THE DENTIST'S GUIDE TO OCCUPATIONAL HEALTH AND SAFETY RESPONSIBILITIES

Best Practices for the Assessment and Control of Hazards in Dentistry

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Introduction

The fundamental premise of occupational health and safety legislation is to identify potential risks to workers and to take reasonable steps to minimize those risks. Under Alberta's Occupational Health and Safety legislation, risks are called hazards – a "situation, condition or thing that may be dangerous to the safety or health of workers." To eliminate or minimize such hazards, dentists must:

- Assess their workplace and the work performed to identify existing or potential hazards;
- Eliminate or control the identified hazards;
- Educate their workers about those hazards and how to eliminate or control them; and
- Document these steps.

Workers must take reasonable care and co-operate with the employer to ensure the health and safety of themselves and others.

Alberta Occupational Health and Safety – Roles and Responsibilities

The Alberta Occupational Health and Safety Act, Regulation and Code, combine to set out the legal requirements that employers and workers must meet to protect the health and safety of workers. These are the minimum requirements.

General Responsibilities

Employers must ensure, as far as reasonably practicable, the health and safety of all workers at their work site.

Workers must take reasonable care and co-operate with the employer to ensure the health and safety of themselves and others.

Employers must:

- Assess a work site and identify existing or potential hazards;
- Prepare a written and dated hazard assessment;
- Take measures to eliminate or control identified hazards;
- Involve workers in the hazard assessment; and
- Make sure workers are informed of the hazards and the methods; used to control the hazards.

Workers must:

- Take reasonable care to protect the health and safety of themselves and other workers;
- Cooperate with their employer to protect the health and safety of themselves and other workers.

Reference. OHS Act, Section 2, OHS Code, Part 2

Exposure to harmful substance

The OHS Code requires that exposure be kept as low as reasonable practicable/ reasonably achievable where there are currently no established occupational exposure limits.

Reference. OHS Act, Section 2, OHS Code, Part 4

Workers must take reasonable care and co-operate with the employer to ensure the health and safety of themselves and others.

What Are You Looking For?

The Occupational Health and Safety legislation provides a very broad definition of hazards – a "situation, condition of thing that may be dangerous to the safety or health of workers." However, the legislation also assists by categorizing certain kinds of hazards that require remedial steps, including: Assess their workplace and the work performed to identify existing or potential hazards.

PHYSICAL hazards
arising from the physical, clinical or office environment.

CHEMICAL hazards
such as the use of gases (anesthetic or otherwise), cleaning agents, fumes, and the like.

BIOLOGICAL hazards
such as blood-borne or airborne pathogens, bodily fluids, and bacteria.

PSYCHOLOGICAL hazards
arising from working conditions such as fatigue,stress, and working alone.

Hazard Assessment Process
Dental workers may be exposed to a variety of workplace hazards in the course of performing their functions. The type and degree of exposure is dependent upon the type of services, the type of patients or clients, and the specific tasks performed. A key component of a health and safety program is to identify and assess hazards and determine appropriate controls. A systematic approach to hazard assessment includes the following steps:

1. List all work-related tasks and activities.
2. Identify potential biological, chemical, physical and psychological hazards associated with each task.
3. Assess the risk of the hazard by considering the severity of consequences of exposure, the probability that the exposure will occur and the frequency the task is done.
4. Identify the controls that will eliminate or reduce the risk. The hierarchy of controls should be followed. This means that engineering controls are the most effective, followed by administrative controls (such as training and rules), followed by personal protective equipment (PPE).
5. Implement the controls for each hazard.
6. Communicate the hazard assessments and required controls to all workers who perform the tasks.
7. Evaluate the controls periodically to ensure they are effective.

STEP ONE: Hazard Assessment and Control

A Hazard Assessment and Control Record is prepared for every occupation to document hazards, risks and controls that are used to protect staff. It is most effective to have the hazard assessment and control record completed by a small group that includes workers who actually perform the tasks. They should list the major tasks of the position, then identify specific hazards, assess the risk using the chart below, then identify controls currently in place as well as controls that are recommended to reduce risk further.

Workers must take reasonable care and co-operate with the employer to ensure the health and safety of themselves and others.

(Example 1)

HAZARDS

Physical	Chemical	Biological	Psychological
Skip, trip	Compressed gas	Blood	Work conditions
Struck by	Combustibles/ flammables	Body fluids	Violence
Caught in	Oxidizers	Virus	Critical incidents
Mechanical	Irritants	Bacteria	Fatigue
Falls	Toxics	Mould	
Repetitive motion	Corrosives		
Improper work position	Dangerously reactive		
Lifting	Dust, mist, fume		
Heat or cold stress	Or, list specific chemical		
Noise			
Fire			
Electrical			
Radiation			
Non-ionizing radiation			
Vibration			
Pressure			
Violence			
Akward or forceful positions			

RISK FACTORS

Value	Probability
1	Improbable, not likely to result in injury
2	Remote, not likely to happen, but may occur greater than five years
3	Occasional, will happen every 1 to 5 years
4	Probable, expected to happen at least once per year

Value	Severity
1	Minor, first aid injury
2	Marginal, medical aid injury, minor illness
3	Critical, lost time injury/ illness, temporary disability
4	Catastrophic, death, serious injury/illness, permanent disability

Value	Frequency
1	Several times a year
2	Monthly
3	Weekly
4	One or more times per day

Calculated Risk Value	Risk Classification
3 - 6	Low
7 - 9	Medium
10 - 12	High

Hazard Assessment and Control Sheet – Example 2

List all identified hazards

Identify the controls that are in place – engineering, administrative, personal protective equipment (PPE), or a combination for each hazard.

Job or Task	Potential or Existing Hazard	Hazard Risk Assessment	Controls in Place			Follow-up Action Required	Date and Person Responsible
			Engineering	Administrative	Personal Protective Equipment		

List potential or existing hazards here.

Identify controls that are in place. If you wish you may identify them by type of control.

Identify if there is any follow-up action required such as more training or personal protective equipment.

Fill in name of person who is responsible for implementing controls.

STEP TWO: Identify Hazards (BIOLOGICAL, CHEMICAL PHYSICAL, PSYCHOLOGICAL)

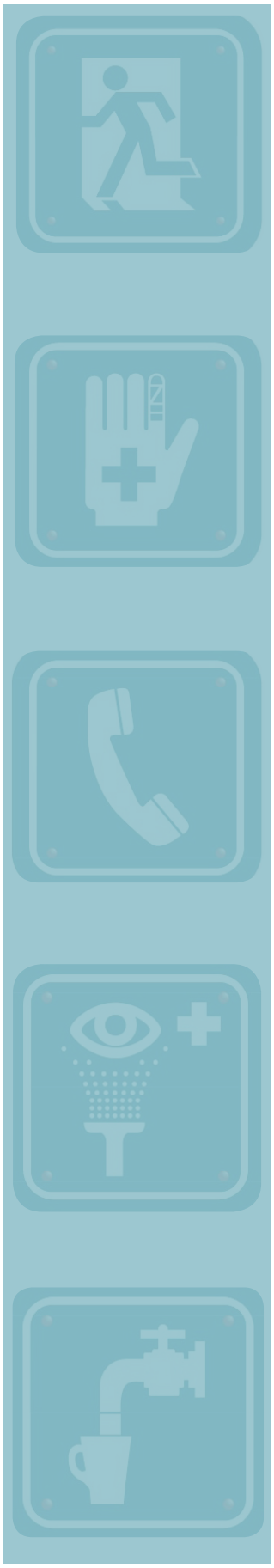
What is a BIOLOGICAL Hazard?

Biological hazards are organisms, or substances produced by organisms, that may pose a threat to human health. Exposure to biological hazards may occur for any dental worker in contact with patients. There are four major sources of biological hazards for healthcare workers: people, equipment, environment (including building-related sources), and zoonotics (diseases transmitted from animals (pets) and insects to humans.

BIOLOGICAL Hazards in the Dental Office

- ☐ Exposure to biological agents in blood and saliva of patients through contact with blood and saliva or through contact with contaminated needle or sharp instruments (including orthodonitcs wires)
- ☐ Exposure to respiratory infectious disease through droplet transmission, including splatters from body fluids and projectiles while using high-speed devices
- ☐ Exposure to environmental biological contaminants from ventilation systems, water or food
- ☐ Exposure to respiratory infectious disease through airborne transmission
- ☐ Exposure to droplets containing infectious biological agents through contact with patient secretions, skin to skin contact, or contaminated environmental surfaces or equipment

See Appendix A - page 21 - BIOLOGICAL Hazard Assessment and Control Sheets



What is a CHEMICAL Hazard?

A chemical hazard is a chemical that, because of its characteristics and effects, may cause harm to an individual. The level of harm that may occur is impacted by a variety of factors, including the amount of the chemical, the time frame over which the exposure occurs, how the exposure occurs (route of entry), and characteristics of the individual. A chemical may be a liquid, a solid or a gas. Some chemicals exist in more than one form. The physical state of the chemical influences the route of entry of the chemical into the body.

Principles of Toxicology

"All substances are poisons; there is none which is not a poison. The right dose differentiates a poison…" Paracelsus (1493-1541)

CHEMICAL Hazards in the Dental Office

For cleaning and disinfection

- ☐ Alcohol hand sanitizers
- ☐ Bowl cleaners
- ☐ Detergents
- ☐ Low level disinfectants
- ☐ Ethylene Oxide
- ☐ Floor care products, strippers, etc)
- ☐ Fungicides/biocides
- ☐ Glutaraldehyde
- ☐ Hydrogen Peroxide
- ☐ Ortho-phthalaidehyde (OPA)
- ☐ Proteolytic enzymes
- ☐ Soaps and waxes

Chemicals used in diagnostic tests

- ☐ Acids/bases
- ☐ Alcohols
- ☐ Detergents
- ☐ Organic solvents
- ☐ Toxic chemicals
- ☐ Research laboratory chemicals

Chemicals used in maintenance activities

- ☐ Battery acide
- ☐ Fungicides and biocides
- ☐ Glues
- ☐ Organic solvents
- ☐ Paints

Chemicals used in treatment

- ☐ Anaesthetic gases
- ☐ Antineoplastics, cytotosic and other hazardous drugs, antibiotics, aerosolized drugs, hromonal drugs

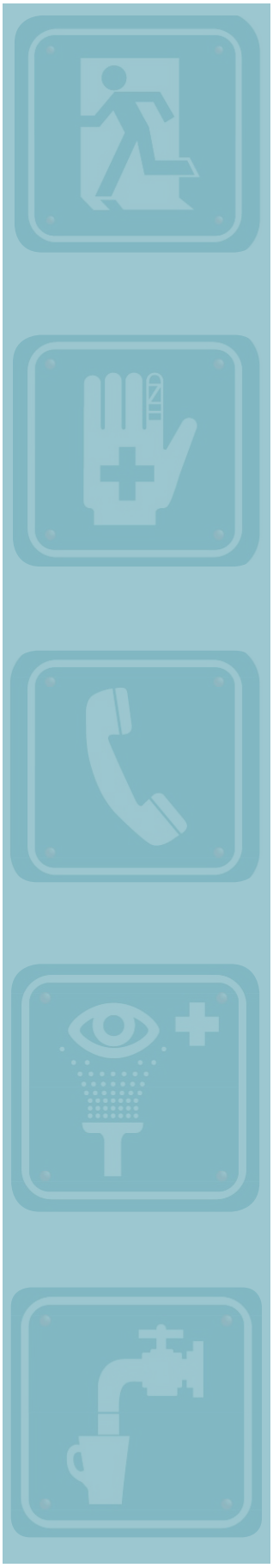
Chemical wastes

- ☐ Laser plumes/surgical smoke
- ☐ Other chemical waste
- ☐ Waste anaesthetic gases

Other chemicals and substances

- ☐ Asbestos
- ☐ Chemicals used in terrorist activities
- ☐ Compressed gases
- ☐ Illicit drugs and chemicals used to make illicit substances
- ☐ Isocyanats
- ☐ Latex
- ☐ Lead
- ☐ Mercury
- ☐ Methyl methacrylate
- ☐ Personal care products, scents and fragrances
- ☐ Pesticides/rodenticides/insecticides
- ☐ Second-hand tobacco smoke
- ☐ Vehicle exhaust
- ☐ Wood dust
- ☐ Various metals (beryllium, chromium, cobalt, nickel)
- ☐ Silica

See Appendix B - page 22 - CHEMICAL Hazard Assessment and Control Sheets



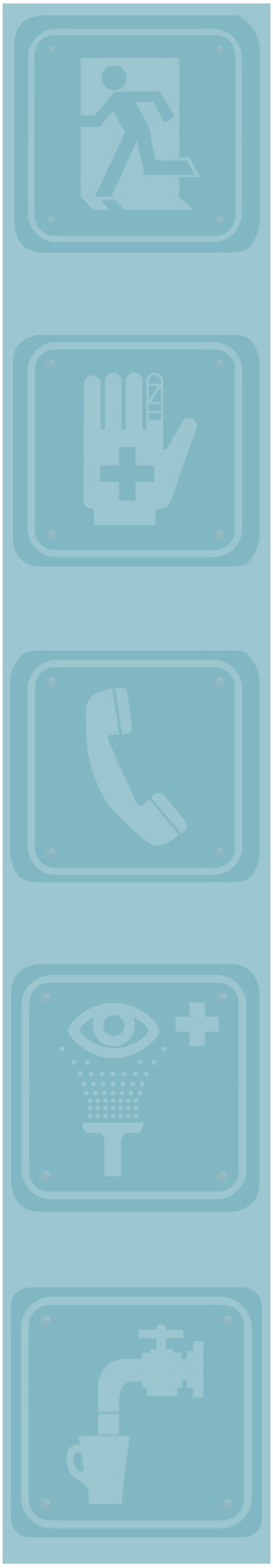
What is a PHYSICAL Hazard?

There are many potential physical hazards to which the dental personnel may be exposed. The nature of the work may pose ergonomic hazards, the potential for slips, trips and falls, exposure to environmental conditions, hazards related to the storage and use of compressed gas cylinder, cuts, and electrical hazards.

PHYSICAL Hazards in the Dental Office

- ☐ Biomechanical hazards associated with computer use or workstation design
- ☐ Biomechanical hazards associated with awkward sustained postures and repetition/duration
- ☐ Exposure to ionizing radiation when taking dental x-rays
- ☐ Exposure to laser beams during dental procedures
- ☐ Exposure to UV-A radiation when curing resin-based materials
- ☐ Falling hazards associated with slips, trips and falls
- ☐ Cuts from sharp instruments, including medical instruments and scissors
- ☐ Burns from handling recently heat-sterilized equipment
- ☐ Fire, projectiles, or physical injury if compressed gas cyclinders used for a variety of procedures and maintenance activities are damaged, dropped or mishandled
- ☐ Electrical hazards arising from use of electrical cords and appliances
- ☐ Noise

See Appendix C - page 36 - PHYSICAL Hazard Assessment and Control Sheets



What is a PSYCHOLOGICAL Hazard?

A psychological hazard is any hazard that affects the mental well-being or mental health of the worker and may have physical effects by overwhelming individual coping mechanisms and impacting the worker's ability to work in a healthy and safe manner.

PSYCHOLOGICAL Hazards in the Dental Office

- ☐ Stress related to work-life conflict and workload issues
- ☐ Abuse by clients, families or visitors
- ☐ Abuse by co-workers
- ☐ Hazards related to working alone:
  threat of violence
  medical emergencies when alone
- ☐ Stress related to critical incidents
- ☐ Technostress related to the introduction of new technology
- ☐ Substance abuse as a response to excessive workplace stressors
- ☐ Depression, anxiety, sleep disorders, or other mental illness as a response to excessive workplace stressors
- ☐ Hazards related to impacts of aging on workers
- ☐ Exposure to nuisance or irritating noise levels that may induce stress
- ☐ Exposure to poor indoor air quality that may induce stress

See Appendix D - page 39 - PSYCHOLOGICAL Hazard Assessment and Control Sheets

STEP THREE: Identify Control Strategies

I've Identified Hazards – Now What?

Once hazards are identified, the employer is required to take steps to eliminate or control them. The OHS Code lists the methods of elimination or control, in the following order of preference:

Engineering Controls

These are directed to the source of the hazard. Examples might include increased ventilation to avoid accumulation of gases or vapors; use of less volatile chemicals, if practicable; adjustable equipment for greatest ease of use; use of vaccines to avoid illness via blood-borne or airborne pathogens.

Administrative Controls

These are directed to the involved workers, rather than to the source of the hazard. Examples might include implementation of effective policies and safe procedures; proper training and supervision of workers; and appropriate scheduling to avoid fatigue and worker error.

Personal Protective Equipment (PPE)

This is equipment or clothing used by workers to protect them from identified hazards. Examples might include gloves, hearing or eye protection; or appropriate masking and gowning. Workers must be trained in the proper use of personal protective equipment, and the equipment provided must be in safe and effective working order.

These controls can and should be combined to provide maximum reduction of risk.

First Choice	**Engineering Controls**	• vaccines • prophylactic anti-virual medications • ventilation system • engineered safe needle devices • automated equipment
Second Choice	**Administrative Controls**	• policies and procedures • Routine Practices (IPC) and other additional safe work procedures including additional precautions and transmission-based precautions • immunization programs • training • quarantine and isolation procedures
Third Choice	**Personal Protective Equipment (PPE)**	• gloves • protective clothing • eye protection • face protection • respiratory protective equipment (RPE)
May be required	**Combination of above**	• engineering • administrative • personal protective equipment

BIOLOGICAL Hazard Assessment and Control Sheet Example

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Exposure to biological agents in blood and saliva of patients through contact with blood and saliva or through contact with contaminated needle or sharp instruments (incl. orthodontics wires)	Equipment to minimize formation of aerosols (rubber dams, high-speed evacuation, etc.). Obtain medical history of patients. Engineered needle stick prevention devices. Availability of sharps containers for disposal. Proper disinfetion of instruments and decontamination of environmetnal surfaces, lab supplies and materials. Vaccines.	Compliance with all infection and control practices. No recapping of needles (even if multiple injections in same patient). Safe work procedures to minimize formation of aerosols where possible (proper patient positioning etc.) Proper disposal of waste material. Immunization program. Sfaff education.	Use of gloves, eye and face protection when splashes or splatters are possible. Gowns or uniforms that should be changed daily or when contaminated.		

CHEMICAL Hazard Assessment and Control Sheet Example

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Glutaraldehyde	Substitution with less harmful product. Properly designed and maintained ventilation systems. Local exhaust ventilation. Enclosed processes.	Practice to purchase products in ready to use concentrations to minimize handlng. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues.	Gloves, eye protection, face protection and chemical-resistant protective clothing. Respirators for use in the event of spills. Respirators if engineering controls are insufficient.		

PHYSICAL Hazard Assessment and Control Sheet Example

Company _____ Location _____

Date of Assessment _____ Completed by _____

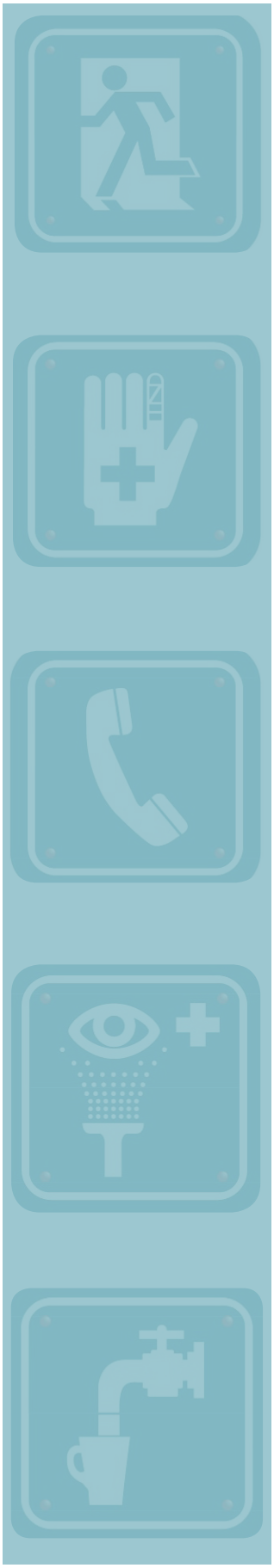
Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Biomechanical hazards associated with awkward sustained postures and repetition/ duration	Ergonomically designed workstation, chairs, instruments and equipment. Use automatic and ultrasonic instruments and tools whenever possible. Use of indirect vision when treating maxillary teeth. Consider a non-traditional stool such as a saddle chair (improve posture and mobility). Minimize glare through the use of appropriate lighting and window coverings. Use visual aids to reduce eye strain.	Adjust the workstation to the patient and the worker each time. Schedule patients in an effort to reduce risk factors. Worker education regarding ergonomic hazards and control strategies. Safe work procedures. Early reporting of signs and symptoms of ergonomic concerns. Stretches and micro-breaks. Alternate working position frequently. Keep frequently used instruments in easy reach. Purchasing standards for ergonomically designed workstations, chairs, instruments and equipment. Maintenance of equipment.			

PSYCHOLOGICAL Hazard Assessment and Control Sheet Example

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal		
Stress related to work-life conflict and workload issues	Management policies and procedures that support work-life balance (e.g. voluntary reduced hours, voluntary part-time work, phased in retirement, telecommuting, job sharing, paid and unpaid leaves, dependent care initiatives (etc). Work designed to address workload and work demands issues. Reliance on paid and unpaid overtime is reduced. Supportive management culture. Work-life balance policies are communicated to staff. The use and impact of work-life balance policies is measured.	Time log used to track time. Work-life balance programs are utilized. Work activities are isolated from home time. Time is effectively managed. Days off are protected. Appropriate sleep habits. Social support system is in place.			



Emergency Response Plan

Emergency Preparedness and Response

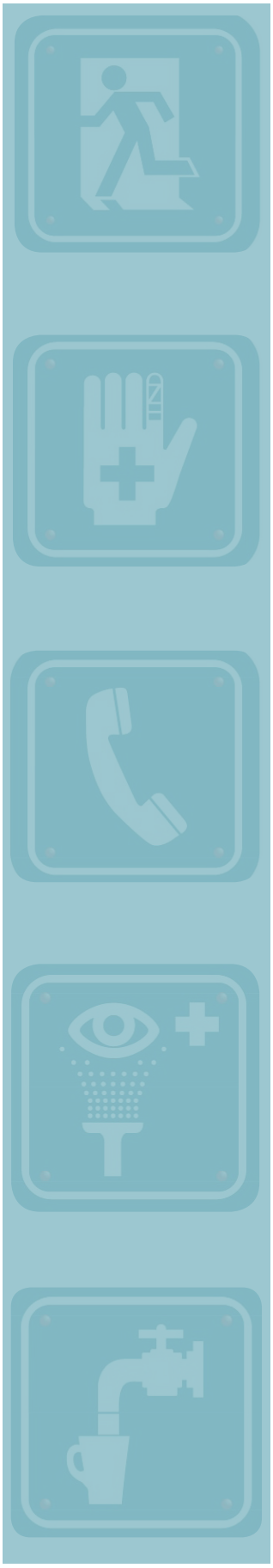
Emergency response plan:

- An employer must establish an emergency response plan for responding to an emergency that may require rescue or evacuation.
- An employer must involve affected workers in establishing the emergency response plan.
- An employer must ensure that an emergency response plan is current.

Contents of the plan

An emergency response plan must include the following:a
the identification of potential emergencies;

a. procedures for dealing with the identified emergencies;
b. the identification of, location of and operational procedures for emergency equipment;
c. the emergency response training requirements
d. the location and use of emergency facilities;
e. the fire protection requirements;
f. the alarm and emergency communication requirements;
g. the first aid services required;
h. procedures for rescue and evacuation; and
i. the designated rescue and evacuation workers.

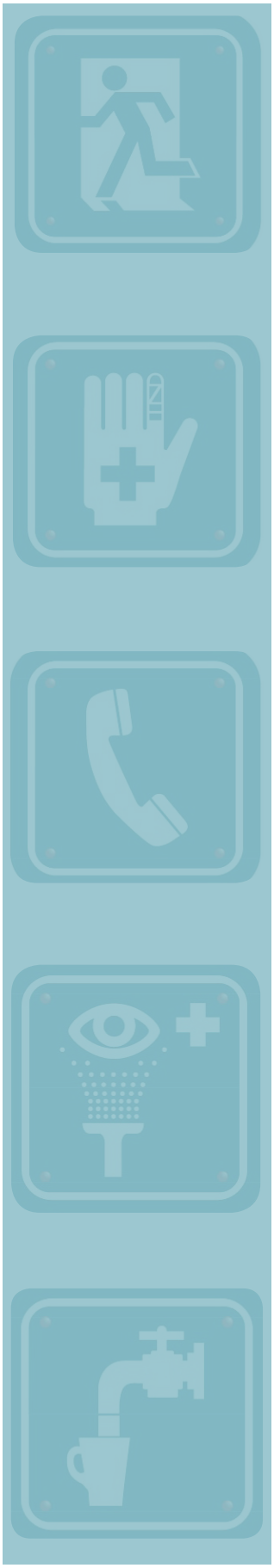


First Aid Services

Employers must
- provide first aid services, supplies and equipment that meet the requirements outlined in the OHS Code, Part 11; and
- maintain first aid records for 3 years.

In Alberta, workplace First Aid requirements are outlined in Part 11 of the Occupational Health and Safety (OHS) Code. Specific requirements are listed in Schedule 2 of the OHS Code and are determined based on:
- How hazardous the work is;
- The time taken to travel from the work site to a health care facility (hospital); and
- The number of workers on each shift.

Employer Responsibilities
Employers are responsible for:
- Providing first aid services, supplies and equipment in accordance with Schedule 2 of the Code;
- Ensuring that the services, supplies and equipment are located near the work; site they serve and are maintained, available and accessible during all working hours;
- Communicating the information about first aid to workers;
- Ensuring arrangements are in place to transport injured or ill workers from the work site to the nearest health care facility;
- Ensuring that first aiders are trained;
- Ensuring that injuries and acute illnesses are reported to the employer and recorded, and that records are kept confidential; and
- Maintaining first aid records for three years.



Workplace Hazardous Materials Information System (WHMIS)

The Workplace Hazardous Materials Information System (WHMIS) is a communications framework designed to ensure that workers are aware of the hazards of the substances (controlled products) that they work with and the precautions that must be taken to work with these substances safely.

Many products used in healthcare do not fall under WHMIS legislation, but may be regulated under other legislation (e.g. Transport of Dangerous Goods Act, Explosives Act, Food and Drug Act, Pest Control Products Act, Nuclear Safety and Control Act).

No matter what legislation governs the use of products, the employer is responsible for communicating the hazards and controls associated with the products to the workers who may use them.

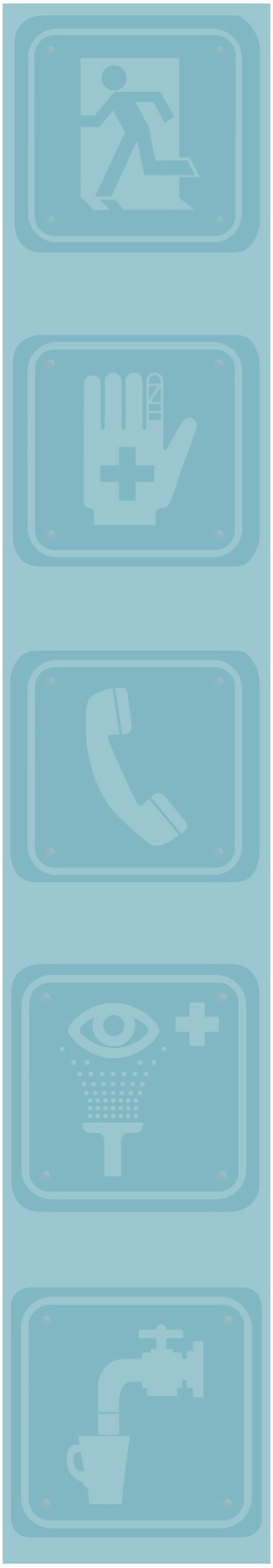
To be effective, a WHMIS program must be relevant to the workplace, presenting information and training specific to the chemicals that are used in the workplace.

Workplace Hazardous Materials Information System (WHMIS)

Employers must ensure that:

- Workers who work with or near controlled products are properly trained;
- Supplier or work site labels are present on containers of controlled products;
- Current and correct Material Safety Data Sheets (MSDS) are readily available for all controlled products; and
- Procedures and training are developed in consultation with the Joint Occupational Health and Safety Committee if there is one.

Reference:
OHS CODE, Part 29, Workplace Hazardous Materials Information System (WHMIS)



Workplace Violence

Violence

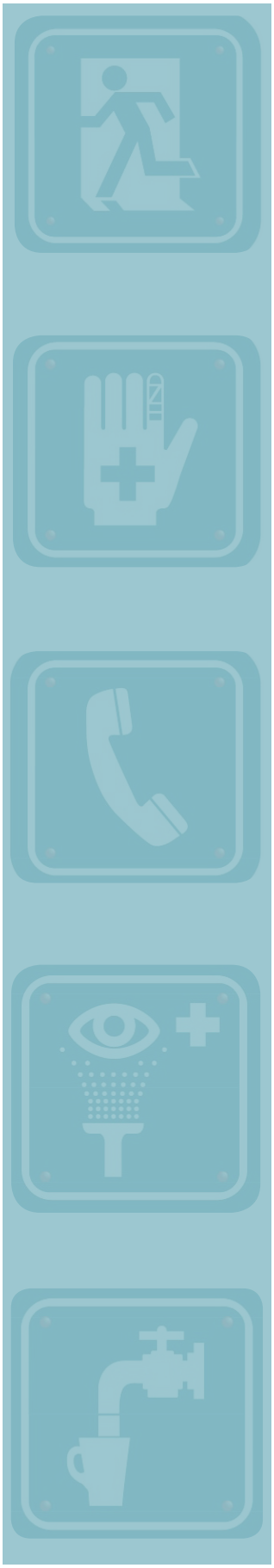
Workplace violence is considered a hazard. An employer must develop a policy and procedures respecting potential workplace violence. An employer must ensure that workers are instructed in:

a. How to recognize workplace violence;
b. The policy, procedures and workplace arrangements that effectively minimize or eliminate workplace violence;
c. The appropriate response to workplace violence, including how to obtain assistance; and
d. Procedures for reporting, investigating and documenting incidents of workplace violence.

Response to incidents

392(2) An employer must ensure that a worker is advised to consult a health professional of the worker's choice for treatment or referral if the worker

a. reports an injury or adverse symptom resulting from workplace violence,
b. or is exposed to workplace violence.



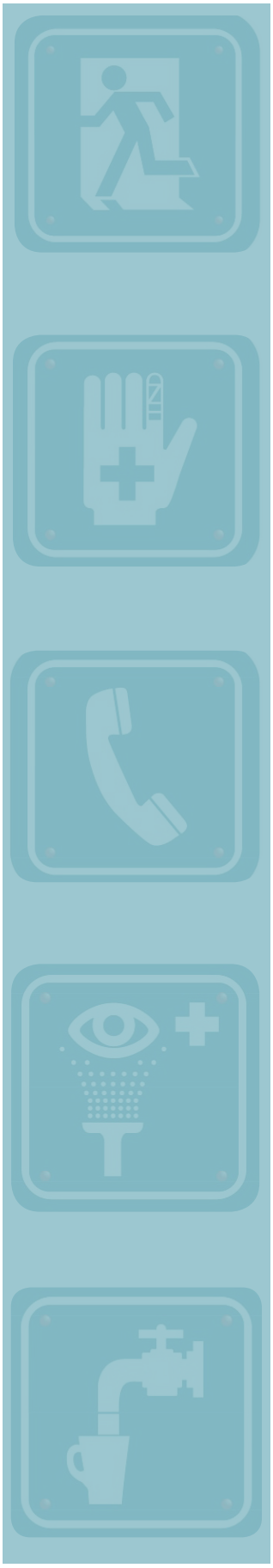
Working Alone Application

Employers must:
• ensure workers who are working alone have a means of communication to obtain assistance if required

A worker is “working alone” if they are at a work site and assistance is not readily available in case of emergency, injury, or illness.

Legislated Requirements
Employer Responsibilities
Employers must ensure that an effective communication system is in place between a worker who works alone and persons who can provide assistance in case of an emergency, illness, or injury
This may include one or more of the following methods:

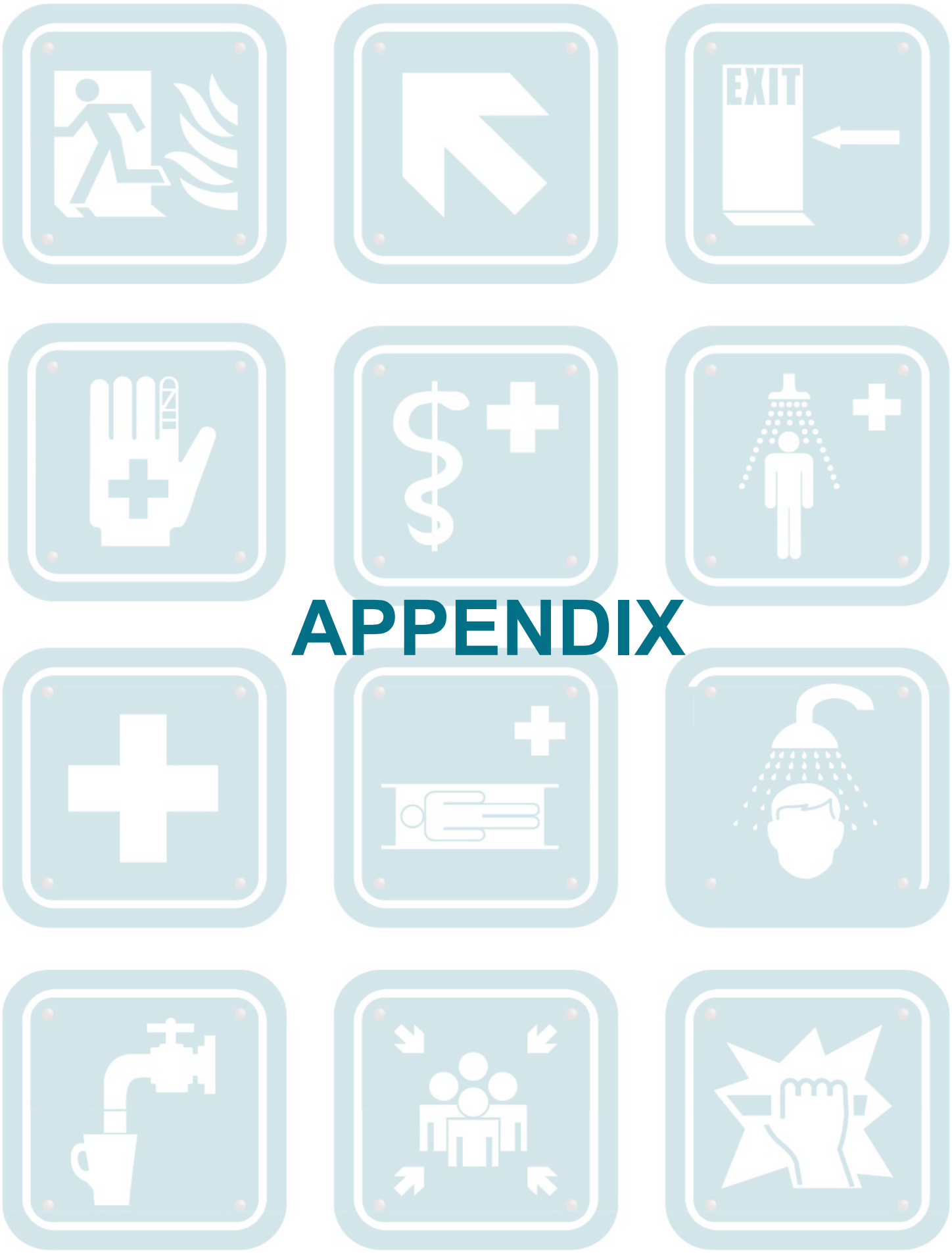
- Radio, telephone, or other electronic communication;
- Visiting or contacting the worker at intervals appropriate to the nature of hazards of the work.
  Reference: OHS Code, Part 28



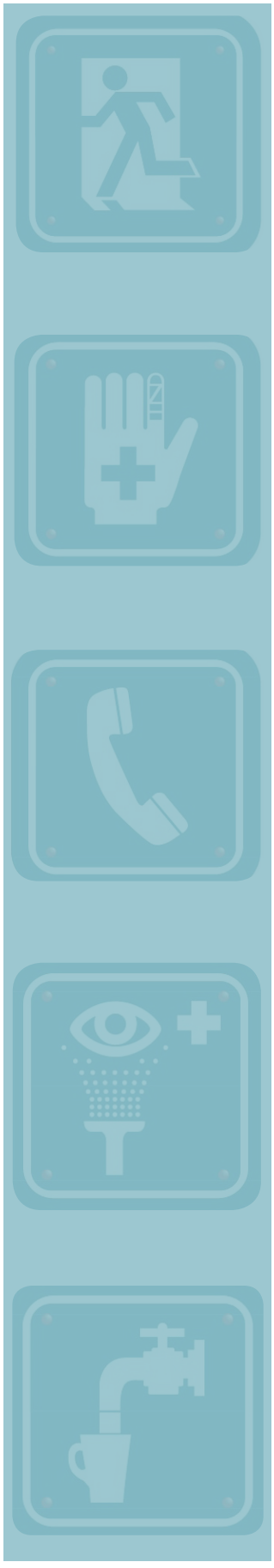
Documentation

For each of the above steps, dentists must document what they have done and when they have done it.

Further, they must document the fact that these assessments and their outcomes have resulted in appropriate instruction to their staff, whether through the implementation of policies and procedures or directly, and confirmation that their staff has received and understood that instruction.



APPENDIX



Appendix

Hazard Sample Forms

Additional Sample Forms/Resources

APPENDIX A - BIOLOGICAL Hazard Assessment and Control Sheet

_____ _____

Company Location

_____ _____

Date of Assessment Completed by

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Exposure to biological agents in blood and saliva of patients through contact with blood and saliva or through contact with contaminated needle or sharp instruments (incl. orthodontics wires)	Equipment to minimize formation of aerosols (rubber dams, high-speed evacuation, etc.). Obtain medical history of patients. Engineered needle stick prevention devices. Availability of sharps containers for disposal. Proper disinfection of instruments and decontamination of environmental surfaces, lab supplies and materials. Vaccines.	Compliance with all infection and control practices. No recapping of needles (even if multiple injections in same patient). Safe work procedures to minimize formation of aerosols where possible (proper patient positioning etc.) Proper disposal of waste material. Immunization program. Staff education.	Use of gloves, eye and face protection when splashes or splatters are possible. Gowns or uniforms that should be changed daily or when contaminated.		
Exposure to respiratory infectious disease through droplet transmission, incl splatters from body fluids and projectiles while using high-speed devices.	Medical history of patients. Vaccines.	Compliance with all infection and control practices. Immunization program. Staff education.	Use of gloves, eye and face protection when splashes or splatters are possible. Gowns or uniforms that should be changed daily or when contaminated.		
Exposure to environmental biological contaminants from ventilation systems, water or food.	Maintenance of ventilation systems. Early spill clean-up. Preventive maintenance of ventilation systems and water supply systems with regular testing to ensure proper functioning.	Infection prevention and control practices related to building maintenance and food preparation. Protocols for construction and renovation projects that reduce contamination. Staff education.	Use of proper personal protective equipment when cleaning contaminated environmental surfaces, including gloves, respiratory protection and eye protection.		
Exposure to respiratory infectious disease through airborne transmission.	Medical history of patients. Vaccines.	Good housekeeping practices. Compliance with all infection prevention and control practices. Immunization program. Staff education.	Personal protective equipment based on the risk assessment may include gloves, respiratory protection, eye protection and other protective clothing.		
Exposure to droplets containing infectious biological agents through contact with patient secretions, skin to skin contact, or contaminated environmental surfaces or equipment.	Communication of infection status; isolation; vaccines.	Good housekeeping practices. Compliance with all infection prevention and control practices. Immunization program. Staff education.	Personal protective equipment based on the risk assessment may include gloves, respiratory protection, eye protection and other protective clothing.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet
For cleaning and disinfection

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Alcohol hand sanitizers		Appropriate storage of product (away from ignition sources and incompatible products) Provision of hand cream to soothe hand dryness.			
Bowl cleaners	Substitution with less harmful product	Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education.	Gloves and eye protection		
Detergents	Substitution with less harmful product. Properly designed and maintained ventilation systems. Automatic diluting machines.	Practice to purchase products in ready to use concentrations to minimize handling. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues.	Gloves and eye protection		
Low level disinfectants	Substitution with less harmful product. Properly designed and maintained ventilation systems. Automatic diluting machines. Closed systems.	Practice to purchase products in ready to use concentrations to minimize handlng. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues. Continuous air monitoring in work and equipment service areas. Routine exposure monitoring. Accommodation for workers who are sensitized or may have health issues.	Gloves, protective clothing (Butyl apron), safety glasses, and appropriate respirator when changing cylinders or when engineering controls are insufficient.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Floor care products, strippers, etc)	Substitution with less harmful product. Properly designed and maintained ventilation systems. Automatic diluting machines.	Practice to purchase products in ready to use concentrations to minimize handling. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues.	Gloves and eye protection		
Fungicides/biocides	Mechanisms to reduce the growth of mould. Substitution with less harmful product. Properly designed and maintained ventilation systems. Local exhaust ventilation may be required when preparing solutions.	Practice to purchase products in ready to use concentrations to minimize handlng. Safe work procedures and provide staff education. WHMIS program and maintenance of MSDSs.	Gloves, eye protection and protective clothing.		
Glutaraldehyde	Substitution with less harmful product. Properly designed and maintained ventilation systems. Local exhaust ventilation. Enclosed processes.	Practice to purchase products in ready to use concentrations to minimize handling. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues.	Gloves, eye protection, face protection and chemical-resistant protective clothing. Respirators for use in the event of spills. Respirators if engineering controls are insufficient.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Hydrogen Peroxide	Substitution with less harmful product. Properly designed and maintained ventilation systems. May require local exhaust ventilation. Enclosed processes.	Practice to purchase products in ready to use concentrations to minimize handlng. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues.	Gloves, eye protection, face protection and chemical-resistant protective clothing. Respiratory protection based on risk assessment.		
Ortho-phthalaide-hyde (OPA)	Properly designed and maintained ventilation systems. May require local exhaust ventilation. Enclosed processes.	Practice to purchase products in ready to use concentrations to minimize handling. Safe work procedures including disposal and spill procedures and keeping soaking containers closed at all times. WHMIS program and maintenance of MSDSs. Staff education. Control access to work area. Exposure monitoring. Accommodation for sensitized staff or those with health issues.	Gloves, eye protection, face shield and chemical-resistant protective clothing.		
Proteolytic enzymes	Substitution with less harmful product. Enclosed processes.	Practice to purchase products in ready to use concentrations to minimize handlng. Safe work procedures including spill procedures. WHMIS program and maintenance of MSDSs. Staff education.	Gloves, face splash shields or procedure masks, moisture resistant gowns.		
Soaps and waxes	Elimination of waxes. Substitution with less harmful product. Design and maintenance of ventilation systems.	Practice to purchase products in ready to use concentrations to minimize handlng. Safe work procedures. Scheduling of floor care activities to reduce exposure to workers in the area, particulary those with sensitivities. WHMIS program and maintenance of MSDSs. Staff education.	Gloves and eye protection when skin or mucous membrane contact is possible.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet
Chemicals used in diagnostic tests

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Acids/bases	Elimination where possible. Substitution with less harmful products. Properly designed and maintained ventilation systems. Local exhaust ventilation may be required including fume hoods. Enclosed and automated processes.	Purchase products in small quantities with the highest dilution that is appropriate for the task. Safe work procedures including using proper handling techniques, using mechanical transfer devices and spill procedures. Appropriate storage of products to decrease exposure. Maintain inventory of products and remove unused products. WHMIS program and maintenance of MSDSs. Staff education.	Tight-fitting protection (indirect vented goggles), face shields, chemical resistant aprons, closed-toed shoes and appropriate gloves selected based on the nature of acid-base. Respiratory protection based on hazard assessment.		
Alcohols	Substitution with less harmful products. Maintain adequate general ventilation. Enclosed and automated processes. Grounded and bonded transfer equipment.	Purchase products in small quantities with the highest dilution that is appropriate for the task. Safe work procedures including using spill procedures. Appropriate storage of products to decrease exposure and reactions. Maximum storage volumes allowed based on flammability an container material. Maintenance of an inventory of products and removal of unused products. WHMIS program and maintenance of MSDSs. Staff education.	Gloves and eye protection depending upon the products used, concentration and tasks. Respiratory protection based on hazard assessment.		
Detergents	Substitution with less harmful product. Properly designed and maintained ventilation systems. Automatic diluting machines.	Practice to purchase products in ready to use concentrations to minimize handling. Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Accommodation for sensitized staff or those with health issues.	Gloves and eye protection.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Organic solvents	Elimination of solvent use. Substitution of solvent with less harmful products. Properly designed and maintained ventilation systems. Local exhaust ventilation may be required including fume hoods. Enclosed and automated processes. Ground and bond transfer equipment.	Purchase products with the highest dilution that is appropriate for the task. Safe work procedures including spill, proper handling and disposal procedures. Appropriate storage of products to decrease exposure and minimize fire and reaction hazards. Maximum storage volumes allowed based on flammability and container material. Maintenance of an inventory of products and removal of unused products. Routine exposure monitoring. WHMIS program and maintenance of MSDSs. Staff education.	Gloves, eye protection, face protection and chemical-resistant protective clothing. Respiratory protection based on hazard assessment. Proper footwear (non-porous with closed heel and toe).		
Toxic chemicals Research laboratory chemicals	Elimination where possible. Substitution with less harmful products. Local exhaust ventilation may be required including fume hoods. Enclosed and automated processes.	Safe work procedures and provide staff education. Safe work procedures and education are critical for safe handling with hazardous materials. Exposure monitoring where applicalbe. WHMIS program and maintenance of MSDSs. Accommodation for workers with special needs (pregnant workers, persons with sensitivities).	Personal protective equipment as required based on hazard assessment. Refer to individual MSDSs.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet
Chemicals used in maintenance activities

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Battery acid	Adequate ventilation, particularly in battery charging areas where hydrogen gas (A flammable gas) may be released during charging. Enclosed and automated processess.	Isolation and dedicated work areas where batteries are handled. Safe work procedures including spill procedures. Staff education.	Tight fitting eye protection (indirect vented goggles), face shields, chemical resistant aprons, closed-toed shoes and appropriate gloves selected based on the nature of acid/ base. Respiratory protection based on hazard assessment.		
Fungicides and biocides	Substitution with less harmful product. Adequate ventilation. Local exhaust ventilation may be requried when preparing solutions.	Ready to use concentrations to minimize handling. Safe work procedures. Staff education. WHMIS program and maintenance of MSDSs.	Gloves, eye protection and protective clothing. Respiratory protection based on hazard assessment.		
Glues	Substitution with less harmful products. Avoidance of formaldehyde based glues and choice of water based rather than solvent based glues. Properly designed and maintained ventilation systems. Local exhaust ventilation.	Safe work procedures. WHMIS program and maintenance of MSDSs. Staff education. Airing of products which produce off-gassing prior to installation in a well-ventilated area. Appropriate use and storage of products to decrease fire hazards.	Gloves, eye protection and protective clothing. Respiratory protection based on hazard assessment.		
Organic solvents	Elimination of solvent use. Substitution of solvent with less harmful products. Properly designed and maintained ventilation systems. Local exhaust ventilation may be required including spray booths. Enclosures and automated processes. Grounded and bonded transfer equipment.	Purchase of products with the highest dilution that is appropriate for the task. Safe work procedures including spill procedures. WHMIS program and maintenance of MSDSs. Staff education. Appropriate storage of products to decrease exposure and minimize fire hazards. Maximum storage volumes allowed based on flammability and container material. Maintenance of inventory of products and removal of unused products. Routine exposure monitoring.	Gloves, eye protection and solvent-resistant protective clothing. Respiratory protection based on hazard assessment.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Paints	Substitution with less harmful products (water based products). Properly designed and maintained ventilation systems. Local exhaust ventilation may be required including spray booths. Enclosed and automated processes.	The purchase of appropriate quantities of products. WHMIS program and maintenance of MSDSs. Staff education. Appropriate storage of products to decrease exposure and minimize fire hazards. Safe work procedures. Maintenance of an inventory of products and removal of unused proeucts. Scheduling work to decrease worker's exposures.	Gloves, eye protection, face protection and protective clothing. Respiratory protection may be required for some applications.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet
Other chemicals and substances

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Asbestos	Isolation of abatement areas. Enclosure and encapsulation of asbestos containing materials as appropriate. Elimination of asbestos materials. Substitution with less harmful product. Contracting out abatement activities to qualified contractors.	Development of an asbestos management plan in compliance with legislative requirements. Identification of asbestos containing materials. Safe work procedures including spill procedures. Education of workers in the nature of the hazard. An asbestos worker training course may be required depending on the nature of the work being done, in accordance with OHS legislation. Performance of air sampling is required.	Personal protective equipment as required by hazard assessment - may include protective clothing, face/ eye protection, respiratory protection.		
Chemicals used in terrorist activities	Properly designed and maintained ventilation systems. Local exhaust ventilation. Isolation of areas where contamination may be present. Provision of adequate decontamination facilities. Provisions of antidotes if available.	Development and implementation of a chemical, biological, radiological and nuclear-response (CBRN) plan. Education of workers in the nature of the hazard and emergency procedures.	Personal protective equipment as detailed in the CBRN plans.		
Compressed gases	Substitution with less harmful product. Adequate ventilation. Proper storage of cylinders.	Appropriate store of products to decrease exposure and minimize fire and explosion hazards. Safe work procedures including transporation. WHMIS program and maintenance of MSDSs. Worker education. Good housekeeping.	Personal protective equipment based on hazard assessment.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Illicit drugs and chemicals used to make illicit substances	Isolation of abatement areas. Contracting out abatement activities to qualified contractors.	Education of workers in the nature of the hazard. Safe work procedures. Coordination of response procedures with first responders and law enforcement. Limitation of workers in the area of those deemed necessary.	Personal protective equipment as required based on hazard assessment which may include protective clothing, gloves, eye and face protection and respirators. High level personal protective equipment may be required including full containment suit and self contained breathing apparatus.		
Isocyanates		Safe work procedures including storage and disposal. Medical monitoring including pulmonary function testing. Good housekeeping. Good hygiene practices. Pre-placement awareness of sensitized individuals. WHMIS progrm and maintenance of MSDSs. Worker education.	Chemical protective clothing, gloves, eye and face protection, and respirators.		
Latex	Substitution with less harmful product. Local exhaust and dust collection systems. Enclosed processes.	Purchasing controls to limit latex containing materials from entering facility. Safe work procedures. Education of workers in the nature of the hazard, hand washing after glove removal, proper glove donning and removal. Work reassignment for workers with latex allergies to areas where latex is not present. As per hazard assessment.			
Lead	Substitution with less harmful product. Properly designed and maintained ventilation systems. Local exhaust ventilation. Enclosed processes.	Regular medical monitoring of affected workers if there is the potential for overexposure. Exposure monitoring. Safe work procedures. Education of workers in the nature of the hazard. Good housekeeping. Good hygiene practices. Equipment maintenance programs.	Protective clothing, gloves, eye and face protection, and respirators based on hazard assessment.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Mercury	Elimination of mercury containing equipment. Substitution with less harmful product. Enclosed mercury sources. Properly designed and maintained ventilation systems. Local exhaust ventilation may be required.	Safe work procedures including spill procedures. Education of workers in the nature of the hazard. Purchasing controls to restrict mercury containing materials from entering facility. Monitoring of the work environment following a spill. Good hygiene practices. Appropriate storage of products to decrease exposure.	Protective clothing, gloves, eye and face protection, and respirators based on hazard assessment. .		
Methyl methacrylate	Substitution with less harmful product. Properly designed and maintained ventilation systems. Enclosesd mixing devices. Local exhaust ventilation.	Safe work procedures. Good hygiene practices. Education of workers in the nature of the hazard. WHMIS program and maintenance of MSDSs. Medical monitoring of workers.	Gloves, eye protection and face shield. Respirators based on hazard assessment.		
Personal care products, scents and fragrances	Elimination of scented products. Substitution with less harmful products. Properly designed and maintained ventilation systems.	Development, implementation and enforcement of scent-free policies. Signage in work areas where affected workers work. Worker education.			
Pesticides/ rodenticides/ insecticides	Substitution with less harmful product. Adequate ventilation.	Safe work procedures. Application of products when the fewest workers may be present. Use of qualified and licensed contractors to apply products. Education of workers in the nature of the hazard. Good housekeeping. Good hygiene practices.	Protective clothing, gloves, eye and face protection, and respirators based on hazard assessment.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Second hand tobacco smoke	Elimination of smoking within and around facilities. Properly designed and maintained ventilation systems. Isolation of areas where smoking is permitted with dedicated ventilation systems. Substitution with smoking cessation aids.	Development, implementation and enforcement of no smoking policies and policies related to worker exposure in homes. Substitution with smoking cessation programs. Collection of patient smoking information on patient intake forms in home or community settings. Worker education. Good housekeeping. Provision of services in an alternate location if client is uncooperative with no smoking policies.			
Vehicle exhaust (e.g. carbon monoxide)	Substitution with less harmful products or equipment, battery/electrical powered equipment. Properly designed and maintained ventilation systems. Local exhaust ventilation. Isolation of workers. Installation of emission control devices and alarm systems. Facility design to control exaust build up and migration especially in proximity to facility air intakes.	Development and enforcement of policies and procedures that require vehicle engines to be shut off in loading areas and in proximity to facility air intakes. Vehicle maintenance to reduce emissions. Education of vehicle operators (workers, patients', clients' or residents' families, visitors' and suppliers) in the nature of the hazard for areas where entrainment of vehicle exhaust into a facility may be an issue. Monitoring systems for carbon monoxide and nitrogen oxides.	Personal protective equipment not typically required however, based on hazard assessment personal protective equipment may be required.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Wood dust	Substitution of solvent with less harmful woods or other products. Local exhaust ventilation on woodworking equipment.	Education of workers in the nature of the hazard. Safe work procedures. Purchasing controls to include choosing alternatives. Good housekeeping including wetting procedures and dust supression for dust clean up. Good hygiene practices. Equipment maintenance programs.	Protective clothing, gloves, eye and face protection and respirators based on hazard assessment.		
Various metals (eg. beryllium, chromium, cobalt and nickel).	Substitution with less harmful product. Properly designed and maintained ventilation systems. Enclosed mixing devices. Local exhaust ventilation.	Safe work procedures. Good hygiene practices. Education of workers in the nature of the hazard. WHMIS program and maintenance of MSDSs. Medical monitoring of workers.	Gloves, eye protection and face shields. Respirators based on hazard assessment.		
Silica	Local exhaust ventilation. Dust collection systems. Substitution to eliminate crystalline silicia. HEPA vacuums.	Safe work procedures. Good hygiene practices. Education of workers in the nature of the hazard. WHMIS program and maintenance of MSDSs. Medical monitoring of workers.	Respirators		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet
Chemicals used in treatment

_____ _____

Company Location

_____ _____

Date of Assessment Completed by

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Anaesthetic gases	Substitution with less harmful products. Properly designed and maintained ventilation systems. Scavenging systems to control fugitive emissions. Properly designed patient masks and induction systems to reduce emissions.	Safe work procedures. Preventative maintenance on equipment and systems. Routine exposure monitoring. Staff education.	Respiratory protection based on hazard asessment.		
Antineoplastics, cytotosic and other hazardous drugs, antibiotics, aerosolized drugs, hormonal drugs	Proper containmnet (isolation, segregated areas and dedicated equipment, local exhaust ventilation, biological safety cabinets, aerosol delivery tents and enclosures, etc) when making up or using drugs. Engineered needle stick prevention devices. Adequate ventilation in dedicated rooms when administering aerosolized drugs. Segregation of contaminated items.	Safe work procedures including spill procedures with consideration to the specific product and manufacturer's instructions. Waste handling procedures. Education of workers in the nature of the hazard. Availability of appropriate equipment and PPE. Accommodation for workers with special needs (pregnant workers, persons with sensitivities or other health issues).	Eye protection and face shield when splashing is possible. Protective clothing (gowns) and gloves. Respirators may be requried based on hazard assessment.		

APPENDIX B - CHEMICAL Hazard Assessment and Control Sheet
Chemical wastes

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Laser plumes/ surgical smoke	Well designed smoke evacuation systems situated in proximity to plume. Availability of smoke evacuation systems in all areas where plumes can be generated. Adequate ventilation.	Requirement to use smoke evacuation systems whenever any sized plume is generated. Safe work procedures. Education of workers in the nature of the hazard. Preventative maintenance of systems. Adherence to CSA Standard Z305.13-09, Plume scavenging in surgical, diagnostic, therapeutic and aesthetic settings.	Gloves, eye, face and respiratory protection based on hazard assessment.		
Other chemical waste	Designated waste storage and collection areas. Adequate ventilation. Use of bonding, grounding and explosion control.	Appropriate storage of products to decrease exposure and minimize fire hazards and chemical reactions. Policies and procedures for safe chemical disposal. Staff education in nature of hazard.	Personal protective equip-ment as required based on specific hazard assessment.		
Waste anaesthetic gases	Substitution with less harmful product. Properly designed and maintained ventilation systems. Control of gugitive emissions with scavenging systems. Properly designed patient masks and induction systems to reduce emissions.	Safe work procedures. Preventative maintenance on equipment and systems. Routine exposure monitoring Staff education.			

APPENDIX C - PHYSICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Biomechanical hazards associated with computer use or workstation design	Ergonomically designed workstations, chairs and equipment. Incorporate adjustable workstation to accommodate shared use by employees of various sizes.	Adjustment of workstation and chair to fit user. Staff education regarding ergonomic hazards and control strategies. Self assessment tools to assist workers in identifying and controlling risk factors. Safe work procedures. Early reporting of signs and symptoms of ergonomic concerns. Stretches and micro-breaks. Purchasing standards for ergonomically designed computer workstations chairs and equipment. Ergonomic assessments. Maintenance of workstations, chairs and equipment.			
Biomechanical hazards associated with awkward sustained postures and repetition/ duration.	Ergonomically designed workstation, chairs, instruments and equipment. Use automatic and ultrasonic instruments and tools whenever possible. Use of indirect vision when treating maxillary teeth. Consider a non-traditional stool such as a saddle chair (improve posture and mobility). Minimize glare through the use of appropriate lighting and window coverings. Use visual aids to reduce eye strain.	Adjust the workstation to the patient and the worker each time. Schedule patients in an effort to reduce risk factors. Worker education regarding ergonomic hazards and control strategies. Safe work procedures. Early reporting of signs and symptoms of ergonomic concerns. Stretches and micro-breaks. Alternate working position frequently. Keep frequently used instruments in easy reach. Purchasing standards for ergonomically designed workstations, chairs, instruments and equipment. Maintenance of equipment.			

APPENDIX C - PHYSICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Exposure to ionizing radiation when taking dental x-rays	Workplace design to provide distance between worker and source. Appropriate shielding materials (permanent where possible). Interlock systems. Equipment designed to minimize scatter. Positioning devices for patients. Audible signals on machines when exposure is ended. Replacement of older dental X-ray equipment with newer equipment with additional safety features.	Staff education. Safe work procedures reduce exposure time (procedures requiring fewer workers in area, etc). Scheduling. Radiation safety program. Exposure montoring.	Lead gloves, aprons, etc. as required.		
Exposure to laser beams during dental procedures	Ensure area has no reflective surfaces. Local exhaust ventilaton. Fail-safe systems. Lock/key access for activation.	Radiation safety program. Staff education. Safe work procedures (including placing laser in standby mode when not in use, single-operator activation, activate laser only when tip is under direct observation by surgeon, etc). Restricted work area. Laser safety program.	Gloves, gowns and eye protection based on specific parameters of laser in use (wavelength, pulse versus continuous, wattage, laser class/type)		
Exposure to UV-A radiation when curing resin-based materials	Equipment maintenance. Area design. Blue light filters.	Staff education. Safe work procedures including review and attention to equipment manufactuere's guidelines.	Eye protection with UV filters.		
Falling hazards associated with slips, trips and falls	Install slip resistant flooring. Design stairwells according to accepted safety standards. Ensure adequate lighting.	Perform regular maintenance on flooring, stairwells, hallways, handrails, etc. Inspect ladders prior to use. Staff education. Implement a spill cleanup program that includes prompt spill cleanup, use of warning signs, etc. Maintain good housekeeping practices and minimize clutter and tripping hazards.	Appropriate footwear with gripping soles and good support.		

APPENDIX C - PHYSICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal Protective Equipment		
Cuts from sharp instruments, including medical instruments and scissors	Avoid use of sharps when not required. Replace sharps with safety engineered medical devices. Proper storage of sharps.	Staff education. Safe worker procedures.	Gloves		
Burns from handling recently heat-sterilized equipment	Work process design to manage equipment turnover.	Safe work procedures. Rotation of supplies.	Heat-resistant gloves		
Fire, projectiles, or physical injury if compressed gas cyclinders used for a variety of procedures and maintenance activities are damaged, dropped or mishandled.	Install protective valve caps when cylinder is not in use if the cylinder is equipped with a means of attaching caps.	Safe work procedures that includes use, care, maintenance, storage and transport. Staff training. Secure and restrain cylinders.	Personal protective equipment based on hazard assess-ment and type of compressed gas. Protective footwear for impact hazard when handling large cylinders.		
Electrical hazards arising from use of electrical cords and appliances.	Ground fault circuit interrupters when used close to water sources.	Safe work procedures that include use of electrical cords, power bars and appliances that includes facility approval requirements. Staff training.			
Noise					

APPENDIX D - PSYCHOLOGICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal		
Stress related to work-life conflict and workload issues		Management policies and procedures that support work-life balance (e.g. voluntary reduced hours, voluntary part-time work, phased in retirement, telecommuting, job sharing, paid and unpaid leaves, dependent care initiatives (etc). Work designed to address workload and work demands issues. Reliance on paid and unpaid overtime is reduced. Supportive management culture. Work-life balance policies are communicated to staff. The use and impact of work-life balance policies is measured.	Time log used to track time. Work-life balance programs are utilized. Work activities are isolated from home time. Time is effectively managed. Days off are protected. Appropriate sleep habits. Social support system is in place.		
Abuse by clients, families or visitors		Isolation areas for agitated clients. Windows on doors of interview rooms. Furniture arrangement to prevent staff entrapment. Enclosures for stations. Lockable washrooms for staff separate from client or visitors. Controlled access. Grating or bars on street level windows. Bright lighting in parking lots. Metal detectors in facilities and emergency rooms. Alarm systems and panic buttons. Video surveillance. Bullet-resistant glass in emergeny room triage areas. Communication devices for emergency contact. Hand-held alarm devices.	Management policies and procedures related to room checks, use of restraints, monitoring of high risk clients, no tolerance of violence or abuse. Client treatment plans that prevent violent behavior from escalating. Worker education in violence awareness, avoidance and de-escalation procedures. Well-trained security guards. Escort to parking lots. Appropriate staffing levels based on client acuity and activity. Communication protocols to advise workers of client status. Liaison and response protocols with local police. Policies related to control of keys. Working alone policies. Reporting procedures for incidents and near misses. Use of nametage. Procedures for the safe handling of money and drugs.	Ability to request support. Use of counselling services.	

APPENDIX D - PSYCHOLOGICAL Hazard Assessment and Control Sheet

_____ _____

Company Location

_____ _____

Date of Assessment Completed by

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal		
Abuse by co-workers	Alarm systems and panic buttons. Video surveillance	Management policies and procedures related to no tolerance of violence or abuse. Staff education in violence awareness, avoidance and de-escalation procedures. Well-trained security guards. Escort to parking lots. Appropriate staffing levels based on client acuity and activity. Working alone policies. Reporting and investigation procedures for incidents and near misses.	Assertiveness training. Use of mediation and/ or counselling services.		
Hazards related to working alone: * threat of violence * medical emergencies when alone	Communication devices. Restricted access. Workplace design considerations. Panic alarms. Bright lighting. Mirrors to facilitate seeing around corners or hallways, surveillance cameras.	Scheduling to avoid having workers work alone. Worker training, Working alone policies. Client intake and screening processes. Repeat offender chart alerts. Procedures which permit providing services in alternate locations. Adequate security. Escort to parking lots.			
Stress related to critical incidents		Training to increase awareness of signs and symptoms of critical incident stress. Criticial incident stress team to respond to incidents. Communication and call procedures to mobilize team. Defusings and debriefings as appropriate.	Development of support systems to assist in dealing with stress. Use of counseling services.		

APPENDIX D - PSYCHOLOGICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal		
Technostress related to the introduction of new technology.	Design of instruments or equipment with user-friendly features.	Selection procedures to ensure user-friendly technology choices. Provision of sufficient training for workers. Worker participation in selection and implementation of new technology. Provision of problem solving resources and support workers. Back-up plans in the event of failures. Change management strategy for introduction of new technology. Realistic expectations regarding use of communication technology. Limit use of technological monitoring of worker productivity. Setting and communication of priorities.	Self-education concerning new technologies. Time management strategies. Open communication about stress related to change. Healthy lifestyles. Setting realistic goals. Limiting the need to multi-task. Technology “time outs.”		
Substance abuse as a response to excessive workplace stressors	Surveillance in narcotics storage areas.	Worker involvement in substance abuse policy and procedures development. Staff education about substance abuse. Training workers and supervisors to recognize the signs of substance abuse. Procedures to limit individual access to narcotics. Procedures to control the preparation, transport, storage and dispensing of narcotics. Povision of counselling services and return to work plans.	Increase awareness of substance abuse signs and symptoms. Communication with counsellors. Report to family physician. Participate in treatment programs and return to work programs.		

APPENDIX D - PSYCHOLOGICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal		
Depression, anxiety, sleep disorders, or other mental illness as a response to excessive workplace stressors		Worker education about the signs and symptoms of depression, anxiety, sleep disorders, other mental illness. Elimination of workplace risk factors for depression, anxiety, sleep disorders, other mental illness. Provision of support services and programs. Benefit plans provision. Effective return to work programs.	Programs to maintain or build resilience or coping skills. Development of support system. Communication with family physician.		
Hazards related to impacts of aging on workers	Mechanical devices and power equipment for lifting/moving. Workstation design - storing objects at appropriate heights, packing in smaller quantities or containers. Supportive, adjustable seating and workstations. Workplace noise reduction cell phones and pagers that incorpoarte vibration. Proper lighting.	Management policies and procedures that ensure no age discrimination. Proactive policies to accommodate aging workers. Training opportunities for aging workers. Education for all workers on intergenerational communication. Aging workers as trainer/mentors. Flexible work arrangements. Job redesign to accommodate aging workers.	Healthy lifestyle. Use of client and material handling equipment. Adequate sleep. Awareness of potential side effects of medication.		
Exposure to nuisance or irritating noise levels that may induce stress	Any engineering controls required to abate noise to allowable levels, if over permissible exposure limit (PEI). Sound absorber panels. Personal communication devices rather than overhead pagers. Maintenance and repair of facility equipment, including the ventilation system. Lubrication of equipment with moving parts. Design considerations related to noise reduction in new/renovated facilities. Padded chart holders and pneumatic tube systems. Sound masking technology.	Lower rings on telephones. Encourage use of soft-sided shoes. Worker education on noise levels created by various activities. Poster reminders to reduce noise. Purchasing decisions that take into account noise levels of equipment. Location of noisy equipment to more isolated areas. Work organization at stations to reduce noise.			

APPENDIX D - PSYCHOLOGICAL Hazard Assessment and Control Sheet

Company _____ Location _____

Date of Assessment _____ Completed by _____

Hazard	Controls in Place			Follow-up Action Required	Date/Person Responsible
	Engineering	Administrative	Personal		
Exposure to poor indoor air quality that may induce stress	Proper ventilation system design. Ventilation system maintenance activities. Isolation/ segregation of work processes that may create contaminants.	Contractor requirements to reduce air contamination. Selection of low pollutant cleaning chemicals. Cleaning schedules. Infection prevention and control standards. Rules regarding the use of personal appliances that may impact HVAC operations. Procedures to report and investigate indoor air quality complaints. Worker involvement in indoor air quality investigation. Communication to enable frank and timely discussion of IAQ issues and what is being done to resolve them.			

APPENDIX E - Worker Orientation Record

This is an example of a checklist you may wish to use when training new workers on health and safety in yoru workplace.

_____

Worker's name

_____ _____

Date worker was hired Date of orientation

_____

Supervisor's name

Orientation Topics Covered?		
	Yes	No
Health and safety responsibilities		
Health and safety rules		
How to get first aid		
Location of first aid kit		
Location of fire exits and fire extinguishers		
How to report unsafe conditions		
Obligation to refuse unsafe work		
WHMIS		
Location of MSDSs		
Use of personal protective equipment		
Dealing with violent clients		
Working alone procedures		

Emergency Procedures (list them here)

_____

_____

_____

_____

Written work procedures (list them here)

Other topics covered (list them here)

Comments

Completion of this form is not a requirement under the OHS legislation and does not indicate competency of workers. It may be used as a record that training has occurred.

APPENDIX F - Sample First Aid Record Form

First Aid Record

_____ _____

Date of injury or illness (dd/mm/yyy) Time am/pm

_____ _____

Reported to First Aider (dd/mm/yyyy) Time am/pm

_____

Full name of injured or ill worker

_____

Description of the injury or illness

_____

_____

Description of where the injury or illness occurred/began

_____

_____

Cause of the injury or illness

_____

First Aid Provided Yes ☐ (If yes, complete the rest of this page) No ☐

_____

Name of First Aider

First Aid Qualifications

Emergency First Aider	☐	Emergency Medical Technician	☐
Standard First Aider	☐	Emergency Medical Technician - Ambulance	☐
Advanced First Aider	☐	Emergency Medical Technician	☐
Registered Nurse	☐	Emergency Medical Responder	☐

_____

First Aid Provided

_____

Confidential
Keep this record for at least 3 (three) years from the date of injury or illness.

APPENDIX G - Sample Emergency Response Plan (Page 1 of 2)

Company Name _____

Location _____

POTENTIAL EMERGENCIES **Based on Hazard Assessment**	The following are identified potential emergencies:	
EMERGENCY PROCEDURES	In the event of an emergency (type or general) occurring within or affecting the work site, the (designated person) makes the following decisions and the appropriate key steps are taken:	
LOCATION OF EMERGENCY EQUIPMENT	Emergency equipment is located at_____ Fire Alarm: _____ Fire Extinguisher: _____ Fire Hose:_____ Panic Alarm Button: _____ AED: _____ Other: _____	
WORKERS TRAINED IN THE USE OF EMERGENCY EQUIPMENT (List of names of workers trained)	1. _____ 2. _____ 3. _____ 4. _____	
EMERGENCY RESPONSE TRAINING REQUIREMENTS	Type of training	Frequency

APPENDIX G - Sample Emergency Response Plan (Page 2 of 2)

LOCATION AND USE OF EMERGENCY FACILITIES	The nearest emergency services are located: Fire station: _____ Ambulance: _____ Police:_____ Hospital: _____ AED: _____ Other: _____
FIRE PROTECTION REQUIREMENTS	are located: _____
ALARM AND EMERGENCY COMMUNICATION REQUIREMENTS	First Aid Supplies located at_____ First Aid Kit Type: _____ Fire Extinguisher: _____ Other: AED: _____ First Aiders are: _____ Name: _____ Location: _____ Shift or hours of work: _____ Transportation for ill or injured workers is by: _____ Call: _____
FIRST AID	In case of (type of emergency/evacuation)
PROCEDURES FOR RESCUE AND EVACUATION	The following workers are trained in rescue and evacuation: Name: _____ Location: _____ Name: _____ Location: _____
DESIGNATED RESCUE AND EVACUATION WORKERS	

APPENDIX H - Sample Workplace Violence Policy and Procedures

The management of _____ recognizes the potential for workplace violence and other aggressive behavior directed at our employees. We will not tolerate behavior from anyone that intimidates, threatens, harasses, abuses, injures or otherwise victimizes our employees and will take whatever steps are appropriate to protect our employees from the potential hazards associated with workplace violence. We are committed to providing our employees with an appropriate level of protection from the hazards associated with workplace violence.

Management Responsibilities

Management will:

- Inform employees if they are working in an area where there is a potential for violence and identify any risks that are specific to that area.
- Ensure that appropriate procedures are in place to minimize the risk to our employees from violence.
- Ensure that employees are trained in recognizing and responding to situations involving workplace violence.
- Ensure that every reported incident of workplace violence is investigated and potential areas for improvement are identified.

Employee Responsibilities

- Employees of _____ are required to be familiar with and follow the procedures that are in place to protect them from workplace violence.
- All employees must participate in the instruction of workplace violence prevention.
- Employees are required to immediately report all incidents of workplace violence to their supervisor or (identify alternate) _____ (e.g. manager, foreman, security)
- Employees are also responsible for participating in work site hazard assessments and implementing controls and procedures to elliminate or control the associated hazards.

No employee can be penalized, reprimanded or in any way criticized when acting in good faith while following the procedures for addressing situations involving workplace violence.

_____ _____

Signature of company owner/president *Date*

APPENDIX I - Resources

The following documents were referenced in producing this manual.

Volume 1
Overview of Best Practices In Occupational Health and Safety in the Healthcare Industry
Best Practices Guidelines for Occupational Health and Safety in the Healthcare Industry
Government of Alberta, 2009-2011

Volume 2
Best Practices Guidelines for the Assessment and Control of Biological Hazards
Best Practices Guidelines for Occupational Health and Safety in the Health Industry
Government of Alberta, 2009-2011

Volume 3
Best Practices Guidelines for the Assessment and Control of Chemical Hazards
Best Practices Guidelines for Occupational Health and Safety in the Health Industry
Government of Alberta, 2009-2011

Volume 4
Best Practices Guidelines for the Assessment and Control of Physical Hazards
Best Practices Guidelines for Occupational Health and Safety in the Health Industry
Government of Alberta, 2011

Volume 5
Best Practices Guidelines for the Assessment and Control of Psychological Hazards
Best Practices Guidelines for Occupational Health and Safety in the Health Industry
Government of Alberta, 2011

Occupational Health and Safety Code, 2009
Occupational Health and Safety Act, Government of Alberta

A Physician's Guide to Occupational Health and Safety Responsibilities
College of Physicians & Surgeons of Alberta, 2008

Handbook of Occupational Hazards and Controls for Dental Workers
Government of Alberta, 2011

APPENDIX J - Glossary of Terms

Acute Illness or Injury - A physical injury or sudden occurrence of an illness that results in the need for immediate care.

Alberta Employment and Immigration (AEI) - The government ministry responsible for the Occupational Health and Safety Act, Regulation and code. Its job is to work with employers and workers to ensure legislation is followed as much as possible to prevent workplace incidents, injuries and illnesses, and to ensure employers and workers are educated in their occupational health and safety duties.

Best Practice - For the purpose of this document, a best practice in health and safety is defined as a program, process, strategy or activity that has been shown to be effective in the prevention of workplace injury or illness; has been implemented, maintained and evaluated; is based on current information; and is of value to, or transferable to, other organizations. Best practies are living documents and must be reviewed and modified on a regular basis to assess their validity, accuracy and applicability. They may and often do exceed the requirements of OHS legislation.

Competent Worker - An adequately qualifed, suitably trained person with sufficient experience to safely perform work without supervision.

Director of Medical Services - A physician appointed by the Minister for the administration of the Occupational Health and Safety legislation. Reference OHS Act Sections 1 (h), e. The Director of Medical Services is an occupational health physician who is a member of the staff of the Government of Alberta, Workplace Health and Safety.

Due Dilligence - The level of judgment, care, prudence, determination and activity that a person would reasonably be expected to do under particular circumstances.

Emergency - Any situation or occurrence of a serious nature, developoing suddenly and unexpectedly, and demanding immediate attention.

Employer - You are an employer if you employ on or more workers: you are designated to represent an employer; your responsibility is to oversee workers' health and safety; or you are self-employed.

Equipment - A thing used to equip workers at a worksite; includes tools, supplies, machinery and sanitary facilities.

First Aid - The immediate and temporary care given to an injured or suddently ill person at a worksite using available equipment, supplies, facilities or services. First aid has three objectives: preserve life; prevent the injury or illness from becoming worse; promote recovery.

First Aider (emergency, standard or advanced) - A competent individual designated by an employer to provide first aid to workers at a worksite.

Hazard - Any situation, condition or thing that may be dangerous to the safety or health of workers. There are four standard hazard categories: physical hazards; chemical hazards; biological hazards; and psychological hazards.

APPENDIX J - Glossary of Terms

Hazard Assessment - Careful evaluation of all equipment, machinery, work areas and processes to identify potential sources of hazards that workers may be exposed to.

Hazard Control - Control measures implemented to eliminate or reduce the risk of harm to workers.

Imminent Danger - Any danger that isn't normal for a job, or any dangerous conditions which a worker wouldn't normally carry out their work. If workers think their work may put them or another worker in imminent danger, they must refuse to do it. Reference OHS Act.

Incident - An undesired event that results in physical harm to a person or damage to property, including near misses.

Joint Health and Safety Committee - A group of worker and employer representatives working together to identify and solve health and safety problems at the workplace. In Alberta, the establishment of a committee is voluntary, except for those workplaces required by Ministerial Order to have a committee.

Near Miss - An incident that did not cause visible injury or property damage but that could have resulted in serious injury, personal harm, death or property damage.

OHS Act - The Occupational Health and Safety Act sets out legislative frame work to ensure workplace conditions are safe and do not pose a danger of injury or illness. A general duty clause serves as a blanket statement that employers are accountable for the health and safety of workers.

OHS Code - The Occupational Health and Safety Code sets out specific health and safety rules for work-related operations and practices within Alberta's various industries to ensure that workplace conditions are safe and do not pose a danger of injury or illness.

OHS Regulation - The Occupational Health and Safety Regulation sets out requirements for specific workplace conditions and practices that must be met in order for a workplace to be considered in compliance with OHS legislation.

Partnerships in Health and Safety - A voluntary Alberta program of Workplace Health and Safety based on the concept that when employers and workers build effective Health and Safety Management Systems the human and financial costs of workplace injuries and illnesses will be reduced.

Personal Protective Equipment (PPE) - Equipment or apparrel that when worn lessens the potential harmful effects of a known hazard (i.e. gloves, hard hats, steel-toed footwear, etc).

Reasonably Practicable - A legally defined term that is assessed using the reasonable person test.

Reasonable Person Test - The assessment of what a dozen peers would consider reasonable in a similar set of circumstances, resulting in a balanced and wise judgement that could be defended to others.

APPENDIX J - Glossary of Terms

Safe Work Practice - A written set of guidelines that establishes a standard of performance for an activity.

Safe Work Procedure - A written, step-by-step description of how to perform a task from beginning to end.

Standards - Standards are produced by voluntary organizations, such as the Canadian Standards Association (CSA), American National Standards Institute (ANSI) and the International Organization for Standardization (ISO). Standards do not have the power of law. However, if they are adopted by legislation, they become part of the law and are enforceable. For example, if the OHS Code states that workers must wear footwear approved to a particular CSA standard, then the CSA standard has the power of law.

WHMIS (Workplace Hazardous Materials Information System) - A comprehensive plan for providing information on the safe use of hazardous materials in Canadian workplaces. The information is provided by means of: product labels; Material Safety Data Sheets (MSDS); and worker education programs.

Worker - A person engaged in an occupation, including managers, supervisors and volunteers.

Workplace Health and Safety (WHS) - A division/department of Alberta Employment and Immigration.

Overview

This publication, *A Dentist's Guide to Occupational Health and Safety Responsibilities*, provides an overview of the Government of Alberta, Occupational Health and Safety regulations as they apply to the dental profession in Alberta. This manual provides a set of minimum standards and practices for the safe and healthy operation of a dental facility. This document has been developed by the Alberta Dental Association and College and derived as a profession-specific summary of Alberta safety responsibilities.

This document has been prepared to assist dentists as employers and dental healthcare personnel to understand and maintain compliance with the *Alberta Occupational Health and Safety Act*.

This manual is not a definitive guide to the legislation and does not exempt dentists and dental healthcare personnel from their responsibilities under the Occupational Health and Safety Act. The Occupational Health and Safety Act prevails in the event of any inconsistencies between this guide and the Occupational Health and Safety Act.

Acknowledgements

This publication, *A Dentist's Guide to Occupational Health and Safety Responsibilities*, has been developed through consultation between the Alberta Dental Association and College and the Government of Alberta, Human Services; Workplace Innovation and Continuous Iimprovement; and Work Safe Alberta.

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