

# Metabolic Equivalent (MET) in Overweight and Obesity: A Short Communication

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**Citation:** Renee JR (2020) Metabolic Equivalent (MET) in Overweight and Obesity: a Short communication. J Child Obes vol No 5 Iss No. 3: e006 Copyright: ©2020 Renee JR, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

## Abstract

**Background:** Energy expenditure is commonly expressed in multiples of the resting metabolic equivalent task (MET), with 1 MET estimated to be equivalent to 3.5 ml/kg/min or 0.250 L/min of oxygen consumption. This investigation examined whether the estimated resting oxygen consumption used to express a MET was significantly different than measured resting oxygen consumption in overweight, obese class I, and obese class II subjects.

**Methods:** Forty-five (age:  $37.5 \pm 10.5$ , BMI:  $32.4 \pm 3.5$ ) overweight (N=11), Class I (N=21), or Class II (N=13) obese subjects participated in this study. Resting energy expenditure (REE) was assessed on two separate days. Following a 30-minute supine resting period in a semidarkened room, REE was assessed using the dilution technique. Data were expressed as relative (ml/kg/min) and absolute (L/min) oxygen consumption.

**Results:** Relative oxygen consumption ( $3.0 \pm 0.6$  ml/kg/min,) Relative oxygen consumption.

**Keywords:** Childhood obesity; cardiovascular disease  
Childhood obesity

## Introduction

The metabolic identical undertaking (MET) is a proportion of resting oxygen utilization that has the advantage of remaining task at hand or metabolic intensity.<sup>1</sup> The MET is viewed as an all inclusive proportion of communicating vitality consumption as a different of the resting or reference level corresponding to body weight.<sup>2</sup> Based on work led in 1941 that included warmth trade in an impartial situation under resting conditions, Gagge et al<sup>3</sup> are credited with begetting the MET phrasing, which most intently reflects the current utilization of the MET as to vitality use. The resting MET is ordinarily characterized as 3.5 ml/kg/min or 0.250 L/min of oxygen

consumption.<sup>4,5</sup> The starting points of 3.5 ml/kg/min to speak to a resting MET estimation of 3.5 ml/kg/min has been consented to have come about because of the resting VO<sub>2</sub> information acquired from one multi year old male subject gauging 70 kg.<sup>6,7</sup> Multiples of a resting MET are regularly used to assess the vitality use and work performed during different action errands. In this manner, it is significant that the gauge of the resting MET be precise to limit the probability of under-or over-estimation of vitality consumption. Also, given the significance of vitality consumption OBESITY RESEARCH Open Journal <http://dx.doi.org/10.17140/OROJ-3-121> Obes Res Open J ISSN 2377-8385 Page 7 to the treatment of weight, a comprehension of whether the ebb and flow evaluations of a resting MET are precise in people who are overweight or hefty might be of clinical and logical significance. Along these lines, the motivation behind this examination is to look at whether the deliberate resting oxygen utilization, which is utilized to characterize a resting MET, in people who are overweight or fat is steady with the broadly utilized estimation of a resting MET (3.5 ml/kg/min or 0.250 L/min of oxygen utilization). Besides, this investigation analyzed whether this changed by sex (male or female) or by evaluation of overweight or stoutness

Resting oxygen utilization (VO<sub>2rest</sub>) was estimated with a metabolic truck utilizing the weakening procedure. Estimations were gotten between 7:30 AM and 10:30 AM. Pre-test guidelines included: fasting for at any rate 12 hours the prior night testing, dodging utilization of any over-the-counter meds, keeping away from all vivacious physical movement the day preceding testing, and vehicle transportation to the examination community the morning of testing. Study members were addressed to affirm adherence to these pre-testing directions upon landing in the exploration place. Subjects were put in a recumbent situation in a semi-obscured space for a time of 30 minutes preceding information assortment. Information assortment happened for at any rate 15 minutes with 5 back to back minutes speaking to a consistent state condition, characterized as the scope of vitality.

## Acknowledgement

The authors would also like to thank the participants who took part in this research for sharing their

experiences with us. Violet may not be with us anymore; we dedicate this work to her, in the hope that the experiences shared can have a positive impact on the lives of future generations.

## References

1. **1.** Dill DB. The economy of muscular exercise. *Physiol Rev.* 1936; 16: 263-291
2. LaGrange F. *Physiology of bodily exercise.* New York, USA: D Appleton and Company; 1890
3. Byrne NM, Hills AP, Hunter GR, Weinsier RL, Schultz Y. Metabolic equivalent: one sizes does not fit all. *J Appl Physiol.* 2005; 99(3): 1112-1119
4. Gunn SM, van der Ploeg GE, Withers RT, et al. Measurement and prediction of energy expenditure in males during household and garden tasks. *Eur J Appl Physiol.* 2004; 91(1): 61-70.
5. Jakicic JM, Wing RR. Differences in resting energy expenditure and respiratory quotient in black versus white overweight females. *Int J Obes.* 1998; 22(3): 236-242.
6. Howley ET. You asked for it: question authority. *ACSM Health Fitness J.* 2000; 4(6): 6-8
7. Montoye HJ, Kemper HCG, Saris WHM, Washburn RA. *Measuring physical activity and energy expenditure.* Champaign, IL, USA: Human Kinetics; 1996: 4-5
8. Balady GJ. Survival of the fittest - more evidence. *N Engl J Med.* 2002; 346(11): 852-854.
9. Gunn SM, van der Ploeg GE, Withers RT, et al. Measurement and prediction of energy expenditure in males during household and garden tasks. *Eur J Appl Physiol.* 2004; 91(1): 61-70
10. Wasserman K, Hansen JE, Sue DY, Whipp BJ, Casaburi R. *Measurements during integrated cardiopulmonary exercise testing. Principles of Exercise Testing and Interpretation.* 2nd ed. Philadelphia, USA: Lea & Febiger; 1994: 59-60