

noise

chemicals

heat



bacteria

cold

young workers:

keeping them safe from exposure to

# workplace hazards

an educator's guide

**WORK SAFE BC**

WORKING TO MAKE A DIFFERENCE

Youth entering the workforce face many hazards. Some will work with chemicals, or in loud public or industrial settings where there's potential for hearing loss, or in environments where they may be exposed to airborne particles, such as asbestos, silica dust, lead, mould, bacteria, or viruses. Sometimes the hazards are obvious, but sometimes young workers may not see the dangers that can make them sick. Exposure to some hazards can result in health issues now and potentially years or even decades down the road.

As a teacher, you're in a unique position to influence students before they enter the workplace — whether you teach health and safety as part of Planning 10, as part of an apprenticeship program, or in career education or work experience programs. Next to parents, you probably have the biggest impact on learners' attitudes toward health and safety, the knowledge they take with them into the workplace, and the work-related health and safety habits that they begin to develop.



## the reality: they're going to be exposed to hazards

The workplace can be dangerous. The sooner that youth learn the hazards and know how to protect themselves, the better prepared they'll be when they start work. That's why workplace health and safety is built into Planning 10 curriculum modules and incorporated into the program guides of all apprenticeship training.

The purpose of this document is to give you tools and resources so you can improve youth awareness around:

- > The kinds of exposure hazards they may encounter at work
- > Their workplace health and safety rights and responsibilities
- > The fact that some exposures may not result in illness or injury until years or even decades after they occurred

## the research: understanding youth behaviour

Young people, on average, have more accidents than older workers. They also appear to be less concerned about the long-term consequences of exposures. In the past, many credited this to a youthful sense of invincibility and a tendency toward more risk-taking behaviour. Today, however, most researchers on the subject of youth behaviour believe differently.

When young people join the workforce, they have different needs than older, more experienced workers. Being both young and new to the work, they may lack experience, knowledge of hazards, and a full understanding of the consequences of being exposed to hazards. As well, they're often put into more physically demanding jobs, where there are more hazards around them. Young workers also tend to have a different perspective about how exposures affect them. Youth commonly believe that occupational diseases only happen to old people, that some risks are just part of the job, and that being exposed only once or twice isn't dangerous.

Research shows that youth don't reach full cognitive development until about 22 years of age, which may help explain why they don't always make the link between occupational exposures and health consequences. This underlines the importance of the role you can play in helping prepare them for their foray into work.

### WHY IT MATTERS

**It matters because workers are getting sick and dying.**

Many people who are ill or dying of occupational diseases today were exposed to hazards when they were young. Last year, 148,000 work days were lost as a result of occupational diseases, which accounted for 2,610 claims. The majority of these were from diseases related to asbestos and silica dust exposure. Over the past five years, on average, more than 50 people have died each year from work-related asbestos exposure, which makes it the **number one occupational killer**.

## what are the main exposure hazards?

It depends on the kind of work youth are engaged in or the trade they're in. Here are some examples of job environments and the types of exposures young workers may encounter.

TYPE OF WORK ACTIVITY	POTENTIAL EXPOSURE	POTENTIAL IMPACT OF EXPOSURE
Loud restaurant, kitchen or bar; industrial setting where there's loud machinery or tools	Noise	> Hearing loss
Any environment where worker wears earbuds or listens to music while working	Noise	> Hearing loss > Distraction, preventing worker from hearing alarms, sirens, or warnings from other workers
Farm or greenhouse work; landscaping, yard, or garden maintenance	Pesticides, Herbicides	> Irritation of eyes, nose, throat > Headache, dizziness, blurred vision > Excessive salivation, vomiting > Abdominal cramps > Increased rate of breathing, inability to breathe > Chemical burns on skin > Loss of reflexes, uncontrollable twitching > Unconsciousness
Construction, demolition, or renovations	Asbestos, Silica Dust, Lead	> Asbestosis > Silicosis > Mesothelioma > Lung cancer
Cleaning, commercial dry cleaning, chemical manufacturing, printing, or spray painting	Solvents (for example, acetone or benzene)	> Irritation of eyes, nose, throat > Headache, dizziness, drowsiness > Unconsciousness > Death
Any work that involves significant interaction with the public (for example, health care, corrections, retail, or tourism)	Bacteria, Viruses	> Bacterial and viral infection > Cold and flu > Disease > Death



## getting across the health & safety message

While youth may tune out during a discussion about hazards in your classroom, they may be keen to listen if you talk to them about empowerment. Use your influence to drive home the fact that they have the right at work to:

- > Know about health and safety risks and hazards
- > Know how to protect themselves from hazards
- > Ask questions and speak up about workplace safety concerns
- > Know who their occupational health and safety committee members are and communicate with them if they have concerns
- > Training and orientation – and to receive extra training if they ask for it
- > Supervision to make sure they work without unnecessary risk
- > Employer-provided safety equipment required for their job (but they're responsible for their own safety footwear and headgear)
- > Refuse unsafe work – without being fired or disciplined for doing so



## tools to help you share the knowledge

Here are some resources to help you communicate exposure hazards to students. Consider incorporating these into your health and safety training or classroom modules.

### APPRENTICESHIP PORTAL

This site provides trade- and topic-specific health and safety resources that you can use in the classroom to improve the knowledge and awareness of young workers and apprentices. Visit the portal at [www2.worksafebc.com/Topics/Apprenticeships/Home.asp](http://www2.worksafebc.com/Topics/Apprenticeships/Home.asp).

### ONLINE RIGHTS & RESPONSIBILITIES PROGRAM

This self-paced, curriculum-based program helps young workers understand their health and safety rights and responsibilities in the workplace. The program builds on the work done in Student WorkSafe Planning 10 and directly supports prescribed and elective curricula at the grade 11-12 level. Go to [www2.worksafebc.com/YoungWorker/course1386/course/course1386.html](http://www2.worksafebc.com/YoungWorker/course1386/course/course1386.html).

### 6-MINUTE SAFETY TALKS

Designed to help you deliver a short safety discussion, these are available on a number of topics. Each topic includes an instructor guide and student handout. Go to [www2.worksafebc.com/Topics/YoungWorker/ApprenticeshipPrograms.asp](http://www2.worksafebc.com/Topics/YoungWorker/ApprenticeshipPrograms.asp).

Topics include:

- > Asbestos
- > Battery Safety (Automotive)
- > Biohazards
- > Bloodborne Pathogens
- > Exposure to Airborne Contaminants
- > Latex Allergies
- > Material Safety Data Sheets (MSDS)
- > Noise Exposure
- > Personal Protective Equipment (PPE)
- > WHMIS

### TOOLBOX MEETING GUIDES

Download the following ready-made meeting guides on exposure-related subjects and on rights and responsibilities at [www2.worksafebc.com/Portals/Construction/ToolboxMeetingGuides-Index.asp](http://www2.worksafebc.com/Portals/Construction/ToolboxMeetingGuides-Index.asp):

- > Health hazards of asbestos
- > Asbestos removal
- > Confined spaces
- > WHMIS hazard symbols
- > WHMIS material safety data sheets
- > WHMIS - The workplace label
- > WHMIS - The supplier label
- > Propane safety
- > The dangers of breathing silica dust
- > Silica dust control (available for multiple occupational activities)
- > Hearing protection
- > Noise - How loud is it?
- > Proper use of foam earplugs
- > Basic personal protective equipment and clothing
- > Putting on your respirator
- > Preventing interference with the respirator seal
- > Eye and face protection
- > The right to refuse unsafe work
- > Health and safety responsibilities
- > Hypothermia
- > How to reduce the risks of hypothermia
- > Heat exhaustion
- > Heat stroke

### EXPOSURE CONTROL PLANS

Download information and sample exposure control plans at [www.worksafebc.com/publications/health\\_and\\_safety/by\\_topic/occupational\\_hygiene/default.asp](http://www.worksafebc.com/publications/health_and_safety/by_topic/occupational_hygiene/default.asp):

- > *Exposure control plan for cutting small amounts (< 3 square metres) of gypsum board containing asbestos*
- > *Lead-Containing Paints and Coatings: Preventing Exposure in the Construction Industry*
- > Exposure control plans for silica (various)
- > *Sample Respirator Program*

## lesson plan resources

The following pages contain some tools that you can incorporate into lesson plans when teaching workplace health and safety. WorkSafeBC also has guides for youth that can be used in conjunction with this one to raise student awareness of work-related exposure hazards. These include guides for construction exposure hazards (specifically, asbestos and silica dust) and a guide that addresses general exposure hazards in other industries. These publications are available at [www2.worksafebc.com/Topics/YoungWorker/Home.asp](http://www2.worksafebc.com/Topics/YoungWorker/Home.asp).

If you're looking for suggestions on how to incorporate these into your lesson plan, contact us at [yworker@worksafebc.com](mailto:yworker@worksafebc.com).



## video resources

Each year, WorkSafeBC sponsors a student safety video contest. These short videos, developed and submitted by students in grades 8-12, are a fun way to incorporate exposure awareness into the classroom. To view the videos, go to [www2.worksafebc.com/Topics/YoungWorker/Home.asp](http://www2.worksafebc.com/Topics/YoungWorker/Home.asp).

In addition, WorkSafeBC has several exposure-related videos and slide shows you can use to augment training and orientation or to reinforce exposure awareness during safety meetings. Below is a sample of the topics that are available for free download at [www2.worksafebc.com/Publications/Multimedia/Home.asp](http://www2.worksafebc.com/Publications/Multimedia/Home.asp):

- > Asbestos
- > Asbestos in demolition & renovation (slide show)
- > Mould
- > Hearing
- > WHMIS
- > Silica exposure



## more print resources & other helpful tools

The Publications section of the WorkSafeBC website features many publications that can be downloaded for free. Here's a sample of exposure-themed publications available at [www.worksafebc.com/publications](http://www.worksafebc.com/publications).

### GENERAL HEALTH & SAFETY

- > *A Hantavirus Exposure Control Program for Employers and Workers*
- > *Controlling Exposure: Protecting Workers from Infectious Disease*
- > *Dealing with Latex Allergies at Work*
- > *Confined Space Entry Program: A Reference Manual*
- > *Hazards of Confined Spaces* (industry-specific versions for construction, shipping and transportation, and food and beverage)
- > *Hypothermia: Surviving the Cold*
- > *Preventing Heat Stress at Work*
- > *Young Worker Orientation*

### AGRICULTURE

- > *Health and Safety for Greenhouses and Nurseries*
- > *Standard Practices for Pesticide Applicators*
- > *Working Safely with OPs (Organo-Phosphate Insecticides)*

### CONSTRUCTION

- > *Asbestos Hazards in Demolition, Renovations, and Salvage*
- > *Safe Work Practices for Handling Asbestos*
- > *Lead-Containing Paint and Coatings: Preventing Exposure in the Construction Industry*

### EQUIPMENT & MACHINERY

- > *Hard Metal Hazard*

### FORESTRY

- > *Western Red Cedar Asthma*

### HEARING LOSS PREVENTION

- > *Hear for Good: Preventing Noise Exposure at Work*
- > *Sound Advice: A Guide to Hearing Loss Prevention Programs*

### PERSONAL PROTECTIVE EQUIPMENT

- > *Breathe Safer: How to Use Respirators Safely and Start a Respirator Program*
- > PPE information sheets

### OCCUPATIONAL HYGIENE

- > *Safe Work Practices for Asbestos Laboratories*
- > *Ten steps to compliance with asbestos abatement requirements of section 20.112 for a pre-1990 house/building demolition*
- > *Ammonia in Refrigeration Systems*
- > *Carbon monoxide in industry*
- > *Chlorine Safe Work Practices*
- > *Hydrogen Sulfide in Industry*
- > *Ozone Safe Work Practices*
- > *Toxic fumigants in shipping containers*
- > *Lead: Preventing Exposure at Work*
- > *Developing a silica exposure control plan*

training &  
orientation are essential  
required by law

### WHAT ELSE YOUTH NEED TO KNOW

#### Training and orientation are essential...they're also required by law

Sections 3.22 to 3.25 of the Occupational Health and Safety Regulation define what's required of employers who hire young workers (less than 25 years of age) or new workers (new to the jobsite or facing new hazards or procedures). Employers who hire young or new workers must ensure training and orientation are carried out before they begin work. There are 13 topics that they must include in training and orientation. They must also provide additional training and orientation if the worker needs or requests it. Employers must be able to present documentation of training and orientation to WorkSafeBC upon request. For full details and to see a sample orientation checklist, go to the Young Worker section of the WorkSafeBC website at [www2.worksafebc.com/Topics/YoungWorker/Home.asp](http://www2.worksafebc.com/Topics/YoungWorker/Home.asp).

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## regulations that address exposure

Need to support your teaching with some Regulations? The following regulations and guidelines address occupational exposures and provide guidance to eliminate, reduce, or manage workers' exposure risk.

You'll find the complete Regulation online at [www2.worksafebc.com/Publications/OHSRegulation/Home.asp](http://www2.worksafebc.com/Publications/OHSRegulation/Home.asp).

- > **Part 5: Chemical Agents and Biological Agents** (flammable and combustible substances, controlling exposure, ventilation, internal combustion engines, emergency procedures)
- > **Part 5 Guidelines** (details on safe handling of chemicals, hierarchy of controls, ventilation, exposure control plans, plus a table of exposure limits for chemical and biological substances)
- > **Part 6: Substance Specific Requirements** (asbestos, biological agents, cytotoxic drugs, lead, pesticides, rock dust, toxic process gases)
- > **Part 7: Noise, Vibration, Radiation and Temperature** (hazards associated with these kinds of exposures)
- > **Part 8: Personal Protective Clothing and Equipment** (definitions; general requirements; high visibility and distinguishing apparel; respirators, eye and skin protection)
- > **Part 9: Confined Spaces** (confined spaces, definitions, lockout and control of harmful substances, ventilation)
- > **Part 9 Guidelines** (includes definitions, hazard assessment and work procedures, and details about verification and testing)
- > **Part 12: Tools, Machinery and Equipment** (abrasive blasting and high pressure washing; welding, cutting, and allied processes; painting, coating, and work with plastics and resins; laundry and dry cleaning activities)
- > **Part 20: Construction, Excavation and Demolition** (concrete pumping, hazardous materials, notice of project)
- > **Part 21: Blasting Operations** (storage, handling explosives)
- > **Part 22: Underground Workings** (working requirements, gassy underground workings)
- > **Part 23: Oil and Gas** (general requirements)
- > **Part 28: Agriculture** (general conditions, hazardous substances)
- > **Part 30: Laboratories** (general requirements, specific substances and procedures)

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**LEARN MORE** Visit the WorkSafeBC Young Worker Portal at [www2.worksafebc.com/Topics/YoungWorker/Home.asp](http://www2.worksafebc.com/Topics/YoungWorker/Home.asp).

**QUESTIONS?** E-mail [yworker@worksafebc.com](mailto:yworker@worksafebc.com).

Scan the tag with your smartphone to go directly to the WorkSafeBC Young Worker Portal.

Get the free mobile app at [gettag.mobi](http://gettag.mobi) or search "tag reader" in the App Store.



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