

## Restrictive Breathing Mask Reduces Total Repetitions in Resistance-Trained Males: An Ongoing Study

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### ABSTRACT

Recently a popular exercise training device has been developed, which has been promoted by companies as a training aid, known as a restrictive breathing mask (RBM). The RBM is designed to simulate training at higher altitudes and has become commonplace for individuals to utilize during resistance-training sessions. **PURPOSE:** The purpose of this study was to examine the impact of a RBM on muscle performance and perceptual measures in resistance-trained males. **METHODS:** A cross-over study design was utilized in 9 resistance-trained males with performance trials separated by 7 days. A baseline strength testing session was completed for 12RM for squat, leg press, and leg extension. Participants completed the lower body workout with no mask or RBM. After the initial warm up, participants completed 4 sets of reps to failure of squats, leg press, and leg extension with 2 minutes rest between sets and 3 minutes between exercises. Heart rate was collected immediately post set. Participants completed a 10cm visual stress scale immediately post resistance training session and Session RPE (SRPE) was collected 10 minutes post. Paired T-tests were utilized to analyze total session reps, SRPE, average post set session heart rate, and session stress scale. **RESULTS:** There was a significant reduction in total session reps during the RBM trial compared to the no mask trial ( $p < 0.001$ ). SRPE was significantly higher during the RBM trial compared to the no mask trial ( $p = 0.003$ ). There was a significant elevation in perceived stress during the RBM trial ( $p = 0.01$ ). Finally, there was a statistically significant increase in post set heart rate during the RBM session ( $p = 0.04$ ). **CONCLUSION:** Based on the performance variables, it appears that a RBM reduces the total repetitions that an individual can complete during an acute bout of resistance training, while also increasing the perceived difficulty and stressfulness of the bout. Subsequently, a reduction in mechanical stimuli could result in a diminished hypertrophic response over time.