ERGONOMICS

Internet

- Alberta Human Resources and Employment
    - Workplace Health and Safety Publications:
      http://www3.gov.ab.ca/hre/whs/publications/bulletins.asp

      Included in this list are bulletins and fact sheets about back care/lifting, ergonomics, physical hazards, and safe working methods.
- Association of Canadian Ergonomists (ACE)
    - Main Page: http://www.ace.ergonomist.ca/
      ACE is an association of persons who have human factors/ergonomics interests (including research workers, practitioners, clients and the general public). Information related to certification, events, consultant directory, and membership.
- CCOHS
    - Ergonomics: OSH Answers
      http://www.ccohs.ca/oshanswers/ergonomics/

      In this section of *OSH Answers*, a general description of ergonomics is provided. Links to other ergonomics or human factors-related topics (e.g., anti-fatigue mats, back injury prevention, manual materials handling, office ergonomics, etc.) are also accessible from this page.
- Cornell University
    - CUErgo: Cornell University Ergo Web
      http://ergo.human.cornell.edu/

      "CUErgo presents information from ergonomics research studies and class work by students and faculty in the Cornell Human Factors and Ergonomics Research Group."
- CSAO
    - Products: Back Care (various)
      http://www.csao.org/t.tools/t5.products/Home.cfm

      From the "Products" section, you can use the drop down menu to view items that address the issue of back care, including guides on manual materials handling, safe working methods, and back care videos.
    - Information Services: Ergonomics
      http://www.csao.org/t.tools/t10.informationservices/index.cfm

"[The] CSAO works with labour-management committees and other stakeholders to research construction-related health and safety issues." There are a few categories that are documented on the site, including ergonomics (e.g., back care, back pain in construction, health risks for heavy equipment operators, musculoskeletal disorders, etc.).

- Ergoweb
    - http://www.ergoweb.com/

      "Ergoweb provides ergonomic solutions to companies and individuals looking to increase productivity and quality while decreasing worker overuse injuries. Ergonomics increases human performance by fitting products, tasks and environments to people."

- IAPA
    - Manual Materials Handling
      http://www.iapa.ca/pdf/manmat.pdf

      This information sheet discusses the various elements of manual materials handling, including legislation, hazards, control measures, general precautions, maintenance, and training.

- IRSST (Institut de recherche Robert-Sauvé en santé et sécurité du travail)
    - Publications: Musculoskeletal Disorders
      http://www.irsst.qc.ca/en/_publicationirssts_par_champ_10.html

      Most of these reports are issued in French, and are sorted by year. Topics include general ergonomic principles, carpal tunnel syndrome, manual handling, back pain, and industry-specific concerns (e.g., vehicle cab design).

- IWH
    - Fact Sheets:
        - Work-related musculoskeletal disorders:
          http://www.iwh.on.ca/media/wmsd.php
        - Low back pain:
        - http://www.iwh.on.ca/media/lowbackpain.php
    - Working Papers:
      http://www.iwh.on.ca/products/wp.php
    - Occasional papers:
      http://www.iwh.on.ca/products/occ_pap.php
    - Other publications
      http://www.iwh.on.ca/products/other_pap.php

- Publications:
  http://www.iwh.on.ca/products/cur_news.php

- Tool Kit: http://www.iwh.on.ca/products/toolkit.php
  - Participative Ergonomic Blueprint: http://www.iwh.on.ca/products/blueprint.php
  - The DASH: http://www.iwh.on.ca/products/dash.php
  - Work-Ready: Return-to-work approaches for people with soft-tissue injuries http://www.iwh.on.ca/products/wrk_rdy.php
  - The Back Guide: http://www.iwh.on.ca/products/bck_gde.php

  Working papers include those reports or studies that are not yet peer-reviewed in a published journal; research not intended for publication may be reported in the form of an occasional paper. The tool kit includes some practical tools "which may be used in a variety of settings, from clinical practice to the workplace."

- National Occupational Health and Safety Commission (Australia)

  - Ergonomics for the Control of Sprains and Strains in Mining http://www.nohsc.gov.au/PDF/Standards/ErgonomicsSprainsStrainsMining.pdf

    "This handbook is for use by occupational health and safety personnel and others who have responsibility for the prevention of accidents and injuries in mining. The aim is to assist these users in the identification and management of risks associated with manual handling and rough rides in mines."

- National Safety Council

  - Ergonomics
    http://www.nsc.org/issues/ergotop.htm

    This page contains archived articles, in addition to links and other resources pertaining to ergonomics.

- NIOSH

  - Ergonomics and Musculoskeletal Disorders
    http://www.cdc.gov/niosh/topics/ergonomics/

    This section of the NIOSH site provides links to ergonomics programs, research, risk factors, and specific issues related to ergonomic/human factors (e.g., back belts, vibration, VDTs, etc.).

  - Ergonomics in Mining
    http://www.cdc.gov/niosh/mining/topics/ergonomics/

    This topic page focuses on ergonomics issues in the mining industry, including design recommendations for mining machinery and related safety topics.

- Nova Scotia Environment and Labour
    - About Ergonomics: http://www.gov.ns.ca/enla/ohs/ergonom/index.htm
    - Ergonomics Glossary: http://www.gov.ns.ca/enla/ohs/ergonom/ergoglos.htm
    - Publications: Ergonomics http://www.gov.ns.ca/enla/ohs/ergonom/ergopubs.htm

      "This site provides ergonomics information and resources to workplaces across [Nova Scotia]."

- OHCOW (Occupational Health Clinics for Ontario Workers)
    - General Handouts: http://www.ohcow.on.ca/resources/handouts.html

      Among these include: ergonomics and driving, hand-arm vibration syndrome, physical demands analysis, whole-body vibration, work-related musculoskeletal disorders, and working on your feet. Literature is intended for a general audience.
    - Snook Tables: http://www.ohcow.on.ca/resources/info_sheets.html

      The snook tables provided from this page include those referring to the maximum weight of lift, forces of push, forces of pull, and weight of carry.
    - Workbooks: http://www.ohcow.on.ca/resources/workbooks.html

      There are currently four workbooks available from this page, including a *Physical Demands Workbook*, and *Office Ergonomics Handbook*.
    - NIOSH Lifting Equation Software: http://www.ohcow.on.ca/resources/software_prog.html

- OSHA
    - Ergonomics: Strategy for Success http://www.osha.gov/SLTC/ergonomics/index.html

      Guidelines, regulations, outreach services, job analysis tools, examples of contributing conditions, and solutions pertaining to ergonomics are offered through this portion of the OSHA.

- Workers' Compensation Board of Alberta
    - Remembering the Basics Booklet http://www.wcb.ab.ca/workingsafely/ergobook.asp

      This booklet is "designed to alert you to the potential for an RSI and assist you in preventing one from occurring."

- Workers' Compensation Board of BC
    - Ergonomics: http://ergonomics.healthandsafetycentre.org/s/Home.asp

      Guides for identifying and preventing MSIs, as well as back pain, are available.

- WSIB of Ontario
    - Making Ergonomics Work: http://www.wsib.on.ca/wsib/wsibsite.nsf/LookupFiles/DownloadableFileErgonomics/$File/ergonomics.pdf

      This 6-page brochure outlines the role of the ergonomist, and what he/she can do to minimize risk in the workplace. A series of frequently-asked questions (FAQs) are provided at the end of the end of the document.

    - Return to Work Bibliography: http://www.wsib.on.ca/wsib/wsibsite.nsf/Public/RTWBibliography

      This resource provides useful information about return-to work. The bibliography is divided into several topics, including ergonomics, back injuries, general musculoskeletal injuries, etc.

Journal Articles

Cho, Younggun, and Yong-San Yoon. 2001. "Biomechanical Model of Human on Seat with Backrest for Evaluating Ride Quality." *International Journal of Industrial Ergonomics* 27 (2001): 331-345.

"This study is to develop a biomechanical model of a human on a seat with backrest for evaluating the vehicular ride quality. In describing the human body motion, four biomechanical models are discussed."

Eger, Tammy, Salmoni, Alan, and Robert Whissell. 2004. "Factors influencing load-haul-dump operator line of sight in underground mining." *Applied Ergonomics* 35 (2): 93-103.

"The inability of load-haul-dump (LHD) equipment operators to see people, objects or hazards around the LHD machine they drive is a causal factor in a number of serious accidents. Line of sight evaluations were conducted on 11 different LHD models … Results of this study have been used to conduct awareness campaigns within the Ontario mining industry and to suggest vehicle design modifications to LHD manufacturers."

Kubo, Mitsunori, et al. 2001. "An investigation into a synthetic vibration model for humans: an investigation into a mechanical vibration human model constructed according to the relations between the physical, psychological and physiological reactions of humans exposed to vibration." *Industrial Ergonomics* 27 (2001): 219-232.

The objective of this study was to "develop a synthetic vibration model reproducing the relation between the physical, psychological and physiological reactions of the human body exposed to external vibrations."

Paquet, Victor L., Punnet, Laura, and Bryan Buchholz. 2001. "Validity of fixed-interval observations for postural assessment in construction work." *Applied Ergonomics* 32 (2001): 215-224.

"The objective of this study was to examine the validity of PATH [Posture, Activities, Tools and Handling] and a simplified version of PATH for the assessment of trunk, shoulder and knee postures in construction work. Comparisons were made between both observational approaches and discrete reference measurements, between observational and continuous-direct measurements, and between PATH and simplified PATH."

Reed, Matthew P., Manary, Miriam A., et al. 2000. "Effects of Vehicle Interior Geometry and Anthropometric Variables on Automobile Driving Posture." *Human Factors* 42 (4): 541-552.

This study "investigates the effects on whole-body driving posture of three variables that are known to have important effects on seat position and eye location … The analysis is intended to provide an understanding of the individual and interactive effects of seat height, steering wheel position, and seat cushion angle on all of the major posture characteristics of interest for vehicle interior design."

Wynn, M. 2003. "Practical Strategies for Improving Ergonomics." *Professional Safety* 48(2): 12-14.

This article provides advice on "how ergonomics and workplace design can be used to enhance performance and prevent work-related musculoskeletal disorders (WMSDs)."

Other

Canadian Centre for Occupational Health and Safety. 1999. *Office Ergonomics Safety Guide.* 3rd ed. Hamilton: Canadian Centre for Occupational Health and Safety, 108 p.

"This guide is applicable to office work and covers factors that contribute to compatibility between workers and office work. It covers ergonomic aspects of the workstation, work organization, the work environment and recommended safe work practices. It will assist in the development and implementation of office ergonomics programs."

Canadian Standards Association . 2000. *Guideline for Office Ergonomics*. 2nd ed. Toronto: Canadian Standards Association, 314 p.

"This document (CSA Z412) recognizes the growing awareness of the risks of musculoskeletal injury and the role that ergonomics can play as a means to address these risks, while at the same time creating a more productive work environment. The document has also been expanded to include guidance on materials handling in the office environment."

Gallagher, Sean, Moore, Steven J., and Terrence J. Stobbe. 1998. *Physical Strengths Assessment in Ergonomics*. Fairfax, VA: American Industrial Hygiene Association, 64 p.

Describes human physical strength testing, the types of tests available and their uses.

Ness, Shirley A. 1996. NIOSH Case Studies in Ergonomics. Rockville, MD: Government Institutes, 321 p.

"This book is a tool in evaluating and resolving ergonomic problems and a reminder of the vital role NIOSH plays in conducting research and disseminating information on workplace safety and health problems."

Radwin, Robert G., and Jonathan T. Haney. 1996. *An Ergonomics Guide to Hand Tools*. Fairfax, VA: American Industrial Hygiene Association, 39 p.

An introductory guide to basic ergonomic aspects of the selection, installation, and use of manual and power hand tools.