

Accepted Manuscript

Experimental assessment of different mixing air ventilation systems on ventilation performance and exposure to exhaled contaminants in hospital rooms

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PII: S0378-7788(18)31338-0
DOI: <https://doi.org/10.1016/j.enbuild.2018.07.053>
Reference: ENB 8724



To appear in: *Energy & Buildings*

Received date: 3 May 2018
Revised date: 18 July 2018
Accepted date: 24 July 2018

Please cite this article as: F.A. Berlanga , I. Olmedo , M. Ruiz de Adana , J.M. Villafruela , J.F. San José , F. Castro , Experimental assessment of different mixing air ventilation systems on ventilation performance and exposure to exhaled contaminants in hospital rooms, *Energy & Buildings* (2018), doi: <https://doi.org/10.1016/j.enbuild.2018.07.053>

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Highlights

- Airflow patterns generated by different mixing ventilation (MV) configurations influence performance and exhaled contaminants distribution in hospital rooms using mixing ventilation strategies.
- The exposure to exhaled contaminants is a transient process in which punctual high peak values could be several times higher than the average.
- There is an influence between the ventilation configuration and air renovation rate on the mean and peak exposure to exhaled contaminants.
- The performance of MV configurations based on ceiling swirl diffusers are more reliable and less dependent on local airflow patterns.
- The comparison between the results obtained for MV and displacement (DV) ventilation strategies highlight the good performance of DV for hospital room environments.

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