

Brochures for construction workers

Hazard alert pocket cards in English and Spanish. 1996-present. Describe risks and how workers can protect themselves. 10¢ each or may be downloaded as flyers from the CPWR web site: www.cpwr.com

25 topics now available: Aerial lift safety, Air-purifying respirators in construction, Asbestos, Back injuries, Beryllium, Biological hazards in sewage and wastewater treatment plants, Electric safety for non-electricians, Eye injuries, Fall-protection harnesses, Hand tools, Heat stress, Lead, Lightning protection, Lockout/tagout, Lyme disease, Noise, Operating heavy equipment, Portable ladder safety, Power saws, Scaffold Safety, Silica, Skin problems, Solvents, Trenches, and Welding fumes and gases.

Don't Fall For It worker tip sheets. 2006.

Four 2-page flyers in English and Spanish to accompany a campaign (and video) to prevent falls from ladders; contain information about safe procedures.

Newsletter: *On Center*. Free of charge (sign up for mailing list at www.cpwr.com).

Save Your Skin: Tips on Preventing Skin Problems. 8 pages, with line drawings, 1996. Produced with the Operative Plasterers' and Cement Masons' International Association. One copy free of charge; \$1.50 each for 2 -10 copies; \$1 each for more than 10.

Advises on use of gloves, hand washing, and other steps to prevent contact dermatitis, a major cause of work-related disability for workers handling wet cement products.

Physician's Alert: Occupational Contact Dermatitis among Plasterers and Cement Masons, 1996. Produced with the Operative Plasterers' and Cement Masons' International Association. One copy free of charge; \$1.50 each for 2-10 copies; \$1 each for more than 10.

Identifies 7 types of work-related skin disorders, their likely causes, and recommended treatments; for workers to give to their doctors.

Journeyman Technical Information Papers (TIPs)

OSHA's Focused Inspection Program in Construction. 2003. \$2

Explains what, where, why, and how of OSHA's focused inspection program for construction. Also suggests how employers and workers can best use the program and where to get more information. 6 pages.

Protection from Electric Shock and Arc Flash. 2003. \$2.

For electricians, covers the hazards plus whether to de-energize and procedures for de-energizing and working on or near live circuits; tables list approach boundaries, hazard risk categories for various tasks, and requirements for flame-resistant clothing and equipment. 8 pages.

Course catalogue

National Resource Center for OSHA Training, OSHA's Region III Education Center. 2008-2009. (Catalogue free of charge.)

Lists courses for workers and supervisors, including the OSHA 500 and 501 trainer courses for construction; courses are given regularly in Maryland, Pennsylvania, Virginia, and West Virginia, or by arrangement at other locations.

Videos

Don't Fall For It. 2006. 11 minutes. \$8

For an injury prevention campaign, mixes interviews with survivors of falls from ladders (or victims' survivors) with information about safe procedures (also on DVD). (Worker tip sheets also available in English and Spanish.)

Ergonomics in Construction. 1996. 18 minutes. \$7

Shows ergonomics researchers trying to match jobs to workers to help reduce injuries, illnesses, and sprains and strains in construction; also demonstrates some tools and techniques to improve safety and health. This video was originally produced by the German Berufsgenossenschaften der Bauwirtschaft (Industrial Accident Injuries Insurance and Labour Accident Prevention Corporation under Public Law for the Construction Industry).

Drywall Dust Engineering Controls. 1998. 7 minutes. \$7

Shows the use of engineering (local-exhaust) controls to reduce dusts produced during drywall work—using real-time monitoring. Drywall mud may contain silica, which can cause two fatal diseases, lung cancer and silicosis.

Preventing Musculoskeletal Injuries. 1994. 5 minutes. \$7

Reviews some of the job factors that can result in musculoskeletal disorders from construction work and what can be done about them.

Real-Time Monitoring Program. 1993. 5 minutes. \$7

Shows one approach to assessing exposures to chemical hazards on construction sites. Industrial hygienists measured exposures to asphalt and welding fumes as they occurred on a new construction site using a camera that records changing exposure levels on a gauge on screen.

Welding: A Control Technology. 2000. 8 minutes. \$7

Uses real-time monitoring – a changing bar graph on screen – to show how local-exhaust ventilation can reduce worker exposures to toxic fumes during welding.

Workers Are the Experts. 2000. 6 minutes. \$7

Shows how construction workers' ideas can improve safety and health on site. Features a safe bridge construction project, a vacuum system to reduce silica exposures to masonry workers, a crane mirror system, and ergonomic improvements on Boston's Big Dig.

Model contract language

Model Specifications for the Protection of Workers from Lead on Steel Structures. Updated, 2002. (Free of charge.)

Presents model language for contract specifications covering work involving lead on industrial structures such as steel bridges, tunnels, and storage tanks; the revision is based on use of the original model specs on a major bridge project.

Gittleman, Janie and David Valiante. *A Compliance Checklist for Monitoring Implementation of the CPWR Model Contract Specifications for the Protection of Workers from Lead on Steel Structures*. 1998. \$5.

Provides a 9-page checklist for owners, contractors, and labor representatives planning and implementing a program to protect workers from lead and other hazards during bridge and highway rehabilitation; the checklist was developed by a team working in the field (and was based on the 1996 model specs).

Research funding information

Small Study Grant Guidelines. Revised 2007. (Free of charge.)

Describes procedures for applicants for funding from CPWR of up to two years and up to \$30,000. The money supports applied research in the United States intended to improve safety and health in construction.

Occupational safety and health reports

Becker, Paul E., Mark D. Fullen, and Brandon Takacs. *Safety Hazards to Workers in Modular Home Construction*. 2003. \$7.

Analyzes video observations and questionnaires given to workers and employers on four modular home construction projects and finds unique safety hazards - particularly for falls and crushing or "struck by" - along with a lack of worker protections, including safety training. Accompanying video posted at www.elcosh.org

Clark, Nancy, Harry Mounioudis, Mark Goldberg, and Walter Jones. *An Assessment of Metal Maintenance Workers' Solvent Exposures*. 1997. \$5

Compares fire and toxic hazard exposures to metal maintenance workers in elevators using solvent- and water-based products; finds markedly reduced fire and health risks using water-based strippers and lacquers.

Clark, Nancy, Jonathan Dropkin, and Lee Kaplan. *Ready Mixed Concrete Truck Drivers: Work-Related Hazards and Recommendations for Controls*. September 2001. \$5

After analyzing data from OSHA and 23 ready mixed concrete plants in the United States, the authors identify slips, trips, and falls, impact/mechanical hazards during equipment operations, silica exposures during mixer cleanout, and other risks, then recommend a comprehensive safety and health program and other steps to prevent injuries and illnesses.

Epling, Carol, Amy Gitelman, Tejas Desai, and John Dement. *Airborne Exposures and Ambulatory Peak Expiratory Flow in Drywall Finishers*. 1999. \$5

Tests a new portable device for measuring lung exhalation among construction workers on the job and finds the approach practicable, although area sampling proves undependable in a construction setting; preliminary data suggest dust controls are needed during sanding and the relationship between air flow and drywallers' dust exposures should be examined further.

Erville, Pierre. *Implementing Lead-Safe Work Practices for Steel Structures: Transportation Agency Policies in 12 States*. 1995. \$5

Presents findings of survey on policies of 12 state departments of transportation involving worker protections during lead abatement of steel structures. Companion survey to Mark Goldberg and others, *Occupational Blood Lead Surveillance of Construction Workers: Health Programs in Twelve States* (OSH2-96).

Goldberg, Mark, Cora Roelofs, Jean Weiner, and Deborah Nagin. *Occupational Blood Lead Surveillance of Construction Workers: Health Programs in Twelve States*. 1995. \$5

Finds uneven efforts to address construction worker lead exposures, with programs involving interagency cooperation the most successful; suggests steps to improve surveillance and intervention. Focuses on California, Connecticut, Georgia, Louisiana, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Texas, and Washington.

Goldberg, Mark, Cora Roelofs, Jean Weiner, and Deborah Nagin. *Occupational Blood Lead Surveillance of Construction Workers, II: Health Programs in Thirteen States*. 1997. \$5

Continuation of 1995 report recommends increased funding for occupational lead surveillance, programs targeted to construction, uniform data collection, and interagency cooperation; focuses on Alabama, Alaska, Florida, Idaho, Indiana, Kentucky, Mississippi, North Carolina, Oregon, Pennsylvania, South Carolina, Tennessee, and West Virginia.

- Goodrum, Paul. Safety and Health Training in Construction in Kentucky. 2006. \$5
Summarizes interviews with construction workers and development of a database of construction safety and health training resources. (The database is available from Goodrum and as part of the report posted at www.cpwr.com.)
- Heitbrink, William A., and Scott Collingwood. *Protecting Tuckpointing Workers from Silica Dust: Draft Recommendations for a Ventilated Grinder*. January 2005. \$5
Presents preliminary findings showing how to use an industrial vacuum cleaner, hose, and shroud attached to a grinder to reduce dangerous dust exposures for workers who remove old mortar from masonry.
- Klitzman, Susan, Mark Goldberg, and Ed Olmstead. *Health Hazards to Construction Workers During the Demolition of Two Tenement Buildings*. 1994. \$5
Analyzes worksite exposures to lead, dusts, and safety hazards among demolition workers.
- Levin, Stephen. *Abnormalities Consistent with Asbestos-Related Disease among Long-Term Demolition Workers*. 1994. \$5
Presents findings of Mount Sinai School of Medicine study suggesting that demolition workers as a group have had significant exposure to asbestos.
- Parkinson, David K., Angela De Vito, Raymond J. Dattwyler, Benjamin Luft, and John M. Kennedy. *Lyme Disease Prevalence among Construction Workers on Long Island, New York*, 1996. \$5
Presents results of a pilot study of 396 construction workers, which found 13% tested positive for Lyme disease, compared with 6% of the general population, suggesting outdoor workers are at increased risk and need prevention training.
- Plog, Barbara A., Barbara Materna, Jim Vannoy, and Marion Gillen. *Strategies to Prevent Trenching-Related Injuries and Deaths*. 2006.
Uses data, interviews with trenching industry and safety experts, and site visit observations to develop new ways to improve trenching safety. Recommends targeting small and inexperienced excavation companies for safety efforts.
- Susi, Pam, Mark Goldberg, Pat Barnes, and Erich (Pete) Stafford. The Use of a Task-Based Exposure Assessment Model (T-BEAM) for Assessment of Metal Fume Exposures During Welding and Thermal Cutting. *Applied Occupational and Environmental Hygiene*, 15(1):26-38, January 2000. (T-BEAM). Reprint. \$5
Evaluates a task-based approach to measuring worker exposures to particulates and some heavy metals during welding and thermal cutting; finds a significant health hazard to some trades, depending on several factors; and evaluates the use of mechanical ventilation to reduce the exposures.
- Ergonomics reports and checklist**
Abstracts from the 1st International Symposium on Ergonomics in Building and Construction, 30 June-2 July 1997, Tampere, Finland. 1997. \$14 (Outside North America, \$30)
Contains 59 three-page abstracts of presentations to the International Ergonomics Association triennial meeting.
- Construction Ergonomics Checklist*. 1997. \$2
Checklist for labor and management to use jointly to survey the worksite periodically for ergonomic hazards. Helps users develop an “eye” for ergonomic hazards on the jobsite. Covers 12 categories in 6 pages, with a summary section for prioritizing hazards and solutions.
Spanish version: *Lista de control de la ergonomía en la construcción*. 2004. \$2.
- Cook, Thomas M., John C. Rosecrance, and Chris L. Zimmerman. *The University of Iowa Construction Survey*. 1996. \$7
Examines work-related musculoskeletal disorders among 13 trades in one year: relative frequency on nine body sites, possible causes, and whether doctor visits or missed work resulted.
- Koningsveld, Ernst A.P., Peter Vink, Isle J.M. Urlings, and Annelise M. de Jong. *Reducing Sprains and Strains in Construction through Worker Participation: A Manual for Managers and Workers with Examples from Scaffold Erection*. 1998. \$5
Describes six steps for setting up a worker-participation program to identify main ergonomic problems, then propose and try solutions; examples are given for scaffold erection, based on a research project in the Netherlands.
- Schneider, Scott P. Ergonomics in the Construction Industry. In: Waldemar Karwowski and William S. Marras, eds., *The Occupational Ergonomics Handbook*. Washington, D.C.: CRC Press, 1999, 1967-77. Reprint. \$5
Covers construction-related issues, including risk factors associated with different trades, exposure assessment, types of interventions, and regulatory standards.

Schneider, Scott, and Pam Susi. Ergonomics and Construction: A Review of Potential Hazards in New Construction, *American Industrial Hygiene Association Journal*, 55(7): 635-49. 1994. Reprint. \$5

Attempts to characterize the ergonomic risks associated with each stage of construction for each craft — and what is known about minimizing the risks. Unlike other manufacturing, where there is an assembly line, many decisions related to safety in construction are left to the worker.

Schneider, Scott, Matthew Griffin, and Risana Chowdhury. Ergonomic Exposure of Construction Workers: An Analysis of the U.S. Department of Labor Employment and Training Administration Database on Job Demands, *Applied Occupational and Environmental Hygiene*, 13(4): 238-41. 1998. Reprint. \$5

Uses data collected by the U.S. Department of Labor Employment and Training Administration on strength and other job-related requirements to show that construction poses more ergonomic problems than other work.

Work-Related Musculoskeletal Disorders: A Construction Bibliography. Second Edition. 1994. \$10

Covers mainly the biomedical, industrial hygiene, and ergonomics literature available from online and CD-ROM bibliographic data bases. This report was prepared in October 1994 by the Department of Preventive Medicine and Environmental Health, College of Medicine, University of Iowa.

Data reports

*Behm, Michael. *An Analysis of Construction Accidents from a Design Perspective.* 2006. \$5

Examines 450 federal agency reports of serious injuries and deaths affecting construction workers, and finds that design improvements could have reduced the hazard in about one-third of the cases.

Dong, Xiuwen, Yurong Men, and Elizabeth Haile. *Work-Related Fatal and Nonfatal Injuries among U.S. Construction Workers, 1992-2003.* 2005. \$5.

An update of an earlier CPWR report by Earl S. Pollack and Risana Chowdhury (2001), this report analyzes trends in rates of deaths (from injuries) and of injuries and illnesses over 12 years and finds the overall construction death rate has remained fairly constant (with a slight decrease), while the rate of reported injuries and illnesses has declined steadily. Shows trends for bricklayers, carpenters, construction laborers, electrical power installers, electricians, excavating/loading machine operators, grader/dozer/scrapper operators, ironworkers, operating engineers, painters, plumbers, roofers, truck drivers, and welders/cutters.

**The Construction Chart Book: The U.S. Construction Industry and Its Workers, Fourth Edition.* 2007. \$15

Updated and expanded from 2002. Illustrates the industry using the most complete data available on all facets of the U.S. construction industry – economic, demographic, employment/income, education/training, and safety and health – to help researchers and practitioners better understand the dynamics that fuel this vital employment sector. The book presents this information in a series of 50 topics, each with a description of the subject matter and corresponding charts and graphs.

Hunting, Katherine L., Judith Anderson Murawski, and Laura S. Welch. *Occupational Injuries among Construction Workers Treated at the George Washington University Emergency Department, 1990-97.* 2004. \$15

Chart book shows fatal and nonfatal injuries treated as a result of 2,916 emergency-room visits by construction workers. Data are organized by demographics, occupation, cause of injury, diagnosis, and injured body part to illuminate trends and to point up ways to reduce injuries in each trade.

McCann, Michael, Norman Zaleski, *Deaths and Injuries involving Elevators or Escalators,* Revised. 2006. \$7.

Analyzes data from the U.S. Bureau of Labor Statistics and Consumer Product Safety Commission and finds an estimated 30 deaths per year in the United States among people working on or near elevators or escalators (1992-2003) and passengers (at work/not at work) (1992-2003); recommendations include improved training, adequate inspection and maintenance programs, and the use only of qualified workers for repair and maintenance.

McCann, Michael. *Explosion and Asphyxiation Deaths among Contract Employees in Industrial Plants.* 2003. \$5.

This summary, prepared for the U.S. Chemical Safety and Hazard Investigation Board, finds that 91 contract employees on construction projects at industrial plants in 1992-2001 were killed by explosions or asphyxiation and recommends changes, including new training and procedures, particularly for welding.

Meeker, John D., Pam Susi, Anthony Pellegrino. Case Study: A Comparison of Occupational Exposures Among Painters Using Three Alternative Blasting Abrasives, *Journal of Occupational and Environmental Hygiene*, 3: D80-84, September. 2006. Reprint. \$6

Researchers offer results of their study of worker exposures to heavy metals and silica using specular hematite, coal slag and steel grit as three common methods of abrasive blasting. The project, painters working on a New Jersey footbridge, still were exposed to toxins, probably from the existing paint when it was removed.

Oliver, L. Christine, and Heidi Miracle-McMahill. *Asthma in Heavy and Highway Construction Workers Exposed To Silica.* 2003. \$5.

Analyzes questionnaires completed by more than 300 construction workers believed to be exposed to silica on Boston's Big Dig in 2001 and finds more than 25% of the workers reported symptoms consistent with asthma, with higher levels for some trades and types of work – and with the asthma apparently largely undiagnosed and untreated.

Patterns of Deaths among Construction Workers, California, 1979-81. 1993. \$5

Summarizes California Department of Health Services data showing, among other things, that construction workers die an average of 8 to 12 years earlier than members of some low-risk white-collar occupations.

Pollack, Earl S., Gary M. Franklin, Deborah Fulton-Kehoe, and Risana Chowdhury. Risk of Job-Related Injury Among Construction Laborers With a Diagnosis of Substance Abuse. *Journal of Occupational and Environmental Medicine*, 40(6): 573-77, June. 1998 .Reprint. \$5

Compares injury rates for 422 laborers in Washington state who were treated for substance abuse in 1990-91 with other laborers and finds a nearly doubled risk of serious injury on the job for younger laborers who have been diagnosed with substance abuse; most of the substance abuse involved alcohol.

Pollack, Earl S., Matthew Griffin, Knut Ringen, and James L. Weeks. Fatalities in the Construction Industry in the United States, 1992 and 1993. *American Journal of Industrial Medicine*, 30:325-30. 1996. Reprint. \$5

In light of conflicting estimates of work-related death rates for construction, the authors used data from the Census of Fatal Occupational Injuries and the Current Population Survey, then computed work-related death rates for 1992 and 1993 for the construction industry and for several trades.

*Sokas, Rosemary K., Leslie Nickels, Kristin Rankin, Janie Gittleman, Christina Trahan. Trainer Evaluation of a Union-based Ten-hour Safety and Health Hazard-awareness Program for U.S. Construction Workers, *International Journal of Occupational and Environmental Health*, 13:56-63. 2007. Reprint. \$6

Trainers from 14 different unions in 29 states respond to a battery of questions on hours spent teaching, trainee demographics and the types of hazards construction workers/trainees find they were exposed to on worksites.

Suruda, Anthony, Marlene Egger, and Diane Liu. *Crane-Related Deaths in the U.S. Construction Industry, 1984-94.* 1997. \$5

Surveys 502 deaths investigated by OSHA in 11-year period and finds that, after electrocution, crane disassembly is the leading cause of death, and that OSHA had not inspected previously in 66% of the deaths.

Waitzman, Norman J., & Ken R. Smith. *Unsound Conditions: Work-Related Hearing Loss in Construction, 1960-75.* 1999. \$5

The first comparative multivariate analysis of hearing test data from national surveys in 1960-75 — the most current data on adults — finds both that blue-collar workers generally have more noise-induced hearing loss than white-collar workers and the rate of such hearing loss is markedly higher among construction workers compared with other blue-collar workers.

*Weinstein, Marc G., Steven F. Hecker, Jennifer A. Hess, Laurel Kincl. A Roadmap to Diffuse Ergonomic Innovations in the Construction Industry: There is Nothing So Practical as a Good Theory, *International Journal of Occupational and Environmental Health*, 13:46-55. 2007. Reprint. \$6.

A look at the barriers that prevent diffusion of MSDS and an approach to overcoming these barriers by targeting stakeholders who hold decision-making capabilities.

*Welch, Laura S., Xiuwen Dong, Francoise Carre, Knut Ringen. Is the Apparent Decrease in Injury and Illness Rates in Construction the Result of Changes in Reporting?, *International Journal of Occupational and Environmental Health*, 13:39-45. 2007. Reprint. \$6

Inconsistencies in reported injuries and illness led the researchers to compare different sources of data, investigate misclassification of workers and the tendency of underreporting occupational illness in the construction industry.

Policy reports

English, William, and William Marletta. *An Investigation of Surface Slip Resistance On Structural Steel.* 1995. \$5

Proposes wording for a specification for slip-resistance on structural steel to protect ironworkers and other trades from falls; demonstrates that commercially available slip-resistant paints could meet such a standard, while commercially available portable slipmeters could objectively measure compliance.

Gambatese, John A., Jimmie Hinze, and Michael Behm. *Investigation of the Viability of Designing for Safety,* May 2005.\$7

Examines published reports, regulations, and the authors' survey of 19 architects/design professionals to define needs for future research and education to improve construction worker safety and health.

Myers, Melvin L., *Compactor Overturns and Rollover Protective Structures.* 2004. \$7

Analyzes 58 OSHA reports of overturn-related deaths of operators of compactors (steamrollers) in 1986-2002 to learn whether a lack of rollover protective structures (ROPSs) – and failure to use seatbelts – contributed to the deaths. Recommendations include promulgation of an OSHA standard for compactors requiring the use of ROPSs and seatbelts in construction, operator-training requirements, design changes, and further safety research.

Ringen, Knut. *A Performance Goal for Construction Safety and Health.* 1995. \$5

Proposes a numerical goal for reduced rates of lost-time injuries and deaths from work-related injuries for the construction industry in the United States.

Ruttenberg, Ruth, and Maria Lazo, *Spanish-Speaking Construction Workers Discuss Their Safety Needs and Experiences*. 2004. \$7.

Summarizes in-depth interviews of 47 Spanish-speaking construction workers who received Spanish-language safety training for residential construction from The Center to Protect Workers' Rights in 2001; the interviews covered effects of language barriers, construction experience outside the United States, union and non-union work experiences, outcomes of training, and ways to improve training.

Weil, David, *Making OSHA Inspections More Effective: Alternatives for Improved Inspection Targeting in the Construction Industry*, June 2004.

Outlines alternatives for targeting OSHA's routine (programmed) inspections to facilitate improved construction worker safety and health, given the enforcement agency's limited resources. Considers targeting by – for instance – type of project, phase of construction activity, and past performance of project managers and contractors; suggests how to compare effectiveness of the proposed new approaches through pilot studies.

Wolford, Rod, Marilyn Larson, and others. *A Comparison of Safety-and-Health Training of Painters in Alaska, Oregon, and Washington*. 1997. \$5

Reports main findings of a three-year study, which shows Alaska's Hazardous Painting Certification Standard is more effective in reaching a broad cross-section of painters, improves self-protective behaviors, and is less costly per painter than voluntary training in two other states.

Books

Ringen, Knut, Anders Englund, Laura Welch, James L. Weeks, and Jane L. Seegal, eds. *Construction Safety and Health*. Occupational Medicine: State of the Art Reviews, Hanley & Belfus, Inc., April-June 1995. Available from Elsevier,

1-800-654-2452. \$36

Presents comprehensive discussion for health professionals of safety and health issues; includes Swedish longitudinal data on construction worker mortality and cancer incidence.

Jeanne Mager Stellman, ed. *ILO Encyclopaedia of Occupational Health and Safety, Fourth Edition*. 4 volumes (print) and CD-Rom. Geneva: International Labour Office, 1998. To order, call toll-free 1-888-551-7470.

Volume III contains, for the first time, a section on construction, written by experts in 10 countries, who include Building Trades-affiliate and CPWR staff, and edited by CPWR staff. The 52-page chapter covers health (prevention and management), major sectors and their hazards, and tools, equipment, and materials.

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