

# Psychophysiological anxiety response of a rescue helicopter crew in a crane rescue manoeuvre

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## Abstract

**background** This research aimed to analyse the psychophysiological modifications of a rescuer helicopter crew in a crane rescue manoeuvre. **Methods** We analysed in eight participants ( $32.5 \pm 6.6$  years) divided in four categories (pilot, mechanic, rescuer and control) with variables of anxiety, rating of perceived exertion (RPE), stress subjective perception (SSP), heart rate, blood oxygen saturation (BOS), skin temperature, blood lactate, cortical arousal, autonomic modulation, legs and hands strength, legs flexibility, spirometry, urine, and short- term memory before and after a helicopter crane rescue manoeuvre. **results** The manoeuvre produced a significant ( $p \leq 0.05$ ) increment in the RPE, SSP, anxiety, blood lactate and sympathetic modulation, and a decrease in BOS and pulmonary capacity. **Conclusion** A helicopter rescue crane manoeuvre produced an increase in the sympathetic nervous system modulation, increasing the psychophysiological response of the crew independently of their experience or role. This information allowed us to improve actual specific operative training in this population.

**Keywords:** Anxiety, Psychophysiological response, Rescue manoeuvre