

Abstract

Suspended particulate matter in an office and laser smoke particles in an operating room.

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Suspended particulate matter in an office and laser smoke particles in a laser operative room of the Otolaryngology Department, Ramathibodi Hospital were compared. Suspended particulate matter sizes of PM15, PM10 and PM2.5 were selected due to their impact on health. The amount and sizes of the particles were measured by a laser diode portable dust monitor. The mean and standard deviation were measured every hour for 6 periods and calculated by specific computer software. The amount of suspended particulate matters in the office were within the accepted safety level. The amount of suspended particulate matter including laser smoke particles in the operative room before, during and after each laser evaporative procedure was much higher than that of the office. The amount of suspended particulate matter was dangerous for all personnel in the operative room. Risk management for patients in the operative room should be stressed. The ventilation system of the operative room will be assessed further.