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Authors:

Sanjeev B Thool

Shobha Lata Sinha

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Abstract

Operating room is likely a place of occurrence of infection to surgical site of patient due to contaminated particles. The proper ventilation system plays an important role to prevent it by safely removing contaminated particle from the critical areas of the operating room. In the present investigation, two types of ventilation systems are analyzed by CFD simulation in the view of contamination control. These are Conventional High Supply and Low Exhaust (case 1) & Low Supply and High Exhaust (case 2). The common thing in these systems is that inlet and exhausts opening are located on walls only and operating on same Air Change Rate (ACH). These systems are just modeled by changing the inlet and exhaust openings of the same operating room. Case 1 exhibits downward airflow whereas case 2 exhibits upward airflow movement. Numerical simulation result shows that ventilation system of case 2 is safer than case 1 in terms of contaminated particles strikes on the critical areas of Operating Room.

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