



# taylor'd

## ERGO TIMES

### Quality Improvement Through Ergonomics: "QUITE an acronym"!

Our team participated in a CRE-MSD conference on January 26 entitled "[Human Factors Engineering: Improving Production and Minimizing Workplace Injury Risk](#)". At that conference, we sat at a table with Oguzhan Erdinc, an Associate Professor for the Turkish Airforce Academy. (You can find him on Linked In.) He presented his "QUITE" method, which aims to improve quality through ergonomics. ("QUITE an acronym" was one of his many puns....we found his presentation both inspiring and entertaining.) Most of the ergonomists in the audience have traditionally approached ergonomics as a means to injury risk reduction. We've probably also tried to sell it as a means to improve employee comfort and wellbeing.....we tell companies that using ergonomics is good business. Cognitively, we know that ergonomics can influence quality, but most of us have not directly tackled a quality problem using ergonomics.

The concept of using ergonomics to improve quality is not new. We have been talking to Erdinc since the conference, and he reported to us that, "*The oldest work I found on Q-E idea was a short paper from 1992, published in "Industrial Engineering". In the ergonomics community, the forefathers of Q-E linkage are Colin Drury, Jorgen Eklund, and Hal Hendrick. [Drury and Eklund were also speakers at the conference.] They elaborated the concept of Q and E linkage and offered useful case studies to show that more ergonomic problems meant poorer quality. They supported that ergonomics is something broader than injury prevention, that it leads to better human performance and greater business value i.e. better quality. I built my Q-E perspective and research concepts on their works, and tried to extend the research avenue they opened by QUITE.*"

Ergonomists are often challenged to cost-justify a change, based primarily on injury prevention. If the job has been associated with injuries, we can complete a cost-benefit analysis to justify an investment into change. We can never say that fixing a job will *eliminate* the risk of injury. Unfortunately, if the job has not yet been associated with injuries (such as a new job), we won't be able to predict the number or cost of injuries that might be caused in the future. Thinking about QUITE, we wonder whether we could make a case for an ergo improvement, based on the potential for quality improvements, rather than injury reduction. Will this work for us, with our clients? According to Erdinc, the prerequisite



#### Our mission:

Inspiring, building, and supporting partnership between your organisation and our innovative team to advance ergonomics excellence.



#### Our team (right to left)

**Carrie Taylor**  
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Follow us on:



All of our ergonomists are members of:





conditions for QUITE (<http://www.quitemethod.org/>) are:

- Human involvement in operations (Check. Usually we're called in because the "humans" are having a problem.)
- Working knowledge of ergonomics (Check. We have Canadian Certified Professional Ergonomists on staff.)
- Quality performance is monitored (Check. Have you ever been in a production facility that didn't monitor quality?)
- Continuous improvement approach (Check. The client needs to embrace the idea that change is a potentially good thing. This philosophy, unfortunately, is not a universal business practice, but we're happy to report that most of our clients are on board with this idea.)

Erdinc presented a case study from a sewing operation, where a small change in the angle of the sewing machine improved line of sight and therefore also improved neck postures. He also provided training, and adjustments to optimize working postures. Risk scores and discomfort scores went down after the change. These are the outcomes that ergonomists would typically monitor. Moreover, quality indicators *improved by more than 50%*. I'm not an expert on quality stats, but it seems to me that if an ergo change caused your defect rate to go from 8.9% down to 3.9%, managers would get interested. Admittedly, these were early results, so more long term case studies are needed to bolster the approach. However, lots of other case studies are available in the literature, in industries from metalworking to electronics, showing improvements in quality outcomes following an ergo change. By contrast, injury reduction effects can take years to manifest. Risk indices and comfort scores respond quicker, but these don't translate directly into compensation savings. Quality measures seem to respond to change faster, and therefore more readily justify their investments. Each success in an ergo program would lend support to the next project we want to explore.

During the question period, someone pointed out that, as a "biomechanical" ergonomist, he only really cares about injury risk, but if this quality thing helps him sell the change he wants to make, so much the better. I agree – if we are brought in to address injury problems, and we see an opportunity to justify a change based on potential quality improvements, we ought to take it. But more than that, I think that we ought to seek out quality problems, and look for buy in to tackle them with ergonomics solutions. Quality measurement systems have been established for years, and most companies are more fluent in quality language than they are in injury risk measures. It should be easier to "prove" that an ergo change will affect quality (through trials and tracking), and the cost savings to our clients may be significantly greater than the benefits they might receive through injury reduction. I admit I'm not yet fully versed in technical quality parameters, but our clients are. I know that most companies can convert "scrap", "rework" and "customer returns" into dollars and cents, much, much more easily than they can calculate the cost of a carpal tunnel claim. Perhaps by pitching ergonomics as a "safety" science, we've sold ourselves short.

When I reflect on some of our recent projects, I can't help but wonder what we would have found if we were thinking about QUITE then. When we make an office employee comfortable enough to report that she "no longer feels pain at work every day", surely she must be able to produce measurably better quality work. When we improve lighting and optimize line of sight at an inspection station, we aren't just reducing awkward neck postures and hoping for less neck pain, but surely we're also improving quality outcomes—finding defects that we couldn't see before.

I conclude this article with a message for companies with an unsolved quality issue....call us. We are up for the challenge!



### Baby news at Taylor'd Ergo

Congrats to Vanesa and Alan on welcoming Tali Nicole, on September 8 at 4:30 am. She weighed 3.3 kg (7.8 lbs), and we've heard that she knows how to make herself known.



### Free Ergo Speaker

If your professional association is looking for a

speaker on an "ergo" topic, please contact Carrie. We would be happy to come out to speak with groups of human resources professionals, safety professionals, disability managers, production managers, or engineers! If you are within an hour radius of one of our offices, we can probably come at no charge! (We also offer seminars and workshops for groups of employees—call for pricing.)

**Save a tree, and get more news. Let us know if you prefer an email notice instead of paper mail. If you sign up for the e-list, you'll get links to our bi-weekly blog updates AND the newsletters.** Send us an email at [info@taylordergo.com](mailto:info@taylordergo.com), call 519 623 7733, or fax 519 623 9164.

**If you move**, or if your mailing address is incorrect, *please* let us know.

**Please share.** After you've read it, please send the newsletter along to a colleague, post it on your safety board, take it home for your family, or leave it in your lunch room. When everyone is done with it, please recycle!



# Standing is saving us

Search the puzzle to find only the capitalized words in the passage below, you'll be left with a valuable message. (Hints: Be careful not to circle words that are not shown below! Read the passage first, and stroke out words as you find them. If you find words that are not in the passage, record them below.)



**What have you missed on our blog?**  
Since our last newsletter, we've been talking about:

- Mittens vs gloves (which are warmer?)
- Ergo audit (call us for a free audit, to help guide your 2015 ergo efforts)
- All about the BASE (footwear for standing work)
- Sit/stand and leaning (find out more about the "Posiflex" leaning stool)
- Choosing winter footwear
- Design for extremes (aging and obese workers)
- Design for average

Let us know (info@taylordergo.com) if you'd like an email when we add to our blog. Alternatively, follow us on twitter @taylordergo. Josie also adds links to our blog when we update it.

-----! Your **BACK** hurts, and you've tried everything from "a" to **ZED**. Finally....noon! You meet a **FRIEND** for **LUNCH** and you take a look around his **OFFICE**. It has a hip, high-tech **VIBE**. They have many **ADJUSTABLE** standing **COMPUTER** workstations. Their decorator has great **TASTE**. You ask your friend if he uses the standing station and he says, "No!" He tried it for a day, on a **BET**, but by the end of the day his **LEGS** and **FEET** hurt and he swore **NEVER** to try it **AGAIN**. "TRUST me," he says, "You'd hate it. You'd be in **TEARS**"

Back at work, by afternoon **BREAK**, your back is starting to bother you again. While you **STRETCH**, you take a **LOOK** at that **SAMPLE** standing workstation that you and your co-workers have been encouraged to share. You wonder if standing at work would be helpful. You've been **READING** a lot in the news about how **BAD** sitting is for your health. Perhaps, tomorrow... At the advice of the ergonomist, you sign up for four 20-minute blocks at the standing station, 2 hours apart. Your personal **GOAL** is to stand for more than half the **TIME**, by a target **DATE**, about one month away. The ergonomist suggests that you should wear **SENSIBLE SHOES**, with a **FLAT SOLE**.

You approach the workstation cautiously. The adjustment isn't difficult at all. A sign posted at the workstation guides you:

1. Stand beside the desk with a relaxed posture, with elbows bent at 90 degrees and held close to your body, and then raise or lower the work surface until your fore**ARM** just rests on the work surface. The **KEYBOARD** and **MOUSE** should be at **ELBOW** height. The table has been designed to accommodate people of all **HEIGHTS**, from the **SMALLEST** to the **TALLEST**.
2. Adjust the monitor so that the top of the **SCREEN** is at the same height as your **EYES**.
3. Wear the type of **FOOTWEAR** that you would choose for a long walk. (High **HEELS** are not advisable.) Matting has been provided for extra comfort.
4. **ALTERNATE** between sitting **DOWN** and standing up on a **FREQUENT** basis.

At the end of the first day, you **FEEL** better than you have in weeks; you have **ENERGY** left for **PLAY** tonight! You're tempted to stand all day tomorrow, but you **THINK** about the advice you've been given. By the end of a month, you're feeling better than ever. You've found a high **STOOL** that you occasionally use for **LEANING**, but for the most part, you're standing for the majority of the day. You've noticed that you don't have to **REACH** as far for things, so your shoulders feel great too. A **NICE** added benefit is that you've burned more **CALORIES** while standing, so you've trimmed up a bit, and you're feeling great!

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## "ergofest" conference, Waterloo, October 2015

Karen will chair our annual professional ergonomics conference this year, which promises to be a celebration of research and applied ergo successes. If you've been working on something interesting, why not present it at our conference? To submit an abstract (summary), please go to the ACE website at [www.ace-ergocanada.ca](http://www.ace-ergocanada.ca). To access the guide from the ACE home page, click on the ACE 2015 logo, click on "Author Instructions & Submissions" in the left-hand column and then click on "Go to Author Abstract and Paper Instructions". The call for papers was just issued—abstracts are due March 31, and the papers will be due July 15.

Josie volunteered to round up vendors for the tradeshow, and we're really hoping to see lots of innovative products for office, industrial, transportation, health care, and other industries. Please contact [josie@taylordergo.com](mailto:josie@taylordergo.com) for a sponsorship or exhibitor package (and pass the word to the vendors who have helped you!)

## Spring workshops at Taylor'd Ergo

For more details on our courses, please visit our website!



### 101 Ergo Ideas Thursday, March 26

This NEW one-day course is packed full of case studies, examples, and hands-on opportunities to see and experience ergonomics in action. We'll explore examples of the use of ramps, wheels, pulleys, and more. We'll also discuss how to use job coaching.



### Return-to-work Wednesday, April 15

Participants learn how to communicate with health care providers to ensure that everyone understands the language used to describe functional abilities. They also learn how to use the objective data in a physical demands analysis in order to effectively resolve return-to-work challenges.



### Physical Demands Analysis Wednesday-Thursday, May 6-7

This two-day session will allow participants, including ergo co-op students, nurses, safety coordinators, and return-to-work coordinators, to collect data and write an objective, concise physical demands analysis report for the WSIB, employee's doctor, physiotherapist, or for internal company use.

**Register and pay online at [www.taylordergo.com](http://www.taylordergo.com). To register the "old-fashioned way", complete and fax this page to 519 623 9164, with your purchase order number, or mail it with a cheque to Taylor'd Ergonomics, 38 Water Street South, Cambridge, ON N1R 3C5. Your registration will be **confirmed by email, 1-2 weeks before the course**. Register early, as space is limited. Cancellations within one week of the workshop will be subject to a \$100 charge, although substitutions are welcome at any time.**

Name(s): \_\_\_\_\_

Company: \_\_\_\_\_

Phone: \_\_\_\_\_

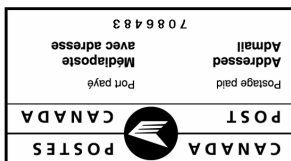
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e-mail: \_\_\_\_\_

P.O.# \_\_\_\_\_ (if no PO, please send cheque with registration)

Please register me for:  **101 Ergo Ideas**, March 26, \$360+hst  
 **PDA** May 5-6, \$785+hst

**Return to Work** Apr 15, \$350+hst  
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