Work Rehabilitation: Managing Prolonged Episodes of Care

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ABSTRACT

Rehabilitation professionals can support work participation after injury or illness to minimize the public health crisis of work disability that is burdening individuals and society. This monograph reviews evidence-based, worker-centered, and clinically relevant strategies to implement comprehensive work rehabilitation programs for individuals experiencing prolonged episodes of care. In the context of this monograph, a prolonged episode of care is conceptualized as one that is delayed in achieving an anticipated outcome due to worker-level or system-level complications or barriers. The monograph describes multi-component programs designed to optimize work participation for individuals who do not achieve work participation goals with traditional rehabilitation. It discusses administrative considerations of these programs as well as evaluation and treatment strategies that balance worker needs and system demands. It also overviews specific subtypes of comprehensive work rehabilitation programs, including work conditioning/hardening and interdisciplinary pain management. The monograph concludes with 4 case studies aimed to apply these concepts described above.

Key Words: behavioral health, pain management, work conditioning, work hardening, work rehabilitation

LEARNING OBJECTIVES

Upon completion of the monograph, the course participant will be able to:

1. Distinguish comprehensive work rehabilitation programs for prolonged episodes of care from entry point care.
2. Identify appropriate candidates for comprehensive work rehabilitation programs beyond entry point care.
3. Implement the administrative components necessary to set up a comprehensive work rehabilitation program for prolonged episodes of care.
4. Collaborate with multiple stakeholders to address barriers to return to work.
5. Recognize appropriate worker-level and program-level outcomes for use in comprehensive work rehabilitation programs for prolonged episodes of care.
6. Describe the components of a comprehensive evaluation for a worker experiencing a prolonged episode of care.
7. Evaluate criteria for transition and discharge planning for comprehensive work rehabilitation programs for prolonged episodes of care.
8. Design an individualized comprehensive work rehabilitation program that aligns with worker needs and balances system demands.
9. Identify specific administrative, evaluation, and treatment considerations for work conditioning/hardening programs.
10. Identify specific administrative, evaluation, and treatment considerations for interdisciplinary pain management programs.

INTRODUCTION

Physical therapists and occupational therapists play a critical role in work rehabilitation in collaboration with other health care and vocational professionals. Work rehabilitation is "the process of assisting workers to remain at work or return to work (RTW) in a safe and productive manner, while limiting the negative impact of restricted work, unemployment, and work disability."[1] Escorpizo et al[2] defined work rehabilitation as "a multi-professional evidence-based approach that is provided in different settings, services, and activities to working age individuals with health-related impairments, limitations, or restrictions with work functioning, and whose primary aim is to optimize work participation."

This monograph provides evidence-based, worker-centered, and clinically relevant strategies to implement comprehensive work rehabilitation programs for individuals experiencing prolonged episodes of care. Whether delivered primarily by one or multiple disciplines, these programs are implemented in collaboration with multiple stakeholders to promote an integrated, efficient care approach. These multi-component programs are designed to optimize work participation for individuals who do not achieve work participation goals in response to early therapy intervention. More information about best practices for early intervention may be found in the monograph, Entry Point Care for Workers with Job Participation Barriers, which is in the independent study course titled *Bridging the Gap between the Workplace and Therapy Clinic*.[3]

An episode of care is defined as "all services provided to a patient with a medical problem within a specific period of time across a continuum of care in an integrated system."[4] In the context of this monograph, a prolonged episode of care is conceptualized as one that is delayed in achieving an anticipated outcome due to worker-level or system-level complications or barriers. While the specific timeframe constituting "delayed" can vary, workers who have injury or illness sequelae lasting beyond 6-8 weeks may require higher levels of care and additional support. For example, that is the time point at which a multidisciplinary assessment is recommended by the clinical practice guidelines for optimizing work participation from the Academy of Orthopaedic Physical Therapy's (AOPT) Occupational Health Special Interest Group (OHSIG).[1] However, components discussed in this monograph may be relevant even within the first 6 weeks, especially for workers who are at high risk of experiencing long-term work disability. For such individuals, elements of this monograph can be blended into the strategies described in the entry point care monograph.[3]

This monograph emphasizes a worker-centered perspective, where the therapist develops a personalized plan of care based on the individual's strengths, needs, values, and RTW goals to minimize work disability and increase work participation. However, more general administrative components are also discussed because of system demands that affect service provision. Additionally, specific subtypes of comprehensive work rehabilitation programs (eg, work conditioning/hardening) are described to pragmatically align with current service delivery models.

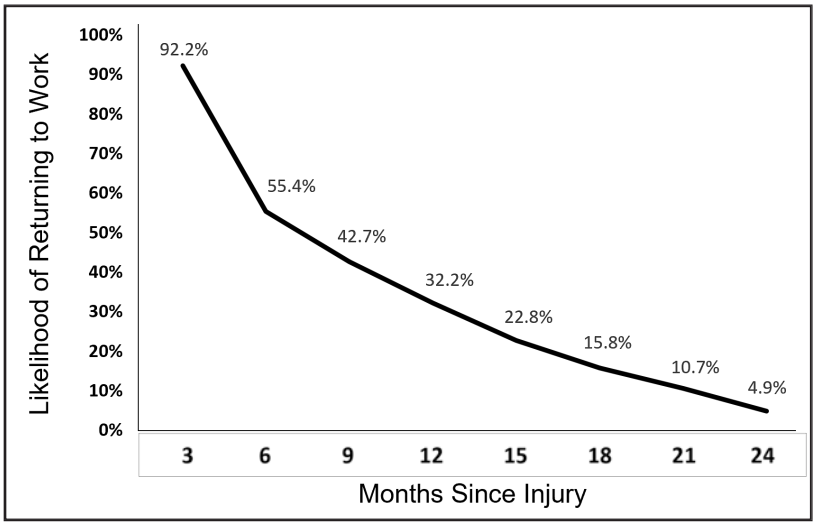
Avoiding Long-term Work Disability

Work disability has been defined as "the inability of working-age adults to perform essential job tasks or maintain employment due to health concerns and functional limitations."[5] It is "the result of a decision by the worker who for potential physical, psychological, social, administrative, or cultural reasons does not return to work. While the worker may want to return to work, he or she feels incapable of returning to normal working life."[6] Work disability is multifactorial and may relate to characteristics of the worker, workplace, compensation system, and health care system.[6] For example, a synthesis of systematic reviews identified common factors associated with poor RTW outcomes as higher pain or disability, depression, activity limitations, higher physical work demands, and previous sick leave or unemployment.[7]

Work disability continues to increase in prevalence and is a public health crisis for individuals as well as health care and social benefit systems.[5] Work disability has a significant financial impact on multiple stakeholders, including the worker and society. The total cost of work-related injuries in the United States in 2019 was $171 billion, including direct and indirect costs related to wages/productivity (32%), medical expenses (21%), administrative expenses (35%), and employers' uninsured costs (8%).[8] In 2019, the Social Security Disability Insurance trust fund paid $145.1 billion to disabled workers and their spouses and children.[9] The estimated societal cost of work-related injury, illness, and fatalities in 2007-2015 may have been as high as $2.2 trillion.[10]

When a worker is out of work after injury or illness, it is imperative for them to RTW promptly, even if in a modified or transitional work status. The likelihood of a worker returning to employment is closely tied to the length of their time off work. According to a 2013 report by the Washington State Department of Labor and Industries,[11] the chances of returning to full employment after being out of work for 6 months due to injury or illness is 55.4%. The chances decrease to 32.2% after 1 year and 4.9% after 2 years (**Figure 1**).[11] Based upon the post-injury RTW statistics and the financial impact, it is essential to identify those injured or ill workers who are at risk of long-term work disability and provide early appropriate work rehabilitation services. However, identifying those at risk for long-term work disability remains challenging, with many prolonged or high-cost episodes not being identified early in care.[12–14]

Figure 1. Decreased Likelihood of Return to Work with Extended Time Out of Work



Data are based on a 2013 report by the Washington State Department of Labor and Industries.[11]

Target Populations

Comprehensive work rehabilitation programs described in this monograph are typically considered for individuals who have been out of work for longer than 6 weeks and have not met their functional goals at that time with standard care approaches. As workers progress through a course of care after injury or illness onset, many complex factors can impact their case and the overall RTW timeline. This section includes examples of scenarios where workers can experience prolonged episodes of care and benefit from strategies outlined in this monograph. Factors can interact with one another, such as a worker with a high comorbidity burden who more rapidly experiences deconditioning.

Individuals may experience deconditioning of multiple systems (eg, musculoskeletal, cardiovascular) from disruption of normal physical activity after injury, illness, or surgery.[15,16] Muscle loss and fatigue can occur with even short-term immobilization or disuse in healthy adults.[17,18] This prolonged interruption in activity may lead to a significant loss of ability that limits work function and increases risk of reinjury. Workers with extended inactivity related to injury or illness, which can be exacerbated by time out of work, can require treatment that is focused on reconditioning beyond traditional entry point care.

Additionally, workers with occupations with higher physical demand levels (ie, medium, heavy, very heavy) are often appropriate candidates for comprehensive work rehabilitation programs due to larger gaps in meeting work demands. To achieve lifting, standing, and lower posture requirements, they can require more intensive work-focused training, including progressive simulated or actual work activities to RTW safely.

Medical comorbidity burden–long-term underlying health conditions (eg, obesity, diabetes, hypertension, smoking)–can also impact RTW timelines and service utilization.[19] Ultimately, these workers may require a comprehensive RTW program that is tailored to address functional deficits and impairments associated with their other health conditions.

Psychosocial risk factors, which may be accompanied by persistent pain, are also recognized as having a significant impact on RTW after injury.[1] Stress responses related to injury often require management beyond entry point care and can lead to permanent disability if not addressed in a timely manner. Such responses may also be complicated by drug addiction or other preexisting mental health barriers. Workers with these factors may benefit from a comprehensive program to address their specific deficits and build their confidence to safely RTW without reinjury or significant symptom exacerbation.

Relationship to AOPT OHSIG Clinical Practice Guidelines

The present monograph builds on the recommendations from the AOPT OHSIG clinical practice guidelines for optimizing work participation,[1] which establish a foundation for the design of cost-effective work rehabilitation programs. While physical therapists are the focus of these guidelines, many of these evidence-based recommendations are relevant for occupational therapists and other health care providers. Examples of assessment recommendations related to this monograph include (1) screening for RTW risk factors using validated tools and patient interviews and (2) using validated self-report tools that specifically address work participation. Examples of treatment recommendations related to this monograph include (1) incorporating psychologically informed practice for individuals with psychosocial barriers and (2) prescribing intense graded work-focused exercise for individuals who have not returned to work within 6 weeks post-injury. Other key recommendations related to this monograph include (1) building a therapeutic alliance and (2) engaging in multi-stakeholder communication.[1]

ADMINISTRATIVE COMPONENTS

Program Configurations

Comprehensive work rehabilitation programs for prolonged episodes of care can necessitate expansion of workplace or therapy interventions that are described in the *Independent Study Course 32.4, Bridging the Gap Between Workplace and Therapy Clinic*.[3] Expanded care can include addition of services (eg, full body conditioning), disciplines (eg, psychologist, job placement specialist), or progressive time spent in the clinic or workplace (eg, to increase endurance with work-specific tasks). Alternatively, comprehensive work rehabilitation can involve formal programs, such as work conditioning/hardening or interdisciplinary pain management. Briefly, work conditioning/hardening programs are structured, goal-oriented programs that aim to return the worker to work in a safe and productive manner as soon as possible.[20] Clinic-based work conditioning/hardening programs range in duration from 3-5 days per week with 2-8 hours of service per session and are discussed further in a designated section in this monograph. Interdisciplinary pain management programs offer a mix of medical, psychosocial, and rehabilitation services[21] and are also discussed further in a designated section in this monograph. Additionally, comprehensive work rehabilitation programs can include community-based elements of transitional work or other worksite interventions, of which detailed discussion is outside the scope of this monograph. For more information about elements of transitional work programs, please review the monograph on *Total Worker Health™ Protection and Promotion Programs* in the independent study course *Bridging the Gap Between the Workplace and Therapy Clinic*.[3]

Work rehabilitation programs have an option for seeking accreditation by the Commission on Accreditation of Rehabilitation Facilities (CARF). For example, interdisciplinary pain management programs may be accredited under CARF's medical rehabilitation umbrella.[22] Commission on Accreditation of Rehabilitation Facilities is a non-profit organization founded

in 1966 that provides independent, nonprofit accreditation of health and human services programs. It provides strict standards and performs audits of programs to ensure quality standards are met. Commission on Accreditation of Rehabilitation Facilities accreditation is voluntary but can be a strong addition to some work rehabilitation programs as it demonstrates a commitment to quality. This accreditation may or may not be required by the insurer. For example, the Ohio Bureau of Workers Compensation requires CARF accreditation to provide services labeled as "work hardening."[23] Washington State Labor and Industries only covers work hardening programs that demonstrate essential elements delivered by approved rehabilitation providers and requires CARF accreditation for authorization of a formal pain management program.[24,25] Program guidelines for providers often stipulate licensure or training requirements expected of health care providers who deliver services.

Payers

Most workers receiving work rehabilitation have a work-related injury and an open Workers' Compensation claim. Workers' Compensation payers will generally cover the cost of traditional rehabilitation as well as more specialized comprehensive work rehabilitation programs (eg, work conditioning/hardening) for individuals with work participation barriers and an open claim. Understanding the historical perspective of the Workers' Compensation system from both the payer and worker perspectives is helpful to appreciate the unique challenges of providing services within this payment system. The first Workers' Compensation laws were passed in the United States in 1911 because of the rise in employee injuries related to the growth of factories and machinery. Before 1911, employees could only receive compensation for a work-related injury or death by directly suing their employer. These lawsuits were challenging for employees to win and could be potentially catastrophic to employers. Workers' Compensation was, therefore, developed to protect both employees and employers. It allowed employees to receive some compensation if they were injured at work but prevented them from suing their employer. Reforms in the 1980s and 1990s reduced benefits to employees and implemented cost control measures for employers in an effort to reduce medical spending.[26]

Although the system was intended to be no-fault, Workers' Compensation has been a complex system from its inception. Financial considerations for multiple stakeholders can negatively impact the availability of resources, timeliness of care, and overall outcomes. Systemic barriers and iatrogenic harm are drivers that contribute to prolonged episodes of care for this clinical population. Individuals with similar injuries and illnesses in other payer classes often have better health and vocational outcomes than individuals with work-related injuries.[27,28] Administrative burden required of health care providers, worker concerns about the socioeconomic impact of their injury, and systemic barriers to care access and RTW options make this population uniquely challenging to manage in a clinical setting.

While work rehabilitation is most often associated with Workers' Compensation, individual workers can have work participation barriers related to personal health problems. For example, a worker can be injured on their own time during a home improvement or recreational activity, or a worker may have a stroke unrelated to occupational exposures. These individuals can also experience prolonged episodes of care. Therapists may, therefore, need to evaluate and design a treatment plan to optimize an individual's work participation and worker role with other types of insurance, such as commercial insurance, Medicare, or Medicaid. While individuals receiving care under these payers do not face barriers related to Workers' Compensation, they may face other barriers to accessing work rehabilitation services. For example, commercial insurance benefits will not typically cover formal work rehabilitation programs (eg, work conditioning/hardening). Additionally, there may be RTW barriers related to the lack of employer involvement as a stakeholder in care.

Creative solutions are needed to incorporate work rehabilitation services for workers outside of the Workers' Compensation system. For workers in other payer classes who would benefit from comprehensive work rehabilitation, traditional therapy services may be provided with a focus on function, including work capacity. Standard Current Procedural Terminology (CPT®) codes used in traditional rehabilitation (eg, Therapeutic Exercise, Neuromuscular Re-education, Therapeutic Activities) – timed codes based on 15 minutes per service unit – would be billed instead of specialized work rehabilitation codes. However, most commercial insurances limit the number of units that can be paid in a visit or date of service. Therefore, while a 4-hour program would be billed at approximately sixteen 15-minute units, typically only 4-8 units would be reimbursed by the commercial insurer. An alternative solution may be setting up the worker as self-pay, perhaps with a flat fee, allowing the clinic to determine the amount charged based upon the average services provided and time spent in the clinic. Self-pay options may also be necessary for those who are uninsured.

Team Configuration and Communication

Formal or informal comprehensive work rehabilitation programs require communication and coordination with multiple stakeholders. For Workers' Compensation cases, the team often includes the worker, employer, physical and/or occupational therapist, physician or advanced practice provider, case adjuster or examiner, nurse case manager or vocational rehabilitation counselor, payer or third-party administrator, and managed care organization or network. **Table 1** provides a brief description of the roles of key team members for a Workers'

Table 1. Roles of Key Team Members for a Workers' Compensation Case

Worker	The individual with a work-related injury or illness. They are responsible for reporting the injury in a timely manner and following through with medical care recommendations.
Employer	The individual or organization who employed the worker at the time of injury. They are responsible for paying for Workers' Compensation coverage and establishing policies about returning the worker to the workplace.
Physical and/or occupational therapist	The physical and/or occupational therapist who provides work-focused therapeutic services and consultation to optimize return to work and functional recovery.
Physician or advanced practice provider	The health care provider who is responsible for determining injury causation, referring the injured worker for medical services (eg, rehabilitation), and determining return to work decisions based on medical capacity. This may be an occupational health physician and/or a specialist or may be a chiropractor, physician assistant, or advanced registered nurse practitioner.
Case adjuster	This stakeholder may also be known as the claim examiner or manager. They manage the benefits under the worker's claim and estimate and control costs for the claim. They may be employed by the insurer, the employer, or a third-party administrator on behalf of the employer.
Case manager	This stakeholder assists the injured worker with navigating the health care and Workers' Compensation systems, coordinates care and communication amongst stakeholders, and works to ensure appropriate cost-effective care is provided to the worker. This may be a registered nurse, licensed practice nurse, or a vocational rehabilitation counselor.
Vocational rehabilitation counselor	This stakeholder helps injured workers obtain or retain a job or retrain for a new position if unable to return to previous type of employment. They may also complete a formal job analysis and act as a liaison between the therapist and employer.
Payer	This stakeholder makes coverage decisions and pays for authorized medical treatment.
Managed care organization or network	A group that identifies, credentials, and contracts with health care providers to improve quality of care. These entities often interact between the medical providers and the insurer, attempting to manage costs by offering discounted rates to providers to cover their administration services and drive volume.

Compensation case. Team members may vary depending on the state, payer, workers' needs, and program configuration. Additionally, mental or behavioral health professionals may be added and are core members of interdisciplinary pain management programs described later in this monograph.

Communications with key team members start early with the referral and intake process. In state Workers' Compensation programs that require a physician referral, the therapist and/or administrative support staff should ensure they have an active referral requesting the appropriate discipline and services. They should also coordinate any relevant insurance authorizations. This may include specialized services such as performing a functional job analysis that may not have established billing codes. Additionally, therapists can engage in outreach to referring providers and employers to discuss the need for a referral to specific comprehensive work rehabilitation programs (eg, work conditioning/hardening). Ongoing communication should address changes in the worker's status, barriers, goal achievements, additional resource needs, RTW planning, and discharge planning. Timely communication is necessary throughout the episode of care to ensure all stakeholders are on the same page and reduce administrative delays and confusion. Documentation alone should not be considered adequate communication on significant status changes. Instead, therapists should reach out via phone or secure email to ensure communication is received. Beyond communications for significant status updates, regular structured progress notes and calls ensure all parties are aware of progress and care plans. Communication continues until the worker transitions to another designated program or is discharged.

From a RTW planning perspective, it is essential to understand the worker's job demands as a prerequisite to appropriate goal setting and performing functional baseline testing and training in the clinic. Job information can be obtained from multiple sources, which the therapist should document. The therapist should communicate with the adjuster or employer to obtain a job description (ie, job duties

and functional demands). If the description is missing key information on material or non-material handling demands, the therapist can request that the employer complete an abbreviated job task analysis. The therapist may also coordinate with the employer or a liaison for an onsite visit to get a clear picture of the job's physical demands and modifiable aspects. An onsite visit also provides an opportunity to engage the worker in an interaction with the supervisor and safety/human resources professional to identify options for transitional RTW or job improvements to reduce musculoskeletal risks. Further information is available in the monograph on *Functional Job Analysis and Employment Exams* in the independent study course *Bridging the Gap Between the Workplace and Therapy Clinic*.[3] If an onsite visit is not feasible, obtaining pictures or videos of the job and job site may be helpful. Worker interview or review of workplace information may also be a key source of information. Cross-validation of information from both the employer and worker can provide optimal understanding of what happens on the job.

Many employers and states have different processes and policies for handling modified duty and disability. Therefore, it is valuable to ascertain an employer's modified duty options and timelines to assist with RTW decision-making and care progression. For example, an employer may have a transitional work policy that limits the availability of a modified job to 8 weeks at which time the worker must be off work if they are not ready to return to full duty. In such a case, a worker who is not ready to return to full duty at 8 weeks may be a good candidate to transition from traditional therapy to a work rehabilitation program consisting of longer sessions and total body conditioning. This transition plan supports continued functional progress when transitional work is not available, as opposed to the worker being sedentary while recovering at home. Therapists can also consult with employers on work modifications to support earlier RTW options.

Regardless of the specific work rehabilitation program, high-quality and timely communication with all stakeholders in Workers' Compensation cases has moderate evidence to improve care outcomes and reduce program costs for workers at risk of a delayed outcome.[1] Good communication is also a key component to building a stronger referral base to increase payer support for these programs.

Administrative Collection and Evaluation of Outcomes

Systematically collecting and evaluating outcomes for a comprehensive work rehabilitation program can guide quality improvement and support value-based contract negotiation with insurers, employers, and other payers. Relevant outcomes can be classified as service outcomes (eg, efficiency, timeliness, effectiveness;[29] sometimes referred to as process measures), vocational outcomes (eg, RTW), and health outcomes (eg, physical function, pain interference). They can be tracked at the aggregate level of the program and the individual level of the worker (**Table 2**). Program-level data can be limited to a formal program (eg, work conditioning/hardening) or can be collected across programs and services and flexibly queried based on information needs.

While the primary vocational outcome is RTW, attention to more specific metrics is warranted. For example, vocational outcomes may include the percentage of workers who return to pre-injury work duties or average time to RTW. If assessing longer-term outcomes, considerations of presenteeism or absenteeism for a set period after RTW may be relevant.[30,31] System constraints should be considered when selecting program-level vocational outcomes. If reliable RTW information

Table 2. Examples of Work Rehabilitation Outcomes

	Service Outcomes	Vocational Outcomes	Health Outcomes
Program-Level	For workers after rotator cuff surgical repair: • Average number of therapy visits • Average costs of therapy • Average time from referral to evaluation • Percentage of guideline-concordant therapy services	For workers after rotator cuff surgical repair: • Proportion of workers who return to premorbid work status • Average time to return to work	For workers after rotator cuff surgical repair: • Average post-program physical function • Proportion of workers with clinically improved pain interference
Worker-Level	For Mr. X with a rotator cuff surgical repair: • Mr. X's number of therapy visits • Mr. X's costs of therapy	For Mr. X with a rotator cuff surgical repair: • Mr. X's return to premorbid work status	For Mr. X with a rotator cuff surgical repair: • Mr. X's post-program physical function

is not available once workers are discharged from rehabilitation, a RTW target may routinely have too much missing data. If therapists have limited input into RTW decisions and workers face unrelated administrative delays with RTW post-discharge, RTW may not meaningfully reflect the success of the work rehabilitation program.

Outcomes collected should be used to generate actionable insights and included as part of a quality assurance program. Aggregate therapist-level or facility-level visualizations can be used by management or clinical champions to identify quality improvement needs. To aggregate worker-level data for program-level outcomes, core outcomes and timing of collection need to be standardized. Selection of core measures and timing of collection should incorporate multi-stakeholder feedback, such as therapists, referring physicians, employers, insurance companies, nurse case managers, and workers. For meaningful comparisons internal or external to the program, it is vital to establish what factors are needed to contextualize or risk-adjust outcomes.[32] Examples may include injury type, comorbidities, psychosocial risk, or occupational category.[1] Without adjusting for complexity, outcomes for therapists and facilities who treat more complex workers may not be fully understood, and program comparisons may be inaccurate. Worker-level data and visualizations can be used for decision-making to guide individual care. Tracking worker-level outcomes, particularly for health, can highlight areas of need and opportunities to match the right service (eg, mental health support) with the right worker at the right time.[33] The next section of this monograph provides additional information on worker-level health outcomes.

IDENTIFYING AND TRACKING WORKERS' NEEDS

This section of the monograph discusses how to identify and track workers' needs from evaluation through transition or discharge planning. The evaluation considerations are targeted for a worker who is starting a new work rehabilitation phase or program (eg, work conditioning/hardening) or is continuing care in the same program but has new needs related to a prolonged episode. For individuals with complex RTW barriers apparent during entry point care, components of this section may be appropriate earlier in the care continuum.

Evaluation Framework

The evaluation may be the first point of contact between the worker and therapist, setting the stage for the therapeutic relationship. The evaluation itself, particularly any interview components, can be therapeutic via embedded goal setting and education[34] and should involve principles of therapeutic alliance discussed in the monograph section titled "Worker-Centered Treatment Components."

Evaluation of the worker experiencing a prolonged episode of care often includes more components than evaluation for entry point care. It moves beyond the initial referring diagnosis and affected body structures and functions to examine full body fitness and function and other barriers and facilitators to work participation. It includes many domains, from medical history to general fitness and job-specific functional capacity, and involves multiple assessment types, from patient-reported outcome measures to performance-based tests.

The evaluation process should be tailored to the individual and is iterative, with evaluation needs emerging and evolving based on findings of earlier assessments and case progression. Some evaluation components may be condensed if the worker is previously known to the evaluating therapist from earlier stages of rehabilitation. While the therapist should include all evaluation components for all workers, elements may be prioritized based on workers' needs and program configuration. For example, workers with psychosocial risk factors may require more comprehensive assessment of their behavioral health. Workers with low mental health burden but whose occupations have heavy physical demand level may require more comprehensive assessment of job-specific limitations. Similarly, more comprehensive assessment of material handling may be performed for workers with material handling goals enrolled in a work conditioning/hardening program versus a pain management program. Additionally, while work rehabilitation focuses on work participation, that does not always imply a return to previous work duties. If returning to previous work duties is unlikely or inappropriate or may require a substantial extension in care, evaluation may emphasize alternative job goals, general work capacity, or everyday function in collaboration with vocational services to focus on marketable strengths. Ongoing evaluation and close communication with the worker and multi-stakeholder team are required to align goal setting with dynamic RTW planning.

While this section focuses on the evaluation components completed by a single physical or occupational therapist, multidisciplinary assessment is recommended by the AOPT OHSIG work participation clinical practice guidelines for workers who have been out of work for 6-8 weeks.[1] Use of terminology from the International Classification of Functioning, Disability, and Health (ICF) and Occupational Requirements Survey (ORS)[35] may facilitate cross-discipline communication. Additionally, use of ICF domains during the evaluation process may facilitate care planning that emphasizes participation rather than injury-related body functions and structures in isolation.[1]

Medical history

In addition to interviewing the individual about their current injury or illness, taking a comprehensive past medical history via self-report and medical record review is necessary for prognostication, safety, and program design for work rehabilitation. Medical history can identify red flags that require additional medical workup or limit individual appropriateness for work rehabilitation.

Specifically, when preparing to perform exercise testing and exercise prescription at higher intensities, the therapist should screen for medical risk as a component of the assessment. The American College of Sports Medicine (ACSM) guidelines[36] recommend that pre-screening prior to exercise testing and prescription includes screening for current activity levels; the presence of signs and symptoms suggestive of cardiovascular disease; and known cardiovascular, renal, or metabolic disease (**Table 3**). The ACSM guidelines now suggest that medical clearance be reserved for inactive, asymptomatic individuals who have known cardiovascular, metabolic, or renal disease and those with active signs and symptoms of cardiovascular disease. It is the therapist's responsibility to evaluate the worker and to confer with other health care providers as necessary to ensure individuals with known cardiovascular, metabolic, or renal disease are medically stable enough to participate in vigorous physical activity. Appropriate follow-up referrals prior to exercise participation should be initiated for any individual who presents with concerning signs and symptoms, regardless of disease status, to ensure the individual's safety.[36,37]

In addition to determining clearance needs and safe exercise intensity levels, medical screening by the therapist or other qualified health care provider is useful to determine risk of a prolonged episode for an individual. Individuals with more comorbidities–including heart disease, concurrent musculoskeletal pain conditions, arthritis, hypertension, diabetes, autoimmune disorders, depression, anxiety, smoking, and obesity–are at a higher risk of delayed recovery.[19] Identifying a complex medical history can allow the therapist to communicate worker-specific prognosis with other stakeholders. This can assist adjusters in properly allocating resources and case managers in planning RTW resources on a modified timeline.

Past medical history should also be reviewed thoroughly with the worker so that modifications to the program design can be made where needed to minimize aggravating other health conditions. For example, if a worker is starting a work conditioning/hardening program for a shoulder diagnosis, it is relevant to know they have rheumatoid arthritis that is actively impacting their hands and feet. To minimize symptom aggravation when prescribing exercise in such a case, a therapist may consider a non-weight bearing aerobic activity or a blend of weight bearing and non-weight bearing activities to be performed as tolerated. This information would also warrant contacting other stakeholders as there is a significant risk of delayed recovery while the worker is managing a flare-up of their inflammatory arthritis in addition to their postoperative shoulder recovery.

Self-report questionnaires

Patient-reported outcome measures are standardized self-report questionnaires that provide quantifiable estimates of workers' perspectives of their health status. When selecting patient-reported outcome measures, therapists should administer any measures that are part of a core outcome set for program evaluation and collect others on an as-needed individualized basis. Patient-reported outcome measures can assess self-reported function (eg, physical, social, cognitive), symptoms (eg, pain, fatigue, depression), and/or global health-

Table 3. Pre-screening for Exercise

Individual's Current Level of Activity	Presence of Signs and Symptoms Suggestive of Cardiovascular Disease	Known Cardiovascular, Metabolic, or Renal Disease
• Active is defined as performing planned, structured moderate intensity physical activity for ≥ 30 min for ≥ 3 days a week	• Pain or discomfort at rest or with exertion in the chest, neck, jaw, arms, or other areas that may result from myocardial ischemia • Unusual breathlessness • Dizziness • Fainting • Ankle swelling • Unpleasant awareness of a forceful, rapid, or irregular heart rate • Burning or cramping sensations in the lower extremities when walking short distances	• Cardiovascular disease, such as myocardial infarction, heart surgery, pacemaker, valve disease, heart failure, or structural disease • Diabetes (type 1 or 2) • Renal disease

Based on the American College of Sports Medicine guidelines.[36,37]