**FOR COVID POSITIVE OR COVID SUSPECTED PATIENTS YOU DO NOT WANT TO RE-BOOK or ARE NOT ABLE TO.**

**Clearing the Air (of Aerosols)**

If you are concerned about the production of infective aerosols in your dental operatory the best way to prevent them are the use of a rubber dam, H2o2, 1-1 ½% rinse and wash, and HVE which combined will remove 96% - 99% of aerosols – infected or not. Additional procedures can be done to include closing the operating room and using air control to filter or remove the air so that the aerosol is removed and the settling time required before the infected aerosol particulates can be removed with disinfectant.

In order to calculate the time required for this to occur you must have an HVAC engineer assess your facility to give you a figure for Air Changes Per Hour (ACH) before and after any modifications and use the following table to determine settling time.

If air can have contaminants in it following a dental procedure, how does it become safe again? Aerosol contaminants are removed in the following ways:

1. They settle out of the air and land on surfaces, including clothing.
2. They are evacuated and either removed from the space completely, or the air is HEPA filtered and returned.
3. The contaminants are neutralized (e.g. using ultraviolet light).

How long does it take for aerosols to be removed from the air? Table 3 is a standard reference table from the Centers for Disease Control and Prevention (CDC). Table 3 shows that the key factor is the number of air changes per hour (ACH). Depending on the ACH, it can take from over three hours (180 minutes) to less than 10 minutes.

**Note:** The area where the AGP occurred must not be cleaned until the appropriate settling time of the aerosol occurs.

Table 3: Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency

|  |  |  |
| --- | --- | --- |
| ACH | Time (mins.) required for removal99% efficiency | Time (mins.) required for removal99.9% efficiency |
| 2 | 138 | 207 |
| 4 | 69 | 104 |
| 6+ | 46 | 69 |
| 8 | 35 | 52 |
| 10+ | 28 | 41 |
| 12+ | 23 | 35 |
| 15+ | 18 | 28 |
| 20 | 14 | 21 |
| 50 | 6 | 8 |

+ Denotes frequently cited ACH for patient-care areas.

<https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html#tableb1>

The ACH in a space can be affected by many factors including the physical layout of the office, the ventilation systems, the height of the ceiling and the presence of windows that can be opened, etc.

ACH in a dental office can be determined by HVAC/ ventilation professionals and can be modified, if needed.

However, before making any changes to the dental office, which can be very expensive, refer to the guidance from the provincial regulator on aerosol management. Avoid AGP when possible and reduce aerosols at source with high volume evacuation. At this time it would seem to be unnecessary to go this extra step even if it were easy to do and not expensive.

In addition you must remember that the best method to insure any aerosol in the office Is not something to be worried about is the screening of the patients prior to doing any treatment. If as a result of answering the questions and the status of Covid spread in your community the risk is very low for actually treating a positive patient then the aerosol created is likely non- infective as well. Combined with usual infection control procedures and HVE there is little chance of contracting the virus or spreading it to other patients.