After the Storm: The Social Relations of Return to Work Following Electrical Injury

Elizabeth Mansfield¹, Mary Stergiou-Kita^{1,2}, Bonnie Kirsh², Angela Colantonio^{1,2}

¹Toronto Rehabilitation Institute, University Health Network, Toronto, Ontario, Canada

² University of Toronto, Department of Occupational Science and Occupational Therapy, Toronto, Ontario, Canada

Corresponding Author:

Dr. Elizabeth Mansfield

Toronto Rehabilitation Institute, University Health Network

Email: elizabeth.mansfield@utoronto.ca

Tel: 1-416-946-8566

Abstract

In this study, we explored the experiences of 13 individuals who had suffered an electrical injury at work and had subsequently returned to work. In this article, we report on the social, institutional and relational elements that workers perceived to influence return to work experiences and the provision of workplace accommodations. These elements included: (a) worker resources; (b) job characteristics; (c) workplace setting; (d) injury elements; (e) workers' compensation context; and (f) supports and advocacy provided. We conclude that the availability and provision of supportive accommodations are influenced by a multiplicity of interrelated factors including the legitimacy of resulting impairments following electrical injury, institutional structures (e.g., compensation and health care systems), the social relations of work, and broader labour market and economic contexts. Those workers who were vulnerable because of factors such as employment circumstances or labor market conditions were often poorly supported when returning to work following electrical injury.

Key Words

burn injury/burns; disability/disabled persons; health and well being; illness and disease

experience; interviews, semi-structured; occupational health; qualitative analysis; rehabilitation;
return to work; vulnerable populations; workplace

Accepted Manuscript

In the aftermath of a serious electrical incident, injured workers can find themselves in a complex web of return to work stakeholder relations shaped by broad social, political and economic forces. The social relations around return to work (RTW), and more specifically, the request and provision of workplace accommodations, can be further complicated when the impairments surrounding an injury are poorly understood. As work-related electrical injuries are relatively rare, include an array of visible and less visible impairments, and can display both immediate and delayed symptomatology, their legitimacy can be easily contested.

Although the severity of the resulting impairments can vary, electrical injuries are complex medical conditions. Impairments following electrical injuries can include disfiguring burns (with accompanying entrance and exit wounds), musculoskeletal injuries, respiratory issues and damage to the spine, brain and nervous systems (Heilbronn & Pliskin, 1999; Jafari, Couratier, & Camu, 2011; Primeau, 2005; Therman, Singerman, Gomez & Fish 2008; Yarnell, 2004). Additionally complicating this clinical picture are observations that although visible injuries can heal, less visible cognitive and psychosocial impairments can persist. As well, while some symptoms present immediately following electrical injury, other permanent and progressive symptoms (e.g., motor neuron disease, delayed amputations, spinal cord injuries) can appear months after the incident (Coubrough & Warnell, 2002; Jafari et al., 2011).

When symptoms appear some time following the injury incident, RTW stakeholders can question the work-relatedness of medical issues. (Tarasuk & Eakin, 1995). Issues of perceived legitimacy can complicate medical and compensation claims and the availability of appropriate accommodations for workers with complex medical conditions such as electrical injuries. In this article, we explore the interaction between social, relational and institutional elements of RTW.

Literature Review

RTW processes following occupational injuries are frequently examined from a social systems perspective that considers stakeholder interests and relations within the context of work disability management policies and practices (Franché, Baril, Shaw, Nicholas, & Loisel, 2005; Friesen, Yassi, & Cooper, 2001; Leyshon & Shaw 2012; Maiwald, de Rijk, Guzman, Schonstein, & Yassi 2011; Pransky, Shaw, Franché, & Clarke, 2004; Young, 2013). From a systems perspective, health is conceptualized as a prerequisite for the fulfillment of role capacity (Frank, 1991, 2013). Illness and injury are not simply organic disorders but represent an interruption to role function that can result in a failure to maintain social role obligations within organizational contexts such as work, school and the family (Frank, 2013; Gerhardt, 1988). According to this theoretical understanding, if an illness or injury was not subjected to medicine's social control, taking refuge in the sick role might become a popular way of evading social responsibilities (Parsons, 1951).

Health care providers play a pivotal role in RTW processes as they legitimize occupational injury claims, communicate information about work-related limitations, make RTW recommendations, provide treatment and act as gatekeepers to the compensation system (Butler, Derrett, & Colhoun, 2011). Workers' compensation board representatives also play a key role in legitimating work-related injury as they can request additional medical examinations and opinions when they question the validity of a work-related insurance claim or associated medical diagnosis (Kosny, MacEachen, Ferrier, & Chambers 2011).

From a systems perspective, the different viewpoints of multiple stakeholders in the disability management system can lead to conflicts in return to work processes. Young (2010, 2013) identifies workers, employers, workers' compensation boards and health care providers as key RTW stakeholders in disability management systems. These stakeholders frequently have

distinct priorities, and differing conceptions of the problem, appropriate solutions and cost-shifting abilities. The resulting contradictory perspectives can lead to dysfunction in the disability management system by undermining consensus and collaboration in RTW planning, implementation and evaluation processes (Maiwald et al., 2011). The alignment of stakeholder, organizational and institutional priorities in returning injured workers to work can influence the relative success of planning and implementing workplace accommodations (Friesen et al., 2001). Researchers who view return to work phenomena from a systems perspective often recommend increased RTW stakeholder collaboration (Leyshon & Shaw, 2012; Young, 2010, 2013) improved communications (Pransky et al., 2004), education (Franche et al., 2005) and support (Coole, Radford, Grant, & Terry 2012; Friesen et al., 2001).

A second approach to understanding RTW experiences recommends placing disability management systems in a broader social, political and economic context. MacEachen (2013) provides a critique of stakeholder research and observes that generic recommendations for increased stakeholder collaboration, greater knowledge, and support in RTW decision-making often elude a contextualized understanding of the problem and the need for targeted interventions. Eakin, Champoux and MacEachen (2010) also recommend an “upstream approach” to the analysis of RTW processes that include both far reaching contextual influences (labour markets, economic systems), work arrangements (subcontracting, outsourcing) and middle range structures and relations (workers’ compensation, insurers, health care providers). Rather than focusing exclusively on the worker and the workplace, it is necessary to address broader contextual factors that create RTW problems in the first place (MacEachen et al., 2010; Soklaridis, Ammendolia, & Cassidy, 2010). Compensation structures, health care providers, economic and labour market conditions and the social location of the worker are examples of

upstream factors that shape stakeholder relations in RTW processes (Eakin, Lamm, & Limborg, 2000).

Compensation structures such as experience rating can exacerbate claims management practices on the part of employers and insurers (Ison 1986, 1986a) and this claims behaviour can be heightened in the case of invisible impairments associated with work-related injuries (Lippel, 2007). In Ontario, Canada, as in many workers' compensation jurisdictions, the practice of experience rating imposes financial penalties on employers whose injury claim rate exceeds that of their industry rate group (Mansfield, MacEachen, Tompa, Kalcevich, Endicott, & Yeung, 2012).

There are a number of claims management strategies used by employers to reduce the costs associated with an occupational injury claim. For instance, an employee might remain on the payroll post-injury to avoid filing a costly lost time claim with workers' compensation (Brown & Barab, 2007). Workers may feel pressured to return to work prematurely or to be placed on light duties to reduce the duration of claims (Dew & Taupo, 2009). Concerns over the workers' risk of re-injury, future complications or reduced productivity can lead to an employee being laid off when the required period of modified work ends (Ison, 1993). Many qualitative studies of injured workers in work and insurance contexts have observed pressures on workers to not report injuries (Broadway & Skull, 2008; Dew & Taupo, 2009; Galizzi, Miesmaa, Punnett, & Slatin, 2010; Walker, 2010); underreporting has been associated with factors such as class, gender and ethnicity (Dembe, 2001).

Lippel (1999, 2007) and Ison (1993) note that both employers and workers' compensation representatives may engage in intrusive behaviours to disallow claims and minimize premium costs. Researchers have reported on surveillance techniques used by

employers, workers' compensation boards and private insurers to collect evidence that will discredit a worker's injury claim (Lippel, 2003; Strunin & Boden, 2004). Qualitative studies of injured workers document how individuals receiving compensation can feel stigmatized because they are assumed to be abusing the system (Beardwood, Kirsh & Clark, 2005; Eakin, MacEachen, & Clarke, 2003; Mansfield et al. 2012; Roberts-Yates, 2003). In addition, many eligible workers might not report injuries as they perceived the costs associated with a compensation claim (impact on career advancement, delays in claim processing time, income loss) to outweigh the benefits (Galizzi et al., 2010).

Perceived injury legitimacy and issues of stigma can arise in workplace, workers' compensation and health care settings (Kirsh, Slack & King, 2012). The perceived legitimacy of a claim is more likely come into question when the injury is invisible (Lippel, 2007; Reid, Ewan, & Lowy, 1991); when the work-relatedness of symptoms is questioned (Jaye & Fitzgerald, 2010); where there is diagnostic uncertainty, and when psychosocial and cognitive impairments are involved (Butler, Derrett, & Colhoun, 2011). Although electrical injuries typically have some visible signs, many of the sequelae are invisible and diagnostically complex and hence their legitimacy questioned.

Research on RTW suggests that multiple systems, stakeholders, organizations and institutionalized policies and practices shape the injured worker's trajectory. To date, preliminary investigations of work following electrical injuries has revealed that complex challenges can affect worker roles and RTW rates, which range from as little as 23% for individuals returning to their pre-injury job duties (Noble, Gomez, & Fish, 2005) to 32% successfully returning to work in any position (Primeau, 2005). However, despite the above reported challenges there was no

study of how workers return to work following an electrical injury and how personal, work-related injury and support elements might interact to influence their RTW experiences.

To our knowledge, this is the first qualitative study to explore how workers understand RTW processes following electrical injury. The following discussion contributes to our knowledge of the social dynamics of RTW processes associated with electrical injuries. The research question guiding this analysis is: how do worker, job, workplace, injury, compensation and support elements interact and influence the RTW process, specifically, the request and provision of workplace accommodations?

Methodology

We received ethics approval to complete this study through the Research Ethics Board at the Sunnybrook Health Sciences Centre in Toronto, Canada. We conducted interviews with both injured workers and employers or supervisors of injured workers. In this article, we focus on the workers' perspective. Results from the employer interviews are reported separately.

Recruitment and informed consent

We recruited participants from a sample of injured workers who had previously received medical and/or rehabilitation services from two study sites following their electrical injuries and who had previously consented to being invited to participate in this research study. Both sites provide rehabilitation, assessment and treatment services to individuals who have experienced work-related electrical injuries and are funded by the Workplace Safety and Insurance Board (WSIB) in Ontario, Canada. Participants were eligible if: (a) they had a diagnosis of electrical injury; and (b) if the injury occurred at the workplace.

An initial information letter and informed consent form was sent, via regular mail, to 40 potential participants who had received services between September 1, 2009 and November 1,

2012. In this letter, we informed participants of the purpose of the study and how to contact the research office to indicate if they did not wish to participate. Two weeks later, the first author followed up via a telephone call to answer any questions about the study prior to obtaining consent. Following receipt of the consent form, the first author contacted interested participants to establish a time to complete a semi-structured telephone interview. We conducted telephone versus face-to-face interviews to enhance feasibility (as many workers had returned to full-time work) and decrease costs (the workers resided throughout Ontario).

Data Collection

In this manuscript, we report on findings from the worker interviews. During the interviews we asked participants to describe the accident, discuss what happened, and describe their resulting injuries, rehabilitation and RTW processes. We then asked participants to discuss their work and educational background, their experiences with returning to work following electrical injury, the supports and/or accommodations they requested and received, their RTW successes and advice they might give to others returning to work following an electrical injury.

Data Analysis

The interviews were digitally audio-recorded and transcribed verbatim by a professional transcriptionist. We analyzed the interview data using thematic analysis (Braun & Clarke, 2005). Thematic analysis involves the following six steps: (a) becoming familiar with the data; (b) generating initial codes from the data; (c) categorizing codes into initial themes; (d) identifying the key themes related to the research objective and questions; (e) defining and naming the key themes; and (f) producing a scholarly report of the analysis.

In this study, two researchers independently reviewed and coded each interview initially using a line-by-line coding method. They subsequently met to discuss their individual codes and

reached consensus on a coding book. A third researcher, to ensure consistency and comprehensiveness, also reviewed codes. We subsequently inputted the coded transcripts into ATLAS.ti© version 7, (a qualitative data management software program) and reviewed them to identify, name and define common themes. We identified the following themes across the interviews: the RTW process; the nature of electrical work; cognitive and psychosocial challenges following electrical injuries and their effects on post-injury work performance; motivation to return to work; the significance of workplace safety cultures; type of accommodations and processes relevant to the successful provision of workplace accommodations; and social, institutional and relational factors associated with the request and provision of accommodations (e.g., worker, job, workplace, compensation system, support elements). It is this latter theme that comprises the focus of this article.

Results

Participant Characteristics

Thirteen workers who had experienced an electrical injury at their workplace participated in these interviews. Twelve of the 13 participants were men, and 12 of the 13 were married. This sample reflects the higher concentration of men working in fields at risk for electrical injuries. Of the 13 participants, 2 had not completed high school, 2 had completed high school, 7 had attended community college and two were university graduates. Participants reported working in the electrical utilities, electrical contracting, construction and hospitality sectors. Participants' occupational titles included electricians, engineers, millwrights, electrical technicians, labourers and a service worker. We noted variability in company size with 7 participants reporting working for large companies (e.g., 100 plus employees), 4 for medium sized companies (e.g., 20-50 employees) and 2 for small companies (e.g., under 20 employees).

In this article, we specifically report on the social, institutional and relational elements that influenced workers' experiences with negotiating their RTW trajectories. These elements (Table 1) included (a) worker resources; (b) job characteristics; (c) workplace setting; (d) injury elements; (e) workers' compensation context; and (f) supports.

INSERT TABLE 1 ABOUT HERE

We present data in two ways to illustrate the interplay between the various elements in the RTW and accommodation process. First, we define each element in Table 1 and provide illustrative quotes. Second, we provide three vignettes demonstrating how the interactions of the elements played out in three worker accounts of returning to work following electrical injury. All participant names included here are pseudonyms.

Worker Resources

Participant characteristics and resources, intersecting with other system elements, shaped the accommodations experience for workers following electrical injury. Factors that influenced workers' capacities to negotiate the RTW system included financial resources, educational levels and work experience. Workers with limited social and personal resources such as income, job security, education and social status experienced the greatest challenges in requesting and receiving accommodations. For example, Malcolm, a laborer who did not complete high school and under financial duress, was not provided with accommodations and experienced heightened job insecurity following the injury incident:

Me and my wife just bought a house. We had had problems with people that we trusted and the financial was bad. But you know like you go on. You got to do what you got to do. I'm illiterate for one. My physical body is very strong. I'm very, very healthy. But

it's all in appearance. I hide all the things that are wrong with me. Like the employers don't want to see that. "Well eh, he's young, his arms look bit of a gimp he holds it a lot. Uh he holds his chest lots." But I hide. I don't let people see that. Cause then I'll lose my job and I'll go on disability and that's only a thousand bucks a month.

In contrast, Stuart, a senior manager and electrical engineer (with higher education and income), was supported throughout the rehabilitation and RTW process. His employer provided considered and informed accommodations. As well, Stuart's co-workers were also instructed as to how they could assist Stuart in performing work duties to avoid the risk of re-injury or injury complications.

Characteristics of the job such as occupational classification, control/flexibility over job demands, and perceived job security also informed and shaped RTW and workplace accommodation experiences. Workers who had control over work processes and the pace of work were often able to leverage this advantage to influence the accommodation process. Roger, an electrician in a medium-sized company, had serious injuries to his hands and feet. He recalled having a high level of job flexibility and modified work arrangements so he could return to work in a supervisory capacity. This, coupled with a supportive relationship with his employer, allowed Roger to delegate physical tasks to his coworkers and gradually "resocialize" himself back into the work setting:

Instead of doing manual labour they had me oversee job sites. So I didn't have to really move around too much. That was basically the extent of my going back to work [at] first. Just being there trying to re-socialize myself.

Other workers had fewer transferable skills, worked in small to medium-sized workplaces where there were fewer options for modified duties and had less control over adjusting job demands. Don, a general laborer in a small construction company (whose duties included cleaning, sweeping, moving heavy construction materials), reported being less successful in controlling his job demands. Although he was restricted from working from heights following his injury, he was still required to move, lift and carry heavy materials despite the pain this caused his injured hand.

Perceptions regarding job security also influenced some participants' comfort in requesting supports and accommodations. For example, Nigel, an IT worker, discussed his reluctance to fight perceived injustices because of changed job security conditions:

I can't fight back....You know our world has changed. When I first started there, nobody ever retired or got fired. You would start there and you retired there if you want to. You know, over the last number of years, a number of people, even people with twenty plus years of seniority get fired. So I don't want to be another statistic at this point.

Workplace Setting

At the workplace level, the RTW process and workplace accommodations were shaped by the following key elements: (a) the social relations between employers, co-workers and employees; (b) a focus on claims management versus employees' needs; and (c) the strength of the workplace safety environment. Supportive employer-employee and coworker relations, receptivity to workers' needs, and strong workplace safety environments influenced RTW and workplace accommodation processes. Conversely, employers who were perceived by workers to

focus primarily on claims management activities and environments that had weak workplace health and safety cultures were less likely to support injured workers.

In our findings, post-injury employer-employee relations were often reported as problematic and had the potential to undermine the RTW process. Participants described how the occurrence of a lost-time injury could disrupt a good pre-injury working relationship. Following his injury, Don observed, “Everything went down the drain.” Others described how their injuries increased conflict in pre-existing problematic employer-employee relations. Nigel reported that preexisting tensions in his relationship with his manager escalated following the injury. As he stated, “The first day back with my boss there was very little support. There’s no feelings of concern or regard to how I felt or how I was doing”

Whereas many participants identified problematic employer-employee relations, others in management level or highly skilled positions described positive experiences. For example, one participant, an electrical engineer, noted how his employer ensured that others in the workplace understood his injury. The employer implemented open lines of communication and accommodations that incorporated precautions, and a RTW schedule that worked around his rehabilitation requirements to facilitate full recovery. Another worker, also in a managerial position, indicated that his employer provided housing for him and his family while he attended a rehabilitation facility in Toronto. Roger described strong levels of employer support during both his convalescence and when he returned to work:

They came and visited me in the hospital [to] make sure I was alright. And I just found going back, they never pushed. That’s why I didn’t have any problems with [the employer]. They never made you feel guilty or never tried to make you sweat it when you were there.

Several participants also observed the importance of co-worker relations. Many participants worked in occupational settings characterized by complex and high-risk tasks that required coordinated activities between crew members. Dennis, a millwright, described the importance of his co-workers' understanding of his physical, cognitive and psychosocial difficulties and their willingness to look out for him. Jason, an engineer and technologist who supervises workers at two power plant locations, noted that the small work crews at each site were very supportive and constantly made sure that he did not take on physical tasks that would be damaging to his injured shoulders.

Although most participants reported positive co-worker relations, others did not. For example, Don described how his co-workers sided with his employer, who blamed him for the injury and did not provide modifications recommended by the WSIB RTW specialist. Marion also felt that some coworkers resented her being assigned to light duties:

I had to go back once to the hotel to do a shift pick and a vacation pick. And I'm telling you in that twenty minutes I was there I was getting harassed from other guys in the department like crazy. "Those people that can't stand people that are off." They started saying, "They should only hire people that want to work."

A predominant focus in the workplace on managing injury claims and associated monetary costs versus identifying and providing for employees' needs was also a factor relevant to workers' RTW experiences. Participants described how employers were reluctant to accommodate job tasks or reduce performance expectations when the financial "bottom line" was the key

motivator. Derek, an electrical technologist in a vehicle manufacturing facility, felt pressured to work quickly following his injury because, from his employer's perspective, "time is money."

Several workers also discussed how their employers voiced concerns regarding increased insurance premiums associated with lost time injury claims, and how these concerns influenced their own decisions to return to work early, and in some occasions to not file a WSIB claim. One participant who had serious injuries to his hands and feet agreed to return to work early -- against the advice of his health care team. He was asked to remain on the company's payroll rather than filing a lost time claim with the WSIB. Similarly, Jason cooperated with his power plant managers in developing a RTW strategy that would eliminate the necessity of a costly lost time claim:

We're all sitting there and I explained to them [workplace managers] what happened. The power company, especially up here, they don't like getting loss time accidents against their record. So they asked me if I was willing to come in every day, or even on those days that I wasn't willing to come in. Like they would actually come and pick me up. Somebody would come pick me up-- even if it was only for an hour or so. And when I got admitted to the rehabilitation hospital I got called every day by these people. So the whole time I was at the rehabilitation hospital it was never considered that I was away from work. The only time it's considered to be a loss time accident was the day in October when I had the surgery. Because when I was in surgery I was obviously unable to talk to anybody.

In other instances, participants stated that they were asked to not report an injury, to report an injury as not work-related or to blame themselves for the electrical injury. Requesting

that the worker take the blame for electrical injury was a strategy used by some employers to minimize repercussions from Ministry of Labor investigations. After being electrocuted on the job, Don was told, “to suck it up”, report the injury as his fault and get back to work. Another worker, Malcolm, was coached by his employer to say that he was testing a machine before he went to work. His employer was reluctant to take him to the hospital fearing economic reprisals related to the incident:

I was just in shock and I wasn't really thinking and he [employer] didn't want to take me to the hospital at first. Oh yeah. I had to tell him I had to go. Yeah, he was scared like he was going to [be] fined a million dollars or something.

Participants also commented on the health and safety culture of their work environment, whether the injury incident was openly discussed, and if workplace safety was subsequently improved. Workers who reported poor workplace health and safety practices often encountered difficulties when returning to work. Derek, an electrical technician who worked in a unionized multinational workplace felt that employees were “shunned” if they raised health and safety issues and were not always sufficiently trained about their right to refuse and report unsafe work. Marion discussed how employees in housekeeping were frequently “zapped” while working in an ungrounded laundry room. When she approached the union and management to request environmental improvements, because less expensive solutions such as static mats had not worked, she was told it would be too costly to provide a grounded laundry room facility.

Conversely, participants who described their employers as having strong workplace health and safety policies and practices reported positive RTW experiences. In such cases, the employers spoke openly with all employees about the injury, the precipitating event, and lessons

learned. Roger, electrocuted when his vehicle made contact with overhead wires, discussed safety procedural changes following his injury:

As soon as I went back into work, we had a re-evaluation [of] our processes of working around overhead wires. So we, we've implemented some new safety things right after that. Before we [would] just go and mark the job site out with a yellow cone for overhead wires. We'd mark that out ahead of time. And we would leave that up to the operator's discretion to go put these cones out. We found that they weren't doing that good enough. So now it's the supervisor's job. And we do a safety talk in the morning where everybody signs in so they know that they're working around power lines and stuff like that.

Injury Elements

Participants across the interviews described a variety of physical, cognitive and psychosocial impairments following their electrical injuries that affected their return to work. Physical issues included burns to their hands and feet (with exit and entrance wounds), shoulder and upper extremity fractures and soft tissue injuries, headaches, and decreased balance. Reported cognitive issues included difficulties with attention, concentration, information processing, memory and new learning. Psychosocial challenges included anxiety, depression, mood disturbances, sleep disorders, flashbacks and post-traumatic stress.

Misdiagnoses and misconceptions regarding the severity and legitimacy of chronic, invisible electrical injury impairments complicated RTW processes. In two separate instances, participants reported undiagnosed shoulder injuries when first admitted to hospital. Another participant, Nigel, observed that his employer, some health care providers and the WSIB dismissed his headaches as unrelated to the electrical incident. He stated, "The fact that I had

headaches, nothing that could easily be proved or whatever it was almost, you know an afterthought.”

The invisibility of many electrical injury impairments could further complicate issues and the perceived legitimacy of reported symptoms. A worker electrocuted in a high voltage injury contended he would have been treated differently with visible injuries: “Like if my arms are burnt I think the company would have took it more serious [rather] than thinking that I was just playing the game.” Another participant, Derek, observed that although some RTW stakeholders understood electrical injuries, others did not understand that the healing and recovery process was different from non-electrical musculoskeletal injuries:

It kind of fell into two categories. Number one was realizing that I had an electrical accident and yes general concern for health and well-being and the fact that I wasn't getting you know better as I should have. And then there was other people who, I don't know if they don't understand electricity and stuff like that and saying, “Oh you got a dislocated shoulder you should be fine.” Like it's not like you cut off your hand or got lots of bruising or anything like that it, it's slightly different.

Similarly, Nigel, who sustained a low voltage electrical injury, described the common misconception that only high voltage contact results in serious and persistent injury impairments:

The comment from our health and safety person was [that] people take a lot more voltage than I took in the elevator, like one hundred and ten volts or something like that. “ Well I've known people that have taken twenty thousand volts and they're fine.” I also learned that that's irrelevant. Everybody is unique in what it does or how it reacts to any kind of electrical shock.

Workers' Compensation Context

Returning to work within a workers' compensation context was at times also viewed to be a difficult process because of: (a) the WSIB's limited understanding of electrical injuries; (b) challenges in establishing a credible claim; and (c) a disconnect between recommendations made by health care providers and WSIB personnel. First and foremost, participants reported that electrical injuries claims can be complex and poorly understood by the WSIB. Marion described her experience and how the WSIB accepted the injury report but did not allow the injury claim:

They accepted my accident but not my injury. I don't know who has an accident and doesn't get hurt, especially with electricity. Well that's why I had to get a lawyer that fights WSIB. She specializes in WSIB. I mean I almost got killed, let alone hurt. First [through an] MRI the neurologist found something on the right side of my brain....And definitely the doctor says that shows it was from the electricity. So after that I was like, "Oh finally!"

Second, the credibility of a claim could be questioned, particularly if an individual did not file a WSIB lost time claim immediately following the injury incident. Roger discussed how his decision to be paid by his employer, so that the employer could avoid filing a costly lost time claim with the WSIB, resulted in low priority treatment from the workers' compensation board and difficulties getting wound dressings and orthotics approved:

[The] WSIB looks at you now as a modified worker, like you didn't -- you're not even really injured anymore. I'm being paid by the employers, [so] now they don't look at you

anymore like you're hurt....I think they put you in a different category. You're not as important anymore, to be fixed upon right.

Third, participants discussed challenges related to a “disconnect” between RTW recommendations communicated by the compensation board and advice from staff specializing in work-related electrical injury at the WSIB clinic. Jason, diagnosed with broken shoulders as a result of his electrical injury, found that workers' compensation representatives challenged his medical diagnosis:

They thought that I had maybe had had these injuries for years and now I was just using this opportunity to get them repaired sort of thing. Yeah like they questioned....The guy said, “[You] were [sent to] the rehabilitation hospital for an electrical injury and now you're claiming you've got [a] broken shoulder and torn rotator cuff. Are you sure you never had these injuries all along?”

Supports and Advocacy

The supportive role of formal and informal care and advocacy also shaped workplace accommodation outcomes. Participants discussed the significant roles that formal supports such as specialized electrical injury rehabilitation services, family doctors, psychologists and alternative therapies such as yoga and guided meditation played in supporting their injury recovery and RTW processes. Several workers specifically commented on the quality of rehabilitation services provided by the specialized electrical injury clinics in improving outcomes:

The whole staff at the [health care facility] was incredible from the chief all the way down. It was probably the best medical people that I've ever encountered and I hope I've said there wasn't anything better for I was in worse shape.

Many participants also acknowledged the role of their partners, family members and significant others in supporting their rehabilitation and RTW needs. Two participants recalled the role played by family members in assisting with activities in daily living. Family members were often enlisted in providing transportation services to and from work and in corroborating the presence of impairments resulting from electrical injury for health care providers and compensation representatives. One individual described how his partner had helped analyze the injury event so that he was able to break the cycle of "self blame" and understand the social and economic factors that contributed to its occurrence.

Advocacy through health care providers and family members and self-advocacy practices were also reported to be essential to participants' abilities to negotiate RTW processes and effective workplace supports. One worker who experienced post-traumatic stress disorder symptoms and was facing an employer pushing for an early RTW date assembled a team of health care providers and family members to advocate for a gradual return to his pre-injury job on his own terms. Others discussed how a family member would attend medical appointments and/or RTW meetings to corroborate the symptoms they were experiencing. Marion, a participant who had experienced depression and changes in personality following her electrical injury, brought her spouse to medical appointments in Toronto:

It went really well. You know I went in there thinking that, "Oh my goodness I'm going to see their doctors and they're not going to believe me, you know." But luckily I had my

husband with me and he could tell everybody [he] saw the change in me, cause I was not myself.

In summary, the interaction of elements influencing return to work shaped and informed participants' RTW and accommodation experiences. For example, participants in precarious job settings and with limited access to alternative employment because of educational background or poor local labour market opportunities described experiences where both employers and workers' compensation representatives questioned the legitimacy of their injury. These vulnerable participants were fearful of advocating for themselves and requesting modified duties approved by health care providers and documented in formalized RTW plans. Conversely, participants who had specialized and valued skill sets, job security, flexible work arrangements and who held senior positions within their companies received greater support throughout their RTW trajectories. When the perceived legitimacy of their electrical injury, especially cognitive and psychosocial impairments, was questioned, these workers were well positioned to self-advocate and mobilize the support of professional advocates such as health care and RTW specialists.

Vignette Findings

The following vignettes illustrate how elements interacted and shaped three different outcomes: an unsuccessful return to work experience; a RTW experience that required advocacy strategies; and an account where the participant was fully supported in his RTW and where advocacy was not required.

Vignette 1: Dennis – A Vulnerable, Powerless Worker in the RTW System

Dennis, a millwright, had more than 20 years of experience at the time of his electrical injury. Although he was well paid, he expressed concern about his job security and financial future. Dennis described severe and persistent physical (e.g., extensive nerve damage to his right dominant hand), cognitive (e.g., focused attention, memory) and psychosocial impairments (e.g., post-traumatic stress, depression, chronic pain) following his electrical injury. His job tasks primarily involved operating heavy machinery and he had little control or flexibility over modifying his job demands. Because of extensive nerve damage to his dominant (right) hand, Dennis was concerned that he would not be able to operate heavy machinery and thus perceived the security of his job as under siege.

Dennis described his employer as difficult, non-supportive and not complying with the accommodations recommended by workers' compensation representatives and health care providers. For example, his employer put him back on heavy machinery that exceeded the weight criteria stipulated in his RTW plan. This participant discussed his employer's concern with injury claim costs and recalled being cognizant of how his injury "would affect premiums."

As well, Dennis's employer did not disclose the full details of the injury incident to the Ministry of Labor, fearing penalties and economic reprisals. Although his employer was adversarial in the accommodations process, his coworkers—whom he described as his "brothers"—were vigilant and tried to watch over him when he returned to work. The workplace safety environment was very poor and Dennis discussed other injuries that had occurred. He described the joint health and safety committee as a farce with the employer's nephew running the meetings:

No the safety rep is his nephew so it kind of one sided....Basically we'll make a complaint to [the] health and safety gentleman or his nephew and it'll go ignored. Nothing will be done with it. I've seen [a] health and safety guy not filling out his daily reports and such for over six months. And the day before the health [person] or WSIB or whoever it is comes in, [he] fills out the reports the day before. So [he] falsifies all of em. So it's kind of a farce.

Although his coworkers, compensation representatives, and health care providers perceived the electrical injury as legitimate, he described his employer as not accepting the persistence and severity of his injury and not being able to understand why he was not "healing" more quickly, "cured" and back to work. Dennis described his interaction with compensation representatives as mixed. Although he felt compensation representatives understood his physical impairment, they did not understand his reticence to accept a supervisory position. Dennis had witnessed a former employee returning to work following an occupational injury, who was assigned to a supervisory position and then subsequently laid off, and thus feared similar punitive actions. As well, compensation representatives did not fully support his need for cognitive aids. Dennis had to purchase his own Smartphone to assist with memory problems stemming from his injury.

Dennis's experiences with formal support services also varied. Discharged from the local hospital a few hours after admission, Dennis observed, "I went home with a hole in my wrist, they never stitched it or anything and they just bandaged me up and sent me on my way." Once referred to a specialty electrical injury clinic Dennis's care improved but the perceived legitimacy of his injury, as understood by his employer, remained unchanged. He reported that

he found guided meditation to manage chronic pain, and training in the use of a smart phone as an adaptive aid with the assistance of an occupational therapist as particularly beneficial. Friends and family provided a strong personal support network following the injury. However, despite these supports Dennis was fearful of advocating for himself as he felt his employment situation was precarious.

Vignette 2: Walter, an Empowered Worker Effectively Directing his RTW Journey

Walter was an experienced journeyman, with postsecondary training and more than 20 years of experience in the electrical trade. He was in a market and geographical location where there was high demand for his services and he was not concerned about keeping his current job. He indicated he was financially solvent. As the lead hand on electrical crews, he was able to “take charge” and “take hold of a project”, to delegate work and determine which tasks were appropriate for him in his RTW process.

Although Walter did not have a good relationship with his employer, he was able, with the support of health care and workers’ compensation representatives, to persuade his boss to provide the RTW accommodations he required. Walter initially felt pressured to return to work quickly because of his employer’s desire to reduce the costs of the claim. However, he listened to the advice of health care providers, family and friends urging him to take his time in the recovery process. As he was financially secure and highly employable, he felt that he could guide the RTW process and was less concerned about the possible repercussions on his relationship with his employer.

Walter described the safety environment at his workplace as poor and perceived his employer as ignoring the injury incident and associated safety infractions. As he observed, “You know some people have quietly asked me like what the hell happened, you know because the

company has never told anyone.” He described how he advocated for workplace safety improvements when he first returned to work on modified duties. Walter said he felt comfortable challenging his employer’s poor workplace health and safety practices, in part, because he could not be easily fired while on a workers’ compensation claim.

Although Walter appeared physically well, he described debilitating psychosocial issues such as anxiety, depression and sleep difficulties:

I found like once my hand healed, no disrespect for the surgeon or his team, but they are surgeons and their main concern is my physical body....At that point where they were satisfied that I was on the road to healing....By that point I was having major flashbacks, huge anxiety. I dropped about twenty-five pounds in two months. I couldn't shut down my mind. Some days I'd be lucky if got four hours sleep.

In Walter’s case, the support of compensation representatives, strong relations with his health care team, an extensive family support system and personal self-advocacy abilities helped validate the relevance and legitimacy of his psychosocial impairments. In addition, unlike many of the participants, Walter had a good experience with workers’ compensation while on a lost time claim and an excellent relationship with the RTW specialist who understood his medical challenges following electrical injury. Walter’s family physician advocated on his behalf to ensure he did not feel pressured to return to work before he was ready:

Six weeks out you know I knew I was not ready to return to work. But I didn’t know who was going to be in my corner to, you know, to tell people and actually have enough authority to make them listen. And my family doctor just stepped up and just poof, you know, took all that weight off of me.

Vignette 3: Stuart, an Employee Comprehensively Supported by RTW Stakeholders

At the time of his electrical injury, Stuart was a senior engineer with 20 years experience in a large, multinational company. Because his work involves project management activities, interacting with clients and training staff, during his recovery period he was able to stay involved with work while out of the office, minimizing the duration of his workers' compensation lost time claim. Stuart described his employer and coworkers as supportive throughout the rehabilitation and RTW process:

A lot of empathy, a lot of concern about my well-being and how I was doing. When I was in hospital quite a few of the managers and other staff came and visited me and you know once they did come into the office everybody's extremely interested in hearing the tale.

Working closely with the workers' compensation representatives and adhering to health care provider recommendations, Stuart's employer instructed coworkers about the physical supports required for post-surgical care and delegated manual duties to co-workers to prevent re-injury. The employer also ensured that Stuart's family could be with him while he was in hospital and later, scheduled his business travel around his rehabilitation needs. The company encouraged open discussions among employees as well as a root cause analysis of Stuart's injury event resulting in improved occupational safety and health protocols.

Stuart also noted that his electrical injury had strong perceived legitimacy because of the injury's visibility and the absence, in his case, of psychosocial and cognitive impairments. As a result of his own personal and social resources, employer and co-worker support, compensation

system, health care and family supports, Stuart reported a very positive and successful RTW experience that was not dependent on his self-advocacy.

Discussion

Characteristics of the worker, the job, the workplace and the system of supports and services intersected to shape the RTW experience for workers following electrical injury. Consistent with studies that have explored how worker and job characteristics shape accommodations (Costa Black, Feurstein & Loisel 2013; Kristman & Vezina 2013; Lysaght, Fabrigar, Larmour-Trode, Stewart, & Friesen, 2012; Shaw, Kristman & Vézina 2013), participants in our study who had strong social and personal resources and who had control over work processes and the pace of work were able to leverage some control over the accommodation process following electrical injury.

At the workplace level, problematic employer-employee relations often undermined supportive return to work processes. Participants described how the occurrence of an injury, especially a lost time injury, could negatively influence a good working employer-employee relationship or worsen an already problematic relationship. As well, some participants feared losing their jobs or demotions because of an electrical injury. These findings are consistent with studies of injured workers' experiences in other workplace and injury contexts that have considered power dynamics and social relations in RTW processes (Beardwood et al., 2005; Eakin, 2005; Gleeson, 2013; MacEachen et al., 2010; Roberts-Yates, 2003; Tarasuk & Eakin, 1995).

Electrical injuries often take place in occupational settings characterized by complex and high-risk task demands that involve coordinated activities between crewmembers, and most participants felt supported by their coworkers post injury. The importance of co-worker support

in RTW processes has also been reported in other qualitative studies (Dunstan & MacEachen, 2013; Tijulen, MacEachen, Stiwnne, & Ekberg, 2010). However, some participants encountered non-supportive co-worker relations including being blamed for electrical injuries and co-worker resentment of modified work assignments. This finding is similar to a study of the social relations of work in the electrical sector where co-worker relations following occupational injuries were often poor because of increasingly competitive labour markets and profit driven employment settings (Kosny, Lifshen, Pugliese, Majesky, Kramer, Steenstra, & Carrasco, 2013).

Participants also commented on the health and safety culture of their work environment, the open discussion of injury events and procedural changes made in the aftermath of injury incidents. Participants who described poor workplace health and safety practices often encountered difficulties in their workplace relationships. Researchers have reported positive relationships between the presence of health and safety programs, open lines of worker and management communications and effective RTW processes and outcomes (Lundt, Labriola, Christensen, Bultmann, & Villadsen, 2006; Steenstra, Verbeek, Heymans & Bongers, 2013).

Participants reported that workers' compensation representatives scrutinized and challenged compensation claims to reduce costs. This finding is consistent with researchers who have observed that workers' compensation systems with experience rating can result in claims-questioning strategies such as worker surveillance and multiple medical examinations (Dembe, 2001; Ison, 1986 Lippel, 2003; Strunin & Boden, 2004). Some participants, who continued on the company payroll rather than filing a loss time insurance claim, observed that compensation representatives often challenged medical claims associated with the injury. Participants also reported feeling powerless when their employers did not comply with RTW recommendations provided by workers' compensation representatives.

Consistent with research that has looked at how social and economic determinants shape injured worker experiences (Eakin, 2005; Gleeson, 2012; MacEachen et al., 2010; MacEachen, 2013; Soklaridis et al., 2010), each of the three vignettes demonstrated how work disability management systems and “upstream” factors interact with RTW trajectories following electrical injury. It was evident that workers participants who were vulnerable because of their level of personal and economic resources often experienced difficult social relations in return to work. Workers whose social location discouraged self-advocacy and who lacked champions within the RTW system often had inadequate support following electrical injury.

Dennis’s case demonstrated how interactions between workplace, injury and workers’ compensation elements shape and inform RTW experiences. In the workplace, Dennis faced an adversarial employer focused on reducing claim costs and avoiding penalties associated with workplace health and safety violations. His employer denied the seriousness of the injury impairments, did not provide the accommodations requested by health care providers and workers’ compensation representatives and, as a result, Dennis reinjured himself. Dennis did not advocate for himself – perhaps, in part, because he was fearful of losing his job since the injury compromised his ability to do manual work. His lack of power in the workplace setting was a key element in his RTW narrative. His account underscored the importance of worker capital and advocacy in RTW processes.

Walter’s account highlighted how a worker’s access to financial resources and advocacy support, employability, control over the pace and process of work, ability to delegate, and who is able to self-advocate, can have a positive impact on the accommodations process. Because Walter was not in a precarious employment position, he was able to exercise control over the terms and conditions of his return to work and manage an adversarial employer. Although

Walter's tenacious engagement with RTW stakeholders and advocacy techniques were admirable, it is unlikely that many workers occupy a similarly privileged social location and have access to these resources and strategies.

Similarly, Stuart's account highlighted how RTW stakeholders often best serve the least vulnerable workers. Throughout the RTW process, Stuart felt supported by his employer, the compensation board and his health care team. Stuart was a highly skilled, management-level employee with high levels of personal and social resources; had control over job demands, his schedule, and the pace of work; and had the flexibility to work from home. In Stuart's account, he was supported by all elements in the RTW trajectory. Unlike Walter, Stuart did not have to mobilize a support team to persuade his employer of his accommodation needs and did not need to self-advocate. In contrast with Dennis and Walter, Stuart's injury was visible and he did not experience psychosocial and cognitive sequelae, another factor that might have contributed to a successful RTW process. It was evident that Stuart's workplace, a large multinational company with a strong health and safety management culture, had the resources to support accommodations following electrical injury. Furthermore, the injury event was openly discussed at Stuart's workplace so that safety procedures could be improved, and there was no blame or stigma attached to Stuart's electrical injury.

Previous research on RTW following occupational electrical injury has primarily focused on clinical descriptions of the complex array of impairments and has not addressed how the ability to request and receive accommodations plays out in multiple work contexts influenced by broad social, political and economic forces. This qualitative study contributes to an understanding of the complex, multifaceted and interrelated social relations of RTW following electrical injury and the challenges experienced by workers in the request and provision of

workplace accommodations. Participants' chronic invisible impairments such as cognitive and psychological sequelae, as well as emergent physiological conditions, were ascribed less legitimacy than visible impairments such as burn wounds. RTW stakeholders including employers, health-care providers and workers' compensation representatives influenced the perceived legitimacy of electrical injuries and acted as gatekeepers to the injured worker role and RTW entitlements.

Conclusions

The findings from this study highlight how RTW stakeholders can have incomplete and contradictory understandings of the physical, psychosocial and cognitive sequelae of electrical injuries. Employer, insurer and health care providers' perceptions of injury severity, associated impairments and persistence could influence whether the electrical injury was viewed as legitimate and whether appropriate workplace accommodations were provided. All participants in RTW processes need to develop a comprehensive and nuanced understanding of the various visible and invisible sequelae/impairments that individuals with electrical injuries can experience.

Contradictory understandings of electrical impairments and the availability and provision of supportive accommodations are not only produced by institutional structures such as compensation, health care systems and the social relations of work but are also shaped by broader labour market and economic contexts. Our study also revealed a disturbing workplace accommodations paradox: those workers in higher social locations and with greater workplace capital (position, education, income, skill set, job security) have greater access to RTW support than workers in precarious employment settings at risk for re-injury and with the greatest need for protective accommodations.

The findings from this study highlight several important elements that health, vocational, and case management professionals should consider when assisting individuals who return to work following electrical injuries. These include: (a) the personal resources an individual brings to the accommodations context (such as their knowledge, work experience, their financial independence); (b) the flexibility to modify job tasks, demands, pace of work and perceptions of job security; (c) the additional formal and informal supports available to facilitate recovery and supportive accommodations; and (d) the social and power dynamics of RTW processes.

An understanding of work related electrical injuries, like all occupational injuries, should include an analysis of the social and power relations of work and how these dynamics can either support or hinder return to work processes. From a broader perspective, knowledge of structural factors such as economic and labour market conditions and how they influence workers and their power to request workplace accommodations is also required if workers are to be supported by policy and practices when returning to work.

Acknowledgments

The authors would like to thank the workers who participated in this study for sharing their experiences and knowledge regarding the work that they do, the challenges they experience and their strength and dedication to their professions. We would also like to thank Sandra Sokoloff for editorial support.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and or publication of this article. This study was supported by a Canadian Institute of Health Research (CIHR) - Institute for Gender and Health Grant (# OGW123786). Support for Dr. Colantonio was provided by the CIHR-IGH Chair, Gender, Work and Health (#CGW-126580) and the Saunderson Family Chair in Acquired Brain Injury Research at the Toronto Rehabilitation Institute.

Accepted Manuscript

References

- ATLAS.ti. (2013). Atlas.ti Scientific Software Development GmbH, Berlin, Germany. Retrieved from <http://www.atlasti.com/>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Broadway, M.J., & Stull, D. (2008). 'I'll do whatever you want, but it hurts': Worker safety and community health in modern meatpacking. *Labor: Studies in Working – Class History of the Americas*, 5(2), 27–37. doi:10.1215/15476715-2007-076
- Brown, G.D., & Barab, J. (2007). 'Cooking the books' – Behavior-based safety at the San Francisco Bay Bridge. *New Solutions*, 17(4), 311–324. doi:10.2190/NS.17.4.g
- Butler, M. P., Derrett, S., & Colhoun, S. (2011). The lived experience of patients with uncertain medical diagnosis following a serious injury: A qualitative study. *Disability & Rehabilitation*, 33(22-23), 2247-2254. doi:10.3109/09638288.2011.568082
- Coole, C., Radford, K., Grant, M., & Terry, J. (2012). Returning to work after stroke: Perspectives of employer stakeholders, a qualitative study. *Journal of Occupational Rehabilitation*, 23(3), 1-13. doi:10.1007/s10926-012-9401-1
- Costa-Black, K. M., Feuerstein, M., & Loisel, P. (2013). Work disability models: Past and present. In P. Loisel & J. R. Anema (Eds.), *Handbook of work disability* (pp. 71-93). New York: Springer. http://link.springer.com/chapter/10.1007%2F978-1-4614-6214-9_6
- Coubrough, V., & Warnell, P. (2002). The neurological complications of electrical injury: A nursing case management perspective. *Axone*, 23(4), 14-22. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12085393>

- Dembe, A. E. (2001). The social consequences of occupational injuries and illnesses. *American Journal of Industrial Medicine*, 40(4), 403-417. doi:10.1002/ajim.1113
- Dew, K. & Taupo, T. (2009). The moral regulation of the workplace: Presenteeism and public health. *Sociology of Health & Illness*, 31(7), 994–1010. doi:10.1111/j.1467-9566.2009.01169.x
- Dunstan, D. A., & MacEachen, E. (2013). Bearing the brunt: Co-workers' experiences of work reintegration processes. *Journal of Occupational Rehabilitation*, 23(1), 44-54. doi:10.1007/s10926-012-9380-2
- Eakin, J.M. (2005). The discourse of abuse in return to work: A hidden epidemic of suffering. In C. L. Peterson, & C. Mayhew (Eds.), *Occupational health and safety: International influences and the new epidemics* (pp. 159–174). Amityville, New York: Baywood Publishing Co.
- Eakin, J. M., Champoux, D., & MacEachen, E. (2010). Health and safety in small workplaces: Refocusing upstream. *Canadian Journal of Public Health*, 101(7), S29-S33. Retrieved from <http://journal.cpha.ca/index.php/cjph/article/viewArticle/2440>
- Eakin, J. M., Lamm, F., & Limborg, H. J. (2000). International perspective on the promotion of health and safety in small workplaces. In K. Frick, M. Quinlan, T. Wilthagen (Eds.), *Systematic occupational health and safety management: Perspectives on an international development* (pp 227-247). Amsterdam: Elsevier.
- Franché, R. L., Baril, R., Shaw, W., Nicholas, M., & Loisel, P. (2005). Workplace-based return-to-work interventions: optimizing the role of stakeholders in implementation and research. *Journal of Occupational Rehabilitation*, 15(4), 525-542. Retrieved from <http://link.springer.com/article/10.1007/s10926-005-8032>

- Frank, A.W. (1991). From sick role to health role: Deconstructing Parsons. In R. Robertson & B.S. Turner (Eds.), *Talcott Parsons: Theorist of modernity* (pp. 205-216). Newbury Park, CA: Sage.
- Frank, A. W. (2013). From sick role to practices of health and illness. *Medical Education*, 47(1), 18-25. doi:10.1111/j.1365-2923.2012.04298.x
- Friesen, M. N., Yassi, A., & Cooper, J. (2001). Return-to-work: The importance of human interactions and organizational structures. *Work: A Journal of Prevention, Assessment and Rehabilitation*, 17(1), 11-22. Retrieved from <http://iospress.metapress.com/content/fty3v7mu3t481f84/>
- Galizzi, M., Miesmaa, P., Punnett L., & Slatin, C. (2010). Injured workers' underreporting in the health care industry: An analysis using quantitative, qualitative, and observational data. *Industrial Relations*, 49(1), 22-43. doi:0.1111/j.1468-232X.2009.00585.x
- Gerhardt, U. (1987). Parsons, role theory, and health interaction. In G. Scrambler (Ed.), *Sociological theory and medical sociology* (pp. 110-133). London: Tavistock Publications.
- Gleeson, S. (2012). Leveraging health capital at the workplace: An examination of health reporting behavior among Latino immigrant restaurant workers in the United States. *Social Science & Medicine*. 75(12), 2291-2298. Retrieved from <http://linkinghub.elsevier.com/retrieve/pii/S0277953612006387?via=sd>
- Heilbrunner, R., & Pliskin, N. (1999). Psychological issues in the neurorehabilitation of electrical injuries. *NeuroRehabilitation*, 13(2), 127-32. Retrieved from <http://iospress.metapress.com/content/tfbmlgcbxhcyh0rg/>

- Ison, T. G. (1986). The therapeutic significance of compensation structures. *Canadian Bar Review*, 64(4), 605–637. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2094428
- Ison, T. G. (1986a). The significance of experience rating. *Osgoode Hall Law Journal*, 24, 723-742. Retrieved from <http://heinonline.org/HOL/LandingPage?handle=hein.journals/ohlj24&div=35&id=&page=>
- Ison, T. G. (1993). Changes to the accident compensation system: An international perspective. *Victoria University of Wellington Law Review*, 23(3), 25–43. Retrieved from <http://heinonline.org/HOL/LandingPage?handle=hein.journals/vuwlr23&div=32&id=&page=>
- Jafari, H., Couratier, P., & Camu, W. (2011). Motor neuron disease after electric injury. *Journal of Neurology and Neurosurgical Psychiatry*, 71(2), 65-7. doi:10.1136/jnnp.71.2.265
- Jaye, C., & Fitzgerald, R. (2010). The lived political economy of occupational overuse syndrome among New Zealand workers. *Sociology of Health & Illness* 32(7), 1010-1025. doi:10.1111/j.1467-9566.2010.01259.x
- Kirsh, B., Slack, T., & King, C. A. (2012). The nature and impact of stigma towards injured workers. *Journal of Occupational Rehabilitation*, 22(2), 143-154. doi:10.1007/s10926-011-9335-z
- Korzycki, M., Korzycki, M., & Shaw, L. (2008). Left behind in the return-to-work journey: Consumer insights for policy change and practice strategies. *Work: A Journal of Prevention, Assessment and Rehabilitation*, 30(3), 277-287. Retrieved from <http://iospress.metapress.com/content/tk12k5pwv6940837/>

- Kosny, A., Lifshen, M., Pugliese, D., Majesky, G., Kramer, D., Steenstra, I., & Carrasco, C. (2012). Buddies in bad times? The role of co-workers after a work-related injury. *Journal of Occupational Rehabilitation*, 23(3), 1-12. doi:10.1007/s10926-012-9411-z
- Kosny, A., MacEachen, E., Ferrier, S., & Chambers, L. (2011). The role of health care providers in long term and complicated workers' compensation claims. *Journal of Occupational Rehabilitation*, 21(4), 582-590. doi:10.1007/s10926-011-9307-3
- Leyshon, R., & Shaw, L. (2012). Using multiple stakeholders to define a successful return to work: A concept mapping approach. *Work: A Journal of Prevention, Assessment and Rehabilitation*, 41(4), 397-408. doi:10.3233/WOR-2012-1317
- Lippel, K. (2003). The private policing of injured workers in Canada: Legitimate management practices or human rights violations? *Policy and Practice in Health and Safety*, 1(2), 97–118. Retrieved from <http://www.ingentaconnect.com/content/iosh/pphs/2003/00000001/00000002/art00007>
- Lippel, K. (1999). Therapeutic and anti-therapeutic consequences of workers' compensation. *International Journal of Law and Psychiatry*, 22(5–6), 521–546. Retrieved from <http://europemc.org/abstract/MED/10637756/reload=0;jsessionid=1u1JQH2qrrAdpbecncfo.0>
- Lippel, K. (2007). Workers describe the effect of the workers' compensation process on their health: A Quebec study. *International Journal of Law and Psychiatry*, 30(4), 427-443. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0160252707000520>
- Lund, T., Labriola, M., Christensen, K., Bultmann, U., & Villadsen, E. (2006). Return to work among sickness-absent Danish employees: Prospective results from the Danish work environment cohort study/national register on social transfer payments. *International*

- Journal of Rehabilitation Research*, 29(3), 229-35. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16900044>
- Lysaght, R., Fabrigar, L., Larmour-Trode, S., Stewart, J., & Friesen, M. (2012). Measuring workplace social support for workers with disability. *Journal of Occupational Rehabilitation*, 22(3), 376-386. doi:10.1007/s10926-012-9357-1
- MacEachen, E., Kosny, A., Ferrier, S., & Chambers, L. (2010). The “toxic dose” of system problems: Why some injured workers don’t return to work as expected. *Journal of Occupational Rehabilitation*, 20(3), 349-366. doi:10.1007/s10926-010-9229-5
- MacEachen, E. (2013). Understanding work disability systems and intervening upstream. In P. Loisel & J. R. Anema (Eds.), *Handbook of work disability* (pp. 217-228) New York: Springer. Retrieved from http://link.springer.com/chapter/10.1007/978-1-4614-6214-9_14
- Maiwald, K., de Rijk, A., Guzman, J., Schonstein, E., & Yassi, A. (2011). Evaluation of a workplace disability prevention intervention in Canada: Examining differing perceptions of stakeholders. *Journal of Occupational Rehabilitation*, 21(2), 179-189. doi:10.1007/s10926-010-9267-z
- Mansfield, E., MacEachen, E., Tompa, E., Kalcevich, C., Endicott, M., & Yeung, N. (2012). A critical review of literature on experience rating in workers' compensation systems. *Policy and Practice in Health and Safety*, 10(1), 3-25. Retrieved from <http://www.ingentaconnect.com/content/iosh/pphs/2012/00000010/00000001/art00002>
- Noble J., Gomez M., & Fish J. (2006). Quality of life and return to work following electrical burns. *Burns*, 32(2), 159-64. Retrieved from <http://www.sciencedirect.com/science/article/pii/S030541790500255X>

- Parsons, T. (1951). *The Social System*. Glencoe: Free Press.
- Pransky, G. S., Shaw, W. S., Franche, R. L., & Clarke, A. (2004). Disability prevention and communication among workers, physicians, employers, and insurers-current models and opportunities for improvement. *Disability & Rehabilitation*, 26(11), 625-634.
doi:10.1080/09638280410001672517
- Primeau, M. (2005). Neurorehabilitation of behavioural disorders following lightning and electrical trauma. *NeuroRehabilitation*, 20(1), 24-33. Retrieved from <http://iospress.metapress.com/content/r27tmej4jg0cu38y/>
- Reid, J., Ewan, C., & Lowy, E. (1991). Pilgrimage of pain: The illness experiences of women with repetition strain injury and the search for credibility. *Social Science & Medicine*, 32(5), 601-612. Retrieved from <http://www.sciencedirect.com/science/article/pii/027795369190295N>
- Roberts-Yates, C. (2003). The concerns and issues of injured workers in relation to claims/injury management and rehabilitation: The need for new operational frameworks. *Disability and Rehabilitation*, 25(16), 898-907. doi:10.1080/0963828031000122203
- Shaw, W. S., Kristman, V. L., & Vézina, N. (2013). Workplace Issues. In P. Loisel & J. R. Anema (Eds.), *Handbook of work disability* (pp. 163-182). New York: Springer.
Retrieved from http://link.springer.com/chapter/10.1007/978-1-4614-6214-9_11
- Soklaridis, S., Ammendolia, C., & Cassidy, D. (2010). Looking upstream to understand low back pain and return to work: Psychosocial factors as the product of system issues. *Social Science & Medicine* 71(9), 1557-1566. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0277953610006416>

- Steenstra, I., Verbeek, J., Heymans, M., & Bongers, P. (2005). Prognostic factors for duration of sick leave in patients sick listed with acute low back pain: A systematic review of the literature. *Occupational & Environmental Medicine*, 62(12), 851-60.
doi:10.1136/oem.2004.015842
- Strunin, L., & Boden, L. I. (2004). The workers' compensation system: Worker friend or foe? *American Journal of Industrial Medicine*, 45(4), 338-345. doi:10.1002/ajim.10356
- Tarasuk, V. & Eakin, J.M. (1995). The problem of legitimacy in the experience of work-related back injury. *Qualitative Health Research*, 5(2), 204-221.
doi:10.1177/104973239500500205
- Therman, K., Singerman, J., Gomez, M., & Fish, J. (2009). Return to work after low voltage electrical injury. *Journal of Burn Care Research*, 29(6), 959-64.
doi:10.1097/BCR.0b013e31818b9eb6
- Tjulin, Å., MacEachen, E., Stiwné, E. E., & Ekberg, K. (2011). The social interaction of return to work explored from co-workers experiences. *Disability & Rehabilitation*, 33(21-22), 1979-1989. doi:10.3109/09638288.2011.553708
- Yarnell, P. (2005). Neurorehabilitation of cerebral disorders following lightning and electrical burns. *NeuroRehabilitation*, 20(1), 15-18. Retrieved from <http://iospress.metapress.com/content/rcnxemg1x1valb9u/>
- Young, A. E. (2010). Return to work following disabling occupational injury-facilitators of employment continuation. *Scandinavian Journal of Work, Environment & Health*, 36(6), 473-483. Retrieved from <http://www.jstor.org/stable/41151519>

Young, A. E. (2013). Return to work stakeholders' perspectives on work disability. In P. Loisel & J. R. Anema (Eds.), *Handbook of work disability* (pp. 409-423). New York: Springer.

Retrieved from http://link.springer.com/chapter/10.1007/978-1-4614-6214-9_25

Bios

Elizabeth Mansfield, PhD is a researcher at the Toronto Rehabilitation Institute in Toronto, Ontario, Canada.

Mary Stergiou-Kita, PhD is a scientist at the Toronto Rehabilitation Institute and an assistant professor at the Department of Occupational Science & Occupational Therapy at the University of Toronto, Toronto, Ontario, Canada.

Bonnie Kirsh, PhD is an associate professor at the Department of Occupational Science & Occupational Therapy at the University of Toronto, Toronto, Ontario, Canada.

Angela Colantonio, PhD is a senior scientist at the Toronto Rehabilitation Institute, professor at the Department of Occupational Science & Occupational Therapy at the University of Toronto, Toronto, Ontario, Canada and holds a CIHR chair in Gender, Work & Health.

Table 1: Elements influencing return to work and the provision of workplace accommodations following electrical injury

Worker Resources	Job Characteristics	Workplace Setting	Injury Elements	Workers' Compensation	Supports & Advocacy
Work experience	Occupational classification (e.g. skilled, semi-skilled, unskilled)	Social relations with employer/co-workers	Types of impairments (e.g. physical, cognitive, psychosocial)	Claim type & status (e.g. lost-time vs. non-lost time; accepted versus rejected)	Professional service experiences
Educational level	Control over job demands & flexibility	Claims management versus employee needs	Injury presentation (e.g. visibility, invisibility, severity, persistence)	Relationship with insurance representatives	Informal supports/resources
Financial security/solvency	Job security	Safety environment/safety culture	Legitimacy of reported electrical injury impairments	Medical claim understanding	Levels of advocacy