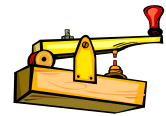




The Ergonomic Wire



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Fundamentals of Ergonomics Course in Calgary

Learn the fundamentals of ergonomics and how they can be applied to your organization.

This four day course will be held in Calgary through the University of Alberta's Faculty of Extension and will be taught by EWI's Donald MacDonald and Kirsten Willms.

Courses are December 4 - 12th, 2010. For more information, go to www.extension.ualberta.ca

Worksite Safety and Temporary Foreign Workers: The long road ahead

By Lorel Hammerstad, Communications Specialist, EWI Works

The use of Temporary Foreign Workers (TFW) is rapidly on the rise in Canada - particularly in the province of Alberta where the number of TFWs rose from 11,462 in 2003 to 37,257 in 2007. Based on these figures, Alberta has more legal TFWs per capita than all of the United States. Hiring TFWs was put into place to meet the demands for immediate skills and labour shortages when an organization was unable to find permanent residents to fill positions - and the practice is rapidly increasing. However, high profile industrial accidents involving the deaths of two TFWs in ¹Alberta and two in ²Ontario is bringing the concern of dealing with worksite safety and TFWs to the public eye. Somehow, governing bodies and employers need to be more accountable and country wide

standards need to be in place if the use of Temporary Foreign Workers is to continue.

Most of the regulations on the hiring of Temporary Foreign Workers focus on protecting employment opportunities of permanent residents, although the standard law regarding safety is that foreign workers have the same employment rights as a Canadian worker. According to Human Resources and Skills Development Canada (www.hrsdc.gc.ca), one of the conditions for an employer to gain approval for hiring a Temporary Foreign Worker in the Labour Market Opinion process is: "*The wages and working conditions are comparable to those offered to Canadians working in the occupation.*" Unfortunately, this regulation is very general with employment standards

that vary from province to province.

For example, the Province of Manitoba requires an employer to register with the Government of Manitoba's Employment Standards Division. In Alberta, Temporary Foreign Workers are covered by provincial employment standards that state that an employer is responsible for medical, health insurance and Worker's Compensation. A worker's safety is also legislated in Alberta by Occupational Health and Safety (refer to http://employment.alberta.ca/documents/WHS/WHS-PUB_li009.pdf). Additionally, Alberta's Employment and Immigration has a checklist for an employer to go through on a TFW's first day. In this document there are procedures that must be fol-

(Continued on page 2)

A closer look why exercise balls are not recommended over chairs.

By Kirsten Willms, CCPE, Ergonomics Consultant, EWI Works

A question we are often asked is: what do you think about using balls as chairs in the office? At first glance, this may seem like a good idea. They are often marketed to consumers as an alternative for a regular chair as manufacturers claim they improve core stability, balance and strength, which can in turn reduce low back discomfort. The theory is that the ball promotes active sitting, which forces the muscles to contract and relax to maintain balance, as well as provide an opportunity for movement during otherwise static work. However, researchers at

the University of Waterloo in Ontario actually found no significant difference in muscle activation patterns between sitting on a ball versus sitting on a standard office chair. As well, their study actually reported increases in low back discomfort while sitting on the ball for a period of one hour (Gregory, Dunk & Callaghan, 2006).

One drawback to the study is that participants were only seated for one hour for each condition. So what would happen over the course of a day, or longer? One

postulation is that the increasing level of discomfort found when sitting on the ball might cause more movement of the trunk muscles, leading back to manufacturer's claims that the ball strengthens the core muscles. However, another way to look at it is - do you spend 8 hours a day in the gym? Sitting unsupported on a ball all day is like a marathon for your core muscles, especially those which help support your spine. When the muscles become fatigued, they are no longer able to provide the support required for

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Temporary Foreign Workers Continued

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lowed under the heading of Workplace Safety. (<http://employment.alberta.ca/Immigration/4545.html>). Therefore, the inconsistencies among the provinces show there are no clear cut rules and regulations that actually protect a foreign worker's safety on the jobsite.

Across all provinces, however, the following applies to not only permanent residents in an occupation, but also Temporary Foreign Workers:

1. Must be supplied with safety equipment
2. Must receive proper training to conduct the work, how to use safety equipment, the handling of dangerous goods, how to recognize an occupational hazard, reporting procedures for an accident
3. Must be informed that he/she has the right to be informed of potential hazards involved with the occupation as well as the right to refuse work that they feel is unsafe.

Yet even enforcing the laws become difficult as investigations are only conducted if a complaint is received. In a discussion on 630 CHED in Edmonton, a representative of the Temporary Foreign Workers Office stated that it is believed that only 50% of TFW actually file a WCB claim or register a complaint with their local Office.

With this in mind, it is difficult to determine the exact accident rates surrounding TFWs. However, based on ³studies of Temporary Workers that are permanent residents, it has been found that it is 2-3 times more common for Temporary Workers to suffer an injury from being struck by an object in construction, manufacturing and warehousing than a full time employee.

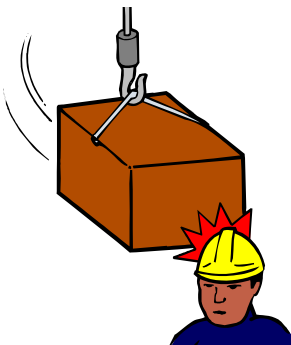
It should be made clear, however, that onsite accidents with foreign workers are not due to their ethnic origin. The causes associated with increased risk of worksite accidents are multifaceted. Based on the few investigations that were conducted, there are companies placing foreign workers in unsafe working situations that a permanent resident would find unsafe to do. Even organizations diligently adhering to safety laws find themselves faced with obstacles when communicating and encouraging safety practices to TFWs. Cultural differences can often prevent a foreign worker from reporting a hazard or incident if they would not do the same in their own country. The fear of losing his or her job and having to return to their country may also prevent claims or reporting hazardous or poor working conditions. Language barriers become an issue during training, review of safety bulletins, or being able to read signs posted at hazardous work areas. Finally, there is the foreign worker's own educational level, age and experience that needs to be addressed.

All of these hurdles require a unique approach to effective ongoing safety communication to Temporary Foreign Workers. The organization may need to consider developing separate training or revise communication materials (OSHA produced a ⁴safety video geared to foreign workers). This may require the use of clearer visual graphics, safety materials that need to be written in a foreign language or reading level set at a lower grade level, which can help with readability in the general population or use of an interpreter during training sessions. In order to understand cultural barriers, the organization may require a more thorough understanding of the cultural norms and working conditions of the country that the worker comes from.

While there is a need for TFWs, North America still has milestones to reach in order to standardize safety practices, training and communication to protect foreign workers. Improving laws and regulations and expert safety practices are one step, but there are still many obstacles to consider when approaching the issue of TFWs' safety on the job. Ultimately, federal and provincial governments in Canada need to improve and standardize practices province wide. But in the end, the responsibility and accountability still rests on the shoulders of the hiring organization.

References

- ¹<http://www.fortmcmurraytoday.com/ArticleDisplay.aspx?archive=true&e=1828425>
 - ²<http://www.ufcw.ca/Default.aspx?SectionId=37b8c54f-c1a1-42f2-8ead-1f5ac-b019100&LanguageId=1&ItemId=9971601e-c4ef-45bc-abaa-f2a6e957838b>
 - ³Accident claim types: <http://www3.interscience.wiley.com/journal/122515393/abstract>
 - ⁴<http://www.ohiobwc.com/basics/videos/SafetyVideoArchive.asp>
- Temporary Foreign Worker Program: http://www.hrsdc.gc.ca/eng/workplaceskills/foreign_workers/index.shtml
- How to Hire a Temporary Foreign Worker: A Guidebook for Employers: <http://www.cic.gc.ca/english/resources/publications/tfw-guide.asp>



It is 2-3 times more common for a temporary worker (not necessarily foreign) to be injured from being struck by an object than a regular employee.



In addition to being supplied with proper safety equipment and training, TFWs should be taught how to recognize a workplace hazard.

TFWs should be informed they have the right to refuse unsafe work.

Exercise Balls vs. Office Chairs Continued

(Continued from page 1)

your back and put you at risk for injury.

In addition, a ball does not provide torso or arm support as an office chair does. When we become distracted by our tasks at work, often our posture becomes compromised. Even we ergonomists find ourselves in forward stooped postures as we're deep in thought about our latest project, even though we know better! A properly adjusted chair with lumbar support helps to reinforce our bodies when we lapse into awkward postures, and armrests provide much needed relief for our arms and shoulders. A ball cannot offer the same.

Many employers discourage the exercise ball for safety reasons as well. As they roll around, there is concern for falling or the ball becoming a tripping hazard for others as it moves around. Some manufacturers have introduced a base for the ball to prevent these hazards, but this essentially takes away the dynamic movement associated with maintaining balance on the ball – which is the ball's touted benefit! Additionally, sitting on a ball makes it more difficult for people to turn or move around within their workstations, which may in turn encourage twisting of the back and/or reaching with the upper limbs – both risk factors for MSIs.

All in all, the exercise ball is a

valuable rehabilitation tool, but should be reserved for exercise – not for periods of prolonged sitting.

References:

Gregory DE, Dunk NM & Callaghan JP (2006). Stability Ball Versus Office Chair: Comparison of Muscle Activation and Lumbar Spine Posture During Prolonged Sitting. *Human Factors*, 48(1): 142-153.

http://cre-premus.uwaterloo.ca/KN_stability.html

http://employment.alberta.ca/documents/WHS/WHS-PUB_erg036.pdf



With no lumbar support or armrests, it's best to leave the exercise ball for the gym and opt for a good quality office chair.

What's the buzz at EWI Works

EWI Edmonton adding another ergonomist to our team.

There has been a significant increase in the need for ergonomic services for our old and new clients. To keep up with this demand, EWI Works has hired another ergonomist to increase the turn-around time to meet our clients' needs. We're excited to announce that Amy Chow will be joining us in January. Amy is a BSc. Kinesiology graduate of the University of Waterloo and is in the process of working towards her CCPE certification. Her experience includes Ergonomics Research Assistant for Digital Industrial Ergonomics and Shoulder Evaluation Laboratory in Waterloo as well as work as an Ergonomics Student at Honda Canada Inc. You can read more about Amy in our Spring newsletter.

Do you believe in public education?



EWI's Linda Miller does. In addition to managing EWI and ergonomic consulting, Linda has been actively involved in the Edmonton Public Schools Foundation as a Board Member. The Foundation has had many successes in 2010 with fundraising and efforts to get the message out there to support public education

to those in need. The organization helps youngsters who otherwise might not have had the opportunity to build the educational foundation they need to pursue a successful career path. If you would like to get involved or donate, you can get more information at www.epsb.ca/foundation.

Erin gets her hands dirty!

This summer, Erin took part in a community garden at Parkland Conservation Farm in Mundare. It truly was a learning experience

for the city girl who normally has trouble keeping a cactus alive. She found it to be an enriching experience learning about how to grow and eat local food. She also got her hands a little dirty in the process and was reminded that ergonomics truly does exist in most facets of life.

Erin is also going to have a busy year ahead of her with ACE. She recently announced to the EWI Works gang that she is now ACE's Prairie and Northern Regional Secretary.

Kirsten keeping busy with ACE

In addition to providing ergonomic services for EWI's clients, Kirsten continues to be actively involved in the Association of Canadian Ergonomists. From September of this year to the end of 2011, Kirsten is the official Regional President of ACE. Kirsten also attended the ACE conference in Kelowna in October where she attended two workshops to keep on top of current research and findings in ergonomics. The workshops, held October 4th, were Engineering for Ergonomists and Ergonomics of Hand Held Power Tools.

Donald balancing work and home life with his passion for basketball.



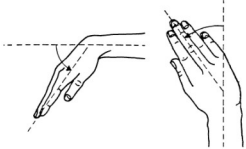





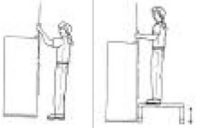





Donald has been keeping busy teaching courses in Ergonomics at the University of Alberta's Faculty of Continuing Education as well as for the University of Calgary's Continuing Education. He has also been busy adjusting to life with two boys - baby Daniel is growing rapidly! And with all this, Donald still has some spare time as a member of the Calgary Basketball Officials Association Executive. November has been a busy month for the CBOA as they prepare for the high school basketball season to kick off.

Feature: NIOSH Toolbox for Design Principles for Repetitive Hand and Wrist Tasks.

DESIGN PRINCIPLES FOR REPETITIVE HAND & WRIST TASKS

(Adapted from NIOSH Elements of Ergonomics Programs – Toolbox Tray 9-B)

Modified by EWI Works – January, 2002

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|  <p>Repetition</p> | <p>1. Reduce the number of repetitions per shift. Where possible, substitute full or semi-automated systems.</p> |  | <p>2. Design tasks so that a power rather than a finger pinch grip can be used to grasp materials. Note that a pinch grip is five times more stressful than a power grip.</p> |
| <p>3. Maintain neutral (handshake) wrist positions:</p> | | | |
|  | <ul style="list-style-type: none"> Design jobs and select tools to reduce extreme flexion or deviation of the wrist |  | <ul style="list-style-type: none"> Avoid inward and outward rotation of the forearm when the wrist is bent to minimize elbow disorders (i.e., tennis elbow). |
| <p>4. Reduce the force or pressure on the wrists and hands:</p> | | | |
|  | <ul style="list-style-type: none"> Avoid tools creating pressure on base of the palm (obstructs blood flow and nerve function) |  | <ul style="list-style-type: none"> Whenever possible, reduce the weight and size of objects handled repeatedly. |
|  | <ul style="list-style-type: none"> Avoid repeated pounding with the base of the palm. |  | <ul style="list-style-type: none"> Avoid repetitive, forceful pressing with the fingertips. |
| <p>5. Avoid reaching more than 15 inches in front of the body for materials:</p> | | | |
|  | <ul style="list-style-type: none"> Avoid reaching above shoulder height, below waist level, or behind the body to minimize shoulder disorders. |  | <ul style="list-style-type: none"> Avoid repetitive work that requires full arm extension (i.e., the elbow held straight and the arm extended). |
|  | <p>6. Provide support devices where awkward body postures (elevated hands or elbows and extended arms) must be maintained. Use fixtures to relieve stressful hand/arm positions.</p> |  | <p>7. Select power tools and equipment with features designed to control or limit vibration transmissions to the hands, or alternatively design work methods to reduce time or need to hold vibrating tools.</p> |
|  | <p>8. Provide protection for the hands if working in a cold environment. Furnish a selection of glove sizes and sensitize users to problems of forceful over-gripping when worn.</p> |  | <p>9. Select and use properly designed hand tools (e.g., grip size of tool handles should accommodate majority of workers).</p> |