

Job matching and return to work: Occupational rehabilitation as the link

Susan J. Isernhagen

DSI Work Solutions, Inc., 130 West Superior Street, Suite 625, Duluth, MN 55802, USA

Tel.: +1 218 625 1051; Fax: +1 218 625 1052; E-mail: sisernhagen@dsiworksolutions.com

Received 25 May 2005

Accepted 16 June 2005

Abstract. Return to work after injury or illness is important for the worker and the employer. Medical providers manage and treat the worker with the illness or injury. Except in cases of focused specialists, the medical professional's role is to take care of a patient, rather than empower a worker. As much as there is promotion of the workers compensation health care system to be similar to sports medicine, there are significant dissimilarities. One major barrier is that the medical caregivers do not know the demands of jobs as they would know the details of sports. Thus, there is a gap in returning a worker to function as the medical professional cannot accurately match the worker to specific jobs. A new model of job function matching, based on research and skills of occupational rehabilitation professionals, is proposed to bridge the gap between the medical community, the employers and the workers.

Keywords: Functional capacity evaluation, work conditioning, work hardening, job descriptions, post offer testing

1. Introduction

Return to work after injury or illness is important for the worker and the employer. Physicians, nurses and rehabilitation professionals become involved as they manage and treat the worker with the illness or injury. Except in cases of those specializing in occupational medicine or occupational rehabilitation, the medical role is to take care of a patient, rather than empower a worker to return to work. As much as there is promotion of the workers compensation health care system to be similar to sports medicine, there are significant dissimilarities. One major barrier is that the medical caretakers do not know the demands of jobs as they would know the details of sports. Another is the worker may not be perceived as being motivated to return to work and does not receive the positive prognosis or functional based rehabilitation to return to work quickly and safely [20,22–24]. Thus, there is a gap in returning a worker to function and many cases become chronic that could have been successfully returned if early intervention and direction had been more efficient.

2. Occupational rehabilitation and the workers compensation system

Occupational rehabilitation providers historically have participated in evaluation and treatment of injured workers through the workers compensation system. Government driven systems for treatment of injured workers provide for medical services through various forms of protocols, certifications, authorizations and methods of reimbursement. Physical therapy and occupational therapy have been utilized, although not uniformly, through this system.

In the 1980's, costs related to chronic lost time for injured workers escalated and medical professionals were asked to participate more actively in reducing unnecessary work disability. To facilitate return to work, physicians were required to indicate levels of functioning in work activities such as lifting, bending etc. Therapists participated by developing and providing goal driven return to work programs such as functional capacity assessment (FCE), work conditioning and work hardening. Therapists also developed practice guidelines to

support the return to work direction [2–6,15]. While FCE's, work conditioning and work hardening have an important place for the chronically off work client, they come into the system late in the injury management process. It is not unusual for the average time off work for referred clients to be 6–24 months.

3. Occupational rehabilitation practice and research

Research followed practice, and the value of occupational programs for those with chronic conditions have indicated both success and areas for improvement.

Many researchers have found kinesio-physical based functional capacity testing to be reliable [12,13,18,19,25,29,30,32]. Operational definitions and observational techniques have shown both intrarater and interrater reliability. Innes and Straker [16,17] differentiate between standardized testing and work specific testing, noting that choice of test type should be predicated on the goal.

Predictive validity of FCE's for return to work has shown low to moderate value [14,26]. The floor to waist lift test is most related to return to work, but overall methods to use reliable FCE information to directly predict return to work have not been clearly demonstrated. Gross and Battie, who earlier found the kinesio-physical test to be reliable, did not find it linked with return to work [14] and suggested that FCE is part of a more comprehensive management process. Their conclusions were based on attempting to match FCE results with the worker's perception of their job and then doing a pass/fail rating of items. There is no research and little anecdotal information to indicate that chronically off work clients are reliable in identifying their job requirements accurately. If there were an inaccuracy in the subjects indicating their job requirements, the pass/fail method of scoring FCE information would also be inaccurate. A method that matches the objective reliable FCE to objective job specific information that is also reliable may produce a stronger match. FCE is not job specific by design. It is general/generic. Therefore, many actual job requirements would not be tested by an FCE, and, if an attempt is made to fit them into a generic FCE category, error may result. This leaves the field of study open to doing job specific tests for return to work to supplement or replace generic FCE's.

Work rehabilitation, commonly identified as work conditioning or work hardening, includes job related testing and work simulation. It has been described by

therapists [9,21]. Outcomes have been published by work hardening/work conditioning providers for their own clinics and these show positive return to work outcomes. To further the field, a randomized controlled study by Oesch et al. [27] compared structured functional capacity evaluation with functional based therapy to pain centered treatment. They found, that in a population of chronic low back pain patients, that the addition of the functional capacity evaluation to functional based therapy improved both work capacity and the certificates for return to work. It was superior to pain centered treatment.

It is recognized that the earlier a worker is treated and returned to work, the better the outcome for that worker, the employer and productivity [11,33]. In the late 1990's and early 2000's, progressive occupational health programs focused on methods of earlier intervention, both by setting up systems where injured workers can be seen in urgent care centers and also by having occupational health professionals onsite in industry. This is paralleled by the development of therapy clinics onsite within industries of the size that can sustain them. For industries too small to support onsite therapy, innovative therapy practices moved closer to industrial sites to facilitate early treatment.

Onsite therapy clinics are desired by employers for cost savings and efficiency. It saves time as the worker does not travel to or from therapy. By remaining at the worksite, the worker role is maintained. The onsite clinic has the ability to send therapists to the actual job of the injured worker. Job modifications can be made and progressed as the worker's functional capacity increases. The opportunity for integration of the job with the treatment is high in an onsite rehabilitation clinic.

For those clinics not onsite or close to the site, workers compensation care parallels general physical therapy or occupational therapy care. In the best case, it follows evidence based guidelines, but it often lacks work specificity. To generate interest for functional treatment and return to work goal orientation, a study in Utah used reimbursement guidelines for therapy [8]. Numbers of visits authorized were based on the presence of work-related goals. The study demonstrated increased efficiency in return to work. Reimbursement may be able to be used to improve return to work goal setting in the workers compensation system.

4. Research of the return to work system

To determine methods of improving return to work, Pransky researched factors that are linked with work absences and reinjury [28]. They are

1. Higher pre-injury ergonomic risk
2. Dissatisfaction of worker with return to work accommodations
3. Negative relationship with workers compensation insurer
4. Dissatisfaction with medical services
5. Dissatisfaction with employer reactions

These identified issues that could potentially be addressed by an objective and interactive process that focuses on the worker's ability to work matched to the physical demands of the job.

Feuerstein [10] identified clinical and workplace factors that can predict those injured patients who are working from those who are not working. By identifying important workplace factors, he indicated that return to work should not be limited to medical and clinical signs only.

An integrated model to overcome the disconnect between the medical providers and the worksite has been developed by Loisel and his colleagues [22–24]. The Sherbrooke Model requires interaction of the medical model with both the worker and the work environment. The model strongly suggests that the worker and work environment are necessary parts of the return to work system.

Lemstra and Olszynski demonstrated effectiveness of a model of occupational management [20], which utilized primary prevention, improved return to work with an onsite therapist using functional information, use of early modified duty, medical reassurance of good prognosis to the worker, and full company support. This occupational management approach was found superior to physical therapy/work hardening in clinics and also to standard medical care.

5. Physician and employer roles

While the above models show much promise in their highly structured environments, the traditional medical and therapy model continue to dominate. One workers compensation system requirement is for the physician to indicate return to work through provision of restrictions for the workers. As much as it was intended to assist, it has become a barrier. Forms are promulgated to physicians and they check off or fill in areas that ask for medical restrictions. This results in workers being labeled with blanket restrictions such as “no lifting over 10#”, “no bending”, “no repetitive hand use”. Physicians have become familiar with filling them out, as

required by the system and employers have tried to use these restrictions, but with difficulty. Employers find it difficult to use restrictions as they are not job related. In many cases, the restrictions are very conservative and may not accurately reflect the worker's actual capacity. The conservative approach of either asking the worker or estimating restrictions, may be linked to the view that this will keep the worker safe. This can lead to underestimates of a worker's ability, even to the extent, that, if followed, would not allow the worker to do activity needed in daily life. Thus, many conservative restrictions are not/cannot be followed by workers who are at home. They must decide for themselves, without the benefit of objective information, what they need to do perform daily activities. The opposite can happen if the worker becomes fearful of going over the restrictions. They can develop fear and avoidance of activity related to the restrictions.

Brouwer et al. studied the accuracy of restrictions and the identification of work abilities [7]. She found that the lowest estimate of functional abilities in chronic low back patients was the patients own perception of their capabilities. The next highest was the physician's estimate. But, the highest indication of ability was thorough, objective and reliable functional capacity testing.

Regarding the physician role in identifying return to work options, Schweigert identified universal factors [31] that make it difficult for a medical model physician to participate fully in the return to work process. Four points were summarized:

- The main barrier is lack of accommodated work
- Physicians lack knowledge about appropriate modified work
- Physicians time is limited and can't deal with return to work issues
- There is not enough appropriate information.

A corollary to the physicians' viewpoint, while not studied through research, is illustrated for the sake of completeness:

- The employer has difficulty designing accommodated duty from a list of restrictions. They tell what the worker cannot do, not what they can do. They aren't specific to the job.
- The employers lack knowledge of medical terms
- The employer often can't discover enough about the worker's abilities because the physician's time is limited
- The employer does not possess an accurate and brief job function description to send to the physician for consideration. Often those sent are long

1. **Job Function Analysis:** Target jobs are analyzed for the functional demands of work including lifting, carrying, gripping, pinching, pushing, pulling, reaching, bending, standing, walking and sitting.
2. **Job Function Descriptions:** These analysis summaries list and describe the essential functions and are validated by employees and the employer.
3. **Job Function Test:** Tests are developed from each job function description to ensure job relatedness and accuracy for testing work competency.
4. **Job Function Evaluation-post offer:** This job function test is used after the offer of employment
5. **Job Function Evaluation-return to work:** This job function test is used for ill or injured workers regarding the jobs for which they are considered.
6. **Job Function Match:** This format compares the abilities of the worker to the job and indicates tasks where full ability is present, which tasks can be accommodated and which should be limited.
7. **Functional Capacity Assessment:** In cases where no job is targeted, the functional test gives overall abilities in the categories of the job function descriptions.
8. **Policies and Procedures:** These cover the job function matching process customized to each employer or occupational health provider.

Fig. 1. Job Function Matching Components: Work Injury Prevention and Management

and involved and the physician cannot take the time to rate the worker in functions that are described in work terminology in complex documents.

6. ACOEM guidelines

The American College of Occupational and Environmental Medicine (ACOEM), has promulgated guidelines [1] that are intended to focus the direction of care on safe, effective and early return to work. The guidelines should also result in reduced work disability. Recommendations and guidelines address both physician and employer roles.

The guideline summary indicates that the physician should recommend:

- Physical and functional limitations or restrictions. The physical capabilities should be matched against the demands of the job
- Specific restrictions: the exact weight and height for lifting, the amount of time per hour and per shift an activity can take place, and postures to be avoided
- How long functional capacity improvement will take

The specificity indicated for the physician's role would lend itself to requests for functional testing by an occupational rehabilitation professional skilled in work capacity testing who works with the physician in a team approach.

The guidelines also suggest the employer responsibility:

- The employer should determine the type of work available and whether the physicians recommendations can be accommodated

- The employer must be able to provide a written job description, job risks and available modifications

A Job Function Description is not available from most employers. The therapist, with a strong background in function, has the skills to analyze the job in functional terms and write a job description to be validated by employees and employer. Therapists also design specific individual modifications/accommodations based on the worker's functional abilities and limitations. General accommodations are helpful to determine the employer's intent, but when a worker with a specific musculoskeletal problem and a specific job needs to be matched, the therapist also uses job matching specificity.

Physician and employer roles can be facilitated by the implementing of a job function matching program by occupational rehabilitation professionals who work with both the medical and employer teams.

7. Job function matching

Utilizing the effective methods of evaluation and treatment of the worker with chronic conditions [7,13, 18,19,21–24,27,29,30,32], and blending it with early intervention programs [11,33] creates a new opportunity. The formal job function matching system is based on quantitative and qualitative documentation of the physical demands of jobs, embraces the functional and job restoration aspects of the chronic programs, and begins at or near the first day of reported injury. It allows job related testing and rehabilitation toward specific job demands. As workers recover the ability to do job functions and are objectively tested for those specific functions with or without modifications, the employer and worker have greater options for earlier return to safe work. It is used in addition to or in place

of the restriction system. The medical professionals feel confident in the return to work releases because they are based on objective reliable testing. Because of its absolute job relatedness, the employer can identify whether to place the injured worker back at work at the regular job or in a modified job. The worker is confident because participatory testing has been performed and knowledge of abilities and limitations is shared by the entire team.

Job function matching has several components (see Fig. 1). For the return to work process, the pertinent components are:

1. Written job function descriptions that represent individual jobs within an industry. These would need to be prepared in advance of the program implementation. Review of the exact job functions on the first day of injury will allow the medical team and case managers to understand the requirements of full duty for that worker.
2. Job function tests developed from the job function descriptions are ready to be used very early after injury when the ability to return to full duty is not clear. Most employers would return a worker to his/her own job immediately if it was clear which functions could be done safely and which should be restricted for the time of healing. If, for example, there are ten essential functions, and the worker can do seven, the employer can determine if this would be a good placement. Supervisors could accommodate the temporary loss of the three remaining functions. The objective information leaves the actual return to work decision in the employers hands. The benefit of the worker participating in objective safe testing is the retention of worker competency for those tasks able to be accomplished along with the knowledge that healing or rehabilitation will be utilized to improve ability in the remaining job tasks to be done so that full duty is the goal.
3. Job function matching compares the job demands to the ability of the worker for the purpose of identifying which functions of the current job can be done safely, and which can be modified by ergonomics tools, methods, or rotations. The modifications can be sequentially removed when regularly scheduled testing determines when the worker can accomplish the task without modification.

By utilizing the exact functional demands of a job matched to the objective abilities of a worker, the med-

ical professional, the employer and the worker can facilitate return to work, with or without modifications, as soon as the first day of reported injury and progressing until full duty or the highest level of work function is reached. While it is intended for early intervention, it can be used in the continuum of care and works well for those with chronic injuries when target jobs are available. Outcome measures target improved productivity and reduced lost time days, modified duty days, disability and medical legal issues.

References

- [1] American College of Occupational and Environmental Medicine. The Attending Physicians Role in Helping Patients Return to Work After Illness or Injury: www.ACOEM.org/guidelines. April 2002.
- [2] American Physical Therapy Association: Occupational Health Guidelines: Evaluating functional capacity: Alexandria, VA, 1999.
- [3] American Physical Therapy Association, Occupational Health Guidelines: Physical therapist management of the acutely injured worker, Alexandria, VA, 2000.
- [4] American Physical Therapy Association, Occupational Health Guidelines: Work conditioning and work hardening programs, Alexandria, VA, 1997.
- [5] American Physical Therapy Association, Occupational Health Guidelines: Work related injury/illness prevention and ergonomics, Alexandria, VA, 2001.
- [6] American Occupational Therapy Association, Occupational therapy services in ergonomics, Bethesda, MD, 1998.
- [7] S. Brouwer, P.U. Dijkstra, R.E. Stewart, L.N.H. Goeken, J.W. Groothoff and J.H.B. Geortzen, Comparing Self Report, clinical examination, and functional testing to measure work limitations in chronic low back pain, *Disab and Rehabilitation* (accepted).
- [8] A.L. Colledge and S. Hunter, *Controlling Physical Therapy and Chiropractic Utilization*, Labor Commission of Utah, Salt Lake City Utah.
- [9] M.J. Durand et al., Constructing the program impact theory for an evidence-based work rehabilitation program for workers with low back pain, *Work* **21** (2003), 233–243.
- [10] M. Feuerstein et al., Clinical and workplace factors associated with a return to modified duty in work-related upper extremity disorders, *Pain* **102** (2003), 51–57.
- [11] E.F. Grayzel, A.M. Finegan and R.E. Ponchak, The value of In-House Physical Therapy, *Journal of Occup and Environ Med* **39**(4) (April, 1997), 344–346.
- [12] D.P. Gross and M.C. Battie, The construct validity of a kinesiophysical functional capacity evaluation administered within a worker's compensation environment, *J Occupational Rehab* **13** (2003), 287–297.
- [13] D.P. Gross and M.C. Battie, Reliability of safe maximum lifting determinations of a functional capacity, *Phys Ther* **4** (2002), 364–372.
- [14] D.P. Gross and M.C. Battie, Factors Influencing Results of Functional Capacity Evaluations in Workers Compensation Claimants with Low Back Pain, *Physical Therapy* **85**(4) (April, 2005), 315–322.

- [15] D.L. Hart, S.J. Isernhagen and L.N. Matheson, Guidelines for functional capacity evaluation of people with medical conditions, *J Ortho and Sports Phys Ther* **18** (1993), 682–690.
- [16] E. Innes and L. Straker, Reliability of work-related assessments, *Work* **13** (1999), 107–114.
- [17] E. Innes and L. Straker, Validity of work-related assessments, *Work* **13** (1999), 125–136.
- [18] S.J. Isernhagen, D.L. Hart and L.N. Matheson, Reliability of independent observer judgments of level of lift effort in a kinésiophysical functional capacity evaluation, *Work* **12** (1999), 145–153.
- [19] D.E. Lechner et al., Reliability and validity of a newly developed test of physical work performance, *J Occup Med* **38** (1994), 997–1006.
- [20] M. Lemstra and W.P. Olszynski, The effectiveness of standard care early intervention, and occupational management in workers compensation claims, *Spine* **25** (2003), 299–307.
- [21] C.F. Lett, Work hardening, in: *Work Injury Management and Prevention*, S. Isernhagen, ed., Aspen, Gaithersburg, MD 1988, Chapter 15.
- [22] P. Loisel et al., Management of occupational back pain: the Sherbrooke model: results of a pilot and feasibility study, *Occup and Environ Med* **51** (1994), 597–607.
- [23] P. Loisel et al., A population-based, randomized clinical trial on back pain management, *Spine* **22** (1997), 2911–2922.
- [24] P. Loisel et al., Cost-benefit and cost-effectiveness of a disability prevention model for back pain management: six year follow up study, *Occup and Environ Med* **59** (2002), 807–817.
- [25] L.N. Matheson et al., A test to measure lift capacity of physically impaired adults, Part 1, development and reliability testing, *Spine* **20** (1995), 2119–2128.
- [26] L.N. Matheson, S.J. Isernhagen and D.L. Hart, Relationships among lifting ability, grip force and return to work, *Phys Ther* **82** (2002), 249–258.
- [27] P. Oesch, J. Devereux, S. Bachman and Jan P. Kool, The Influence of a functional capacity evaluation on fitness for work certificates in patients with non specific chronic low back pain, *WORK* (accepted).
- [28] G. Pransky et al., Work-related outcomes in occupational low back pain, *Spine* **27** (2002), 864–874.
- [29] M.F. Reneman et al., Test-retest reliability of lifting and carrying in a 2 day functional capacity evaluation, *J Occup Rehab* **12** (2002), 269–278.
- [30] M.F. Reneman et al., The reliability of determining effort level of lifting and carrying in a functional capacity evaluation, *J Occup Rehab* **18** (2002), 23–31.
- [31] M.K. Schweigert, D. McNeil and L. Doupe, Treating Physicians perceptions of barriers to return to work of their patients in southern Ontario, *Occupational Medicine* **54**(6) (2004), 425–429.
- [32] R.L. Smith, Therapists' ability to identify safe maximum lifting in low back pain patients during functional capacity evaluation, *J Ortho and Sports Phys Ther* **19** (1994), 277–284.
- [33] S.R. Vance and A.M. Brown, On-site medical care and physical therapy impact, in: *Comprehensive Guide to Work Injury Management*, S. Isernhagen, ed., Aspen, Gaithersburg, MD, 1995, Chapter 13.