

J Pediatr. 1995 Aug;127(2):200-5.

## **Resting energy expenditure in clinical pediatrics: measured versus prediction equations.**

Kaplan AS, Zemel BS, Neiswender KM, Stallings VA.

Division of Gastroenterology and Nutrition, Children's Hospital of Philadelphia, PA 19104.

Comment in:

- J Pediatr. 1996 Apr;128(4):587.
- J Pediatr. 1995 Aug;127(2):269-71.

### **Abstract**

**OBJECTIVE:** To evaluate the use of resting energy expenditure (REE) prediction equations compared with measured REE in children referred for REE to aid clinical care.

**SUBJECTS:** One hundred two patients, aged 0.2 to 20.5 years, 55% female, with a nutritional diagnosis of failure to thrive (76%), obesity (19%), or other (5%).

**METHODS:** We measured REE by indirect calorimetry and compared with prediction equations: Food and Agriculture/World Health Organization/United Nations University (FAO/WHO/UNU) equation, Harris-Benedict (H-B) equation, and two equations from Schofield, one using weight (SCHO-WT) and one using weight and height (SCHO-HTWT).

**RESULTS:** The SCHO-HTWT equation more closely predicted measured REE (100% +/- 19%), compared with the WHO equation (99% +/- 22%), the SCHO-WT equation, (99% +/- 21%), and the H-B equation (92% +/- 25%). The SCHO-HTWT equation was the best at predicting REE for obese subjects (95% +/- 17%), for those with failure to thrive (101% +/- 20%), and for children from birth to 3 years of age (101% +/- 23%). Nevertheless, the prediction equations closely predicted REE in only about 40% of subjects.

**CONCLUSION:** These findings suggest that the SCHO-HTWT equation predicts REE in children with clinical nutritional problems better than equations that use weight alone. In view of the wide variability in REE measurements, however, we believe that REE should be measured in patients for whom knowledge of caloric expenditure is required for clinical care.

PMID: 7636642 [PubMed - indexed for MEDLINE]