CORRESPONDENCE

The Intensity and Effects of Strength Training in the Elderly

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Pre-existing Conditions Are no Barrier to Strength Training

Mayer et al. address an important subject in their article (1). We would like to add that with only a very few exceptions, pre-existing conditions are not a contraindication for strength training. For example, in Western countries at least two thirds of those aged over 60 have arterial hypertension. Until only a few years ago this was considered the main contraindication for strength training. Even today this view remains very widespread in clinical practice and might hinder the intention behind Mayer et al.'s article. However, it is now generally accepted that appropriate performance of strength training (no forced respiration) can actually have a positive effect on blood pressure (2). These findings were summarized as early as 2005, in a meta-analysis by Cornelissen and Fagard (3). The literature also contains positive data for heart failure, diabetes mellitus, osteoporosis, COPD, and other conditions (4). In fact, short, frequent periods of strength training are sometimes tolerated better than endurance training. The positive effects described by Mayer et al. are also sufficient grounds for recommending strength training as an additional form of exercise for elderly people with concomitant conditions.

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Effectiveness in the Obese

It must certainly be agreed that progressive strength training of the largest possible muscle groups is essential in reducing sarcopenia and developing everyday

motor skills (1). For several years now, progressive resistance training has also been used to prevent and treat excess weight and obesity in the elderly (2–3). As well as increasing muscle strength, moderate-intensity strength training for overweight elderly persons can also increase fat-free body mass and reduce body fat percentage. There is also an increase in resting energy expenditure for 24 to 72 hours and an increase in fatty acid oxidation for up to 24 hours. As far as their individual fitness/health allows, overweight elderly persons should choose complex strength exercises that are as intense as possible: working on several muscle groups that are involved in a single movement (e.g. twice-weekly whole-body strength training) is more effective in reducing body fat than isolated exercises of individual muscle groups.

I am pleased to hear that high-intensity progressive strength training for the elderly is also being advocated. Recognition of the protective effect of intense muscle activation is not particularly new: the Jewish doctor Moses Maimonides (1138 to 1204) wrote the following in his work *Hilchot Deot* more than 800 years ago: “Whenever one exercises and works but is not satisfied with what one eats and one's bowels are healthy, one will not become sick and one's strength will increase, even if one eats bad foods. Anyone who does not exercise, or holds back from relieving himself, or who has hard bowels, will have a painful life and his strength will weaken, even if he eats good foods and looks after himself medicinally”.

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Conflict of interest statement

The authors declare that no conflict of interest exists.

The authors of the article have chosen not to publish a reply.