Work-Related Injury and the Older Adult

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ABSTRACT

Many older adults are working beyond what was considered a "normal" retirement age in past generations. If work-related injury occurs, older adults may have increased vulnerabilities due to age and comorbid conditions not shared by their younger working peers. This article presents an individual example in which these vulnerabilities are explored, and unique processes within the work environment are noted. Awareness of the risks to older workers will aid clinicians in any setting to maximize prevention and management of comorbidities that improve health status, function, and employment performance for older workers.

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INDIVIDUAL EXAMPLE

B.R. is a 70-year-old White stock room clerk in a high technology firm where she has worked for 15 years. Her medical history includes type 2 diabetes, obesity (body mass index [BMI] = 37), hypertension, and hyperlipidemia. Her current medications are glipizide (Glucotrol®) 5 mg daily at breakfast, metformin (Glucophage®) 850 mg three times per day with meals, losartan (Cozaar®) 100 mg daily, and lovastatin (Mevacor®) 40 mg with her evening meal. Her most recent hemoglobin A1c was 7.6%.

At her original pre-placement physical examination, she met all internal job requirements including 20/40 near and far corrected vision; normal color vision; ability to lift, push, and pull up to 20 pounds; and walk up and down a 5-rung stepladder carrying parts that weigh up to 20 pounds (Horvath, 1999).

B.R. has continued working past traditional retirement age due to economic need, good health benefits provided by her employer, and because she enjoys her work and the socialization it provides. On a Friday afternoon, as she was rushing to leave work, she tripped over a wet floor sign that she did not see, fell, and twisted her right ankle. The in-house occupational health nurse practitioner (OHNP) responded to the fall location and evaluated B.R.'s ankle and overall status. B.R. was unable to bear weight to walk on her right foot and had distinct point tenderness at the posterior edge of the right lateral

malleolus (6 cm) with swelling. Following application of the Ottawa Ankle Rules (Jenkin, Sitler, & Kelly, 2010), B.R. was transported to the local emergency department (ED) for a right ankle x-ray, which was negative for fracture. She was given a written return-to-work report from the ED physician to provide to her employer, indicating she could return to work on her next work day, that she must wear a semi-rigid ankle brace, apply ice 20 minutes four times daily, and elevate her foot as much as possible. The physician prescribed ibuprofen (Motrin®) 600 mg three times per day with meals for pain.

California-specific Employee Claim Form for Workers' Compensation.

Prior to the scheduled follow-up visit with B.R., the OHNP received a call from the supervisor who was concerned about B.R.'s work performance. B.R. was moving slowly and almost falling asleep when working at the computer. A fitness-for-duty (FFD) evaluation was recommended after consultation with the human resources (HR) representative. The supervisor documented his observations on the Supervisor's Checklist, a part of the company's well-defined FFD process.

B.R. was informed that she was referred for a FFD evaluation due to

Adults older than 65 are at increased risk for more severe work-related injury...and work-related fatalities...compared with their younger working peers.

B.R. returned to work on the Monday after injury and reported to the OHNP, providing the ED return-to-work report. B.R. indicated she was taking the Motrin as prescribed and felt well enough to do her regular job. The OHNP arranged for a cold pack for intermittent icing and instructed B.R. in its use; the OHNP also provided a cushion for B.R. to elevate her foot while working on the computer. A follow-up appointment at the in-house clinic was scheduled in 3 days.

The injury case was recorded on the Occupational Safety and Health Administration (OSHA) 300 Log (U.S. Department of Labor, OSHA, 2004) as a right ankle sprain and was recordable due to use of a rigid brace and prescription-strength medication, as this represents medical care beyond first aid. An Employer's First Report of Injury or Illness form was completed to open a workers' compensation case to pay for medical bills. B.R. was given a

observations made by her supervisor. During the history-taking portion of the examination, B.R. admitted that in addition to the Motrin prescribed, she had acetaminophen/hydrocodone (Vicodin®) left over from a previous surgery and was taking two tablets three times daily. B.R. had not taken any Vicodin yet that day and was found fit for duty after an extensive evaluation that included history, substance use, and general physical, vision, cardiac, and extensive neurological examinations. Had she been found unfit, she would have been sent to the ED for substance testing. She was aware that the Vicodin made her sleepy but said she did not know what else to do because she was worried about losing her job if she complained.

The OHNP advised B.R. that the dose of Vicodin she was taking was clearly affecting her ability to work and interfering with her productivity. The OHNP additionally counseled her that, given her job responsibilities, being impaired at work represented a safety risk. Specifically, walking up a 5-step stepladder with a 20-pound load while impaired may result in a fall that could cause significant injury. B.R. was counseled that working with the OHNP to develop a plan for pain management would have been the right course of action.

The OHNP reexamined B.R.'s right ankle and noted that the tenderness and bruising at the posterior edge of the right lateral malleolus persisted, but the swelling had decreased. An orthopedic referral was scheduled in 2 days. B.R. indicated that she believed she could work without taking the Vicodin if she did not need to walk around much or climb the stepladder, so, until her orthopedic appointment, she would do only the computer recordkeeping portion of her job, and her coworkers would do the more active portion of the job. The OSHA log was updated to reflect that the case had progressed to a lost-day case with 2 days of restricted work.

On the day of the scheduled orthopedic appointment, the OHNP received a phone call from B.R.'s husband stating that B.R. fell at home, severely twisting the same ankle. Her husband took her to the ED, and they found her ankle was fractured in two places. B.R. was taken to surgery, her ankle was pinned, and she was hospitalized for the immediate recovery period due to the severity of her injury and potential for complications. The OHNP updated the OSHA log to reflect additional lost days. As required by California law, the OHNP notified the local OSHA office that an employee was hospitalized for a period greater than 24 hours for other than observation (California Labor Code, 2008).

B.R. experienced delayed recovery secondary to her comorbidities and her age (Baumgarten, Carlson, & Watson, 2011; Konstantinidis et al., 2011). She was discharged from

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the hospital to a facility for acute rehabilitation and received physical therapy daily, with the goal of returning to an ambulatory state with minimal support (e.g., cane). She was discharged home after several weeks and continued physical therapy on an outpatient basis for the next 6 months. B.R. had an extensive recovery period and did not return to work until 9 months after the injury due to pain, poor wound healing, and because appropriate modified duty could not be found prior to that time. Adjusting back to the work environment after extended absence was challenging for her.

EPIDEMIOLOGY OF WORK-RELATED INJURY IN OLDER WORKERS

In 2011, there were 39,729,000 adults older than 65 in the United States, with 7,112,000 (17.9%) active in the labor force. A total of 6,647,000 (16.7%) of all older adults were employed, and 465,000 (1.2%) were seeking employment. Most of these workers were between ages 65 and 69. However, 1.6 million adults ages 70 to 74 and 1.2 million adults older than 75 were working (U.S. Department of Labor, Bureau of Labor Statistics, 2012a).

Adults older than 65 are at increased risk for more severe work-related injury (Konstantinidis et al., 2011) and work-related fatalities (Konstantinidis et al., 2011; U.S. Department of Labor, Bureau of Labor Statistics, 2012b) compared with their younger working peers. Older adults such as B.R. require longer recovery times from injury prior to return to work when a "lost-time" injury has occurred (Konstantinidis et al., 2011; U.S. Department of Labor, Bureau of Labor Statistics, 2011). The median days away from work for a lost-time case in 2010 for workers 65 and older was 16 days—longer than for any other age group (U.S. Department of Labor, Bureau of Labor Statistics, 2011). Fatal work injuries for workers older than 65 were more than three times the rate of fatalities for younger workers in the United States in 2010 (U.S. Department of Labor, Bureau of Labor Statistics, 2012b).

Compston et al. (2011) studied the prevalence and incidence of fractures in obese, postmenopausal women within the Global Longitudinal study of Osteoporosis in Women. In a subsample of 44,534 women 55 and older (23.4% of whom had a BMI of 30 kg/m^2 or higher), both ankle and upper-leg fractures were significantly higher than in non-obese women. Additionally, obese women with two or more previous falls were at increased risk for fracture in subsequent falls (Compston et al., 2011).

Obesity (BMI >35) and distal lower extremity or ankle fracture are associated with longer hospital length of stay and greater use of physical therapy services in acute hospital stays (Slayton, Williams, & Newman, 2012). Comorbidities common in older adults contribute significantly to delayed return to work and delayed recovery from injury. For B.R., diabetes may slow wound healing (Peppa & Vlassara, 2005), and obesity may also contribute to slower return to pain-free ambulation (Baumgarten et al., 2011).

Some additional risks for workers older than 65 who sustain traumatic injury were identified by Konstantinidis et al. (2011), who evaluated all of the work-related trauma cases at 900 trauma centers from 2002 to 2006. Workers older than 65 had higher levels of hypotension, they were more likely to have traumatic brain injury requiring craniotomy, and the trauma leading to this case was less than for younger workers. They had increased likelihood of hemothorax or pneumothorax; liver injury was slightly more common in this age group than in younger groups; pelvic fractures were more common than in younger ages; cervical fractures were the most common spinal fracture in this age group, with more benign causation; both upper and lower extremity fractures were highest in this age group; and overall mortality had the highest odds at 7.1, adjusted odds ratio = 6.18 (confidence interval: 4.78, 7.80) (Konstantinidis et al., 2011).

MANAGEMENT ISSUES IN WORK-RELATED INJURIES IN OLDER ADULTS

B.R.'s individual example highlights some of the issues regarding work-related injuries in adults older than 65. For example, employers are required to hold jobs for only 12 weeks under current Family Medical Leave Act regulations (U.S. Department of Labor, 2010), but many employers allow employees to bid on open jobs many months later upon return to work.

The primary goals in the workers' compensation system are generally accepted to be "speedy recovery" and "safe return to work" for the injured worker (Dervin & Sandine, 2000). Actions should be taken with those goals in mind. The OHNP should work in concert with other involved providers to facilitate the best care possible to reduce delayed recovery and promote secondary prevention (American College of Occupational and Environmental Medicine [ACOEM], 2008). B.R.'s comorbid conditions of obesity and diabetes combined with the severity of her injury placed her outside the normative range of the "speedy recovery" goal in workers' compensation, placing her at increased risk for delayed recovery.

After review of available non-experimental research studies of working populations, the ACOEM (2008) stated that:

> Workers absent due to a work-related complaint for more than 6 months have approximately a 50% probability of return to work, those absent more than 1 year have a 25% probability, and those absent more than 2 years have virtually no chance of returning to work. (p. 58)

B.R. returning to work after such a lengthy absence required all involved to work together to make it

possible, as she had less than a 50% chance of return to work.

OSHA RECORDKEEPING PROCESS IN WORK-RELATED INJURIES

B.R.'s work-related injury and her recovery process demonstrate the complexity of assuring compliance with workplace regulations. Work-related injuries or illnesses that fit criteria set by OSHA are required to be recorded on an injury and illness log (i.e., OSHA 300 Log), kept annually by the employer. The OSHA log serves as a management tool for a company's health and safety program, as well as facilitating OSHA inspections. The criteria that make a case recordable for OSHA purposes are: death, medical care beyond first aid (based on an OSHA-defined first aid list), loss of consciousness, medically authorized days away from work, restricted work or job transfer, or diagnosis of a significant injury or illness by a physician or licensed health care practitioner (U.S. Department of Labor, OSHA, 2004).

Each time changes occur, such as lost time or additional restricted days, the OSHA log must be updated. B.R.'s fracture was considered occupational even though it occurred at home because the pre-existing work-related ankle sprain contributed to the fall leading to the fracture. Under OSHA regulations, three employees need to be hospitalized due to the same incident before a phone report needs to be made, although in California, it is only one employee. In either case, the call must be made within 8 hours of knowledge of the event (U.S. Department of Labor, 2001).

SUMMARY

More people are working beyond traditional retirement age out of choice or economic necessity. Corporate America needs the skills and experience of older workers, as there are not as many younger workers prepared to meet the demands of jobs that need to be done (Dychtwald, 2002). However, due to aging and chronic disease, these older workers have some greater risks in the workplace. Some of the risks and management strategies for older workers have been outlined in this article:

- Greater vulnerability for lower extremity injury (Compston et al., 2011).
- Greater severity of injury (Konstantinidis et al., 2011).
- Greater chance of fall-associated fractures in obese women with a history of two or more previous falls (Compston et al., 2011).
- Extended hospital stay and greater use of physical therapy services if obese (Slayton et al., 2012).
- Delayed wound healing related to comorbidities (e.g., diabetes) (Peppa & Vlassara, 2005).
- Delayed pain-free ambulation related to comorbidities (e.g., obesity) (Baumgarten et al., 2011).
- Adjustment challenges after delayed return to work (Burgel & Gliniecki, 1986).

Processes unique to the work environment have been addressed in this article. Often, non-occupational health providers are less informed about OSHA requirements and workers' compensation. While it is beyond the scope of this article to fully cover these topics, some familiarity can aid practitioners in providing guidance during health encounters in which these issues arise. Recognizing the risks for older workers, all providers have the opportunity to offer preventive intervention in the areas of weight reduction, exercise, fall prevention, and prevention/management of comorbidities that maximize health status, function, and employment performance for older workers.

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