

# Development of a standardised method to recommend protective measures to handle hazardous drugs in hospitals

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**Purpose:** Healthcare professionals frequently have to handle hazardous drugs in the hospital setting. Data on the inherent toxicity of drugs cannot be directly applied to occupational exposure. We developed a standardized method to evaluate occupational risks and to recommend protective measures.

**Methods:** Step 1: evaluation of chronic and acute toxicities and toxicity for reproduction. Step 2: toxicity weighting according to risk of exposure related to drug formulations. Step 3: definition of protective measures. Step 4: toxicity assessment of drugs used in our institution and comparison with hazardous drug lists published in the literature.

**Results:** The whole process resulted in a standardized evaluation algorithm. Risks of exposure were determined by a panel of experts to balance intrinsic toxicity of each drug formulation or administration route. Protective measures were recommended. 80 substances (109 drug formulations) were screened for toxicity. Centralisation of compounding in the pharmacy was recommended for 12/24 (50%) of intravenous liquids, 19/32 (60%) of intravenous powders and 7/26 (27%) tablets (crushing). We found a slightly different estimation of risk for only two products ( prednisone and mycophenolate mofetil) compared with the literature lists (National Institute for Occupational and Safety in Health Alert and University Health System Consortium Consensus).

**Conclusions:** We developed a simple standardized method to generate a list of hazardous drugs in our hospital according to the risk of exposure. We determined reasonable protective measures that could be easily introduced into practice to protect healthcare workers

Published in : Eur J Hosp Pharm 2013;20:100–105  
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doi:10.1136/ejhpharm-2012-000222