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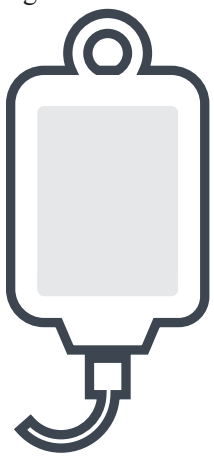
IV Fluids and Opportunity to Improve Labels

Intravenous (IV) fluids are frequently used when providing health care. Although IV fluids may be viewed as having low risk, their improper use can cause serious harm. Understanding the risks, benefits, and proper use of these solutions is paramount for patient safety. Specifically, unintentional administration of a fluid that is hypotonic, or becomes hypotonic in vivo, can result in harm or death, especially in at-risk populations such as children.[1,2] There is opportunity to improve product labels so that potential risks, and proper use, are better understood.

Two related but distinct properties of IV fluids are osmolality and tonicity. Fluid tonicity, in particular, plays a key role in regulating intracellular and extracellular fluid. Infusion of an IV fluid of inappropriate tonicity can lead to clinically significant electrolyte disturbances. The authors of a recent paper identified a number of Canadian IV fluid products that are initially hypertonic or isotonic and are labelled as such on the bag and in their respective product monographs, but become hypotonic when infused.[1] Examples of such fluids are dextrose 10% and dextrose 5% in water. Once such fluids have been administered, the dextrose is metabolized, leaving free water, which is hypotonic and contributes to hyponatremia. The authors noted that current labelling of these IV fluids can lead to misunderstanding.[1]

Given the reports of IV fluid-related errors,[2] and the potential ambiguity and confusion related to labelling of some IV fluid bags,[1] ISMP Canada suggests the development of a good practices guide for the labelling and packaging of IV solutions–similar to the guides that exist for the labelling and packaging of prescription and nonprescription drugs.[3,4] Such a guide would include the following considerations:

- prominence of critical information
- removal of non-essential information[5]
- use of machine-readable coding to support correct selection of prescribed solutions
- provision of space for additive medication labels[5]



ISMP Canada welcomes shared learning and collaborative improvement efforts to advance IV fluid safety.

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