Clinical Research in Cardiology (2020) 109:1597
https://doi.org/10.1007/s00392-020-01726-6

LETTER TO THE EDITORS

# Response to the letter to the editor by Kampert et al. entitled "Impact of wearing a facial covering on aerobic exercise capacity in the COVID-19 Era: is it more than a feeling?"

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Received: 29 July 2020 / Accepted: 30 July 2020 / Published online: 24 August 2020
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Kampert et al. express questions regarding (1) the measurement of pulmonary function, (2) listing of the data, (3) and a model of blood flow redistribution at peak exercise described by Harms et al. In addition, (4) they comment on the peak metabolic demand of the three conditions.

Ad 1: During CPET, VE sm: $-12.0 \pm 12.6\%$, ffpm: $-23.1 \pm 13.6\%$, $p = 0.001$, tidal volume sm $-9.9 \pm 11.3\%$ and ffpm: $-14.4 \pm 13.0\%$, $p = 0.016$, inhalation time sm: $+12 \pm 15\%$, ffpm: $+19 \pm 16\%$, $p < 0.001$, compared to nm.

Ad 2: The complete results are listed in Tables 2 and 3.

Ad 3: Harms et al. (1998) were cited describing possible changes in the distribution of total blood flow with additional work of breathing (e.g. higher breathing resistance) [1].

Ad 4: At maximum load, the metabolic demands were similar in all three conditions. The respiratory exchange ratio (RER) did not differ between the tests (nm $1.13 \pm 0.08$, sm $1.15 \pm 0.09$, ffpm $1.13 \pm 0.08$, one-way ANOVA $p = 0.596$).

A straightforward way to get a feeling for the clear results of the study could be to personally try out the effects of sm and ffpm during exercise.

**Funding** Open Access funding enabled and organized by Projekt DEAL.

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## Reference

1. Harms CA, Wetter TJ, McClaran SR, Pegelow DF, Nickele GA, Nelson WB, Hanson P, Dempsey JA (1998) Effects of respiratory muscle work on cardiac output and its distribution during maximal exercise. J Appl Physiol 85(2):609–618. https://doi.org/10.1152/jappl.1998.85.2.609

This reply refers to the comment available online at https://doi.org/10.1007/s00392-020-01725-7.

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