

## Preventing Carbon Monoxide (CO) Exposure

As cold weather approaches and use of fuel-burning appliances increases, the National Office of Job Corps recommends that centers take the following preventive measures:

- a. Be sure a qualified technician inspects fuel-burning appliances at least once each year. Fuel-burning appliances such as furnaces, hot-water heaters, and stoves require yearly maintenance. Over time, components can become damaged or deteriorate. A qualified technician can identify and repair problems.
- b. Be alert to danger signs that signal a CO problem, such as:
  - (1) Streaks of carbon or soot around the service door of fuel-burning appliances;
  - (2) The absence of a draft in chimneys;
  - (3) Excessive rusting on appliance jackets or pipes that convey flame, smoke, or hot gases;
  - (4) Moisture collecting on the windows and walls of furnace rooms;
  - (5) Fallen soot from fireplaces;
  - (6) Small amounts of water leaking from the base of chimneys, vents, or pipes that convey flame, smoke, or hot gases; or
  - (7) Damaged or discolored bricks at the top of chimneys, or rust on the portion of vent pipes visible from outside.
- c. Be aware that CO poisoning may cause flu-like symptoms such as headaches, tightness of chest, dizziness, fatigue, confusion, and breathing difficulties. CO poisoning often causes a victim's blood pressure to rise, and the victim's skin may take on a pink or red tone. CO is an odorless, colorless gas.
- d. Install an Underwriters Laboratory (UL)-listed CO detector, as recommended by the National Office of Job Corps, outside sleeping areas. A UL-listed CO detector will sound an alarm before dangerous levels of CO accumulate. CO indicator cards and other devices are also intended to detect elevated levels of CO, but most are not equipped with an audible alarm, and cannot wake you at night when many CO poisoning incidents occur.
- e. Know how to respond to a CO detector alarm. If the alarm sounds, immediately open windows and doors for ventilation. If anyone in the area is experiencing symptoms of CO poisoning (headache, dizziness, or other flu-like symptoms) immediately evacuate the area and notify the fire department. If no one is experiencing these symptoms, continue to ventilate, turn off fuel-burning appliances, and call a qualified technician to inspect the heating system and appliances as soon as possible. Because you have provided ventilation, the CO buildup may have dissipated by the time help responds, and the problem may appear to be solved. Do not, however, operate any fuel-burning appliances until you have clearly identified the source of the problem. A CO detector alarm indicates elevated levels of CO in the area. Never ignore the alarm!

- f. Read the manufacturer's instructions carefully before installing a CO detector. Do not place the detector within five feet of household chemicals. If your detector is wired directly into your center's electrical system, you should test it monthly. If your unit is battery operated, test the detector weekly and replace the battery at least once a year.
- g. Place CO monitors no higher than four feet from the ground (normal breathing zones). This is to ensure potential detection of actionable levels of CO.
- h. Avoid placing your CO detector on top of, or across from fuel-burning appliances. These appliances will emit some CO when initially turned on.
- i. Never use charcoal or gas grills inside a dorm, tent, camper, garage, or any other unventilated area.
- j. Do not leave fuel-burning vehicles running in an enclosed garage.

### **Safe Use of Supplemental Heating Systems**

When using supplemental heating systems, the National Office of Job Corps recommends that centers:

- a. Only use equipment with UL tag or label;
- b. Use equipment with a thermostat control to conserve energy and prevent overheating;
- c. Purchase heaters that are rated for a specific room size;
- d. Purchase new heaters only (avoid second-hand units);
- e. Purchase portable space heaters equipped with a tip-switch that will automatically shut off the unit if it is tipped over;
- f. Remove unvented kerosene and natural gas units from service. Most states prohibit their use indoors;
- g. Permanently locate vented units next to an outside wall, to allow for installation of a flue gas vent through a ceiling, or directly through the wall to the outside;
- h. Purchase vented sealed combustion or 100 percent outdoor air heaters because they are much safer to operate and are more efficient;
- i. Have vented space heaters professionally inspected annually;
- j. Use electric space heaters for small areas or dormitory rooms (they are not effective for heating large rooms or areas);

- k. Locate the heater on a level surface away from foot traffic; and
- l. Plug electric space heaters into an outlet or use a heavy-duty extension cord or 14-gauge wire or higher if an extension cord is necessary.