based Guidelines
- Functional Conditioning OR Work Hardening OR Work Conditioning) AND Human Work Injury AND (Hardening OR Conditioning OR functional) AND human
- Best Practice AND Funding
- Best Practice AND Funding AND (WCB OR Insurance)
- Best Evidence AND Funding
- Performance indicators AND insurance

RESULTS

The literature search yielded a total of 2024 papers, published to April 30, 2014 which were scanned for relevance and included in the analysis as, required. A total of 78 papers were included in this review as well as an additional 3 definitions internally produced by WCB for the Primary Health Care Provider (PCP) review process.

A recent review of current practice management by Saskatchewan practitioners has demonstrated that those practitioners scoring on the upper scale of a practice review process are managing their patients well within the current numerical maximums (10,23 and 16) per 4-week periods in each of the first 3 months of treatment. [ix]

DISCUSSION

Recent literature review on disability patterns tells us:

- The occurrence of a work injury will have an effect on how the worker recovers from the work-related injury suggesting delayed recovery in comparison to a non-work-related injury. [x] [xi] [xii]
- Workplace return is complex and this complexity heightens the longer the worker is away from the workplace. There is an increased chance of re-injury after an initial work absence. [xiii] [xiv]

- Injury and work absence increases the likelihood of health care utilization for at least 2 years in a small percentage of claimants. [xv]
- Work continuity has been shown to be associated with improved health status on the long term. [xvi]
- The etiology of back pain can be multifactorial, and interventions need to take into account the management of each of the factors. [xvii] Age [xviii], gender, marital status, education, duration of employment, type of occupation, the actual physical demands of the job including lifting and or positional tolerances, history of previous work and other injuries all may affect the complex issue of ensuring a smooth re-entry into the work environment. [xix] [xx]
- Depressive symptoms are common in injured workers. These are seldom diagnosed or treated. While they are transient for some, others suffer for longer periods of time. [xxi] They may benefit from specific treatment for their depressive symptoms, which would have the benefit of reducing insurance costs, but more importantly in reducing the suffering of these workers. [xxii]
- Using evidence-based pathways is helpful to substantially reduce the incidence of unnecessary exposure to radiation and to assist with proper diagnostic conclusions. As well evidence-based treatment protocols[xxiii] are helpful in improving patient outcomes, and reducing the risk of re-injury. [xxiv]
- A general understanding of psychosocial and physical factors, which may affect the return to work, will be helpful to support the worker's recovery and speedy re-integration into the work environment. Return to work planning may be derailed by unforeseen barriers, and the experienced health care provider may be able to reduce some of the complexities with the appropriate support and education. Even after the worker returns to work, careful questioning may lead to resolution of work site issues such as co-worker interaction, and workplace lack of cooperation with reduced functional demands in the graduated return to work process. This includes the supportive nature of co-workers when the injured worker returns to the job site. [xxv] The care provider should be conversant in the reasons for work injuries and the evidence for effective interventions for the injury. [xxvi] [xxvii]
- The purpose of the WCB funding model is to assist with provision of the right intervention at the right time. [xxviii] [xxix] [xxx]

Management of Soft tissue Conditions

This discussion is generally directed to the first 12 weeks following injury and what interventions are most suited to managing the work-related injuries, as time progresses following the injury date.

WCB provides funding at a primary level for most workers with a soft tissue injury, but also includes funding for interdisciplinary treatment for some workers, whose condition is more severe or who are not returning to full function in the work place in a timely fashion. The purpose of funding is to assist with provision of the right intervention at the right time. [xxxi] [xxxii] [xxxiii]

Stages of tissue Healing:

The wound healing process [xxxiv] [xxxv] can be divided into three phases 1) inflammatory phase 2) proliferative phase and 3) maturational or remodeling phase.

Best practice supports different interventions at each stage based on our knowledge of this tissue healing. Healing has been described as a cascade of events which result in a restoration of tissue continuity.[xxxvi] The stages of soft tissue healing describe three distinct periods of recovery and histological change.[xxxvii].[xxxviii] Therapeutically, the third phase is divided into an early and late phase.

The timelines described below are based on typical healing timelines. Each stage can be protracted based on the significance of soft tissue trauma as well as co-morbidities such as infection, diabetes or other metabolic conditions.

Inflammatory Phase:

Starts within 24 hours of the injury and persists for about 72 hours during uncomplicated injuries.[xxxix] Timelines for the inflammatory stage of healing can last up to 10 days. Immediately following the injury, injured blood vessels creates a hematoma, which forms at the wound site. The clot activates the releases chemotactic factors, which attract inflammatory cells that migrate to the wound site and clean the site of necrotic material. In addition to this extracellular cell matrix is created by fibroblasts. Lastly, angiogenic factors initiate the formation of a vascular network. The result is the creation of continuity and partial stability at the site of the injury.

The inflammatory phase of healing is characterized by loose wound aggregation, re-vascularization. Pain during this phase is chemical in nature. [xlxli] [xlii]

Treatment recognizes that pain is chemical based and the early wound is fragile.

Education regarding the inflammatory stage of tissue healing and the importance of management including anti-inflammatory interventions and relative rest. Modified activity at and away from work is appropriate respecting pain.[xliii]

Proliferative Phase:

Typically starts and is completed by 15 days, can last up to 6 weeks in more complicated tissue healing.[xliv]

Fibroblasts are highly concentrated at the wound site and are rapidly producing extra-cellular matrix, which forms the building blocks for wound repair. Ongoing development of a blood vessel network has occurred at the wound site. The make-up of the extracellular matrix is less differentiated collagen and is randomly oriented. The wound has the appearance of a scar. At the completion of the proliferative phase, the repair tissue is highly cellular with an abundance of water.[xlv]

The nature of pain is a combination of chemical and mechanical.

Remodeling Phase:

Typically starts 6 to 8 weeks post injury. The remodeling phase is characterized by decreased cellularity, reduce extracellular matrix synthesis and a change to more appropriate differentiation of collagen. Bonding between collagen increases in strength increasing tendon stiffness and tensile capacity. Tissue maturation and orientation improves. During this stage, response to tissue loading and deformation is mechanical, which demonstrates recovery after loading.[xlvi]

Treatment choices are based on the principal that tissue loading affects tissue length, thickness and orientation. Education is based on the principal of symptom recovery in response to tissue loading as being normal and desirable to assist with increasing tensile loading and proper orientation.[xlvii]

Management Strategies based on Stages of Tissue Healing

Initial Contact

The ideal management of the injured worker is a combination of understanding the nature of the injury, the worker's health history, a basic understanding of the work demands, the use of potentially impairing medications, and psychosocial issues which may affect a return to work. [xlviii] Following a history, which includes injury specific questions, but also general health screening questions, the worker should be carefully examined, appropriate diagnostic information obtained (if required) in order to determine an accurate diagnosis. [xlix l]

Treatment During Inflammatory Phase

During the first few days after the injury, efforts are directed to pain control and to advice to the patient which includes education [li] about the nature of their injury, the importance of staying active and returning to normal activities as soon as possible, short and longer term measures to manage the work injury and ways to avoid future back injuries. [lii liii] It is useful to provide patients with information to give them a basic explanation about the role that WCB plays in funding injury rehabilitation as they interact with the insurer [liv]

These messages will need to be reinforced over the treatment program, with demonstration of increasingly more active strategies to assist with a timely return to work. The severity of symptoms (i.e. spinal pain with distal radiation) is not well correlated with the likelihood of future disability. Interventions should be designed to prevent the onset of work disability. [lv]

Work time loss is a result of a complex interaction between the type of injury, the worker's injury history, and other physical and psychosocial factors. It is interesting to note that emergency room physicians who would typically see the worker within a few hours of the work injury often underestimate the actual temporary disability of workers.[lvi] The symptoms following tissue damage are chemically mediated and may progress over time, hence it is not unusual to experience more symptoms on the day following the injury.

Early reintegration of the worker to their work place following a soft tissue injury, even in a quite reduced capacity, is a very important aspect of their treatment. [lvii lviii] Return to work recommendations at this stage can be made based on patient interview and clinical observation.

Treatment During Proliferative Phase

Treatment recognizes that a poorly organized wound is forming and will benefit from controlled tissue loading but is still fragile.
Activity is encouraged to assist in early reorganization of tissue understanding that the healing wound is not prepared for full loading.[lix]

Education encourages activity including modified work as appropriate.

Treatment During Fibroblastic and Early Remodeling Phase

Early remodeling is characterized by wound maturation that requires tissue loading. If the worker is not yet progressing in the workplace, then physical programming including regional, global and functional conditioning are indicated. As time progresses, more vigorous, injury specific treatment interventions, with an understanding of the stages of tissue healing, will assist in the return to pre-injury function. [lx] [lxi] Patient specific functional testing is effective in providing information required in early return to work decision-making. Simple (short form) functional capacity testing appears to be as effective as more comprehensive testing for work readiness. [lxii] [lxiii]

Patient education has been shown to assist in improved function ***(***and reduced pain***)*** in the short and medium term. [lxiv] The utility of physical conditioning in the first 8 weeks as part of a return to work strategy in reducing sick leave for workers with back pain, compared to usual care or exercise therapy, remains uncertain. [lxv] For those workers with chronic back pain, physical conditioning as part of a rehabilitation program has been shown to have some effect on reducing sick leave in the year following the intervention.[lxvi] This population is likely the one, which would be referred on to interdisciplinary treatment. [lxvii] [lxviii]

Interdisciplinary Treatment

It is recognized that interdisciplinary treatment is beyond the scope of this review, however this information is provided to demonstrate that WCB does fund a continuum of care.

As time progresses, the focus of treatment changes from one where more passive strategies are effective (in the early days of the injury management) to where more active strategies are required to assist the worker in improving to their pre-injury status or at least to maximize their function in the case where a permanent impairment remains following appropriate treatment. [lxix] [lxx]

A certain percentage of injured workers do not progress as anticipated and these are the individuals who may benefit from interdisciplinary management of their injury. [lxxi] [lxxii] [lxxiii] The goal with interdisciplinary treatment is to reduce the percentage of injured workers who go on to have increased health care costs following the work injury as well as increased time loss due to ongoing disability. [lxxiv] As well, advice on ergonomic changes to the work place may be helpful in the long-term recovery of the injured worker, [lxxv] perhaps not in speeding the recovery time, but for reducing ongoing time loss and sickness absence. [lxxvi]

CONCLUSION

The use of current evidence should be the foundation of prudent practice and may require a change from historical practice patterns. [lxxvii] [lxxviii] This paper reviewed the Soft Tissue Guidelines currently endorsed by the Saskatchewan WCB, provided an updated analysis of the literature and considered the pattern of practice of chiropractors and physical therapists using the Primary Care Provider (PCP) Review process.

The literature review and the review of current management strategies confirmed that treatment during the first few weeks post-injury should focus on advice regarding pain control, education regarding self-management strategies, a return to usual activities, with an early return to work. There is little support for high frequency treatment, regional or global physical programming during this period.

The review supported the use of more comprehensive programming post 20 days as recovery moves into late fibroblastic and early remodeling. It was recognized prolonged time loss can result in greater disability and a higher risk for delayed recovery. This is reflected in the support for more treatment interventions during the second and third months following the work injury with consideration of interdisciplinary treatment if a clear resolution of the work injury does not appear to be imminent.

The review of management strategies by chiropractors and physical therapists in the upper range of the PCP review process suggests that current funding model for treatment is appropriate. It is the expectation that practitioners treating injured workers will continue to manage their patients keeping the guidelines in view.

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