

EXERCISE AND SPORT SCIENCES REVIEWS



ESSR Journal Club

Covered Article: “[Anabolic Resistance of Muscle Protein Synthesis With Aging](#)” by Nicholas A. Burd, Stefan H. Gorissen and Luc J.C. van Loon.

Exercise and Sport Sciences Reviews. 41(3): 169-173, July 2013.

Journal Club Author: Romain Meusen

1. Which mechanisms are suggested to contribute to the anabolic resistance of muscle protein synthesis with aging?
2. Which key regulatory proteins might contribute to a reduced ‘sense’ of a nutrient signal in senescent muscle?
3. What happens to casein when it enters the stomach?
4. What is the effect of casein hydrolysis on the absorption of amino acids?
5. Describe some compensatory mechanisms that enable older adults to keep protein synthesis similar to that for younger adults?
6. Why does physical activity prior to food intake improve the rate of postprandial muscle protein synthesis?
7. How can older adults increase or improve skeletal muscle anabolic sensitivity to improve muscle protein response?
8. What nutritional advice would you give an older adult to attenuate the change in the rate of protein synthesis?
9. List three major gaps in knowledge in this field.