

Fact Sheet

Safe Management of Concentrated Injectable Medicines Standard Operating Protocol

The safe management of Concentrated Injectable Medicines is the formal process to prevent medication errors associated with the prescribing, preparation, storage, or administration of concentrated injectable medicines to ensure that errors resulting in death or serious patient harm are prevented. The High 5s Standard Operating Protocol on the Safe Management of Concentrated Injectable Medicines (CIM SOP) outlines the standard steps, guidance for implementation, references and suggestions for quality measurement with regard to the implementation of this protocol.

Implementation focuses on the three injectable medicines. These are: concentrated potassium chloride solution (>0.04 mmol/ml); heparin sodium (>1000 units/milliliter); and injectable morphine preparations (>15 mg/ml).¹

This SOP seeks to prevent medication errors by recommending steps on how to minimize errors with regard to the storage and use of concentrated injectable medicines by replacing them with ready-to-administer or ready-to-use injectable products that do not need to be diluted before use.²

Where a concentrated injectable medicine must continue to be stored and prepared in a clinical area, the risks of using this product will be managed by implementing multiple precautionary measures including: minimize look-alike labeling and packaging of concentrated injectable medicines; segregate storage of concentrated injectable medicines from other medicines; and limit the amount of concentrated injectable medicines stored in authorized clinical area. A reduction of preventable Adverse Drug Events is possible through consistent, mindful implementation of this SOP.



The High 5s Project: Action on Patient Safety is a patient safety collaboration which includes a group of countries, the World Health Organization (WHO) and the WHO Collaborating Centre for Patient Safety – The Joint Commission. The mission of the High 5s Project has been to facilitate implementation and evaluation of standardized patient safety solutions within a global learning community to achieve measurable, significant, and sustained reductions in

important patient safety problems. The High 5s SOPs are available for general implementation at www.who.int/patientsafety/implementation/solutions/high5s/en/. The SOP on the Safe Management of Concentrated Injectable Medicines was developed under the High5s Project by the United Kingdom, former National Patient Safety Agency in 2008 and tested in 16 hospitals in the Netherlands between 2013-2015.

¹ Leotsakos, A, L Caisley, M Karga, E Kelly, D O'Leary, K Timmons. High 5s: Addressing excellence in patient safety. Management: patient safety. *World Hospitals and Health Services*. 2009: 19-22

² Ibid.