

# Dr. Denis Nagy Inc., OMFS, Covid-19 Update

May 25, 2020

We are pleased to report that our practice reconfiguration renovation as a response to Covid-19 is near completion.

Using mechanical engineering advice and principles used in operating room ventilation design at both Saanich Peninsula and Royal Jubilee Hospitals, along with HVAC technicians/electricians we now have the ability to control our air environment within individually walled off floor to ceiling surgical operatories. These rooms are now enabled with dialable adjustable rheostat controlled negative pressure net air flow capability.

In addition to operating room negative pressure ability we have also added **aerosol capture at source** technology using both high volume INTRAoral suction and now additional EXTRAoral suction. Extraorally we will now be using in each room from the ceiling, telescope suction arms providing aerosol evacuation that passes through HEPA filtration prior to removal via dedicated exhaust similar to hospitals. We have tried to not rely solely on the principle of filtration alone which we know is never fully 100% effective in the removal of aerosol particulate even when using the highest grade quality filter available.



*(the first installation in Montreal)*

This technology was provided and developed by the Canadian company Orkan Industries, in Quebec. They provide class leading HEPA air purification used in military and civilian capacity around the world. Orkan was founded to help the Canadian Government combat respiratory infection diseases including H5N1 'bird flu'. Recently they were actively involved in the construction and set up of pressure differential operatories in the emergency hospitals constructed in Wuhan, China to treat Covid-19 patients.

<https://dormalab.com/fight-against-covid-19/>

<https://www.orkan.ca/>

Based on our new individual operating room air volumes and upgraded cubic feet per minute (CFM) air movement/filtration capacity, we can now regulate and maximize the number of air changes per hour (ACH) especially during and between aerosol generating procedures (AGPs).

Additionally, for added background filtration and air scrubbing capability we have added a Surgically Clean Air unit (SCA 7000H) with a 6-stage filtration system adding additional multiple filtered air changes per hour.

<https://scadental.com/>

We've also equipped our administration area with an Austin Air HM450+ air scrubber with Orkan HEPA filtration.

[www.austinair.ca](http://www.austinair.ca)

In the event the Island were to encounter a Covid-19 environment or become exposed to a possible second wave, our entire surgical team are prepared utilizing enhanced surgical PPE. This now includes positive pressure hood ventilation through HEPA filtered powered air purifying respirators (PAPRs). Our admin area is now also PAPR capable should the need arise. These specific hoods were developed and finalized just a few months ago by Dorma Labs in Quebec. They collaborated with CCM Hockey and are now making surgical hoods capable of achieving a tested assigned protection factor (APF) of at least 100 and quite possibly actually approaching 1000. A properly fit tested N95 mask respirator has an APF of 10.

Dorma Labs and Orkan Industries together provide air filtration systems and surgical PPE hoods to hospital ICU's in Quebec and other health care settings.

Our mobile circulating surgical staff, including anesthesiologists will be wearing a MaxAir controlled air purifying respirator (CAPR). These provide APF's of 1000.

[https://www.maxair-systems.com/index.php?option=com\\_k2&view=item&id=197:capr-series](https://www.maxair-systems.com/index.php?option=com_k2&view=item&id=197:capr-series)

We anticipate this renovation and installation to be completed in the coming week, and our goal is to begin treating patients the first week of June. Final Engineering inspection together with quantitative airflow measurements looking at actual achieved air changes per hour (ACH) are pending. Preliminary calculations show ACH's exceeding 25.

Our administration office remains open now and are happy to take your calls, emails, and referrals. Please feel free to contact me directly with any questions or concerns regarding patient care in or out of a Covid-19 environment or even for some good airflow HVAC conversation.

This pandemic continues to challenge the way we think and practice and seems to change daily as we receive new scientific information about virus pathogenesis. I have a tremendous amount of respect and gratitude for the patient referrals that you entrust to me. Also, to my dedicated staff who keep us going, that have been with me since taking over from Dr. Frank Harreman, in 2007. We all have a strong sense of obligation to keep your patients, our surgical team and their respective families as safe as we possibly can. My goal has been to follow our dental college guidelines and meet the Provincial and National standards recently placed April 18<sup>th</sup>, 2020, on our medical surgical colleagues. Specifically, the Canadian Association of Otolaryngology and Craniofacial Surgery in terms of enhanced surgical PPE and negative pressure ACH operating room recommendations for high risk aerosol generating procedures.

Please do not hesitate to contact me at any time.

Best regards,

Denis

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