The use of paediatric length based tapes in prehospital care

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I do not have any relevant financial relationship with commercial interest to disclose.
Objectives

• Stressors of paediatric emergency management

• Paediatric weight estimations and length based tapes

• Examples
Stressors of paediatric emergency management


- EMS providers reported that cases of trauma, respiratory distress and cardiac issues often led to higher stress and anxiety levels.

- Unique stresses on providers may affect patient safety – incorrect dose calculations
Stressors of paediatric emergency management

• Possible reasons for stress and anxiety:
  • provider sympathy or identification with children
  • difficulty seeing an innocent child hurt and the inherent value of children
  • insufficient exposure to paediatric emergencies

• What can help?
  • Remove some of the mental work
  • Cognitive aids?
Paediatric weight estimations and length based tapes

HMC Ambulance Service currently uses age based formulas to estimate weight

0 - 12 Months: (age \times 0.5) + 4
1 - 5 years: (age \times 2) + 8
6 - 14 years: (age \times 3) + 7
Paediatric weight estimations and length based tapes

Pawper tape  Mercy tape  Broslow tape
Examples

Girl 1: 1 ¾ years old = (1.75x2) + 8 = 11.5kg
Girl 2: 2 ½ years old = (2.5x2) + 8 = 13kg

9 month difference in age

Girl 1

Actual weight: 10kg

Girl 2

Actual weight: 14.5kg
Examples

Boy 1: 4 years old = (4x2) + 8 = 16kg
Boy 2: 7 ¾ years old = (7.75x3) + 7 = 30.25kg

3 ¾ year difference in age

Girl 1
Actual weight: 21kg

Girl 2
Actual weight: 22kg
Summary

- Paediatric emergency care in the prehospital field is stressful.
- Length based tapes offer a quick and ‘think’ free way of weight estimation/drug calculations and equipment sizes.
- Some tapes have an associated management card which removes the brain power of math calculations.
- Examples show the differences that can occur in weights of children despite their ages.
References


Questions?