



## PUBLICATION



### Hui et al. 2023. Int. J. Infect. Dis.

#### Risk of air and surface contamination during application of different noninvasive respiratory support for patients with COVID-19

##### Aim of the study

To measure air and surface contamination with SARs-CoV-2 virus during different non-invasive respiratory therapies.

##### Why is this study important?

This study contributes to an evidence based reassessment of respiratory therapies that have been labelled 'aerosol generating procedures'.



## KEY POINTS

"No increased risk of environmental contamination in the isolation rooms was observed in the use of [NHF] and NIV vs COT among patients with COVID-19 with respiratory failure."

"Higher viral load in the respiratory samples was associated with positive air samples"

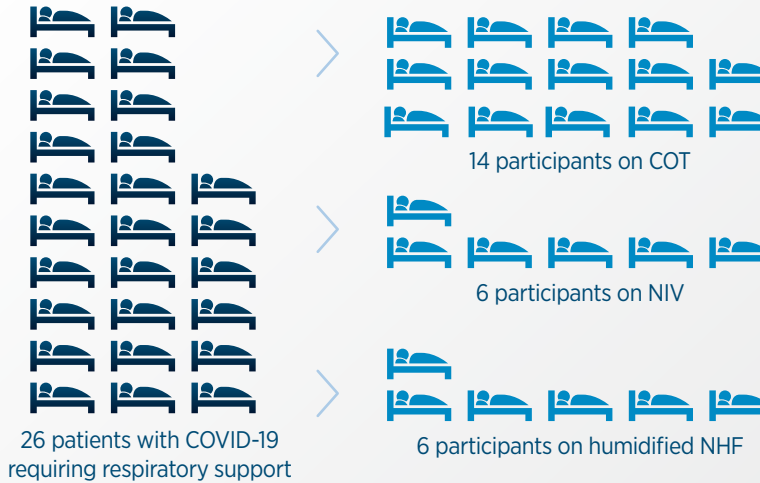
"There was no nosocomial infection involving staff members"

### Further reading



## METHOD

26 patients with confirmed COVID-19 who required respiratory support were recruited in the isolation ward (negative pressure rooms with 12 air changes/hour) from Jan to May 2022 (during the Omicron fifth wave).



Air samples (3.5 L/min for 2-4 hours) were taken:

- left and right of the patient's head
- at the end of the bed

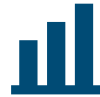


Surface samples were taken from most patients\* on the:

- bedrail
- table
- chair
- floor
- call button
- window sill
- bathroom door handle
- bed trunk
- pillow
- blanket
- vital sign equipment
- wall at knee height

\*Surface samples were taken from 6/14 on COT, 4/6 on NHF and 6/6 on NIV

COT (Conventional Oxygen Therapy via nasal cannula), NIV (Non-Invasive Ventilation, 4/10 to 5/15 cmH<sub>2</sub>O), NHF (Humidified High-Flow Nasal Oxygen, 50 to 60 L/min)



## RESULTS

### Viral RNA from Air Samples and Surface Samples

