2018

Can Canadian paramedic students accurately estimate pediatric weight?

Scott Bernaerts  
_Fanshawe College of Applied Arts and Technology_

Jesse Shelton  
_Fanshawe College of Applied Arts and Technology_

Emily Weston  
_Fanshawe College of Applied Arts and Technology_

Eric Dremers  
_Fanshawe College of Applied Arts and Technology_

Jordan Miller  
_Fanshawe College of Applied Arts and Technology_

See next page for additional authors

Follow this and additional works at: [https://first.fanshawec.ca/fhcsps_publicsafety_facultystaffpublications](https://first.fanshawec.ca/fhcsps_publicsafety_facultystaffpublications)

Recommended Citation

Bernaerts, Scott; Shelton, Jesse; Weston, Emily; Dremers, Eric; Miller, Jordan; van der Groef, Tristan; and Batt, Alan, "Can Canadian paramedic students accurately estimate pediatric weight?" (2018). _Faculty & Staff Publications - Public Safety_. 5.  
[https://first.fanshawec.ca/fhcsps_publicsafety_facultystaffpublications/5](https://first.fanshawec.ca/fhcsps_publicsafety_facultystaffpublications/5)
Authors
Scott Bernaerts, Jesse Shelton, Emily Weston, Eric Dremers, Jordan Miller, Tristan van der Groef, and Alan Batt

This conference proceeding is available at FIRST: Fanshawe Innovation, Research, Scholarship, Teaching: https://first.fanshawec.ca/fhcps_publicsafety_facultystaffpublications/5
Background

- The safe administration of medications to patients is an important part of paramedic practice.
- Pediatric medication doses are generally calculated based on patient weight.
- In the absence of a known weight, paramedics must rely on measurement tools, such as the Broselow tape.
- These methods can be unreliable in certain populations, and are not available to all paramedics.
- Paramedics are taught several methods for estimating pediatric weight, including various age-based formulae.
- Previous studies have demonstrated that paramedics find estimation of pediatric weights challenging, and their estimation abilities are often inaccurate.
- These inaccurate weight calculations may lead to under- or over-dosing of patients.

Objective

- This study aimed to explore Canadian paramedic students' abilities related to pediatric weight estimation.

Methods

- Prospective observational study of paramedic students at Fanshawe College, Ontario, Canada.
- Ethics approval was received from Fanshawe College REB.
- Participants were asked to estimate pediatric weight based on photos of 10 pediatric patients whose weights were known to the researchers.

Results

- 67 students participated in the study; 39 first years and 28 second years.
- There was no statistically significant difference in estimation accuracy between first-year and second-year students with the exception of one subject (Subject A) (Fig. 1).
- Second-year students underestimated weight in 7/10 subjects whereas first-year students underestimated weight in 5/10 subjects.
- 18.8% of estimations made were within ±5% range of actual weight, 38.4% within ±10% range, and 62.4% within ±20% range (Fig. 2).