

# Does Noninvasive Ventilation Before and After Cardiac Surgery Prevent Pulmonary or Heart Failure?

## STUDY DESIGN

- Prospective, randomized, monocentric trial of 216 adult patients at risk of postoperative cardiac or pulmonary failure
- Randomized to receive noninvasive ventilation (NIV) for 5 days prior to and after surgery vs standard care

### HIGH RISK:

BMI > 30  
COPD stage I-III  
Total lung capacity < 80%  
Ejection fraction < 55%  
Hypoventilation syndrome or OSA not on NIV

## RESULTS

### Cardiorespiratory Failure at 1 Month

Patients on NIV

**55.1%**

Relative risk, 0.69  
(0.57-0.84)



Patients in control group

**79.8%**

	NIV	STANDARD CARE
Cardiorespiratory failure	55.1%	79.8%
Acute respiratory failure	16.8%	45%
Acute heart failure	9.3%	8.3%
Postoperative cough	18.6%	79.2%

The results of this study indicate that the use of NIV before and after cardiac surgery reduces the rate of cardiopulmonary failure after high-risk cardiac surgery.