Addressing Medication Safety In The OR

Dr. Tim Vanderveen

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Vice President, CareFusion Center for Safety and Clinical Excellence [1]

As vice president of the CareFusion Center for Safety and Clinical Excellence, Dr. Tim Vanderveen is responsible for directing clinical, educational and research activities related to medication safety. Dr. Vanderveen, who was awarded the 2011 Association for the Advancement of Medical Instrumentation Laufman-Greatbach Prize for his accomplishments in leading innovations in IV infusion pump safety, holds a master's degree from Purdue University School of Pharmacy and a PharmD degree from the Medical University of South Carolina. You can read more of Dr. Vanderveen's perspectives on medication management at http://www.carefusion.com/safety-clinical-excellence/ [1] .

Anesthesia professionals in the operating room have a unique role and responsibility in that they are the only medical personnel who prescribe, secure, prepare, administer, and document medications—a process that can require more than 40 steps—usually within a very short time interval. While advances in safer medication therapy, such as bar code medication administration (BCMA), have been shown to help nurses administer IV medications, many of these systems do not fit the workflow for anesthesiologists. The checks and balances that function well outside the OR may not exist in anesthesia practice. Although published evidence of medication errors in the OR is limited, there have been some studies that demonstrate error occurrence and risk.Consider the following:

- In 1984, medication errors were reported as a leading cause of adverse events during anesthesia.1
- In 2001, one drug administration error was reported for every 133 anesthetics administered.2
- More recently, the United States Pharmacopeia's MEDMARX database identified nearly 3,300 medication errors in U.S. operating rooms from 1998 to 2005. At a recent Anesthesiology Patient Safety Foundation (ASPF) board of directors workshop, a high percentage of anesthesiologists indicated they or a colleague had been involved in a serious adverse drug event. Sixty percent of respondents acknowledged that among a list of safety initiatives, safer medication practices was the most likely to increase safety in the OR. In addition, there was close to unanimous support for drug standardization and premix/prefilled medications.

Since its founding over 25 years ago, the Anesthesia Patient Safety Foundation (APSF) has focused on implementing safe anesthesia practices. In response to growing awareness of medication errors in the OR, the APSF has advocated a new campaign, “Medication Safety in the Operating Room – Time for a New Paradigm.” In much the same way that improvements in aviation safety practices have advanced safe air travel, the APSF is advocating for a team approach that includes four pillars – standardization, technology, pharmacy, and culture.

As an APSF board member and a pharmacist involved in medication safety, I am excited to announce the release of a new video that focuses on improving medication safety in the OR [2]. This video discusses the medication safety issue, discuses the four pillars and provides examples of model practices initiated by anesthesia departments. Distribution of this video is made possible through an unrestricted grant from CareFusion. You can also download a similar video [3] by APSF and the ECRI Institute focusing on preventing OR fires.

To watch the streaming video or obtain your own copy of the DVD, please visit the APSF online [4]. Or, very soon you can contact your local CareFusion sales or clinical representative to receive your copy.

1. Cooper JB, Newbower RS, Kitz RJ. An analysis of major errors and equipment failures in anesthesia management: considerations for prevention and detection. Anesthesiology. 1984;60:34-42.
2. Webster CS, Merry AF, Larson L, McGrath KA, Weller J. The frequency and nature of drug administration errors during anesthesia. Anaesth Intensive Care. 2001;29:494-500.

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