

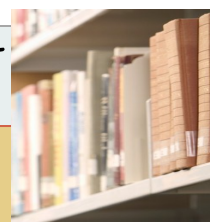


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SAFE HANDLING OF HAZARDOUS DRUGS BY MICHELLE TAN

Adverse health effects and chances for exposure have been demonstrated among health care workers for more than 2 decades. Many studies have shown surface and worker contamination from hazardous drugs. Common daily practices for handling injectable drugs presented in vials and syringes generate powder and liquid aerosols. These drug particles may contaminate the air and working surfaces. It also has been shown that many hazardous drugs are delivered from the manufacturer with drug residue on the outside of vials. Workers may breathe contaminated air as hazardous drugs vaporize at room temperature, touch contaminated surfaces and absorb hazardous drugs. If rest areas or dining areas are near drug-handling areas, drug uptake could occur through ingestion of contaminated food or drink that are placed nearby hazardous drugs.

The 1990 ASHP definition of **hazardous drugs*** was revised by the NIOSH Working Group on Hazardous Drugs for the Alert. Drugs considered hazardous exhibit one or more of the six characteristics in humans or animals:

NIOSH	ASHP Definitions
Carcinogenicity	(in animal models or in patient population or both)
Teratogenicity, developmental toxicity	In animal studies or in patients
Reproductive toxicity,	Fertility impairment in animal studies or in patients
Organ toxicity at low doses	Evidence of serious organ toxicity at low doses
Genotoxicity,	Mutagenicity or clastogenicity in short term test system

Apart from some drugs being cytotoxic, the majority are hazardous to males or females who are actively trying to conceive, women who are pregnant or may become pregnant, or women who are breast feeding, because they may be present in breast milk. The actual risk to health care workers depends on how they are manipulated, how often they are handled, and personal protective equipment (PPE) are used.

- ♦ For example, dispensing a single tablet to a patient poses little to no risk to the healthcare worker. A single pair of gloves would be adequate.
- ♦ Repeatedly counting, cutting or crushing tablets may pose a higher risk of worker exposure and contamination if proper precautions are not in place. Double gloves, a protective gown, respiratory protection, and a disposable pad to protect the work surface should be used.
- ♦ Preparing a number of intravenous doses of an antineoplastic drug typically poses a higher potential risk to the worker. In addition to double gloving and a protective gown, an engineering control like those specially approved Clean Room cabinets in Cytotoxic Drug Reconstitution Unit is required to protect the drug, environment, and health care worker. Some examples of hazardous drug that meets the NIOSH criteria

A. Antineoplastic drugs:

Trastuzumab, Bleomycin, Capecitabine, Cisplatin etc

B. Non-antineoplastic drugs:

Abacavir, Azathioprine, Carbamazepine, Cyclosporine, Deferiprone, Valproic Acid, Ganciclovir, Valganciclovir, Leflunomide, Liraglutide, Mycophenolate Mofetil, Mycophenolic Acid, Risperidone, Sirolimus, Tacrolimus, Spironolactone, Zidovudine etc

C. Non-antineoplastic drugs that primarily have adverse reproductive effects

Acitretin, Cabergoline, Colchicine, Dutasteride, Finasteride, Fluconazole, Misoprostol, Ribavirin, Valproate Acid, Warfarin etc

For more information on PPEs (Personal Protective Equipment) and safe handling practices, please see

http://www.cdc.gov/niosh/docs/2014-138/pdfs/2014-138_v3.pdf

Reference:

- 1) NIOSH 2014
- 2) Luci A. Power. Safe Handling of Hazardous Drugs. Pharmacy Practice News March 2011.
- 3) ASHP Guidelines on Handling Hazardous Drugs 2004

Announcement from Pharmacy Department

Dear doctors,

Below are the list of short expiry items. Kindly assist in finishing the stocks to avoid wastage. Thank you.

Drugs	Exp date	Quantity	Prescriber
AMISULPRIDE 100MG TAB (SOLIAN)	08/2015	40 boxes x 30 tabs	Non-formulary. Psychiatrists only. Treatment of psychoses characterized by positive and/or negative symptoms including when the negative symptoms predominate
BERACTANT INTRATRACHEAL SUSP (SURVANTA)	08/2015	1box x 60 capsules	Neonatologists only. For cases of surfactant deficiency
BIVALENT HUMAN PAPILLOMAVIRUS VACCINE (RECOMBINANT) TYPES 16 & 18 (CERVARIX) 0.5ML PFS	08/2015	17 boxes x 1 PFS	Non-formulary. RM164.40 per injection. Prevention of cervix cancer. 0.5ml IM injection at 0, 1 and 6 months. Duration of protection : 6.4yrs
BLACKMORE'S VITAMIN D3 1000IU CAP	08/2015	14 boxes x 60 capsules	Paediatricians only
GONADORELIN 100UG INJ. IML (RELISORM)*	07/2015	70 boxes x 1 injections	Used as hypothalamic-pituitary-gonadotropic function/diagnostic test .
NATAMYCIN 5% EYE SUSPENSION 15ML (NATACYN)	08/2015	1 eye drop bottle	Non-formulary. RM494.60/bottle. Treatment of fungal blepharitis, conjunctivitis & keratitis caused by susceptible organisms
NATOPHEROL ALA PLUS BIO-ENHANCED CAP	08/2015	39 boxes x 30 capsules	Non Formulary . RM1.15 per cap Contains Vitamin E, Vitamin C and Alpha Lipoic Acid (ALA).
RISPERIDONE 37.5MG INJ (RISPERDAL CONSTA)	08/2015	9 boxes x 1 injection	Non-formulary. Psychiatrists only. Treatment of acute & chronic schizophrenic psychoses & other psychotic conditions in which positive symptoms & or negative symptoms are prominent.
SIROLIMUS 1MG TAB (RAPAMUNE)	07/2015	45 X 30 tabs	Nephrologists only. Renal transplant patients with acute rejection and unable to tolerate calcineurin inhibitor(CNI)& immunosuppressive agent in patients with severe systemic lupus erythematosus unable to tolerate CNI.
VIT. B1 100MG, B6 100MG, B12 5000UG INJ (NEUROBION)	July 2015	5 x 20 amps	

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