Decision Summary: Dental Ultrasonic Scaling

The B.C. AGMP Expert Committee reviewed whether Dental Ultrasonic Scaling are aerosol generating medical procedures (AGMPs). In conjunction with the UBC Therapeutics Initiative group, the B.C. AGMP Expert Committee conducted a literature review to identify relevant primary evidence, review articles, and guidelines/recommendations from governing bodies, medical societies and other expert groups. The search results were assessed for evidence quality and source using the provincial AGMP decision framework.

The B.C. AGMP Expert Committee reviews medical procedures being performed on patients with suspected or confirmed COVID-19 in health-care settings in B.C. The expert group does not provide personal protective equipment (PPE) guidance.

The B.C. AGMP Expert Committee determined that Dental Ultrasonic Scaling is Probable-AGMP.

Summary

Dental ultrasonic scaling employs high frequency (25,000-40,000 vibrations per second) to disrupt and break up plaque and tartar. Experimental studies have consistently shown that particles produced from the procedure range in size from <1 µm to > 5 µm, with a higher amount of aerosols generated during the procedure compared to baseline[1-3]. Furthermore, a systematic review found that 22/44 studies looking at aerosolization during ultrasonic scaling found contamination on the interior and exterior of face shields and masks, and on the face and chest [4]. No studies to date have examined infectivity resulting from contaminated PPE from dental ultrasonic scaling, however, it can be extrapolated that infectious particles could subsequently infect the wearer. Consequently, given the reproducibility of contamination in studies, and the biological plausibility of resulting infection, dental ultrasonic scaling is considered a probably AGMP by group members.

[1] *Heliyon*. 2022 Oct 18;8(10):e11074.
[2] *J Dent Hyg*. 2021 Nov;19(4):474-480.
[3] *PLoS One*. 2022 Mar 10;17(3):e0265076.
[4] *BDJ Open*. 2021 Mar 24;7(1):15. doi: 10.1038/s41405-021-00070-9