

## Effects of Swimming Exercise Training on Persistent Pain in Rats after Thoracotomy

**Authors :** Shao-Cyuan Yewang, Yu-Wen Chen

**Abstract :** Background: Exercise training is well known to alleviate chronic pain syndromes improve of chronic pain. This study investigated the effect of swimming exercise training on thoracotomy and rib retraction-induced allodynia. Methods: Male Sprague Dawley rats that received animal model of persistent postthoracotomy pain. All rats were divided into three groups: sham operations group (Sham), thoracotomy and rib retraction group (TRR), and TRR with swimming exercise training for 90min/day, 7 days a week for 4 weeks (TRR-SEW). The sham group did not receive retraction of the ribs. Thus, they received a pleural incision. The levels of mechanical and cold allodynia were measured by von Frey and acetone test. Results: In von Frey test, the level of mechanical allodynia in the TRR group was significantly higher than the sham group. The level of mechanical allodynia in the TRR-SEW group was significantly lower than the TRR group. In acetone test, the level of cold allodynia in the TRR group was significantly higher than the sham group. The level of cold allodynia in the TRR-SEW group was significantly lower than the TRR group. Conclusions: These results suggest that swimming exercise training decreases persistent postthoracotomy pain caused by TRR surgery. It may provide one of the new therapeutic effects of swimming exercise training could alleviate persistent postthoracotomy pain.

**Keywords :** chronic pain, thoracotomy pain, swimming, von Frey test, acetone test

**Conference Title :** ICPMR 2017 : International Conference on Pain Medicine and Rehabilitation

**Conference Location :** Kyoto, Japan

**Conference Dates :** November 16-17, 2017