

## Comparison Between Vegans and Omnivores on the Recovery of Delayed Onset Muscle Soreness in Young Females

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**Abstract :** Background: Acute resistance exercise is associated with an elevated inflammation response, which could lead to delayed onset muscle soreness (DOMS). There is evidence that suggests that ingesting foods that have anti-inflammation properties may help reduce DOMS. A vegan diet has also been shown to be an anti-inflammatory diet which could, in turn, decrease DOMS. Objective and hypothesis: The purpose of the present study will be to compare markers of DOMS between vegans and omnivores after acute resistance exercise in young females. We hypothesize that vegans will have a better recovery of DOMS markers after a resistance exercise session compared to omnivores. Methods: Population: We will recruit 30 vegans and 30 omnivores to participate in this study. All volunteers will follow either a vegan or an omnivore diet for at least 2 years. Anthropometric measurements, body composition, muscle strength (leg and chest press), markers of DOMS (swelling, pain, and stiffness), and dietary factors, as well as a wellness and anxiety questionnaire will be measured. All participants will also perform an acute resistance exercise session in order to induce DOMS. Pertinence: This project will give us a better understanding on the recovery process of vegans after a resistance training session and, as such, provide useful information to health professionals and athletes/coaches (kinesiologists and nutritionists)

**Keywords :** vegans, omnivores, delayed onset muscle soreness, pain, stiffness

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