

## Compliance with the European care bundle improves Intubator-Associated Pneumonia control in the ICU

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### Background

The implementation of care bundles for the control of Intubator-Associated Pneumonia (IAP) has been related with reduction of IAP rates, but results are conflicting. The objectives of the present study were to assess compliance with European bundle practices and its association with IAP incidence.

### Methods

In the framework of the fourth edition of the SPIN-UTI project (2012-2013), the "Italian Nosocomial Infections Surveillance in Intensive Care Units (ICUs) network", a web-based survey was conducted using an online questionnaire filled out for each intubated patient admitted in the participating ICUs during the period January – June 2013. Data on prevention practices included in the European bundle (Rello et al., 2010) were collected. Compliance was calculated as the number of patients where compliance with a specific measure was observed divided by the total number of intubated patients.

### Results

A total of 768 intubated patients, admitted in 15 ICUs were included. The highest compliance was achieved regarding the practice "not changing ventilator circuits unless necessary" (92.2%), followed by "intracuff pressure control" (87.5%), "hand hygiene" (80.6%) and "oral care" (70.4%). "Sedation control" was performed only in 43.6% of patients, which revealed the lowest levels of compliance. Overall compliance with all five practices has been reported in 21.1% of the included patients. A significant negative trend of IAP incidences was observed with increasing number of bundle practices performed. A strong negative correlation between these two factors was found ( $r=-0.882$ ;  $p=0.048$ ).

### Conclusions

The present study demonstrates that considerable improvements in infection control can be achieved with high compliance with the European bundle for IAP prevention. Therefore, efforts should be undertaken in continuous healthcare workers education in order to maintain high levels of compliance.

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### Key messages

- Compliance with all five practices of the European bundle has been reported in only 21.1% of patients
- A significant negative trend of the incidence of IAP was shown with the increasing number of bundle practices performed