

CPWR Physicians' Alerts: Short Guides to Talking to Your Medical Provider about Work-Related Hazards

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Background

- Although fatal occupational injuries in the industry are well researched, **there is limited information on construction worker deaths off the job, despite worksite exposures and tasks that may have lifetime health impacts, such as causing cancers.**
- Prior research found, for example, that 19% of construction workers had a respiratory disease and 26% had cancer, diabetes, or heart, kidney, or liver disease.
- As demographics of the industry shift and more women enter the field, there is also a need for expanded health resources on topics such as pregnancy.

Source: CPWR Data Bulletin

<https://www.cpwr.com/wp-content/uploads/DataBulletin-January2023.pdf>

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Data Bulletin

Leading Causes of All Deaths Among Current, Retired, and Former Construction Workers

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OVERVIEW

Construction is one of the deadliest industries in the United States, with over 1,000 fatal occupational injuries each year since 2016. Although fatal occupational injuries in the industry are well researched, there is limited information on construction worker deaths not on the job among construction workers despite worksite exposures and tasks that may have lifetime health impacts, such as causing cancers. Prior research found, for example, that 19% of construction workers had a respiratory disease and 26% had cancer, diabetes, or heart, kidney, or liver disease.

This Data Bulletin examines the leading *causes of death among construction workers* in 2020 for all deaths (both on and off the job site) and compares *at work* death trends with fatal occupational injury trends. Unless specified as *at work*, charts show all deaths. Examining all deaths provides important insights into conditions affecting construction workers that may be preventable, such as hypertension and diabetes, as well as information on conditions potentially associated with occupational exposures (e.g., cancers or neoplasms).

Data for all causes of death were obtained from the National Center for Health Statistics (NCHS) National Vital Statistics System (NVSS) Mortality Multiple Cause-of-Death data. The mortality data includes all states except Arizona, North Carolina, Rhode Island, and the District of Columbia. NVSS data does not include employment status (full-time, unemployed, retired, etc.) at time of death and assumptions about employment by age should be made with caution, but the data does indicate the death occurred at work. Construction workers are defined in NVSS data as those whose usual industry was construction, including individuals currently employed, retired, or no longer in the workforce. Numbers for fatal occupational injuries for all employment were obtained from the U.S. Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries and Illnesses (CFOI). Employment figures for *civilian labor force* and *full-time equivalent workers (FTEs)* were estimated using the BLS Current Population Survey (CPS), downloaded through IPUMS. CPWR calculated fatal occupational injury rates per 100,000 FTEs.



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THIS ISSUE

This issue examines the leading causes of death among construction workers, including those currently employed, retired, and no longer in the workforce.

KEY FINDINGS

In 2020, there were 224,400 deaths among construction workers with a majority occurring among those who were 65 years or older (60%), non-Hispanic (88%), white (87%), and male (96%).
Charts 1, 2

Manner of death varied by age, with 55% of construction workers 16 to 34 years old dying by an accident, whereas 67% of those 35 to 64 years old and 87% of those 65 years or older died from natural causes.
Chart 4

The leading detailed cause of death in 2020 for those 16 to 34 years old was poisoning and exposure to narcotics and hallucinogens (n=1.9K, 17%).
Chart 6

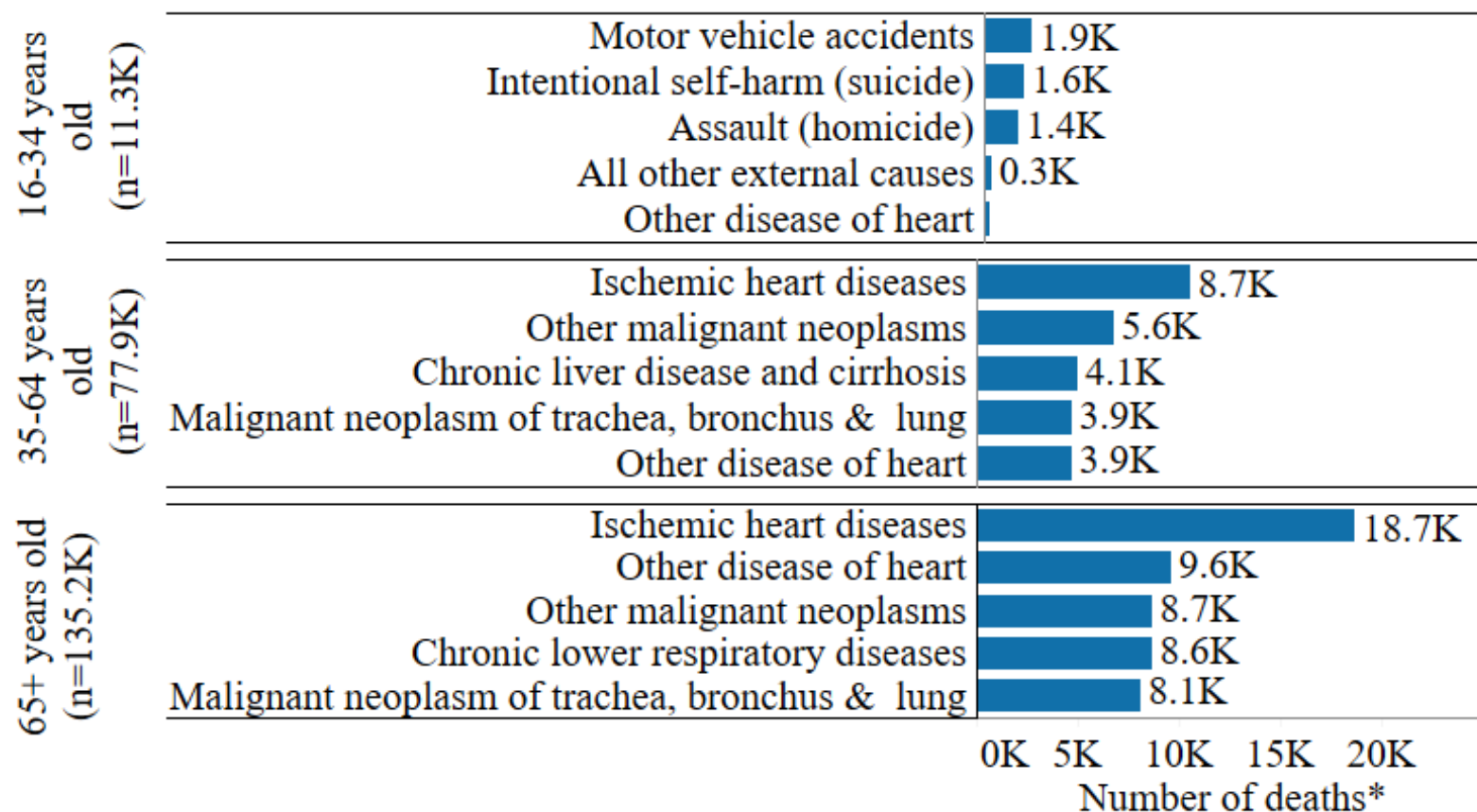
In 2020, COVID-19 was the leading detailed cause of death for those 35 to 64 years old (n=5.2K, 7%) and 65 years or older (n=14.9K, 11%).
Charts 7, 8

There were 14.2K overdoses and 5.5K suicide deaths among construction workers in 2020.
Chart 9

NEXT DATA BULLETIN

Focus Four Injuries in Construction

Top 39 major category cause of death* among construction workers by age, 2020^

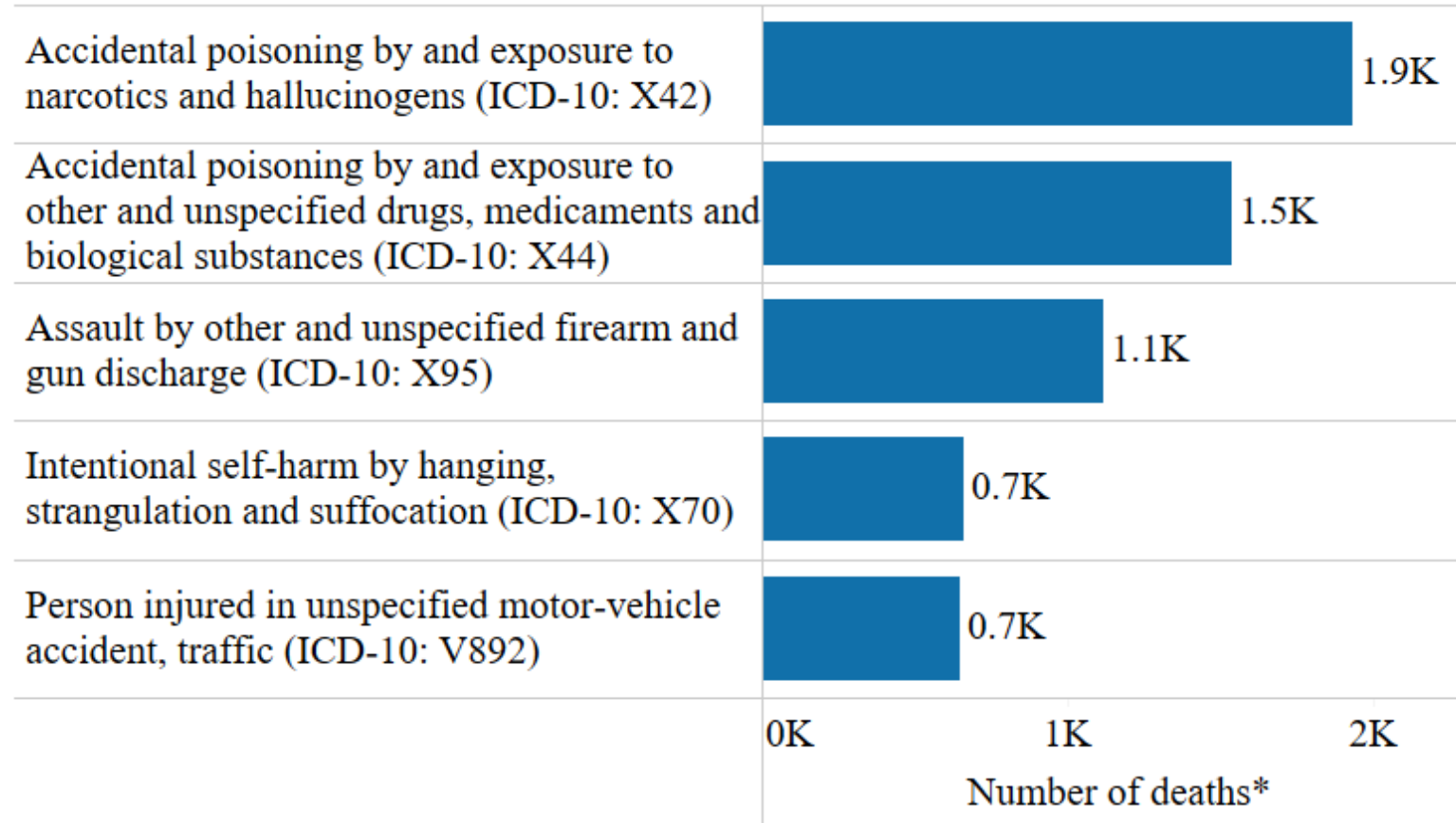


Sources: National Center for Health Statistics, 2020 Mortality Multiple Cause File. Calculations by the CPWR Data Center.

* All causes of death are included in chart, not just at work deaths.

^Excludes all other and unspecified accidents and adverse effects and all other diseases (residual).

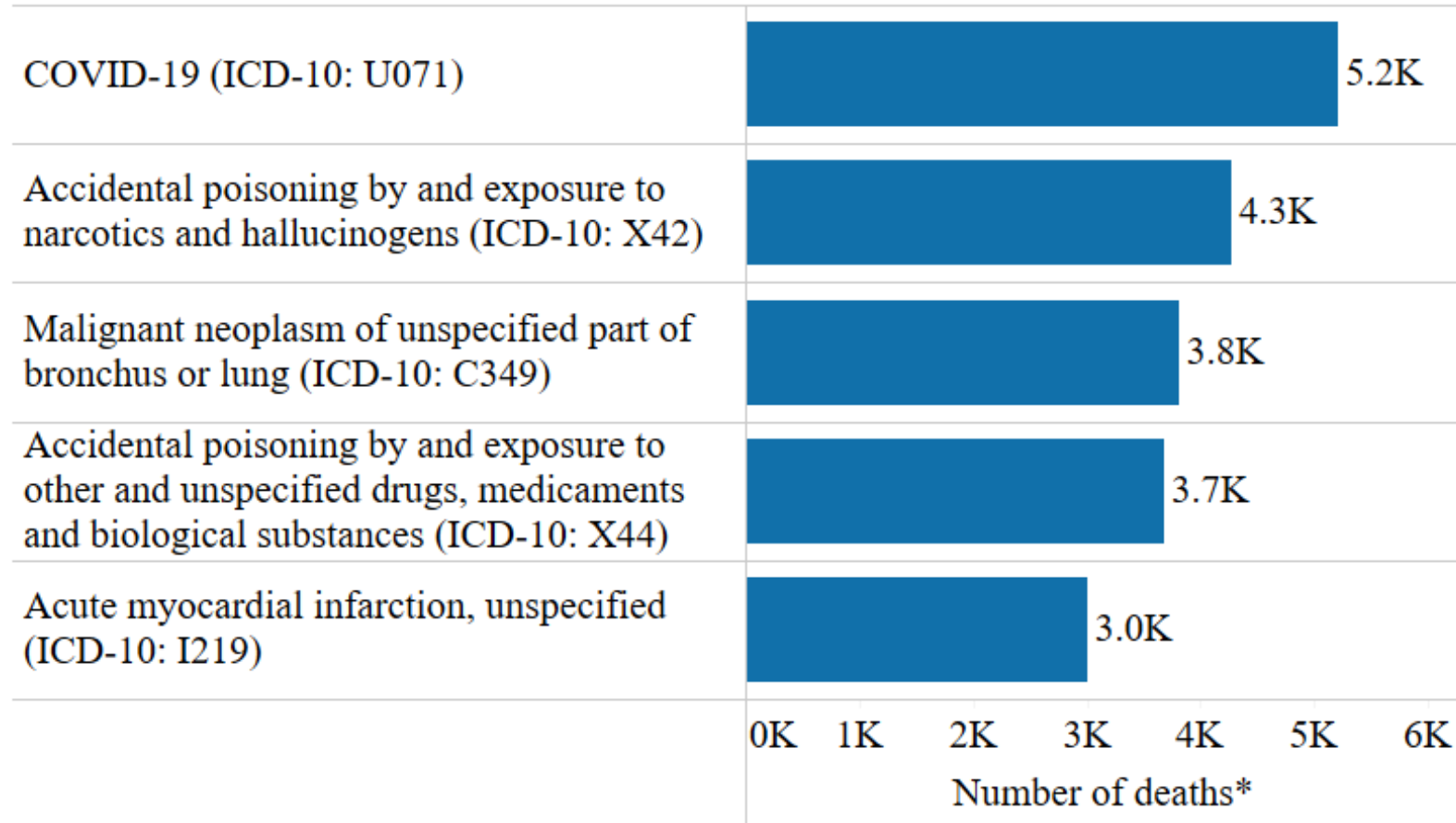
Top 5 detailed causes of death* among construction workers 16-34 years old, 2020



Source: National Center for Health Statistics, 2020 Mortality Multiple Cause File. Calculations by the CPWR Data Center.

* All causes of death are included in chart, not just at work deaths.

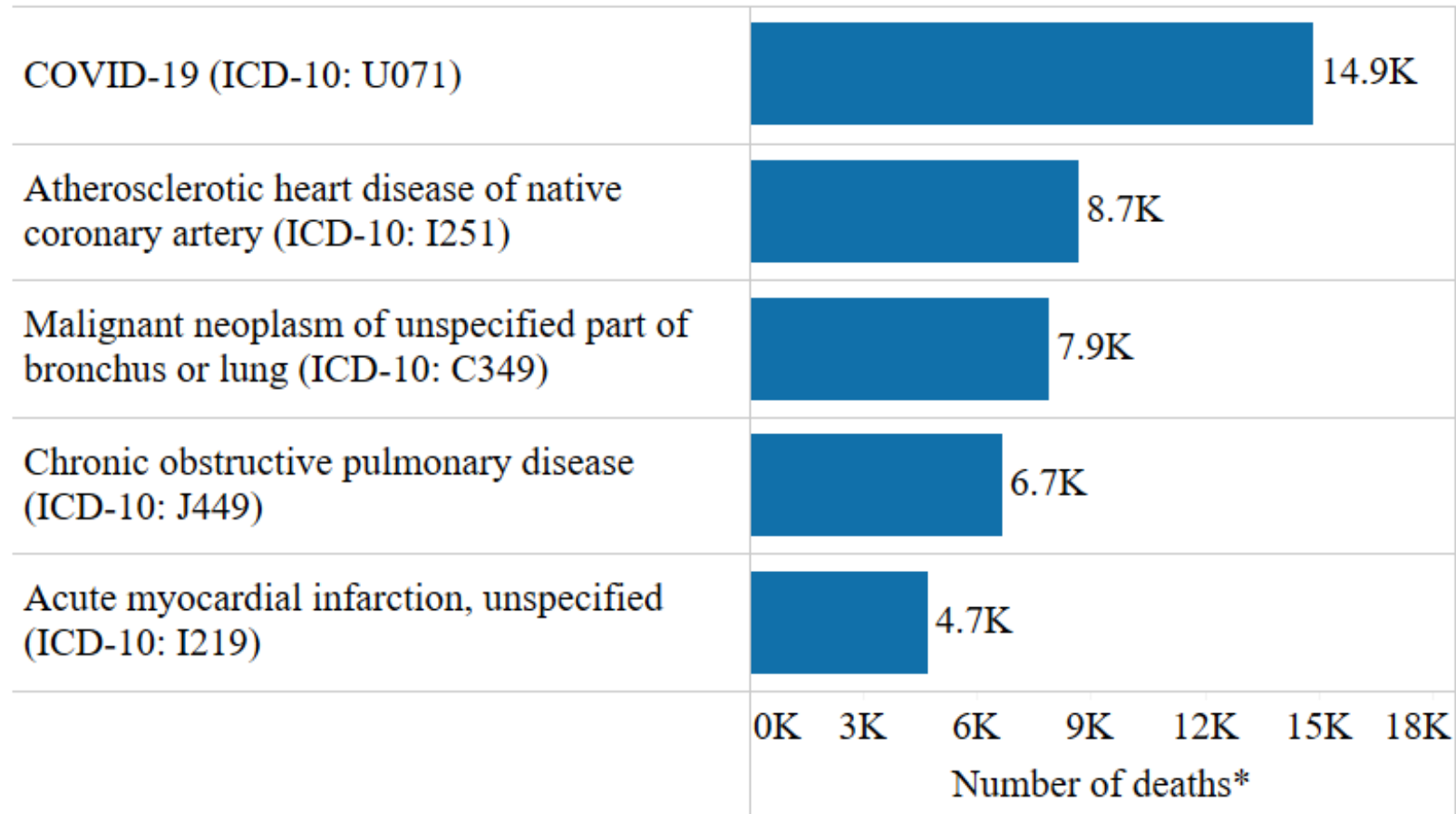
Top 5 detailed causes of death* among construction workers 35-64 years old, 2020



Source: National Center for Health Statistics, 2020 Mortality Multiple Cause File. Calculations by the CPWR Data Center.

* All causes of death are included in chart, not just at work deaths.

Top 5 detailed causes of death* among construction workers 65 years or older, 2020

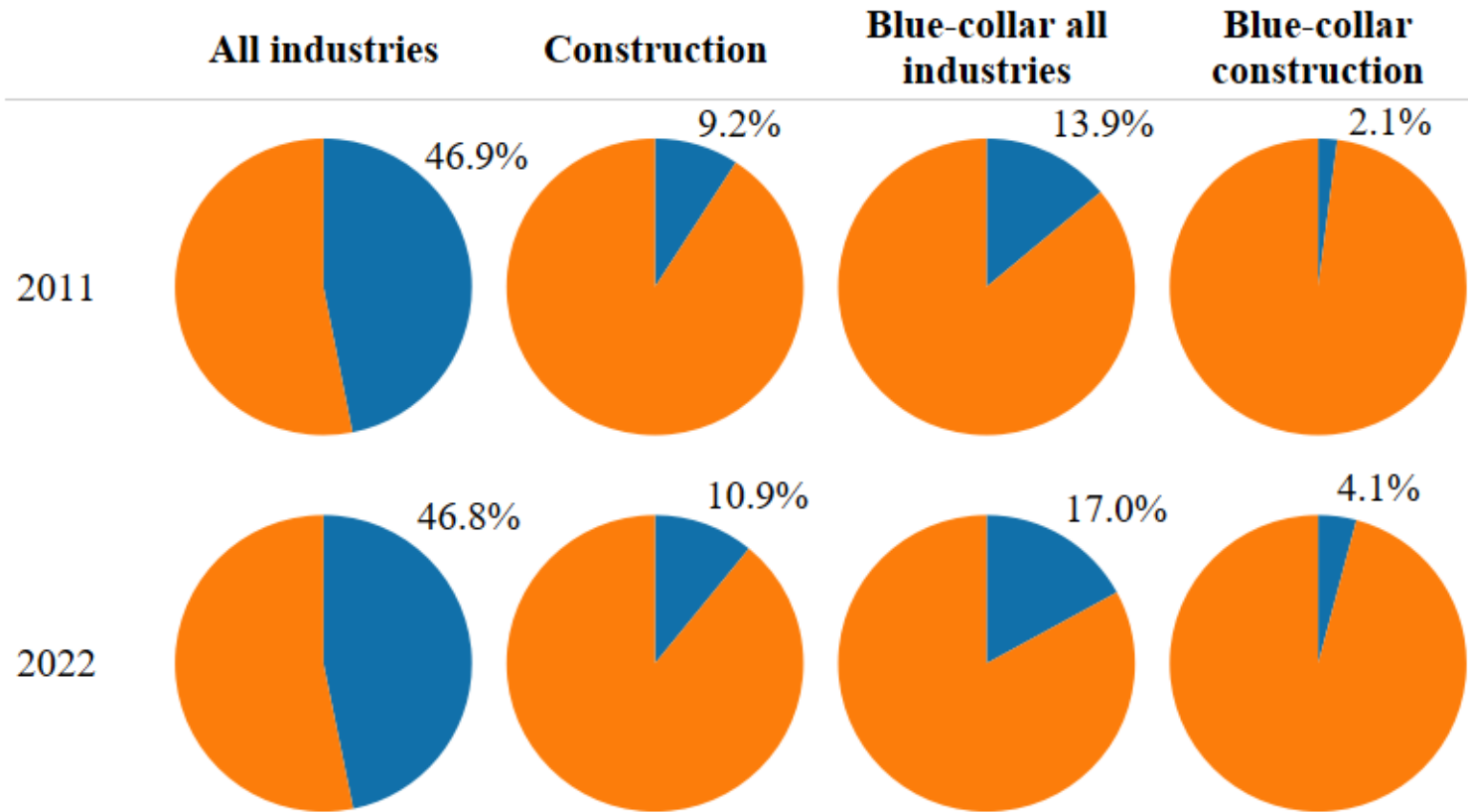


Source: National Center for Health Statistics, 2020 Mortality Multiple Cause File. Calculations by the CPWR Data Center.

* All causes of death are included in chart, not just at work deaths.

Workers by sex and industry, 2011 and 2022

■ Female ■ Male



Source: Integrated Public Use Microdata Series (IPUMS), 2011-2022 Current Population Survey.
Calculations by the CPWR Data Center.

Physicians' Alerts

- Developed to ensure that construction workers at risk of developing work-related medical conditions are properly diagnosed and treated
- Available in English and Spanish
- **Worker's section** – best practices, tips, and resources
- **Doctor's section** – information on hazards faced, screening methods, and accommodations or treatment needed
- Current topics include:
 - Occupational Contact Dermatitis
 - Occupational Silicosis and Silica-Related Illnesses
 - Pain Management (Opioids)
 - Work-Related Asthma
 - Working Safely while Pregnant

<https://www.cpwr.com/research/research-to-practice-r2p/r2p-library/physicians-alerts/>

Contact Dermatitis

Physicians' Alert: Occupational Contact Dermatitis among Construction Workers

This Alert was developed to help ensure that all construction workers at risk of developing occupational contact dermatitis from work exposures are properly diagnosed and treated. Please:

- (1) read and print this Alert;
- (2) keep the Best Practices tips to help you work safely; and
- (3) fill in the "To My Doctor" form and give it to your doctor to include in your medical records.

Best Practices for You

The following are selected best practices for protecting your skin and preventing occupational contact dermatitis:

- Wash hands and dry completely before putting on gloves. Clean hard hat liner daily.
- Use a pH neutral soap or cleanser.
- Try to avoid products with sensitizers, like lanolin or limonene.
- Don't wear jewelry at work.
- If they can't be left at the job, take work clothes home in a separate container. Launder separately.
- See a physician for a persistent skin problem, even a minor one.

To learn more visit:

- ChooseHandSafety.org
<https://choosehandsafety.com/>
- OSHA Safety and Health Topics: Dermal Exposure
<https://www.osha.gov/SLTC/dermalexposure/index.html>
- NIOSH Workplace Safety and Health Topics: Skin Exposures & Effects
<https://www.cdc.gov/niosh/topics/skin/>

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Physicians' Alert: Occupational Contact Dermatitis among Construction Workers

To My Doctor Form

To My Doctor: I am a construction worker who has frequent occupational contact with caustics, acids, and sensitizers. Please keep this information for reference and to aid in evaluation of possible skin conditions.

This document should be filed in the medical records of (patient's full name):

Date of Birth: ____ / ____ / ____
Month Day Year

Your patient is a construction worker with exposure to materials such as wet cement and plaster, epoxies, foams, and coatings.

Construction workers are exposed to a number of chemicals known to cause irritant and allergic dermatitis. Portland cement, found in concrete mixes and plaster, is extremely alkaline. Portland cement contains trace amounts of hexavalent chromium, a strong sensitizing agent responsible for allergic dermatitis. Wet plaster also contains slaked lime or calcium hydroxide, which is even more caustic than Portland cement.

Other sensitizing agents include various epoxy and isocyanate adhesives and sealants, isocyanates in polyurethane foams and coatings, and various chemicals present in the admixtures used with cement and plaster.

Construction workers may also use products that contain sensitizing agents such as lanolin creams or lotions to soften their skin, and/or industrial hand cleaners that contain limonene. In addition, construction workers frequently wear gloves, some of which may contain sensitizing agents.

Additional information, including a partial listing of skin disorders, potential etiologic agents, and possible treatment can be found on page 2 of this Alert.

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Common Skin Disorders, Etiologic Agents, Symptoms and Treatment

Skin Disorders	Etiologic Agents	Symptoms	Intervention/Treatment
Xerosis (dry skin)	Alkalies; abrasive cleaners; solvents; soaps; water; sun; heat; cold; low humidity.	Dry skin; scaling; itchiness; burning; redness.	Skin exam and specific treatment: skin lubrication; change work practices; protective clothing/equipment; gloves; mild soaps; temperature/humidity control.
Irritant Contact Dermatitis (ICD) Acute, Subacute and Chronic	Portland cement, plaster; lime; fiberglass, epoxies; solvents; other workplace products; abrasive cleaners; alkaline soaps; hand/barrier creams; other personal care products.	Skin exam; stinging; burning; pain; itching; blisters; dead skin; scabs; scaling; fissures; redness; swelling; bumps, dry or with watery discharge; usually concentrated where exposure occurs.	Skin exam and specific treatment: skin lubrication; antibiotics for infections; Aveeno® baths; topical or systemic corticosteroids; antihistamines; wash hands at least before eating and leaving work for the day with pH neutral cleaners; prevent exposure; proper gloves; long sleeves over gloves; remove work clothes if soaked with wet plaster or epoxy.
Allergic Contact Dermatitis (ACD) Acute, Subacute and Chronic	Portland cement; hexavalent chromium; other trace metals found in cement or concrete; plaster; lime; epoxy resins; isocyanates in adhesives and polyurethane foams and coatings; hardeners; reactive diluents; some admixtures; lanolin; rubber; perfumes.	Skin exam; stinging; burning; pain; itching; blisters; dead skin; scabs; scaling; fissures; redness; swelling; bumps, dry or with watery discharge; usually concentrated where exposure occurs, but also occurs on other body parts; onset 2 to 7 days or more after exposure.	Skin exam - Diagnostic aids: open application tests; commercially available skin patch tests (e.g., to some rubber, epoxy, and cement compounds); do not patch test to unknown irritants, do not patch test to unknown chemicals. Treatment: Skin lubrication; antibiotics for infections; Aveeno® baths; topical or systemic corticosteroids; antihistamines; UV; wash hands at least before eating or leaving work for the day with pH neutral cleaners; identify offending agent and prevent exposure; proper gloves; long sleeves over gloves; remove work clothes if soaked with wet plaster or epoxy.
Cement/Caustic burns	Portland cement; lime; other alkalies; epoxy components.	Blisters; dead or hardened skin; black or green skin; ulcers.	Flush with copious amounts of water; buffered solution to neutralize alkalies; burn wound care; surgery; skin grafting; physical therapy. Cement burns are alkali burns. They can progress and should be referred to a specialist without delay.
Caused by Mechanical Trauma	Friction; pressure; pounding.	Redness; blisters; abrasions; thickening; discoloration; fissures; corns/callosities; hives.	Skin exam and specific treatment: change work practices; use of proper tools, protective clothing/equipment including work glasses/safety glasses
Caused by Solar Radiation, Climate and Temperature	Sun; heat; cold; sweat; low or high humidity.	Burns; dry skin; scaling; itchiness; burning; blisters; sweat pore blockage (miliaria); maceration; frostbite; immersion foot; discoloration; waxy skin; redness; swelling; tenderness; numbness; hives; gangrene.	Skin exam and specific treatment: sunscreens; change work practices; protective clothing/equipment; temperature/humidity control. Skin cancers can be caused by solar radiation but also by some roofing materials such as asphalt.
Contact Urticaria (hives)	Latex; rubber; epoxy resins; leather; clothing; cold; heat; sun; water.	Hives; swelling; redness; itchiness; pain.	Skin exam, identify and avoid offending agent; Diagnostic aids: skin prick test; RAST test; patch test; contact urticarial can progress to include symptoms of nasal congestion, asthma and rarely anaphylaxis. Treatment: antihistamines; systemic corticosteroids.

*References to commercial products by trade name, trademark, manufacturer or otherwise do not constitute or imply their endorsement or recommendation by CPWR.

Silicosis & Silica-Related Illnesses

Physicians' Alert:

Occupational Silicosis and Silica-Related Illnesses among Construction Workers

This Alert was developed to help ensure that all construction workers who engage in work that could expose them to respirable crystalline silica and put them at risk of developing occupational silicosis or other silica-related illnesses are properly diagnosed. **Please:**

- (1) **read and print this Alert;**
- (2) **keep the Best Practice tips to help you work safely; and**
- (3) **fill in the "To My Doctor" form and give it to your doctor to include in your medical records.**

Best Practices for You

The following are selected best practices a worker should engage in to prevent occupational silica exposure:

- Use local exhaust ventilation (a vacuum system) or wet methods to suppress dust when engaging in silica generating.
- Be careful not to stand in an area where dust is produced by other workers.
- Wear a respirator if required (i.e., when exposures are above the OSHA permissible exposure level) and make sure you receive respirator fit testing and training.
- See your physician if you develop a cough, chest tightness, wheezing or shortness of breath.
- Stop smoking.

To learn more visit:

- Work Safely with Silica <https://www.silica-safe.org/>
- OSHA Safety and Health Topics: Respirable Crystalline Silica <https://www.osha.gov/dsg/topics/silicacrystalline/>
- OSHA Frequently Asked Questions: Respirable Crystalline Silica Rule https://www.osha.gov/silica/Silica_FAQs_2016-3-22.pdf

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Physicians' Alert:

Occupational Silicosis and Silica-Related Illnesses among Construction Workers

To My Doctor Form

To My Doctor: I am a construction worker who has frequent occupational contact with crystalline silica. Please keep this information for reference and to aid in evaluation of possible respiratory conditions.

This document should be filed in the medical records of (patient's full name):

Date of Birth: _____ / _____ / _____
Month Day Year

Construction workers are exposed to dusts known to contain respirable crystalline silica that can cause silicosis and silica-related illnesses.

Silicosis is a diffuse, nodular, interstitial pulmonary fibrosis often more prominent in the upper lobes. Silica exposure also increases the risk of activating latent tuberculosis and of developing lung cancer, COPD, rheumatoid arthritis, scleroderma, and chronic renal disease. It is not necessary to have silicosis to develop these other conditions.

Silicosis typically occurs after 10 or more years of exposure; however, cases have been diagnosed in workers with fewer years of very high exposure. With increased exposure or progression of the scarring, complicated silicosis or progressive massive fibrosis (PMF) may occur. Symptoms are more common and more severe in individuals with PMF.

The Occupational Safety and Health Administration (OSHA) has issued a new standard that requires medical surveillance for workers exposed to silica at certain levels (<https://www.osha.gov/dsg/topics/silicacrystallineconstruction.html>). A summary of common materials and tasks that expose workers to respirable silica, requirements for treatment under the standard, and information on types of silicosis can be found on page 2 of this document.

Appendix B of the standard, *Medical Surveillance Guidelines* (<https://www.osha.gov/silica/AppendixBtosect1926.1153.pdf>), contains specific information to "to aid physicians and other licensed health care professionals (PLHCPs) regarding compliance with the medical surveillance provisions of the respirable crystalline silica standard."

Diagnosing Occupational Silicosis and Silica-Related Illnesses

The following questions, can be used to screen patients for silicosis and silica-related illnesses):

- 1) Have you ever been exposed to someone with TB?
- 2) What does it take to make you short of breath? (Note: consider using the set of questions in the American Thoracic Society (ATS) and American Lung Association (ALA) questionnaires that describe gradations of

shortness of breath, and be aware that silicosis can sometimes be asymptomatic until it becomes severe.)

- 3) Do any of your co-workers have any similar symptoms? (Note: This question may or may not be helpful since exposures may be different, people can react differently to the same exposure, and some co-workers may be more diligent in using PPE.)

Please note:

- Health professionals must report silicosis cases to their state health department.
- Medical surveillance is not required if certain control measures specified in the standard are implemented.
- If your patient uses a respirator at work, medical clearance and fit testing are required.
- The employer is responsible for arranging for all required testing.

Whenever possible, perform these tests prior to advising the patient regarding employment. Consider referring the patient to a pulmonologist or occupational medicine physician familiar with work-related diseases for assistance with diagnosis and management, and to protect the patient's legal rights in the workers' compensation system.

Additional resources that may be useful for understanding the clinician's responsibilities under the standard:

- OSHA's *Small Entity Compliance Guide for the Respirable Crystalline Silica Standard for Construction* (<https://www.osha.gov/Publications/OSHA3902.pdf>)
- CPWR's guide, *MEDICAL MONITORING UNDER THE OSHA SILICA STANDARD FOR THE CONSTRUCTION INDUSTRY GUIDE FOR EMPLOYERS* (https://www.silica-safe.org/training-and-other-resources/manuals-and-guides/asset/The-Silica-Standard-medical-monitoring_Final.pdf)

For more information about occupational health, see the Association of Occupational and Environmental Clinics (AOEC) at www.AOEC.org.

Summary: Exposures/Tasks in Construction, Medical Surveillance Under the Standard, and Types of Silicosis

Sources of Exposure—Materials*: Granite and marble (real or artificial); quartz and quartzite; sand, gravel, and sandstone; slate and traprock; many abrasives used for abrasive blasting; concrete, concrete block, cement; brick and refractory brick; mortar; gunite; soil, especially sandy soil; and asphalt containing rock or stone.

Common tasks performed with the materials that create risks of exposure*: Cutting, grinding, demolition, abrasive blasting, drilling, jackhammering, sanding, and polishing.

Intervention/Treatment—All silica exposed workers should have a periodic chest radiograph, spirometry, TB testing, and assessment of respiratory symptoms. Based on history and physical findings connective tissue and kidney function testing may be indicated. Follow OSHA Appendix B – Medical Surveillance Guidelines – <https://www.osha.gov/dsg/topics/silicacrystalline/construction.html>

Types of Silicosis	What to Look For
Simple Silicosis	Diffuse, small rounded opacities on x-ray; there may be little effect on pulmonary function at this stage.
Accelerated Silicosis	Diffuse, small rounded opacities on x-ray; more severe restrictive and/or obstructive defects
Advanced Silicosis	Lung function may be severely compromised, often with a mixed restrictive/obstructive pattern, but either pure restriction or obstruction may be seen; increased profusion of small opacities and development of large opacities on x-ray more severe restrictive and/or obstructive defects and development of heart failure - cor pulmonale
Acute Silicosis	Life threatening shortness of breath with diffuse perihilar alveolar filling process with ground glass opacities on x-ray

*For more information on materials and tasks, visit www.silica-safe.org or <https://www.osha.gov/dsg/topics/silicacrystalline/>

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Work-Related Asthma (WRA)

Physicians' Alert:

Work-Related Asthma (WRA) among Construction Workers

This Alert was developed to help ensure that all construction workers at risk of developing asthma or worsening their pre-existing asthma from work exposures are properly diagnosed and treated. **Please:**

- (1) **read and print this Alert;**
- (2) **keep the Best Practice tips to help you work safely; and**
- (3) **fill in the "To My Doctor" form and give it to your doctor to include in your medical records.**

Best Practices for You

The following are selected best practices for preventing work-related asthma:

- If required, wear a respirator that you have been fit-tested and trained to use. Certain tasks, such as spraying insulation, require respirators. If you are not involved in the application, stay out of the area during spraying.
- Wear gloves and skin protection when working with chemicals and dusty substances. (Visit www.choosehandsafety.org for information on glove selection and use.)
- See a physician for a cough, shortness of breath, wheezing or chest tightness that is worse at work or soon after work and goes away or improves when not working.
- If you have asthma, make note of what makes your asthma worse. It is important to limit exposure to substances that trigger your asthma since they can worsen your symptoms and increase the need for medicine.

To learn more visit:

- OSHA Safety and Health Topics: Occupational Asthma Website
<https://www.osha.gov/SLTC/occupationalasthma/>
- OSHA Respiratory Protection eTool
<https://www.osha.gov/SLTC/etools/respiratory/>
- OSHA Respirators QuickCard
https://www.osha.gov/OshDoc/data/Hurricane_Facts/respirators.pdf
- NIOSH Respirator Trusted-Source Information
https://www.cdc.gov/niosh/nppt/topics/respirators/disp_part/RespSource.html

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Physicians' Alert:

Work-Related Asthma (WRA) among Construction Workers

To My Doctor Form

To My Doctor: I am a construction worker who has frequent occupational exposure to chemicals, dusts and harsh weather conditions. Please keep this information for reference and to aid in evaluation of possible lung conditions

This document should be filed in the medical records of (patient's full name):

Date of Birth: ____ / ____ / ____
Month Day Year

Your patient is a construction worker with exposures to construction dust and chemicals.

Construction workers are exposed to a large number of substances (chemicals, fumes, dusts) and conditions (e.g. extremes of temperature, humidity) that can cause work-related asthma (WRA), either new onset asthma (occupational asthma) or exacerbation of prior asthma (work-exacerbated asthma). Both allergens and irritants can cause WRA.

Construction workers can develop WRA from exposures to: isocyanates in polyurethane coatings, glues, and foam insulation; epoxies in glues; disinfectants (e.g. bleach or ammonium chloride in cleaning compounds used to kill mold); chromium in welding fumes or cement dust; wood dusts; diesel exhaust; welding fumes; formaldehyde in wood board and paints; and methyl methacrylate in reinforced concrete layers. WRA in construction workers may also occur from spilled or leaked acids such as muriatic acids used for cleaning or from other caustic materials.

Many products and processes used in construction can trigger asthmatic symptoms in persons with prior asthma, including childhood asthma. Dusts and fumes generated by working with wood, brick or cement, using spray products, welding or hot work, and renovation and demolition work, as well as work in extreme weather conditions (hot, cold, high-low humidity) can trigger asthma symptoms. Table 1 contains a list of substances and tasks that can cause WRA.

Chronic exposure to the many exposures in construction work over many years can also lead to the development of chronic obstructive pulmonary disease (COPD) in smokers and non-smokers. The combination of work exposures with cigarette smoking increases the risk from either one alone.

Diagnosing WRA

Consider work-related asthma in **ALL** adults with new-onset asthma, asthma symptoms or exacerbation of previously controlled asthma. The following questions, recommended in the American College of Chest Physicians Consensus Statement, can be used to screen patients for work-related asthma.⁽²⁾

- 1) Were there changes in work processes in the period preceding the onset of symptoms?
- 2) Was there an unusual work exposure within 24 hours before the onset of initial asthma symptoms?

- 3) Do asthma symptoms differ during times away from work such as weekends or holidays or other extended times away from work?
- 4) Are there symptoms of allergic rhinitis and/or conjunctivitis symptoms that are worse with work?

If the patient has positive responses to the above questions, particularly questions two or three, confirm the diagnosis of asthma, including history of childhood asthma, age of onset, treatment and effectiveness of inhalers. Evaluate the patient for reversible airflow obstruction by performing spirometry with pre/post bronchodilator testing or methacholine challenge testing if normal on baseline spirometry. Review the possible exposures and/ or work conditions that trigger the patient's asthma symptoms. Assessing whether the patient's asthma is associated with work is most commonly done by a careful occupational history documenting the temporal relationship between onset of asthma and changes in asthmatic symptoms and work. Additional testing, such as the patient keeping a diary of peak flow tests performed two weeks at and two weeks or more away from work, or immunologic tests for certain sensitizers, when positive add greater diagnostic certainty. Whenever possible, perform these tests prior to advising the patient regarding employment. Consider referring the patient to a pulmonologist or occupational medicine physician familiar with work-related diseases for assistance with diagnosis and management, and to protect the patient's legal rights in the workers' compensation system.

For more information about occupational health, see the Association of Occupational and Environmental Clinics (AOEC) at www.AOEC.org.

References:

- 1) The Association of Occupational and Environmental Clinics (AOEC) lists causes of work-related asthma
<http://www.aocdata.org/ExpCodeLookup.aspx>. This listing includes other known occupational and environmental exposures. To look at just asthmagens (substances known to cause asthma) click on "Display All Asthmagens."
- 2) Tantis S.M, Baines I, Balkissoon et al. Diagnosis and Management of Work-Related Asthma. American College of Chest Physicians Consensus Statement. Chest 2008; 134: Supplement 1s-41s.
- 3) Vandeplass O, Suojalehto H, Cullinan P. Diagnosing Occupational Asthma. Clin & Exp Allergy 2016; 47:5-18.

Table 1: Exposures and Tasks in the Construction Industry that Cause Work-Related Asthma

Substance	Task
Acids	Cleaning, etching
Aziridine, Polyfunctional	Painting, parquet varnishing
Chromium	Welding, cement dust
Cleaning Agents - Bleach, Ammonium Chloride Compounds (Quats)	Cleaning water damage areas, mold
Diesel fumes	Being around construction vehicles
Epoxy	Gluing tiles/ carpeting
Formaldehyde - Phenol-formaldehyde resin, Urea-formaldehyde resin	Working with particle board, applying lacquers/paint
Isocyanates	Applying spray-on thermal insulation or Polyurethane
Nickel	Welding, acetylene torch cutting
Methyl methacrylate	Laying reinforced concrete
Mixing acid and bleach or ammonia and bleach	Cleaning
Polyethylene Terephthalate/ Polybutylene Terephthalate	Applying polyester coating
Soldering Flux - Alkyl ethyl ethanolamine, Amino ethyl alcohol/ Polypropylene glycol - Colophony, Zinc Chloride/Ammonium chloride	Electrical soldering
Triglycidyl Isocyanurate	Powder painting
Welding Fumes	Welding
Wood Dust - Ash, California Redwood, Eastern and Western Cedar, Oak	Cutting wood

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Pain Management (Opioids)

Physicians'/Providers' Alert:

Pain Management for Construction Workers

This Alert was developed to help ensure that all construction workers who visit a doctor or other healthcare provider because of pain from an injury are aware of treatment options and understand the potential risks of addiction associated with using prescription opioids. **Please:**

- (1) **read and print this Alert;**
- (2) **keep the "Tips for Talking with Your Doctor"; and**
- (3) **fill in the "To My Doctor" form and give it to your doctor to include in your medical records.**

Tips for Talking with Your Doctor: What You Need to Know Before Accepting an Opioid Prescription

Opioids, such as fentanyl (Duragesic®), hydrocodone (Vicodin®), oxycodone (OxyContin®), oxycodone (Opana®), hydromorphone (Dilaudid®), meperidine (Demerol®), diphenoxylate (Lomotil®), tramadol, buprenorphine (e.g., Suboxone®), morphine, and codeine are often prescribed to help manage pain. In addition, new drugs are entering the market place, such as Dsuvia™, which are considered even more addictive. Since these medications can be addictive, they should only be used if other treatment options are not effective. When prescribed, they should be used for the shortest time possible, be closely monitored, and include counseling.

Talk to your doctor about treatment options and how the medication may affect you. Remember to tell your doctor:

- ✓ If you have been or are being treated for another health issue or have been prescribed other medications by another doctor.
- ✓ If you have a history of addiction to tobacco, alcohol or drugs, or if there is a history of addiction in your family.
- ✓ About your work environment. Let your doctor know that 1) taking opioids on the job can be a safety hazard because they can make you drowsy, and 2) testing positive for some drugs, even when prescribed for pain, can negatively impact employment opportunities. Some employers have expanded panels of drugs they test employees for, which are regularly reviewed and updated. The Department of Transportation's drug test panel, for example, includes:¹
 - Opioids (codeine, morphine, 6-AM (heroin), hydrocodone, hydromorphone, oxycodone, oxycodone)
 - Phencyclidine
 - Marijuana (THC)
 - Cocaine
 - Amphetamines (amphetamine, methamphetamine, MDMA, MDA)

Before accepting a prescription for one of the medications listed earlier or another opioid, ask your doctor/healthcare provider:

1. Can my condition be effectively treated without opioid medication? If yes, what would the treatment involve?
2. [If prescribed an opioid and are taking other medications] Will the opioid medication interfere with other medications that I'm currently taking?
3. Are there potential side effects from the opioid medication prescribed? If yes, how can I reduce the risk of side effects?

Remember:

NEVER share medications or store medications where others will have access.

ALWAYS safely dispose of medications. Look for a medicine disposal center near you (often at your local pharmacy).

To learn more visit:

- CPWR Opioid Resources website <https://www.cpwr.com/research/opioid-resources>
- Substance Abuse and Mental Health Services Administration (SAMHSA) <https://www.samhsa.gov/> or call their confidential national hotline 1-800-662-HELP (4357)
- Facing Addiction's online Addiction Resource Hub <https://resources.facingaddiction.org/>

¹ Source: U.S. Department of Transportation. (2018). DOT 5 panel notice. https://www.transportation.gov/odapc/DOT_5_Panel_Notice_2018

Physicians'/Providers' Alert:

To My Doctor Form

Pain Management for Construction Workers

To My Doctor/Healthcare Provider: I am a construction worker who performs physically demanding work that can result in sprain and strain injuries and chronic pain. Please keep this information for reference to aid in injury evaluations and pain management.

This document should be filed in the medical records of (patient's full name):

Date of Birth: _____
Month Day Year

Your patient is a construction worker who engages in physically demanding work that can lead to sprains, strains, and other types of injuries.

When treating new or chronic pain in a construction worker, it may be useful to bear in mind the following factors.

- ✓ Construction workers have one of the highest rates of sprain and strain injuries due to the physically demanding nature of their work. Use of opioids to manage pain has been a common practice and resulted in high rates of addiction and overdoses among this segment of the workforce.¹ Construction workers encounter a variety of hazards from the specific work they perform, as well as from work being performed by other workers around them including: equipment hazards, falls from heights, confined spaces, and heavy lifting. To work safely, they must be mentally alert. Your patient may have concerns about specific hazardous working conditions as they manage pain.
- ✓ Construction workers rarely have sick leave and paid sick leave benefits. As a result, they are under financial pressure to stay on the job even when in pain and go back to work before they are fully healed and free of pain. Workers who obtain workers' compensation may have access to payment for physical therapy or other chronic pain management alternatives; however, many construction workers injured on the job do not file a workers' compensation claim, and many of those who file do not receive compensation.² Job and wage insecurity, anxiety, depression, and stress related to the compensation process can impact pain management.
- ✓ Construction work is highly mobile and transient. Many construction workers commute long distances for work or rely on temporary housing near jobsites that are far from their families and support systems. Return to work recommendations should consider the work tasks required as well as the location of the work. For instance, while they are recovering are there other less demanding jobs they can perform?
- ✓ The "tough-guy" culture within the industry can make workers reticent to discuss topics that may be perceived as a weakness, such as pain, depression, and addiction. This culture may complicate the management of both acute and chronic pain.
- ✓ Due to the hazardous nature of the job, many construction employers require drug testing and some have panels of drugs they test for, which are regularly reviewed and updated. As of January 2018, the Department of Transportation's 5-panel drug test, for example, added some prescription opioids.³ Testing positive for these drugs, even when prescribed for pain, could result in a construction worker not being hired or losing their job, which would affect their ability to provide for their family.

Sources

- (1) Opioid overdose deaths: Which jobs are at risk? https://www.cleveland.com/metro/index.ssf/2017/11/opioid_overdose_deaths_which_i.html
- (2) Grabell, M., Berkes, H. "The Demolition of Workers' Comp." *ProPublica and NPR*, March 4, 2015 <https://www.propublica.org/article/the-demolition-of-workers-compensation>
- (3) U.S. Department of Transportation (DOT) 5 panel drug testing notice https://www.transportation.gov/odapc/DOT_5_Panel_Notice_2018

Helpful resources

- CPWR Opioid Resources website <https://www.cpwr.com/research/opioid-resources>
- Munzing T. Physician Guide to Appropriate Opioid Prescribing for Noncancer Pain. *The Permanente Journal*. 2017;21:16-169. doi:10.7812/TPP/16-169. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5424587/>
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Pregnant Construction Worker Safety & Health

Physicians' Alert:

Pregnant Construction Worker Safety and Health

This alert was developed as a resource for pregnant construction workers and an awareness tool for their healthcare providers so that they understand the occupational safety and health hazards faced by pregnant workers in the U.S. construction industry. It is intended to support pregnant construction workers' abilities to work safely for as long as they wish during pregnancy and return to work safely after giving birth.

Please:

- (1) Read and print this Alert;
- (2) Keep the "Patient Information" sections for yourself;
- (3) Fill in the "To My Provider" form and select the appropriate occupation task list(s) from the [CPWR Work-Related Task Lists by Construction Occupation](#) based on your job or trade. Give both to your provider to include in your medical records, be aware of for your care, and use for accommodations requests.



What to Know About Pregnancy and Your Health:¹

Pregnancy is a common part of workers' lives, and it may require temporary changes to how you work. Like all workers, pregnant construction workers deserve safety and respect on the job.

Patient Information

- Pregnancy can affect how your body turns food and water into energy. It can also affect how your lungs, immune system, and ligaments work.
- Pregnancy can increase how much your body absorbs some chemicals, such as metals. Fetuses may be more affected by chemicals than adults, especially in early pregnancy.
- Changes in your body throughout your pregnancy may mean that your existing personal protective equipment no longer fits and needs to be updated.
- Pregnancy may decrease your tolerance to heat. You may need more water, more time to adjust to the heat, and more breaks than when you were not pregnant.
- It may be harder for you to stand, stoop, lift, or climb as your body changes throughout your pregnancy.
- It's also important to keep in mind that not every pregnancy is the same. Even if you have been pregnant before, your experience and the effects pregnancy has on your body might be different every time.

What to Know About Hazard Communication:

Every worker has the right to know and understand the hazards posed by the materials used in their work. Some chemicals used in construction are endocrine disruptors, meaning they can interfere with normal hormonal function, which can impact your fetus. Examples of endocrine disruptors include plastics, phthalates (used to soften plastics), flame retardants, per- and polyfluoroalkyl substances (PFAS), and pesticides. In addition, other materials, such as solvents, may be harmful to a developing fetus.

- Make sure you are up to date on Hazard Communication Training and that you and your employer know and understand what hazards you may be exposed to at your jobsite.
- Your employer is required to label chemicals, communicate hazards, and make Safety Data Sheets available onsite. Consult the Safety Data Sheets for chemicals you work with to identify hazards.

To Learn More, Visit:



CPWR's [Hazard Communication Hazard Alert Card](#)

OSHA's [Hazard Communication](#) page



NIOSH's [Pregnancy and Your Job](#) resources

Chicago Women in the Trades & Institute for Women's Policy Research's [Pregnancy and Maternity Leave](#) report

¹ NIOSH. (2019). "Pregnancy and Your Job: Reproductive Health." <https://www.cdc.gov/niosh/topics/repro/pregnancysjob.html>

Know Your Workplace Rights:

You have rights as a pregnant worker and new parent under federal law, and depending on where you work, under state and city law. If you belong to a union, you may also have additional rights through your union contract. **If you belong to a union, contact your union to learn about possible rights and benefits for pregnant workers.**

Protections under [federal law](#) may help support you during and after pregnancy. Key federal protections include:



You may be entitled to reasonable accommodations at work under the [Pregnant Workers Fairness Act \(PWFA\)](#). This law gives pregnant workers who work for employers with 15 or more employees the right to receive reasonable accommodations for pregnancy, childbirth recovery, and related medical conditions such as lactation and postpartum depression – as long as accommodations do not create an undue hardship for employers. Examples of reasonable accommodations include light duty, temporary transfer to a different position, reduced work schedule, time off to attend pre/postnatal appointments or to recover from birth, extra bathroom, water, and food breaks, and more. It is unlawful for your employer to punish or otherwise retaliate against you for needing, requesting, or using a reasonable accommodation.



You may be entitled to unpaid break time and private, non-bathroom space to express milk under the [PUMP For Nursing Mothers Act](#) any time you need to take a pumping break. This law applies to nearly all employers, no matter the size.



You may be entitled to up to 12 weeks of unpaid, job-protected leave under the [Family and Medical Leave Act \(FMLA\)](#) to attend healthcare appointments, for morning sickness, to recover from childbirth or postpartum depression, to bond with a new baby, and more. This leave can sometimes be taken in shorter chunks of time, such as a few hours or days. The FMLA protects your job and health insurance during your absence. If you are not eligible for leave under the FMLA, you may be eligible for time off as a reasonable accommodation under the PWFA or other federal/state/local accommodation laws, or for leave under a state/local leave law.



Workers generally have the right to be free from harassment and discrimination based on pregnancy, childbirth, or related conditions under the [Pregnancy Discrimination Act \(PDA\)](#). Unlawful discrimination can include firing you or forcing you to take a leave of absence because you are pregnant; making inappropriate or sexual comments about your body or pregnancy; or cutting your hours based on concern for your health.

In addition, depending on the state and city you work in, you may have additional protections. You may be entitled to paid or unpaid job-protected time off to attend healthcare appointments, for morning sickness, to recover from childbirth or postpartum depression, to bond with a new baby, and more.

To Learn More About Your Workplace Rights, Visit:



A Better Balance's [Workplace Rights Hub](#) for more information about federal and state laws



The Equal Employment Opportunity Commission's (EEOC) [Pregnancy Discrimination Website](#)



A Better Balance's [Pregnant and Postpartum Workers Toolkit](#)



The Center for Worklife Law's [Pregnant @ Work](#) project



A Better Balance's free, confidential all-languages legal helpline for pregnant workers: 1-833-633-3222 or visit [Get Help](#)



A Better Balance's [Sample Letters to Give Your Employer About the Pregnant Workers Fairness Act](#)

Pregnant Construction Worker Safety & Health

Physicians' Alert:

Pregnant Construction Worker Health and Safety

To My Healthcare Provider: I am a pregnant construction worker. As such, I may be exposed to heavy lifting, working in awkward postures and at heights, noise, heat, chemicals, dust, fumes, and/or other workplace hazards. Please keep this information for reference and to aid in evaluation of any pregnancy or postpartum accommodations or other care I may need.

This document should be filed in the medical records of (patient's full name): _____

Date of Birth: ____/____/____
Month Day Year

When pregnant and postpartum, construction workers may need accommodations or other supports to protect their safety and the safety of their fetuses.

Your patient may have provided a job description of key workplace tasks and may have additional information to share about chemical exposures at work. If provided, please review this information with your patient to assess what, if any, workplace accommodations are needed because of their pregnancy and/or associated medical conditions.

Refer to the [Center for WorkLife Law's website](#) for pregnancy accommodation letter-writing guidance, resources and templates tailored to the state where your patient works. Poorly written letters with blanket restrictions ("she should not lift anything heavier than 15 pounds") can result in a patient losing their job.¹



Possible accommodations for pregnant construction workers include:

Limiting exposure to:

- Specific major hazards, such as radiation (both ionizing and non-ionizing), lead, and asbestos.
- Other chemical hazards your patient says may be present on their worksite.
- Chemicals that can harm adults often have similar or more severe effects on a developing fetus. This includes endocrine disruptors (chemicals that interfere with normal hormonal function), carcinogens (agents that can cause cellular changes leading to cancer and possible birth defects or other harm to a fetus), and neurotoxins (which often harm a developing brain and nervous system). Possible accommodations for pregnant construction workers include limiting exposure to solvents, phthalates (used to soften plastics), flame retardants, per- and polyfluoroalkyl substances (PFAS), and pesticides.
- Frequent lifting, lifting large or bulky items, and lifting in awkward postures reduce the amount of weight that can be safely handled (see clinical guidelines for lifting during pregnancy).
- Loud noise that can damage developing fetal ears or increase stress on the pregnant worker.

Providing:

- Additional personal protective equipment (PPE) such as gloves, respiratory protection, or eye protection. PPE may also need to be replaced throughout pregnancy as the worker's fit needs change.
- More water and breaks, especially when working in indoor or outdoor heat since pregnant people are at increased risk for heat stress (which can also harm a fetus).
- A stool or chair to limit standing for some tasks when possible.
- Time off to attend healthcare appointments.
- Adequate bathroom access and breaks.

When caring for a pregnant construction worker, be aware that:

- Construction is a male-dominated industry, and women and non-binary people face obstacles to getting and keeping jobs.² Your patient may justifiably be hesitant to disclose their pregnancy at work because of discrimination and harassment.
- Although your patient may be one of few women at her jobsite, there are almost one million women working in construction in the U.S.³ She is not the first or the only pregnant construction worker.
- Pregnancy accommodations can help workers keep their jobs, whereas a lack of accommodations may be a factor in workers leaving their jobs and possibly losing access to critical employment benefits such as health insurance. Almost two in three women and non-binary tradespeople report that lack of pregnancy accommodations were very or somewhat important reasons for leaving or thinking about leaving the trades.⁴
- Construction work is mobile and transient, and your patient may move between jobs during their pregnancy. Your patient may need updated assessments and accommodations when beginning at a new worksite.
- Some construction workers who are union members have pregnancy and maternity benefits guaranteed by their union contracts. These benefits are separate from disability insurance. Ask your patient about any available union contract benefits.

Additional Resources:



To better understand specific exposures during pregnancy and breastfeeding, visit NIOSH's [Reproductive Health in the Workplace - Exposures](#) website.



To learn more about pregnancy in construction, read Women in Trades & the Institute for Women's Policy Research's [Pregnancy and Maternity Leave in the Trades](#) report.



To learn more about pregnant construction workers' legal rights, visit Better Balance's [Pregnant and Postpartum Workers Toolkit](#).



To review information about legal best practices for helping pregnant patients seek workplace accommodations, see Center for WorkLife Law's [Pregnant @ Work](#) project.



To learn more about specific construction jobsite hazards and construction worker exposures, review CPWR's [Work-Related Task Lists by Construction Occupation](#).



To learn more about lead and health during pregnancy, visit CDC's [Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women](#).

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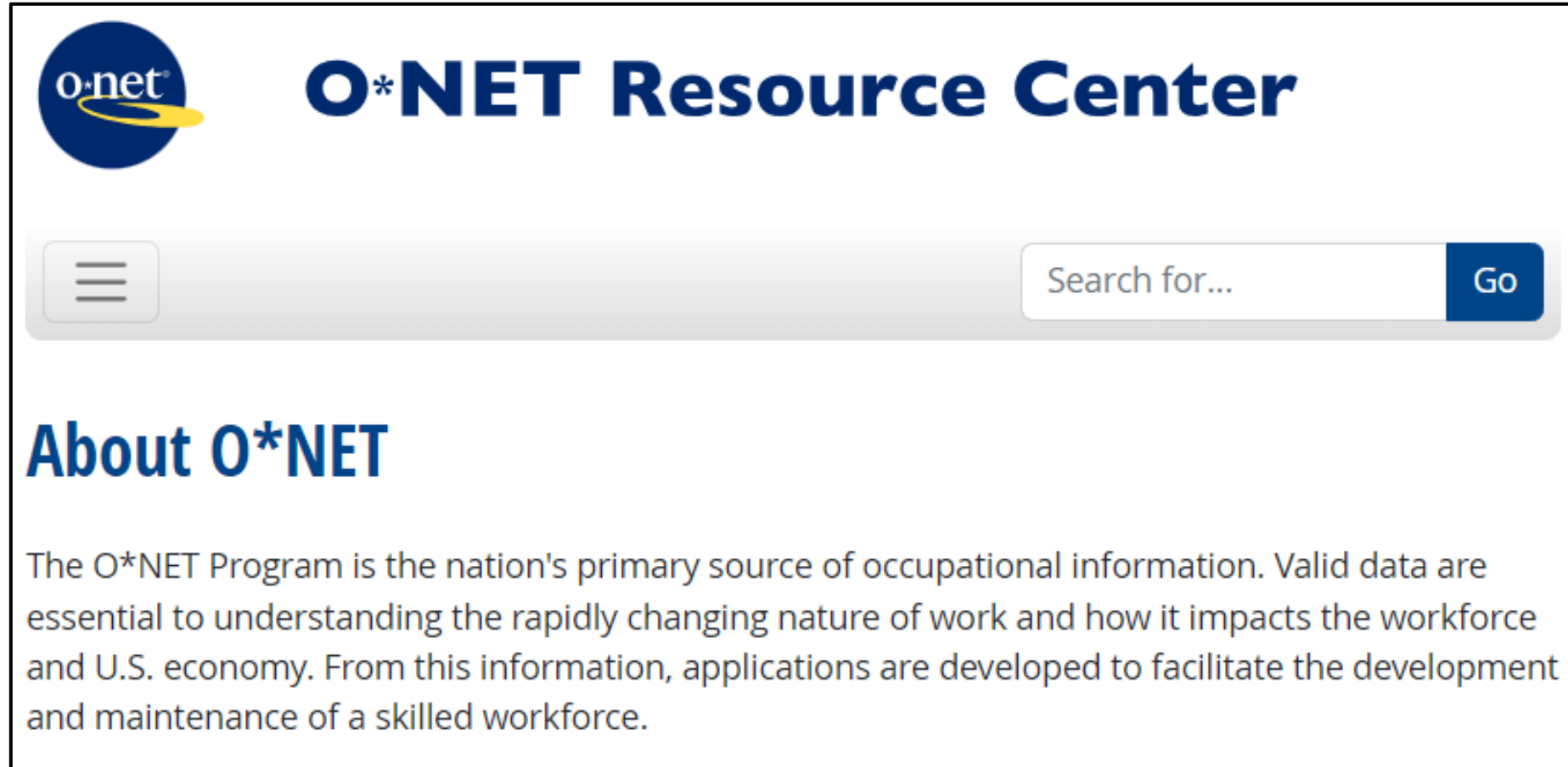
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⁴ Hegewich, A., & McFerrid, E. (2021). A Future Worth Building: What Tradeswomen Say About the Change They Need in Construction. *The Institute for Women's Policy Research*. https://iwpwr.org/wp-content/uploads/2021/03/A-Future-Worth-Building-What-Tradeswomen-Say_FINAL.pdf

Work-Related Task Lists by Occupation



The screenshot shows the top section of the O*NET Resource Center website. On the left is the O*NET logo, which consists of a blue circle with the text 'o.net' and a yellow swoosh. To the right of the logo is the text 'O*NET Resource Center' in a large, bold, blue font. Below the logo is a hamburger menu icon. To the right of the menu is a search bar with the placeholder text 'Search for...' and a blue 'Go' button. Below the search bar is the heading 'About O*NET' in a large, bold, blue font. Underneath the heading is a paragraph of text: 'The O*NET Program is the nation's primary source of occupational information. Valid data are essential to understanding the rapidly changing nature of work and how it impacts the workforce and U.S. economy. From this information, applications are developed to facilitate the development and maintenance of a skilled workforce.'

O*NET Resource Center

Search for... **Go**

About O*NET

The O*NET Program is the nation's primary source of occupational information. Valid data are essential to understanding the rapidly changing nature of work and how it impacts the workforce and U.S. economy. From this information, applications are developed to facilitate the development and maintenance of a skilled workforce.

Work-Related Task Lists by Occupation

- Boilermakers
- Brickmasons, Blockmasons, Stonemasons
- Carpenters
- Cellular Tower Installers/Repairers
- Cement Masons
- Construction Laborers
- Construction Managers
- Drywall Finishers
- Electricians
- Elevator Constructors
- Explosives Workers and Blasters
- Fence Erectors
- Floor Coverers
- Glaziers
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- Insulators
- Iron Workers
- Manufactured Building and Mobile Home Installers
- Millwrights
- Operating Engineers and Other Construction Equipment Operators
- Painters, Paperhangers, and Tapers
- Pile Driver Operators
- Pipelayers
- Plasterers
- Plumbers, Pipefitters, and Steamfitters
- Riggers
- Roofers
- Sheet Metal Workers
- Solar Thermal Installers and Technicians
- Telecommunications
- Welders, Cutters, Solderers, and Brazers

Work-Related Task Lists by Occupation

Work-Related Task Lists by Construction Occupation



Boilermakers

- ☐ Assemble products or production equipment
- ☐ Clean equipment or facilities
- ☐ Fabricate parts or components
- ☐ Inspect industrial or commercial equipment to ensure proper operation
- ☐ Install gauges or controls
- ☐ Install masonry materials
- ☐ Install metal structural components
- ☐ Maintain mechanical equipment
- ☐ Mark reference points on construction materials
- ☐ Measure materials or objects for installation or assembly
- ☐ Operate cranes, hoists, or other moving or lifting equipment
- ☐ Position structural components
- ☐ Review blueprints or specifications to determine work requirements
- ☐ Signal equipment operators to indicate proper equipment positioning
- ☐ Weld metal components
- ☐ _____
- ☐ _____
- ☐ _____

Listas de Tareas Relacionadas con el Trabajo en la Construcción



Caldereros

- ☐ Instalar productos o equipos de producción
- ☐ Limpiar el equipo o las instalaciones
- ☐ Fabricar piezas o componentes
- ☐ Inspeccionar equipos industriales o comerciales para garantizar su correcto funcionamiento
- ☐ Instalar calibradores o controles
- ☐ Instalar materiales de albañilería
- ☐ Instalar componentes estructurales metálicos
- ☐ Mantener los equipos mecánicos
- ☐ Marcar puntos de referencia en los materiales de construcción
- ☐ Medir materiales u objetos para su instalación o montaje
- ☐ Operar grúas, montacargas u otros equipos de movimiento o elevación
- ☐ Posicionar los componentes estructurales
- ☐ Revisar planos o especificaciones para determinar los requisitos del trabajo
- ☐ Señalar a los operadores de equipos para indicarles la posición correcta de los equipos
- ☐ Soldar componentes metálicos
- ☐ _____

Thank you!

Questions?