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Hot Topic - The Safe Handling of Hospital Drugs

The safe handling of hazardous or cytotoxic drugs is of huge importance for pharmacists, doctors, nurses and hospital managers alike. Workers may be exposed to a cytotoxic drug during all stages of its life cycle - from manufacture to transport and distribution, to use in healthcare or home care settings, to waste disposal. But what are cytotoxic drugs and what precautions should be taken to ensure patient and staff safety?

What are Cytotoxic Drugs?

Cytotoxic drugs are commonly used in hospitals for the treatment of cancer by chemotherapy. The drugs have a toxic effect on cells and are therefore used to inhibit the proliferation of cancerous cells. The safety concern arises as the drugs can damage normal cells as well as cancerous ones. This is true for both patients and healthcare workers preparing or administering these substances.

Normally administered by injection of single doses or continuous infusion, risk of exposure is possible through contact with skin or needlestick injuries. While longterm effects are unknown, some drugs have proven to be carcinogenic.

Risk Assessment

There is a wealth of information out there for ensuring the safe handling of these substances. Most publications focus on procedures for safe drug preparation, administration and disposal. Healthcare facilities are also encouraged to perform risk assessments. Taking Ireland as an example, the HSE (Health and Safety Executive) believe there are five key steps to carrying out a risk assessment for the safe handling of hazardous drugs:

1. Identify the hazards.
2. Decide who might be harmed and how.
3. Assess how likely it is that cytotoxic drugs could cause ill health and decide if existing precautions are adequate.
4. Record significant findings of the assessment and keep a written record.
5. Review the risk assessment and revise if necessary.

The US Centers for disease control and Prevention also offer some insights. Their procedure recommendations include assessing the hazards in the workplace and training staff appropriately; handling the drugs safely by developing a programme of procedures and training for handling and cleaning up spills; and of course using and maintaining the equipment properly.

Handling Waste

The World Health Organisation (WHO) emphasise that waste collection of cytotoxic drugs is also of key importance and that guidelines for the safe handling of such drugs should not stop after their administration. Indeed, they recommend that the senior pharmacist, or in larger institutions, a designated Genotoxic Safety Officer, should take responsibility for the safe management of cytotoxic waste.

Waste handling procedures should include rules to ensure:

1. The separate collection of waste in leak-proof bags or containers, and labeling for identification;
2. The return of outdated drugs to suppliers; and
3. The safe storage separately from other healthcare waste.
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Sources of Information and Further Reading

- HSE Information Sheet: Safe Handling of Cytotoxic Drugs (first published 9/03), www.hse.gov.uk/pubns/misc615.pdf
- Hazardous Drugs in Health Care Settings, Centers for Disease Control and Prevention, NIOSH, www.cdc.gov/niosh
- Prevention Guide: Safe Handling of Hazardous Drugs, ASSTSAS, www.asstsas.qc.ca
- Health and safety practices for healthcare personnel and waste workers, WHO, www.who.int/water_sanitation_health/medicalwaste/140to144.pdf

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