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Weight Loss—Induced Muscle Mass Loss

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# Letters

## COMMENT & RESPONSE

### Weight Loss–Induced Muscle Mass Loss

**To the Editor** Dr Conte and colleagues<sup>1</sup> assert that concern about marked weight loss induced by glucagon-like peptide-1 (GLP-1)-based antiobesity medications causing physical frailty or sarcopenia is not supported by data. We believe that reassurance is premature. The loss of skeletal muscle mass (SMM) during weight loss is poorly described and has not been directly measured for weight loss resulting from GLP-1 agonists. The figure in Conte's Viewpoint assumes that SMM is a constant 50% of fat-free mass (FFM). This assumption is not based on actual accurate measurement of SMM. The proportion of FFM that is SMM is highly variable and decreases with advancing age and, as a result, FFM is not a surrogate measurement of SMM. The loss of SMM in older patients with obesity is a particular concern. Previous studies have demonstrated an exaggerated loss of FFM in older men and women during weight loss and regain of fat and very little FFM or muscle. Loss of excessive muscle during weight loss in older people is associated with increased mortality risk.<sup>2</sup> This is particularly important for older people, as decreased muscle mass (but not FFM) is associated with increased risk of disability, hip fracture, and mortality.<sup>3</sup> There is an urgent need for studies that accurately measure muscle mass, strength, and

mobility during GLP-1 agonist-induced weight loss and regain of weight after they are stopped, especially in older people. Until then, clinicians and patients should take measures to maintain muscle mass and strength during treatment and cessation of these potent agents.

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