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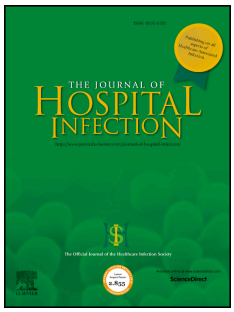

Preliminary study of the air quality in operating rooms: do textiles have a role?

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LETTER TITLE: Preliminary study of the air quality in operating rooms: do textiles have a role?

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Sir,

Although air quality control is routinely performed in operating rooms (ORs), and high efficiency particulate air (HEPA) filters ensure that ORs reach the required air standards (1), surgical textiles releasing inert particles, can worsen air quality (2, 3). Italian hospitals mostly use cotton drapes and disposable non-woven fabric (NWF) gowns. Cotton drapes are economic and reusable but release a high amount of inert particles. NWF and reusable technical textile (RTT) surgical drapes and gowns both release fewer particulates. However, NWF products, being disposable, have a higher impact on the environment than RTT ones that can be reused (4). We evaluated inert particulate levels and microbiological contamination in four ORs of an Italian teaching hospital after the exclusive use of NWF or RTT gowns and drapes. Technical features of the textiles are described elsewhere (4).

The study (August-October 2017) was performed in two abdominal surgery units (SU-A and SU-B) of a teaching hospital.

From each SU, tests were performed in two different 36 m^2 ORs, (OR-A1; OR-A2) (OR-B1; OR-B2), characterized by a conventional turbulent mixed flow (air flow rate of 3000 m^3/h) with high-efficiency particulate air (HEPA) filtering (5). Before the start of the study, in all the ORs healthcare personal wore NWF textiles. After the start of the trial, only RTT gowns and drapes were used in OR-A1 and OR-B1, while OR-A2 and OR-B2 were dedicated to the exclusive use of NWF.