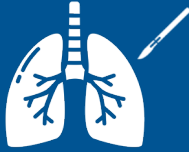


# Prevalence and time-course of diaphragmatic dysfunction following lung resection: a repeated ultrasonic assessment

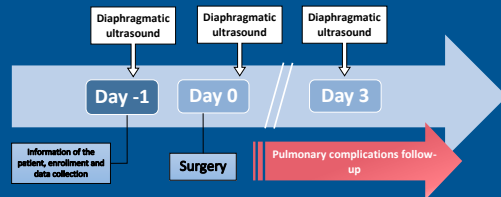


Ultrasound allows for the non-invasive serial assessment of diaphragmatic dysfunction (DD) measuring diaphragmatic excursion (DE) and thickening fraction (DTF) at the bedside. There is a little information regarding DD following thoracic surgery.

## Lung resection



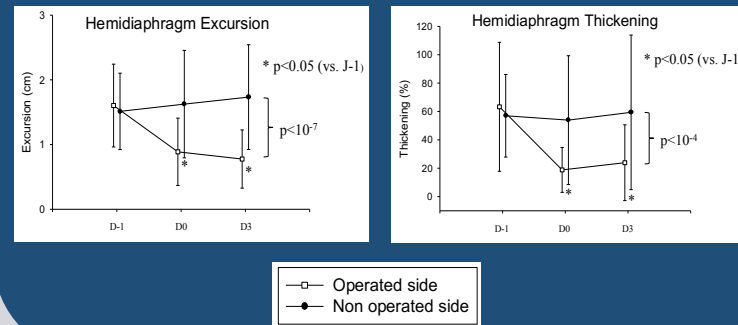
50 patients aged  $60 \pm 15$  years (60% males)  
n=30 lobectomy  
n=17 wedge resection  
N=3 pneumonectomy



Prevalence of immediate postoperative DD on the operated side  
**= 68%**

↘ DE and DTF on the operated side only immediately after extubation (D0) and persisting at D3 with respect to preoperative values

D0: DE  $-0.71 \pm 0.12$  mm and DTF  $-44 \pm 30\%$  ( $P < .05$ )  
D3: DE  $-0.82 \pm 0.19$  mm and DTF  $-39 \pm 19\%$  ( $P < .05$ )



Univariate analysis  
Association between persistent DD on the operated side and an increased risk of:

- ↗ lung infections ( $P=0.001$ )
- ↗ ICU admission ( $P=0.04$ )

Multivariate analysis  
Association with a prolonged hospital length of stay

OR: 1.3, 95% CI [1.1-1.7],  $P=0.016$

**OR: 1.3**

Thoracic surgery generates DD mainly observed on the operated side. When persisting at least up to the postoperative day 3, DD is associated with an increase in the length of hospital stay.