

WEIGHING PEDIATRIC PATIENTS IN KILOGRAMS

Description

“Of all the ways that pediatric patients can be harmed during treatment, medication errors are the most common and most preventable”.¹ Developmental differences and dosing complexities unique to pediatrics put children at high risk for both medication errors and for serious consequences as a result of these errors.^{1,2} In contrast to adult medication doses (which are often standard, unit-doses), pediatric medication doses are weight-based; based specifically upon the patient’s weight in kilograms. Determining the correct dose of a pediatric medication typically requires multiple calculations, and adult concentrations of drugs must often be diluted for pediatric administration. A 2009 analysis of 479 medication errors involving wrong weights discovered that over 25% were due to “confusion between pounds and kilograms”.³ Weighing and documenting pediatric weights only in kilograms has been repeatedly recommended in the literature as a strategy to decrease medication errors not only in the emergency department, but throughout the inpatient encounter.^{1,4,5,6,8,9}

ENA Position

It is the position of the Emergency Nurses Association that:

1. Pediatric weights only be measured and documented in kilograms .^{1,4,5,6,8,9}
2. Scales used to weigh pediatric patients only be configured to record weights in kilograms .⁵
3. Pediatric weights are recorded in a prominent place on the medical record.⁸
4. Electronic medical records are standardized to allow only kilograms for pediatric weight entries.
5. The pediatric patient’s actual weight is considered part of the mandatory nursing assessment unless they require resuscitation or emergent stabilization.
6. For the pediatric patient who require resuscitation or emergent stabilization, a standard method of estimating weight in kilograms is used (e.g., length-based system).^{6,7}
7. The pediatric patient’s weight in kilograms is included in any inter or intra disciplinary patient handoff report.

Background

Emergency departments are one of the top three areas where high medical error rates with serious consequences are known to occur.^{10,11} Medication errors due to an incorrect weight recorded in the emergency department may easily be passed on to inpatient units and can perpetuate throughout the patient’s inpatient encounter.^{3,5} Research has demonstrated that up to

18% of serious preventable medication errors are the result of not having essential information at the time of prescribing, dispensing, and administering medications.⁵ Medication errors are often system failures; as potential sources of errors are detected, the systems should be updated.¹² A weight in kilograms is a critical data point for calculating an accurate drug dosage for a pediatric patient.

References

1. Hughes, R., and Edgerton, E. (2005). *First, do no harm*. American Journal of Nursing. 105; 5, 79-84.
2. Frush, K., Hohenhaus, S., Luo, X., Gerardi, M., and Wiebe, R. (2006). *Evaluation of a web-based education program on reducing medication error*. Pediatric Emergency Care: 22;1, 62-70.
3. Pennsylvania Patient Safety Authority (2009). Medication errors: significance of accurate patient weights. Pennsylvania Patient Safety Advisory, 6:1, 10-15.
4. Hohenhaus, S. (2006). Someone watching over me: observations in pediatric triage. Journal of Emergency Nursing. 32:5, 398-403.
5. Paparella, S. (2009). Weighing in on medication safety. *Journal of Emergency Nursing*, 35(6), 553–555.
6. American Academy of Pediatrics. (2009). Joint policy statement-Guidelines for care of children in the emergency department. *Pediatrics*, 124(4), 1233–1243.
7. Gilboy, N., Tanabe, P., Travers, D. & Rosenau, A. M. (2011). *Emergency Severity Index (ESI): A triage tool for emergency department care, version 4. Implementation handbook 2012 edition*. Rockville, MD: Agency for Healthcare Research and Quality.
8. Thomas, D. O. (2010). Implementing the IOM recommendations for improving pediatric emergency care in your emergency department: Start from where you are! *Journal of Emergency Nursing*, 36(4), 375–378.
9. The Joint Commission. (2008, April 11). Preventing pediatric medication errors. *Sentinel Event Alert*, (39). Retrieved from http://www.jointcommission.org/assets/1/18/SEA_39.PDF
10. Institute of Medicine (2000). *To err is human: building a safer health system*. Washington, DC: National Academics Press.
11. National Research Council (2007). *Emergency Care for Children: Growing Pains*. Washington, DC: The National Academies Press.
12. Levine et al (2001). Guidelines for preventing medication errors in pediatrics. *J Pediatr Pharmacol Ther*, 6:427-43.

Developed: March 2012

Approved by the ENA Board of Directors: March 2012.

©Emergency Nurses Association, 2012.