



# **Filters to Protect Anesthesia Machines for General and MAC Anesthesia**

# PROTOCOL FOR FILTER PLACEMENT TO PROTECT ANESTHESIA MACHINES FOR GENERAL ANESTHESIA

For patients with **A PROTECTED AIRWAY**, including general anesthesia via endotracheal tube, laryngeal mask airway, or tracheostomy connected to a breathing circuit

## NON-COVID-19 patient

- Pts who have undergone preop screening process and are negative for COVID-19
- All other **asymptomatic** pts with unknown COVID status

• The standard anesthesia circuits come with filters attached to both inspiratory and expiratory limbs and these should remain in place. Some anesthesia breathing circuits do not come with filters attached to either limb (i.e. extra-long anesthesia circuits) and, at a minimum, A VIRAL FILTER MUST BE PLACED ON THE EXPIRATORY LIMB (Figure 1).

• At this time, we will try to conserve viral filters and NOT place an additional filter at the patient's airway between the ETT and the anesthesia circuit. **Exception:** Place filter at ETT for cases which require multiple disconnects of circuit (i.e. spine) and patient is not paralyzed. Monitor for moisture collection on filter & replace every 4-6 hrs.

• The GE DFend Pro\* gas sampling water tank (Figure 3) should be utilized at all times to protect exhaled, gas-sampled air and possible viral pathogens from contaminating the machine (Figure 3). Per manufacturer, this should be replaced every 2 months.

**\*TRANSPORT NOTE:** If you expect a pt to be transported during their perioperative course (i.e. from OR to ICU intubated, or induction room to OR room intubated), then a VIRAL FILTER should be added - similar to the COVID+ pt.

Figure 1



Figure 2



Figure 3



Figure 4



It is critical to protect against contamination of our anesthesia machines. Viral filters are able to filter out 99.99% of pathogens. Please go to the [APSF website](#) for more information.

\*Some MCHS locations utilize a 876446-HEL D-Fend (Figure 4) which also has a Viral Filtration Efficiency of >99.9997%. As such, the same protocol can be applied as stated here.

## COVID-19+ or PUI patient

- Any pt that has been tested lab positive with Sars-Cov-2
- Any pt that clinically appears to be COVID+ (febrile, SOB, new cough)
- Any emergent pts with unknown history

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• **AN ADDITIONAL FILTER (Figure 1) IS NEEDED AT THE PATIENT'S AIRWAY** between the ETT and the anesthesia circuit for COVID-19+ patients. Filter should be used for transport of intubated patient to the ICU.

• A HME (heat moisture exchanger (Figure 2) proximal to the viral filter (i.e. between the ETT and viral filter) should be considered to reduce moisture across the viral filter. Our HMEs are the Portex® Thermovent 600s and provide only humidification, not filtration. Do not use if excess deadspace is an issue (i.e. neonates).

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