

Eli's Rehab Report

Clinical Rehab Roundup

In this recurring feature, Physical Medicine & Rehab Coding Alert provides you with summaries of a cross section of recent clinical studies. Here's what's new this month.

Evaluate Where You're Administering Therapy

"Forced ventilation increases variability of isometric finger forces." Li S, Yasuda N. *Neurosci Lett*. 2007 Feb 2;412(3):243-7. Epub 2006 Dec 8. The study aimed to assess the effects of forced ventilation on variability of the index finger force at the submaximal levels. Researchers instructed 14 healthy subjects to perform self-initiated forced inspiration and forced expiration, the Valsalva maneuver and normal breathing while sustaining 15 percent, 30 percent and 45 percent of maximal voluntary contraction (MVC) by the index finger.

Findings: Standard deviation (SD) of finger forces increased significantly with the force level. At each force level, the mean force did not significantly change under different breathing conditions. SD and coefficient variation (CV) during forced inspiration and expiration was significantly greater than SD and CV during normal breathing and the Valsalva maneuver at each force level.

Researchers found no significant differences in SD and CV between forced inspiration and expiration or between normal breathing and the Valsalva maneuver. Force variability synchronized with the initiation of forced inspiration and expiration but not with the ventilation data during the Valsalva maneuver or normal breathing.

Researchers concluded that these findings clearly demonstrate that finger force variability is affected by specific ventilation patterns at submaximal force levels. Therefore, assessment of force variability should consider the influence of ventilation.