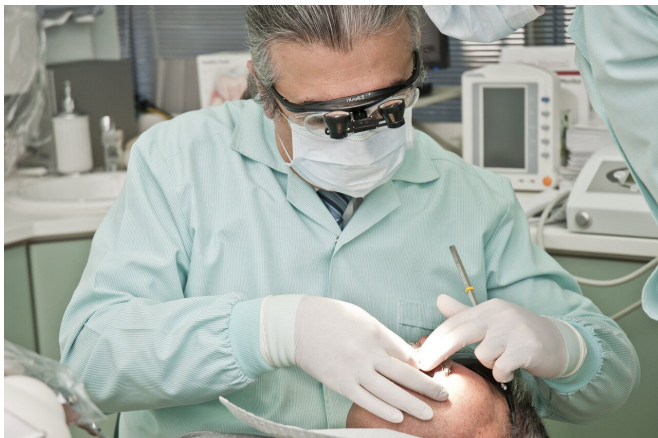


# Role of aspirating system type in SARS-CoV-2 seropositivity among dental staff

8 February 2021



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High-volume aspirators are recommended in dental clinics during the COVID-19 pandemic, but the study "SARS-CoV-2 Seropositivity Among Dental Staff and the Role of Aspirating Systems" published in the *JDR Clinical & Translational Research (JDR CTR)*, shows that the type of aspirating system significantly affects the incidence of SARS-CoV-2 infection among dental specialists.

In this [retrospective cohort study](#) of 157 [healthcare workers](#) in Ekaterinburg, Russia, data on the seroprevalence of COVID-19 from [dental clinics](#) using three different types of aspirating systems were compared. Clinic A and B used a V6000 aspirating system with a vacuum controller and high-efficiency particulate air (HEPA) filters, but the aspirating system in clinic A functioned in dry mode and the system in clinic B functioned in semi-dry mode. Clinic C used the VS900 system which discharges air into the dental operator, closely resembling natural dispersion, and no HEPA filter.

The estimated prevalence of SARS-CoV-2 infection was 11.5% (19 HCWs) across all clinics

over the 5-month period (May to August 2020). The results show that the prevalence of SARS-CoV-2 infection was significantly higher in clinic C, which did not utilize HEPA filters, and was significantly lower in clinic A, which did utilize HEPA filters and operated in dry mode. In dry suction systems, the separation of aspirated fluids from the air occurs at every treatment unit, whereas in semi-dry suction systems the separation occurs via a central separation unit connected to multiple treatment units.

"No [comparative studies](#) have investigated the effects of the type of aspirating system on the risk of SARS-CoV-2 infection among dentists and dental assistants," said JDR CTR Editor-in-Chief Jocelyne S. Feine, McGill University, Montréal, Quebec, Canada. "Based on the results of this pilot study, we recommend the use of aspirating systems installed with HEPA filters that evacuate and dissipate aerosols into specialized areas. Studies that provide a deeper understanding of this topic are warranted."

**More information:** M. Sarapultseva et al, SARS-CoV-2 Seropositivity among Dental Staff and the Role of Aspirating Systems, *JDR Clinical & Translational Research*, First Published February 5, 2021 Research Article [doi.org/10.1177/2380084421993099](https://doi.org/10.1177/2380084421993099)

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