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Exercise interventions for metabolic disorders in patients with chronic spinal cord injury

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Several studies have reported that morbidity and mortality from cardiovascular disease are greater and occur earlier among individuals with chronic spinal cord injury (SCI) compared to able-bodied population. After SCI, changes in body composition (reduction in muscle mass), changes in metabolic rate, and limited mobility might lead to an increased prevalence of obesity in this population. All these findings should be useful for prioritizing preventive health strategies and planning long-term care for people with chronic SCI

However, the available evidence does not support that findings from studies conducted in able-bodied adults evaluating efficacy and harms of exercise interventions to prevent obesity-linked metabolic and cardiovascular diseases can be extrapolated to individuals with SCI.

Fortunately, recent studies have demonstrated that both resistance and endurance training programs may improve metabolic disturbances such as insulin resistance in this population group. In a more detailed way, these findings could be explained, at least in part, by decreasing low-grade systemic inflammation and oxidative damage. These findings are of particular interest given that they both have been associated with an increased morbidity in this group²².

Lastly, it should be also emphasized that exercise interventions should be effective and safe given that injuries and discomfort may lead to participants to interrupt their training programs. In fact, erring on the conservative side of selected exercise durations and intensities are prudent and even more important for persons training with a disability than those without.

Biography

Manuel Rosety-Rodriguez is a Spanish trained Sports Medicine Physician specialising in health promotion induced by exercise in handicapped populations. He has completed his Ph.D at the age of 28 years from University of Cadiz (Spain) and postdoctoral studies from School of Medicine (University of Athens, Greece). He is Associate Professor and the director of Internal Medicine Department at University of Cadiz. He has published more than 31 papers in top-ranked journals as well as several book chapters on sports medicine. Furthermore, he has visited several sports medicine research laboratories in Italy, USA, Brasil, Germany and Argentina.

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