What PPE Should Workers Use for Handling Cytotoxic Drugs?



Gloves, gowns, face protection, shoe covers, caps and maybe respiratory protection are a must for cytotoxic drugs exposure.

Cytotoxic, sometimes referred to as antineoplastic, drugs are used in healthcare settings to treat cancer, arthritis and other conditions by killing or altering the cells that cause the disease. Workers who use, mix, handle, dispose of or work near those drugs can suffer health harms ranging from skin rash to cancer and long-term reproductive damage. As with other workplace health and safety hazards, OHS laws require employers to use a mixture of engineering controls, administrative/work controls and PPE to manage dangers posed by cytotoxic drugs.

With the exception of BC, no jurisdiction offers any specifics on what PPE would be considered appropriate for cytotoxic drugs. Accordingly, these recommendations come from the National Institutes of Health (NIH).

Gloves

Type: Gloves for handling cytotoxic drugs should be powder-free and meet ASTM Standard D-6978-(05)-13, *Standard Practice for Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs*. Such gloves should be nitrile, polyurethane, neoprene or latex’although latex is a known

allergen’but not vinyl.

Use: Workers should change gloves at frequencies based on exposure level at each step in the medication circuit. For example, workers administering reconstituted medications should change gloves immediately if they become torn, punctured or visibly contaminated with a cytotoxic drug. They should also use great care to avoid contaminating the skin when removing gloves. When two pairs of gloves are required, workers should put on the first pair before putting on the gown.

Gowns

Type: Gowns used for handling cytotoxic drugs should:

- Be disposable;
- Be made of lint-free, low-permeability fabric;
- Have long sleeves with tight-fitting cuffs; and
- Fasten in the back.

Use: Gowns must be changed in the event of contamination, spillage, or rips, and at the end of the procedure. For medication preparation, gowns must be changed halfway through a shift or every 3.5 hours. The supplier should be able to certify that the gown protects against cytotoxic drugs. Workers must take care to avoiding touching the outside of the gown when removing it so they don’t contaminate their hands.

Eye & Face Protection

Type: Surgical or procedure masks are required to prevent microbial contamination of the sterile field when handling and preparing medications in a biological safety cabinet. Workers should wear full-face protection if there’s a risk of splashing is present, as in certain drug administration procedures. The use of a full face shield is preferred. If goggles are used, they must be worn with a fluid-resistant

mask in accordance with CSA Z94.3-07: *Eye and Face Protectors*.

Respiratory Protection

Type: Fit-tested respirators such as those certified N95 or N100 by the U.S. National Institute for Occupational Health and Safety (NIOSH) when there’s a risk that an airborne powder or aerosol will be generated.

Use: Respirators should be used in accordance with a respiratory protection program such as the one set out in CSA Z94.4-11: *Selection, Use and Care of Respirators*.

Caps

Caps are required only in the sterile preparation room and are worn to prevent microbial contamination of the sterile field.

Shoe Covers

Type: Workers should wear disposable shoe covers to prevent contamination of their shoes.

Use: Shoe covers should be worn in the sterile preparation room or in the event of a spill and removed immediately when leaving the sterile prep room to avoid contaminating other areas.