



taylor'd ERGO TIMES

How to budget for ergo in 2019

It's that time of year, when you're making your wish list for next year, asking for a budget for the sun and moon, and hoping for at least some stardust. If you are considering a focus on musculoskeletal disorder prevention (aka "ergo") next year, we encourage you to budget as follows:

1. If you have in-house ergonomists, great! If not, consider budgeting for one day per week **with a consulting ergonomist** (like us!) In a mid-size facility (200-500 employees), this usually provides enough time for the ergonomist to work on PDA/CDAs, address ergo hazards through risk assessments and control measures, get involved in design projects, and provide ergo training for workers. S/he can also provide awareness materials to keep employees thinking about ergonomics. Budget \$40000 for the year, plus expenses and HST, for this support. (This is a lot less than it would cost to hire and train a full time ergonomist!) A larger facility, or a brand new ergo program with ambitious goals might warrant more time, whereas a smaller facility might need less.
2. Budget to provide **employee and supervisor ergo training**. Employee training could be conducted by the ergonomist while s/he is onsite (included in cost above), but if you don't need the ergonomist on a regular basis, then budget \$1150/day for training (plus materials, expenses and HST). It's a good idea to schedule training periodically throughout the year, to catch-up new employees, and to offer different topics; budget at least \$4600 (4 days) plus \$5/employee for takeaways (plus expenses and HST).
3. Budget to **train your engineering team** to provide them with the tools and skills to design with ergonomics in mind. Send them to us in Kitchener, for \$475/person, or bring us onsite for \$2150 (plus materials, expenses, and HST).
4. Budget for **implementing control measures**. As ideas are identified, you'll need a way to fund the suggested changes. Here are some tips....
 - Did you know that the majority (almost 70%) of ergo improvements cost less than \$1000? (Alexander, IIE Solutions 1998; 30(3):30-5) Propose to your management that, for one year, the ergo program leader should be able to authorize up to \$1000 for any ergo project that exceeds ergo assessment guidelines or offers a productivity or quality gain. Then follow up on all of these projects to prove that the implemented change actually succeeded, to gain support for year two.
 - If an ergo improvement will cost more than \$1000, ask your ergonomist to do a full risk assessment and estimate how much of a risk reduction you could expect, if the improvement is implemented. If you have costs associated with injuries, productivity, or quality, you should be able to complete a cost-benefit analysis to justify the expense. If turnover on that job is high, you may also factor in the cost of training a new employee.
 - One of your 2019 projects should be to quantify the effects of changes that you implement. To do this properly, you'll need good baseline data. Dig now for info about:
 - ☐ production rates and profit margin (per unit)
 - ☐ production bottlenecks (where are they, how often do they occur, what is the cost?)
 - ☐ scrap, rework, error, and return rates and costs



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All of our ergonomists are members of:



ASSOCIATION OF CANADIAN ERGONOMISTS
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- production changeover times and costs
- injury rates and costs, absenteeism
- turnover and training costs (by job).

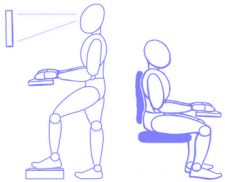
Facility-wide information is useful, but the costs associated to a workstation or job will be more valuable for targeting jobs for improvement, and quantifying the effects of an ergo improvement.

- Base your cost-benefit analysis on the *effectiveness* of the ergo change you are proposing. Goggins et al. (Journal of Safety Research (2008): 339-344) reviewed 250 case studies, including 87 interventions in manufacturing, 40 in office, 36 in health care. About 150 were ergo “programs”, and about 100 were individual control measures. Individual control measures were broken down into risk factors and method of control. All indicators were positive! (i.e. fewer MSD injuries, lower incidence rate, fewer lost workdays and restricted days, reduced workers comp costs, reduced cost per claim, lower turnover, less absenteeism, faster payback period). All payback periods were less than 1 year.

The authors suggested the following effectiveness ranges for various types of controls:

- 10-20% Relies on behaviour (e.g. training workers to lift with a technique that improves posture/strength)
- 20-40% Reduces time of exposure to the hazard (e.g. job rotation)
- 40-60% Reduces level of exposure to the hazard (e.g. reduce force to push a lever, or provide a lift table to optimise lifting heights)
- 60—100% Eliminates exposure (e.g. provide a hoist)

Make a conscientious effort to address the issues that you uncover; 2020's budget will depend on your success!



NEW office ergo report—now order online!

We've recently overhauled our office ergo assessment template. The process hasn't changed: we send a pre-assessment survey to the employee, meet with them to review it, spend time observing the employee at work, measure the fit between the employee and the workstation, assist the employee in making adjustments to optimize fit with the existing equipment, and identify issues that warrant change. We set up a computer and write our report immediately, and

send it to the client contact and our office for a quick review, before we issue it electronically.

What has changed is that our report template now includes separate pages for survey summary, measurements, recommendations to the employee (techniques and adjustments), and recommendations to the supervisor (purchases, including links to products at the client's office supplier when possible, and repairs). The report also includes a description of the “ideal” workstation, and a follow up survey. When we receive the follow-up survey, we contact the employee and supervisor to address any outstanding concerns.

Also new...you can now purchase an office ergo assessment online, paying by credit card. This simplifies the purchasing process considerably—no need to get a purchase order! We're offering flat rate pricing for these purchases. If you have several assessments to be done, it's generally less expensive to schedule them in full days (one in the morning and one in the afternoon), and we'd charge you by the day instead. Questions? Give us a call! 519 623 7733.

What's all the buzz about municipalities?

You may have heard that the Ontario Ministry of Labour is currently midway through year one of a two-year MSD initiative that focuses on municipalities. Their first year focus is mainly proactive—they are encouraging municipalities to identify and address hazards, review their injury stats, and put policies, procedures, and programs in place to address MSDs. Their particular focus is “public works”, which includes a slightly different mix of jobs in each city.

Starting in April of next year, they'll move into the enforcement stage, when they'll be reviewing the administrative components, and coming on-site to 100 lucky municipalities to physically inspect. At that point, they may issue orders for control measures, assessments, or training.

We've been contacted by several municipal clients, asking for different services. We already offer an MSD prevention policy template, and training for office workers, drivers, manual handlers, “industrial” (general) workers, supervisors, and JHSCs. We've done physical demands analyses for most of the jobs within the “public works” category, so we're well prepared to support PDA and ergo assessments, when cities identify which jobs have been associated with injuries. But we did not have, specifically, an ergo training program geared to outdoor workers or other public works activities. And so, we are currently working on that. If you'd like to provide face-2-face training for this particular group, we will be prepared to roll it out for you within the next two months.

Along those lines, we also plan to develop tailgate talks to allow supervisors or JHSCs to roll out smaller training modules for these employees. If you're interested in e-learning or other multi-media training materials, give us a call. We're doing the work to develop the content, and we'd be happy to work with you on the media.

Missed e-news?

Here's what we've been talking about lately:

- How to develop hazard-specific ergonomics training
- Why 10 cm of forward reach matters
- What is the best format for a physical and cognitive demands analysis?
- How to keep your existing office furniture and make it a sit/stand
- Dog days of summer (heat stress)
- How can we get employees to use “ergonomic” work practices
- How ergonomics can preserve the smile on your face
- What is the supervisor's role in ergonomics?
- Lean and mean?

Sign up for e-news links to our blogs, as well as the quarterly newsletter.





Kids & backpacks

On September 13th, Carrie was interviewed on CBC Radio (in Saskatoon, Vancouver, and Sudbury) regarding optimal backpack design and use for kids returning to school. If you missed it, here are the highlights:

- Choose a backpack that is lightweight, and has comfortable, padded straps that don't pinch or dig into the shoulders. Ideally choose one with waist and chest straps.
- Encourage your child to carry the backpack with both straps over the shoulders, and, ideally, waist and chest straps tightened. In this way, the weight of the backpack is distributed well, between the shoulders and back.
- Keep the loads manageable! A backpack should weigh no more than 10-15% of body weight. Therefore, an 80 lb child shouldn't be carrying more than 12 lbs, including the backpack. (Notice the forward lean and head thrust in the photo above, showing a child with a heavy backpack. Compare to the photo at right, with a lighter backpack.) To reduce weight, fill water bottles at school, carry only what you need (re-load every day), use electronic books if possible.
- Load the pack with the heaviest items closest to the child's back, and lighter items in the outside pockets.
- Minimize backpack carrying time—use your locker to store your books and backpack during the day.
- When asked, "How serious a problem is this?" Carrie was reluctant to dramatize and report that kids everywhere are suffering backpack-itis. However, some quick research indicated that over half of school children do experience back, neck or shoulder pain. Is carrying a backpack going to cause a long term permanent injury? Likely not. But if a child opts out of sports or activities because he doesn't want to carry the equipment, or she already has a sore back, then the issue might be more about long term lifestyle choices than tissue damage.
- What can parents do? Lead by example. If mom carries a big heavy laptop bag slung over one shoulder, she'll have a hard time convincing Joey to strap up his backpack. :)



FREE stuff

Ergo speakers

If your *professional association* is looking for a speaker on an "ergo" topic, please contact Carrie. We love speaking to 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'll come at no charge! (We also offer seminars and workshops for groups of employees—call for pricing.)

Coffee with an ergonomist

One of us would be happy to meet you for coffee, or chat on the phone about your ergo program. Tell us how you're currently handling MSDs, quality issues related to worker performance, and productivity bottlenecks. Where possible, we'll offer suggestions to help you improve.

E-news

Get insightful news about ergonomics, every 2-3 weeks, including this newsletter. Just ask!!

Become an on-site ergo client. Our regular ongoing clients get more free stuff, including:

- an ergo contest every 3 months, including prizes
- a monthly ergo bulletin to share with workers, as a slide show or on a bulletin board
- access to hundreds of one-page info sheets and puzzles on a huge variety of topics

EksoVest trial



One of our clients brought in the "EksoVest" exo-skeleton for a trial, and Carrie was lucky enough to play with it. The EksoVest is an upper body exoskeleton that elevates and supports a worker's arms. It is intended for tasks that require workers to raise their arms to chest level or higher repeatedly or for long durations. The EksoVest creates the feeling of being in space—when it was adjusted to me, when I was not holding any weight, my arms were "at rest" when they were in the air. I had to push down gently, to bring my arms down. Although the device weighs 4.3 kg (9.5 lbs), the weight was hardly noticeable when the waist and chest straps were secured, until I bent forward at the waist.

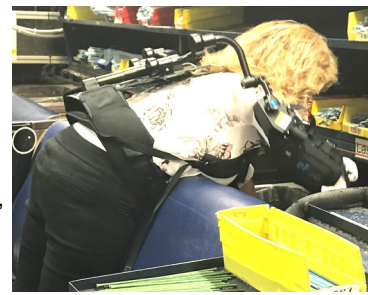
Employees benefit most from an upper body exoskeleton if their jobs require them to lift or reach upward. The EksoVest worked very well at jobs

like the one shown at left, where the operator has to lift and place a part at shoulder height, at a long forward reach.

However, these employees rotate frequently with jobs that involve back bending, such as the one shown at right. The EksoVest didn't help on these jobs. Sharing an EksoVest amongst several employees, or wearing the EksoVest only for certain jobs and taking it off for others, seemed impractical, and so we decided against a broader trial at this site.

Ergonomists will tell you (repeatedly) that the best solution for an MSD hazard involves fitting the work to the person—for overhead work, find a way to support a tool or part without human strength, or reposition the work. However, when you've exhausted your "ergo" options, the EksoVest is certainly worth consideration. I'm optimistic that it will be very successful, where sustained or repetitive overhead work is unavoidable.

To set up a trial, call Scott DeCesare (530-305-7057 SDeCesare@eksobionics.com). If you'd like our help with the trial, give us a call (519 623 7733) or email (info@taylordergo.com).





Fall is training season. Sign up now!



Ergo Design Wednesday, November 7, 2018, Kitchener, ON

Participants, including engineers, safety coordinators, and ergo team members, will learn to incorporate effective ergonomic design into new workstations, jobs, and layouts, using our detailed ergo design guidelines. Guidelines include height, reach, clearance, tool selection, work flow, and much more! This course has been recently overhauled to include more guidelines, and better graphics. \$475+HST, or run on-site at your facility, for \$2150 plus expenses, materials, and HST.

Register and pay online at www.taylorordergo.com/workshop/. Or scan and email this page to info@taylorordergo.com, with your purchase order number. We'll send you detailed **confirmation info by email, 1-2 weeks before the course.** 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: _____ Fax: _____

e-mail: _____ P.O.# _____ (if no PO, please send cheque with registration)

On-site training for employees: Let us come to you!

We offer hands-on, skill-based "face-2-face" sessions for as little as \$275/group (4 sessions in one day, \$1150/day), plus materials (\$5 per person), and mileage. These sessions are available for 6 different target groups, allowing you to provide hazard-specific ergonomics training. Sessions are one hour long, except where noted. Contact us for a detailed course outline. **NEW: Purchase this training online from our store at www.taylorordergo.com/store/**



DRIVER ERGO



OFFICE ERGO, TRADITIONAL



SUPERVISOR ERGO (90 minutes)



LIFTING



OFFICE ERGO, SIT-STAND
(90 minutes)



INDUSTRIAL ERGO (manufacturing, food processing, distribution)

Coming soon—PUBLIC WORKS (outdoor workers, 2 hours, focus on shovelling, climbing on/off equipment, loading heavy awkward equipment to/from trucks, using walk-behind equipment, and more)

All of our training was developed by ergonomists with education in adult learning, and it is facilitated by an ergonomist who can respond to technical "ergo" questions. Each session includes many hands-on activities, so participants really learn how to apply ergonomic practices. The focus is always on how employees can apply best practices to reduce their risk of discomfort, and optimise quality and productivity.

Some clients schedule a full day of sessions on a variety of topics, inviting employees to participate in the sessions of interest. An entire organisation can complete training within a few days!

Other clients schedule one or two sessions in the morning, and keep the ergonomist for the day. After the sessions, the ergonomist circulates in the workplace to provide ergo coaching, helping employees to apply what they learned in the session.

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