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## Reply: Weight Loss in Individuals with Obesity and Asthma

From the Authors:

We appreciate the opportunity to address Dr. Watchorn and colleagues' comments on our recent review on weight loss in obesity and asthma (1), which we wrote with the goal of summarizing current evidence, highlighting lessons from existing studies, and offering recommendations for future ones. We need effective lifestyle interventions for children and adults with obese asthma, and we are pleased that our review is drawing attention to the topic and stimulating discussion to advance this area of research.

There has been significant progress in recognizing the importance of risk-of-bias assessment, but it remains variable at best (2, 3), and it constitutes one of the challenges of producing high-quality systematic reviews (4). We judged the random sequence generation in the study by Stenius-Aarniala and colleagues (5) to present low risk, because it describes a random procedure performed by someone not involved in the study. Most reviewed studies were small, and we do not believe that achieving a balanced randomization should in and of itself raise suspicion. We considered the risk from selective outcome reporting to be unclear, because we did not find a registered protocol and could not evaluate whether all outcomes had been reported as stipulated *a priori*. We judged the overall risk of bias in this study to be moderate, and we stand by our appraisal.

Contrary to what Watchorn and colleagues state, the review protocol stated that the initial search would not have language restrictions but that studies should have enough information in English for accurate data collection. The abstract for Hernández Romero and colleagues (6) did not provide sufficient information on either intervention or outcomes, and thus it did not meet criteria for inclusion. However, for this response we reviewed the original manuscript in Spanish. The study compared two diets and reported improvements in obesity parameters and cytokines with both; in addition, it reported improvements in asthma symptoms and medication use with the diet based on jicama, cucumber, and a powder made of rice, soy, sesame seeds, and tuna fruit. Although the trial did not meet inclusion criteria, the results are consistent with other studies in the field. The study by Willeboordse and

colleagues (7) indeed included children at “high risk” for asthma, as we clearly mention in the review. Moreover, the authors disclosed that ~66% of participants in their control group sought professional weight loss help. Both of these facts may have contributed to the lack of significant differences observed for some outcomes in that study.

We fully agree with Watchorn and colleagues that asthma symptoms and quality of life are important, and surely they noticed those outcomes are reported in the review. The distinction between “primary” and “secondary” outcomes was made *a priori* during protocol design, before performing the literature review, and it should be interpreted accordingly. In the actual publication, results are presented without attempts to prioritize certain outcomes or relegate others. The cited report on asthma biomarkers (8) is important, but it was certainly not aimed at the study of obesity and asthma. Our understanding of how obesity affects asthma is far from complete (9, 10), and examining relevant biomarkers in the setting of experimental weight loss and resultant asthma improvement will be crucial to understanding the underlying mechanisms. It is thus unsurprising that the majority of studies reviewed (as well as Hernández Romero and colleagues [6]) measured some type of biomarker. Given the heterogeneity of asthma, identifying novel biomarkers will be critical to help distinguish among asthma phenotypes and endotypes—including those related to obesity—and to identify new therapeutic targets for a more personalized treatment approach.

**Author disclosures** are available with the text of this letter at [www.atsjournals.org](http://www.atsjournals.org).

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