



## Correction to: Obstructive sleep apnea does not impair cardiorespiratory responses to progressive exercise performed until exhaustion in hypertensive elderly

Bruno Teixeira Barbosa<sup>1,2</sup> · Amilton da Cruz Santos<sup>1,2,3</sup> · Murillo Frazão<sup>4</sup> · Tulio Rocha Petrucci<sup>4</sup> · Gabriel Grizzo Cucato<sup>5</sup> · Adriana Oliveira Sarmiento<sup>6</sup> · Eduardo D. S. Freitas<sup>2</sup> · Anna Myrna Jaguaribe de Lima<sup>7</sup> · Maria do Socorro Brasileiro-Santos<sup>1,2,3</sup>

Published online: 13 February 2018  
© Springer International Publishing AG, part of Springer Nature 2018

### Correction to: Sleep and Breathing

<https://doi.org/10.1007/s11325-017-1557-7>

The original version of this article was published online containing two items that require correction, namely the abstract (Results section) and Table 3.

In the abstract (Result's section), instead of “**No-OSA group** presented a positive correlation between oxygen consumption and  $O_2S$  ( $r = 0.66$ ,  $p = 0.01$ ), unlike the **OSA group**.” the statement should read “**OSA group** presented a

positive correlation between oxygen consumption and  $O_2S$  ( $r = 0.60$ ,  $p = 0.02$ ), unlike the **no-OSA group**.”; emphasis has been added in both excerpts to help locate the corrected areas.

In addition, in Table 3 “HRat, bpm” variable, No-OSA column; the value “**213.4** ± 16.9” is not correct, it should be written as “**113.4** ± 16.9”. Again, emphasis has been added in both excerpts to help locate the corrected area. A corrected version of Table 3 can be found here.

---

The online version of the original article can be found at <https://doi.org/10.1007/s11325-017-1557-7>

---

✉ Maria do Socorro Brasileiro-Santos  
sbrasileiro@pq.cnpq.br

- <sup>1</sup> Laboratory of Physical Training Studies Applied to Health, Physical Education Department, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil
- <sup>2</sup> Associate Graduate Program in Physical Education UPE/UFPB, João Pessoa, Brazil
- <sup>3</sup> Physical Education Department, Federal University of Paraíba, João Pessoa, PB, Brazil
- <sup>4</sup> Lauro Wanderley University Hospital, João Pessoa, PB, Brazil
- <sup>5</sup> Israelita Albert Einstein Hospital, São Paulo, SP, Brazil
- <sup>6</sup> Heart Institute (InCor), FMUSP, São Paulo, SP, Brazil
- <sup>7</sup> Animal Anatomy and Physiology Department, Universidade Federal Rural de Pernambuco, Recife, PE, Brazil

**Table 3** Cardiopulmonary exercise test parameters in hypertensive elderly with and without obstructive sleep apnea

Variables	OSA ( <i>n</i> = 13)	No-OSA ( <i>n</i> = 15)
VO <sub>2 peak</sub> , ml/(kg·min)	17.2 ± 3.7	16.9 ± 3.7
VO <sub>2at</sub> , ml/(kg·min)	12.0 ± 1.5	12.4 ± 2.8
PuO <sub>2</sub> , ml/systole	8.0 ± 2.5	7.6 ± 2.3
VE peak, l/min	37.3 ± 11.5	38.7 ± 12.3
ΔVO <sub>2</sub> /ΔWR, ml/(min·W)	9.0 ± 1.7	8.5 ± 24.8
ΔHR/ΔVO <sub>2</sub> , bpm/l	69.6 ± 27.1	79.7 ± 24.8
VE/VCO <sub>2slope</sub>	36.6 ± 12.2	32.4 ± 5.3
VE/VCO <sub>2at</sub>	30.7 ± 4.2	30.2 ± 2.6
OUES	1400.3 ± 430.6	1244.0 ± 254.6
R peak	1.0 ± 0.1	1.0 ± 0.1
Work Rate peak, W	83.9 ± 36.5	81.2 ± 20.6
HR <sub>max</sub> predicted, bpm	149.3 ± 7.4	150.7 ± 5.1
HR <sub>at</sub> , bpm	113.9 ± 14.4	113.4 ± 16.9
HR <sub>peak</sub> , bpm	144.9 ± 14.4	150.7 ± 9.5
ΔHRR <sub>1</sub> , bpm	19.9 ± 5.8	24.4 ± 12.0
ΔHRR <sub>2</sub> , bpm	35.5 ± 9.7*	46.5 ± 11.9
SBP <sub>peak</sub> , mmHg	201.9 ± 15.3	197.3 ± 15.8
SBP <sub>rec1</sub> , mmHg	179.6 ± 12.3	177.0 ± 13.5
SBP <sub>rec2</sub> , mmHg	160.8 ± 15.4	160.7 ± 14.3
DP <sub>peak</sub>	29,124.6 ± 4678.6	28,799.3 ± 4298.9
MET peak, ml/kg/min	4.8 ± 0.9	4.5 ± 1.0

Data are presented as mean ± standard deviation

VO<sub>2</sub> oxygen consumption, VO<sub>2at</sub> oxygen consumption at anaerobic threshold, PuO<sub>2</sub> oxygen pulse, VE maximal ventilation, ΔVO<sub>2</sub>/ΔWR metabolic function index, ΔHR/ΔVO<sub>2</sub> cardiovascular function index, VE/VCO<sub>2slope</sub> ventilatory function index, VE/VCO<sub>2at</sub> ventilatory function index at anaerobic threshold, OUES deviation from oxygen consumption efficiency, R respiratory quotient, HR<sub>max</sub> maximum heart rate, HR<sub>at</sub> heart rate at anaerobic threshold, HRR<sub>1</sub> heart rate recovery at first minute, HRR<sub>2</sub> heart rate recovery at second minute, SBP<sub>max</sub> maximum systolic blood pressure, SBP<sub>rec1</sub> recovery systolic blood pressure at first minute, SBP<sub>rec2</sub> recovery systolic blood pressure at second minute, DP<sub>max</sub> maximum double product, METs metabolic equivalent

\**p* < 0.02