

Medical Errors in a Pediatric Anesthesia Setting

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DESCRIPTION

The state of regulation, temporary loss of sensation or consciousness that is induced for medical purposes is anaesthesia or anaesthesia ('without sensation' from Greek). Any or all of these can include analgesia (relieving or preventing pain), paralysis (relaxing the muscles), amnesia (loss of memory), and unconsciousness. An individual is referred to as an anesthetized under the effects of anaesthetic drugs. Anaesthesia allows the painless execution of medical procedures that would otherwise cause a patient serious or unbearable pain, or would otherwise be medically unworkable. The clinician uses one or more medications in preparation for a surgical operation to achieve the types and degree of anaesthesia characteristics necessary for the type of procedure and the individual patient. General anaesthetics, local anaesthetics, hypnotics, dissociative, sedatives, adjuncts, neuromuscular-blocking medications, opioids, and analgesics are the forms of drugs used. It is also difficult to distinguish the risks of complications during or after anaesthesia from those of the operation for which anaesthesia is provided, but they are primarily linked to three factors: the patient's health, the difficulty (and stress) of the procedure itself, and the anaesthetic technique. Among these considerations, the patient's wellbeing has the greatest effect. Death, heart attack, and pulmonary embolism may be significant perioperative threats, while postoperative nausea and vomiting and hospital readmission may be minor risks. Specific anaesthetic medications and procedures may be more specifically attributed to certain cases, such as local anaesthetic toxicity, airway trauma or malignant hyperthermia. Medical errors are the third leading cause of death in the U.S. Complications of treatment are most often involved in adverse medical conditions. Combating

anaesthetic drug errors presents various challenges; particularly in the paediatric population; many of the checks and balances present in other sections of the hospital are devoid of commonly accepted anaesthesia procedure. Anesthesia providers are the only members of the health care team who are regularly responsible for the entire process of drug administration, likely connected to 40 component measures: diagnosing the problem; deciding on the appropriate therapy; selecting the drug, dose, time, and route of administration; procuring the medication and ultimately administering the medication. These decisions need to be made rapidly by clinicians that are often multi-tasking, stressed and sometimes fatigued. The threats and effects of anaesthesia dosage failures are compounded by paediatric patients. Pediatric doses require careful estimation and are weight-based. In addition, patient maturity can influence the clearance of medication and thus amplify the impact of inappropriate dosing. Despite substantial advancements in technology and patient safety programming, it remains difficult to reliably determine the extent of drug errors. The Department of Anesthesiology, Critical Care and Pain Medicine has identified drug error prevention as a high-priority patient safety program, such as Wakeup Safe. Recently, the Wakeup Healthy Quality Assurance Program released an overview of six years of data reported to their database about drug errors. During the perioperative phase, this study was able to analyze the patterns of medication errors and to recommend tailored measures that may resolve the established patterns of medication errors. The Department of Anesthesiology, Critical Care and Pain Management at Boston Children's Hospital was a contributing member to this database around this same time span and actually contained many of the proposed treatments.

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