

## PROJECT REVIEW

***“Tramadol and sport: Effects on physical and sustained attention performance during cycling exercise.”***

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Tramadol is an analgesic medication for the treatment of moderate to severe pain. Recently, there have been concerns about the abuse of tramadol causing falls in the pro-cycling peloton. Only few studies have examined the effects of Tramadol on performance and none with athletes or healthy subjects. The impact of Tramadol on cycling performance might be mediated by its effect on sustained attention, which is defined as a capacity to detect of relevant stimuli that are rare and unpredictable.

The aims of this project are: 1) to investigate the impact of Tramadol on physical performance in cycling with a Functional threshold power test (1st year); 2) to investigate the effect of Tramadol on sustained attention at rest (1st year) and during exercise (2nd year) with the Continuous Performance Task; 3) to study whether sustained attention might mediate the effect of Tramadol on cycling performance with an ecologically-valid task (3rd year). All experiments to reach the objectives will be performed using a placebo-controlled, double blind, randomized counterbalance methodology. Tramadol (a single dose of 100 mg of orally administered will be used) or Placebo will be administered to participants 120 min before starting each test. We will recruit 30 subjects for each experiment (15 males and 15 females). Together with objective measures of physical and cognitive performance, we will obtain measures of subjective performance such as perceived effort and mental fatigue.

This research project will be the first to test the effects of Tramadol on sustained attention during cycling. This is particularly relevant since Tramadol has been placed on WADA's Monitoring Program from 2012 to 2015 (Narcotics: in competition only) in order to detect potential patterns of abuse. Our findings would certainly help the WADA to decide whether to include Tramadol into the Prohibited List or not.