

# Legal Changes Necessitate Proactive Management of Musculoskeletal Disorders: The Role of Electrodiagnostic Functional Assessment Soft Tissue Management Program

MaryRose Cusimano-Reaston, Ph.D., and Brendan Carney – IDI-DX, Inc.

**Abstract**—Musculoskeletal Disorders (MSD) often classified as sprains and strains to the low back, neck, shoulder or knee are the leading cost drivers in the workers compensation system. In 2009, soft tissue muscle injuries accounted for 40% of total injury cases requiring days away from work. The demand on U.S. employers to comply with all applicable mandates has exponentially increased as the regulatory landscape grows more complex evidenced by recent legislation from Equal Employment Opportunity Commission (EEOC), American With Disability Act 2.0 and Center for Medicare and Medicaid Services (CMS) Mandatory Reporting Act. Employers should revisit their return to work policies and engage in the interactive process to stay in compliance and avoid legal quagmire. EFA Soft Tissue Management (STM) is a comprehensive and compliant risk management program for objective diagnosis of work-related injuries that directs timely and proper allocation of resources to optimize injured worker (IW) outcomes. This bookend solution comparing pre- and post-loss data is a best practice to accurately determine between compensable acute workplace injury and exacerbation of a pre-existing injury from chronic unrelated conditions. The EFA is an evidenced-based objective tool to assist in measuring functional status of the IW and make return to work determinations.

## I. INTRODUCTION

COMPLIANCE with increasingly complex employment regulations and a constantly changing legislative environment poses an enormous burden for employers that necessitates comprehensive and objective solutions. Employers' primary focus on core competencies must now be balanced with an equal allocation of resources to non-revenue producing activities to stay abreast and operate within federal, state, and local regulations.

With broadly defined interpretations and more overlapping legislation, gaps in compliance are possible anywhere. This is partially the result of piecemeal legislation that was enacted at different points in time or that has evolved via amendments. Changes in one law may have repercussions on how an employer complies with another. This will become more evident with integration of the recently enacted Americans with Disabilities Act (ADA), and the ADA Amendments Act (ADAAA), with Family Medical Leave Act (FMLA), Center for Medicare and Medicaid Services (CMS) Mandatory Reporting Act and local workers' compensation laws. The complexity is

magnified with companies that employ workers in multi-state or a national footprint, requiring compliance with workers' comp in each state that they operate and any changes to each regulation at all times.

Also, in the past, a particular regulation may have applied to a company with 100 employees and above. However, that threshold has been dropping to the point of penetrating even the smallest of organizations. The ADA employer threshold is 15 or more employees.

Employers are starting to realize the expertise required as well as the possible consequences of falling out of compliance. In response, companies have turned to outsourcing compliance services and with regard to management of work comp claims, "cost-containment" vendors. However, this does not remove the final responsibility from the organization. Ultimately, the employer is responsible for regulatory and compliance and should be proactive in terms of changes to law and how it may impact the company and its employees.

### A. EEOC implements ADAAA

The EEOC's final regulations implementing the ADA Amendments Act (ADAAA) were published in the March 25, 2011 Federal Register. [1] They became effective May 24, 2011. The major focus of the regulations is the definition of a disability. The Act and the new regulations will make it easier for individuals to claim protection under the law, as the definition of a disability is broadened and easier to meet. This will result in the need for employers to provide more accommodations and to engage in the interactive process. Employers will need to shift their focus from whether an individual has a disability to whether discrimination occurred. In addition, CMS has initiated mandatory reporting of all work related injuries which makes an employer indefinitely liable for all aspects of a work comp claim.

### B. Recent Court Decisions in EEO Law

Granting extended leave to an employee is considered a form of reasonable accommodation. Thus, even if the employee has used up his sick leave, FMLA leave, and vacation leave, employers may still need to grant additional leave for employees with disabilities.

Recent settlements by the EEOC with large employers serve as an example to build the interactive accommodation into all leave of absence policies. For example, supermarket giant Supervalu paid a total of \$3.2 million in settlement to

former employees that were terminated at the end of medical leaves of absence rather than bringing them back to work with reasonable accommodations. Company policy required employees to be 100% healed or recovered in order to return to work, rather than exploring options for employees to return to work with any type of reasonable accommodation.

Sears & Roebuck settled an EEOC complaint for \$6 million in connection with its employee absence policy that was deemed to improperly accommodate disabled workers.

United Airlines recently paid more than \$600,000 for a policy that refused to allow returning workers with disabilities to work reduced hour shifts.

*Indergard v. Georgia-Pacific Corp* ruled that under the ADA, an employer may not require a current employee to undergo a medical examination unless the exam “is shown to be job-related and consistent with business necessity.”

An employer will violate the ADA if it requires an employee who is on leave for an injury to undergo a functional capacity or fitness-for-duty exam that involves tests or activities that are not related to the employee's essential job duties before allowing the employee to return to work. *Green v. CSX Hotels, Inc., No. 5:07-cv-00369 (S.D. W.Va. 01/15/09)*

Employers may find themselves maintaining a “ghost” workforce with total employees, both active and on disability, outnumbering available employment slots.

### C. Regulatory Enforcement

Many federal employment oversight agencies have been ramping up their enforcement activity because of the ADA Amendments Act which has dramatically increased the scope of persons able to claim protection and discrimination.

Again, it is imperative for employers to engage in interactive accommodation and to utilize diagnostic tools that comply with EEOC and ADA while objectively assessing and monitoring work related injuries.

## II. EMERGING BEST PRACTICE FOR MANAGEMENT OF MSD

### A. MSD Defined

Strains and sprains account for 40% of all work related injuries resulting in lost days of work. [2] Although they are poorly understood, they are most often changes in soft tissues - i.e., muscles, tendons, ligaments, joints and nerves - in contrast to fractures or other bony disorders. When linked to work, they are termed Work Related Musculoskeletal Disorders (MSD). The term “disorder” is used in place of “injury” to allow a broader definition and inclusion of non-biomechanical factors to include psychosocial issues such as symptom magnification, job dissatisfaction, depression, and worker financial incentive.

Compensability determinations are further complicated by an aging as well as increasingly obese workforce that come with all the attendant medical manifestations of age-related degeneration and excess weight. A Duke University Medical Center study revealed that obese workers filed twice the number of workers' compensation claims as non-obese

workers. In addition, the over-weight workers had 7 times higher medical costs from those claims and lost 13 times more days of work from work injury or work illness than did non-obese workers. [3] The National Council on Compensation Insurance (NCCI), the nation's largest provider of workers compensation data along with the U.S. Bureau of Labor Statistics reported workers aged 60 and older had the highest medical paid per claim and the longest median days away from work.

### B. Electrodiagnostic Functional Assessment

Electrodiagnostic Functional Assessment (EFA) is an FDA cleared and registered 510(k) Class II medical diagnostic device. EFA utilizes diagnostic-grade surface electromyography (SEMG) classified for physical medicine and rehabilitation. EFA is a dynamic evaluation that integrates SEMG to monitor and evaluate skeletal muscle groups at rest and during full range of motion to determine functional status.

EFA STM is a valid and objective diagnostic tool to help medical providers determine causality, identify site of injury due to muscle damage, muscle fatigue, hypertonicity or stress as well as pinpoint referred pain patterns and provide site specific treatment recommendations designed to return the injured worker to maximum medical improvement pre-injury status. [4]

The EFA is capable of distinguishing between acute versus chronic pathology as well as objectively quantify patient effort (compliance, malingering or pain). Bilateral changes for a unilateral complaint, muscle compensation, and absence of the flexion-relaxation response are examples of SEMG findings that are indicative of long standing chronic pathology, whereas muscle spasm and hyperactivity are acute injury responses.

With regard to sincerity of effort determinations, EFA monitors muscle engagement and type II motor recruitment during functional capacity evaluations to document patient form and effort. The EFA monitors the underlying physiology and response to applied resistance for an objective assessment of functional status, unlike traditional functional capacity evaluations (FCE) that do not meet Daubert standards (*1993 US Supreme Court ruling of Daubert v Merill Dow Pharmaceuticals*) for admissibility. FCEs that employ coefficients of variation (COV) during a lifting assessment or heart rate as an index of effort are not scientifically reliable or valid.

This discussion regarding sincerity of effort is relevant because of the prospect of financial reward and other secondary gains, many claimants do not give valid effort during their functional evaluations. EFA testing levels the playing field not only with identifying injured worker (IW) compliance or malingering determinations but also recording pain for those IW that are in true need for accurate diagnosis of a legitimate MSD requiring appropriate treatment to return to pre-injury status.

### C. Migration to wireless EFA

The wired EFA unit utilizes two cables each branching out to 9 pairs of SEMG leads along with a universal ground. The cables are twisted and shielded to preserve myoelectric muscle signal while filtering out movement artifact. However, it is somewhat cumbersome mechanism to tether the patient to the base unit. The range of motion on the wired unit consists of a range of motion mechanical arm with three joints of precision potentiometers. The unit currently is affixed with straps and head gear to the torso.

The wireless version in development incorporates Shimmer Sensors configured for EMG, ROM (accelerometers) FCE pinch and grip. Migrating to a wireless system affords the opportunity to improve many aspects of the EFA. These improvements include data quality, form-factor and portability, number of channels, costs, and field maintenance. The wireless EFA system is ideal for the baseline solution as large numbers of tests need to be conducted daily with the opportunity to monitor as many muscle groups as needed without tethering someone to a base unit, EMG cabling, as well as a range of motion harness. The wireless unit uses Bluetooth technology to transmit data and allows for each shimmer to be programmed for individual muscles or protocols.

### III. EFA SOFT TISSUE MANAGEMENT PROGRAM

EFA Soft Tissue Management (STM) is a proactive and compliant risk management program for objective diagnosis of work-related injuries that directs timely and proper allocation of resources to optimize work related injury outcomes. The STM program leverages the EFA's strong FDA intended use to assess muscle function, age an MSD injury and detect sincerity of effort and augments it with baseline testing to achieve a comprehensive bookend solution.

EFA STM implementation involves the following process:

- Perform current job analysis with essential job functions and develop a site specific EFA baseline and fitness for duty test to evaluate essential job functions and specific body parts.
- Test new hires and store the data as a baseline.
- Test appropriate groups on existing workforce with a fitness for duty evaluation and store as a baseline.
- Post injury: Perform EFA test; compare with baseline.
- Should post injury EFA show change from baseline, employer responsible for treatment to return worker to pre-injury status (baseline).

EFA Baseline Testing will identify and document any chronic pathology and pre-existing injury. Early intervention with Post-Injury EFA Testing, when matched with baseline results, will accurately and objectively ascertain any changes, if any, to assist in making compensability determinations and return employee to pre-injury status.

### A. EFA STM Cost Containment

Employers feel the magnitude of workplace injuries twice -- the injury to an employee, and then the costs stemming from that event. Direct costs include medical and lost wage payments to injured workers and their healthcare providers. Indirect costs include the overtime, training and lost productivity related to an injured employee not being able to perform their normal work. According to OSHA, for every \$1 of medical only claims your organization sustains \$4.5 in indirect, uninsured costs. Medicare Set-aside also looms large as a very costly future expenditure.

EFA Soft-Tissue Management (STM) program's value proposition is significant and should positively impact direct costs, indirect costs, as well as Medicare Set Aside. The savings will be derived from determining causation and "if an injury is related to or aggravated by" the date of injury. The objective diagnosis should also assist clinicians from costly misdiagnosis, unnecessary or inappropriate surgery, prolonged treatment periods and fraudulent claims.

Additional intangible benefits may include improvement in employee morale and retention, as a deterrent on fraudulent claims, and via compliance, avoidance of potential OSHA, EEOC, and ADA violations that carry fines and penalties.

### IV. CONCLUSION

States have primary legislative, administrative, and operational responsibility for more than 50 separate programs that all have different methods of determining eligibility and benefits. Significant cost shifting from state work comp programs to the federal government may occur via disability programs administered by the Social Security Administration (SSA) in the form of Social Security Disability Insurance (SSDI) and after a waiting period, may qualify for Medicare [5]. Taken together, the cost of workers' compensation is much greater than is commonly recognized. Increase in, and expansion of labor laws has made it increasingly more complex for employers to remain in compliance when managing work related injuries and making fit for duty and return to work determinations. The EFA offers a confluence of evidence-based diagnostic and objective functional assessment to assist providers with effective management of work related MSD.

### REFERENCES

- [1] Regulations To Implement the Equal Employment Provisions of the Americans With Disabilities Act, as Amended. Federal Register. Regulations To Implement the Equal Employment Provisions of the Americans With Disabilities Act, as Amended. A Rule by the Equal Employment Opportunity Commission on 03/25/2011 Available: <http://www.federalregister.gov/articles/2011/03/25/2011-6056/regulations-to-implement-the-equal-employment-provisions-of-the-americans-with-disabilities-act-as>
- [2] Nonfatal Occupational Injuries and Illnesses Requiring Days Away from Work, 2009. Bureau of Labor Statistics; U.S. Dept of Labor; 2010 Available: [<http://www.bls.gov/iif/oshednew.htm>]

- [3] T. Østbye, J. M. Dement, K. M. Krause, "Obesity and Workers' Compensation: Results from the Duke Health and Safety Surveillance System," *Arch Intern Med.* 2007;167(8):766-773.
- [4] J. Kulin, M.R. Reaston, "Musculoskeletal disorders early diagnosis: A retrospective study in the Occupational Medicine setting," *Journal of Occupational Medicine and Toxicology* 2011, 6:1 Available: <http://www.occup-med.com/content/6/1/1>
- [5] K. Rupp, G.R. Riley, "Longitudinal Patterns of Participation in the Social Security Disability Insurance and Supplemental Security Income Programs for People with Disabilities," *Social Security Bulletin*, Vol. 71, No. 2, 2011