



## البحث الرابع

بحث منشور- فردي- مستخلص من رسالة علمية -لم يسبق تقييمه

عنوان البحث:

### **Diaphragmatic Function Assessment Using Chest Ultrasonography as a Predictor for Weaning from Mechanical Ventilation**

**Background:** Ultrasonographic evaluation of the diaphragm is non-invasive, simple, available, and bedside procedure.

**Purpose:** Assessment of the diaphragm functions by ultrasound for the prediction of weaning from mechanical ventilation.

**Materials and methods:** Ninety patients were included and invasively mechanically ventilated. All patients were subjected to ultrasound examination to measure diaphragmatic excursion (DE), diaphragmatic thickening fraction (DTF), contraction velocity, and relaxation rate during the first 24hours of intubation; first 24hours of the weaning process and among the successful weaning group, the same measures are within the first 48hours of extubation and before discharge.

**Results:** Patients (56.6%) show successful weaning and, 43.3% of the patients show failed weaning with cut off values for prediction of successful weaning were 1.3cm for DE, 13.5% for DTF, 0.95cm/s for contraction velocity and 0.7cm/s for relaxation rate. Also among the successful weaning group, there was a significant progressive increase in diaphragmatic measures during weaning trial with more increase after extubation and before discharge measures.

**Conclusion:** Sonographically measured DTF, DE, contraction velocity and relaxation rate are reliable and sensitive methods for prediction of weaning outcome from mechanical ventilation.

توقيع المتقدم

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