r2p in Construction: Resources & Tools to Advance Safety and Health

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Who We Are

- Non-profit dedicated to reducing injuries, illnesses, and fatalities in the construction industry.
- Activity areas: training, service, and research,
- Serve as NIOSH’s National Construction Center
Finding: Significant research on effective interventions but slow adoption

Questions to Address:

- How can the program get vital information to the worker?
- How does the program persuade contractors and workers to effectively use the interventions developed through the research?
r2p Challenges

Industry
✓ Decentralized industry – no fixed worksites
✓ Small, often isolated and under-resourced contractors
✓ Diverse workforce

Dissemination
✓ Changing platforms and mechanisms for finding, receiving, sharing and BLOCKING information

✓ Moved from finding the best approach to finding the best mix of approaches
Dissemination

www.cpwrconstructionsolutions.org

www.safecalc.org

www.cpwrconstructionsolutions.org

www.safecalc.org

THE CONSTRUCTION CHART BOOK

THE U.S. CONSTRUCTION INDUSTRY AND ITS WORKERS

EIGHTH EDITION (Chart Book 2011)

Safety Climate Assessment Tool (S-CAT)

www.cpwrconstructionsolutions.org

www.safecalc.org
Dissemination

Safe Students, Safe Workers: Construction Safety Programs in Career Technical Education

Research shows sharp drill bits mean less dust, noise, vibration & faster drilling
Concrete drilling is dusty, loud, and exhausting work. If you’ve spent time drilling holes with a hammer drill in order to hang ductwork, pipes or conduit, you know how grueling this can be. You probably already know that a sharp new drill bit makes the work easier but did you know it can also make the work safer and faster?

That’s the takeaway from important new research by Dr. David Rempel and his team at the University of California's Center for Occupational and Environmental Health.

Rock and Concrete Drilling: Can a new drill bit reduce hazards and increase productivity?

Over the last several years, Dr. Rempel’s team has earned recognition by designing drill jigs that reduce force and vibration and the risk for musculoskeletal injuries (e.g., back, shoulder, etc.) for workers engaged in concrete and rock drilling.

The team has now designed a test bench system (pictured at right) that allows the researchers to test for and measure potential exposures to several hazards generated by different hammer drills in information that can help contractors and employees make their work safer and more productive.

In three experiments, the research team showed that a worker’s exposure to noise, tool vibration and airborne silica dust increases substantially as a bit wears down from continued use.

In a separate study, the team found that the best measures of wear on a carbide-tipped bit were reduced width of the tip and rounding of the tip shoulders. Contractors and workers can check the condition of a bit by following these wear patterns.

In their experiments, the team used a common hammer drill and carbide-tipped bit, isolating the effect of wear on the drill bit. As expected, heavily worn bits took much more time to penetrate the concrete than new ones, adding up to 60% to the time required to drill a 3” deep hole.

Moreover, the team’s research has shown that the common practice of using silica-cleaning products is ineffective in reducing the risk of exposure to silica dust, noise, and vibration, and it’s not safe and business case for regularly replacing worn drill bits.

Source: CPWR - The Center for Construction Research and Training

Eileen P. Bollt
Director, Research to Practice
CPWR-The Center for Construction Research and Training
Resources to Protect Workers from Methylene Chloride (Paint Strippers)

Many liquid paint strippers and solvents contain a toxic chemical called methylene chloride. Exposure can lead to death or serious illness. Workers are at risk when they inhale methylene chloride vapor and when it comes in contact with their skin.

The following links contain additional information about the dangers of methylene chloride and safer alternatives.

Video: Toxic Paint Removers: Safer Alternatives

Other Resources:
- California Department of Public Health - Preventing Disease from Paint Removers: Safer Alternatives to Methylene Chloride
- OSHA's Crystalline Silica Rule for Construction
- Construction Solutions: Vocational Rehabilitation - Exploring the Vocational Rehabilitation Process for People with Disabilities
- Choosing Hand Tools: Choosing Gloves
- Dissemination
- Resources to Protect Workers from Methylene Chloride (Paint Strippers)
- Dissemination
- www.cpwr.com
- www.choosehandsafety.org
- www.stopconstructionfalls.com
- www.elcosh.org
Engage Intermediaries

Positioned to:

- Help with dissemination
- Identify barriers and facilitators for r2p
- Influence outcomes
- Support research and identify research needs

*Early and ongoing engagement will facilitate & accelerate adoption of research findings and solutions*
Networks:
Trainers and Researchers United Network (TRU-Net)

Construction Noise &
Hearing Loss Prevention Program

What causes hearing loss?
- Exposure to loud noise
- Certain drugs and chemicals
- Aging
- Heredity
- Head injury
- Headphone use
- Childhood illness

Effects of Hearing Loss
- Temporary hearing loss
- Difficulty hearing warning signals on the job
- Increase the risk of falling
- Contribute to loneliness and depression
- Increase stress, blood pressure, hypertension and cardiovascular disease
- Lead to nervousness, sleeplessness, fatigue

Are You Talking to Me?
What it’s like to lose your hearing

“Buy Quiet” Now, Hear Later
Repeated exposures to noise above 85 decibels (dB) can lead to irreversible hearing loss. Buying a tool just 3 decibels lower will cut the noise every day.

Sound Level Meter Apps
NIOSH SLM for iPhones

Sound Meter for Android
Networks:
SafeConstructionNetwork.org
Industry r2p Partnerships: Masonry r2p Partnership (BAC, ICE, IMI)

- Support for new Research (p2r)
- ChooseHandSafety website
- Contractor & Worker Surveys

“Always” Use

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<th>2017</th>
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Remodeling -
http://www.remodeling.hw.net/business/construction/get-a-grip-on-new-safety-efforts_o
Industry r2 Partnerships: Roofing r2p Partnership (NRCA, UURWAW)

- RF Radiation Awareness Program
- S-CATsc
- #RooferSafety365 Campaign

[Image: Radiofrequency (RF) Radiation Awareness Guide for the Construction Industry]

[Image: Safety Climate Assessment Tool (S-CATsc) for Small Contractors]

[Website: www.cpwr.com/research/s-cat-sc-small-contractors]
Community of Practice: Ergonomics

Members:
CPWR Consortium Researchers, Insurance, Industry Stakeholders & Trainers

If we know there’s a problem and have solutions... why are workers still being injured?

Focus: manual materials handling
BestBuiltPlans.org

Result Program includes something for everyone from the **new entrant to contractor**

Addresses barriers:

- Planning questions, spreadsheets & checklists
- Weights of materials
- Storage options
- Lifting options
- Training resources
Lifting and Carrying Materials

LIFT COACH
Plan Your Lift

Start
Language
Credits

Straighten Up.
Swipe up to align your neck and back.

Tap the ground to move.
Tap the box to inspect and slide up to lift. Then tap the goal X to deliver your box.
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Questions?

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