Effect of Exercise Intensity on Body Composition

To the Editor: Dr Jakicic and colleagues1 concluded that vigorous exercise intensity was not superior to moderate exercise intensity for weight loss in a 12-month physical activity program with additional restriction in dietary fat and caloric intake.

To help explain this unexpected finding, we suggest that the intensity-dependent effect of physical activity on body composition should be taken into account. A higher intensity level of physical activity leads to a more pronounced shift in the relationship of fat mass with fat-free mass (specifically, skeletal muscle mass) with only minimal changes in body weight.2,3 Thus, the apparent lack of an effect of intensity may be due to higher post-intervention fat-free mass in the individual who exercised vigorously. This potential benefit of higher exercise intensity could have been assessed with measurement of body composition.

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In Reply: I agree with Drs Ritt and Lechleitner that exercise may have a significant impact on fat-free mass. However, in our study we were attempting to examine exercise intensity while holding exercise volume constant. Therefore, it is possible that exercise intensity does not have differential effects on body weight or body composition when total exercise volume is held constant. Our results are consistent with the findings of the study published by Duncan et al1 who found no difference in body composition with varying intensities of exercise when exercise volume was held constant across the different intensities. Moreover, based on our review of the literature, a reduction of energy intake of 500 to 1000 kcal/d combined with increased exercise intensity is not consistently related to increases in fat-free mass, irrespective of either endurance or resistance forms of exercise.2 Thus, our findings appear to be consistent with the majority of clinical trials. However, I agree that body composition data may provide additional insight into the potential mechanism by which exercise plays a role in the management of body weight.

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Occupational Safety of Home Health Workers

To the Editor: In their Contempo Updates article about home care, Dr Levine and colleagues1 did not discuss the safety of home health care workers. The Bureau of Labor Statistics (BLS) projects that the number of home health care workers will increase by 60% during this decade, making it one of the fastest-growing US employment sectors.2 The BLS reported an injury rate in home health workers of 474 lost-work day cases per 10,000 workers, which is 30% higher than the injury rate among hospital workers and 70% higher than the general work force.3 The increasing number of workers at risk and the personal, social, and economic consequences of workplace injury make it critical to consider labor and health and safety issues connected with the growth in home health care.

The risks to home care workers may be less visible for several reasons: their workplace is not subject to the same oversight and legislation as health care facilities; the physical layout and psychological milieu are highly variable from site to site; workers may take on home care as moonlighting; wages are lower, benefits often nonexistent, and negotiating power limited for unskilled home care workers; and a significant immigrant population and “informal sector” fills the need for supportive services in the home.

Ergonomic risks are associated with caring for immobile patients in poorly arranged spaces, especially in the absence of coworkers or mechanical devices for assistance. Bloodborne pathogens, tuberculosis, and other biological agents may cause infection. At present, the Occupational Safety and Health Administration does not hold employers responsible for providing safety syringes or tuberculosis surveillance to home care workers.4,5 The physical environment may contain faulty electrical wiring, hot stoves, inefficient heating and cooling, presence of pets, uncooperative patients, and violent relatives. Patients may live in violent neighborhoods, in poorly maintained buildings, and up flights of stairs. Motor vehicle crashes, the most common cause of work-related mortality, account for approximately 25% of the excess risk in home care workers more than those who work in health care facilities.6 Shift work, un-