

# COVID-19: Very Rapid Updates and Safety (ViRUS)

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**Poor ventilation occurred in patients who were mechanically ventilated using a dry circuit with HME filters in place between catheter mount and rest of circuit, due to clogging in the HME filter.**

## **What happened?**

HME filters between the catheter mount and the Y piece in the ventilator circuit had become waterlogged.

## **Why might this be more likely than usual to happen during the COVID-19 pandemic?**

Staff were unfamiliar with using HME filters, which had been introduced because early COVID guidance had suggested that circuits using active humidification devices should not be used.

## **How could this have been identified early in its course/how it could have been prevented or mitigated if recognised earlier?**

Warning signs would include: PaCO<sub>2</sub> becoming significantly elevated and tidal volumes not being achieved for desired pressure applied via the ventilator. If in volume control mode, pressures would rise.

## **How have you managed to resolve this issue or create a work around?**

Changed back to traditional “wet” humidified circuit, with active humidification and no HME filter in the connection between catheter mount and patient Y piece and inspiratory and expiratory tubing from ventilator. Viral filter between expiratory tubing and expiratory port on ventilator continued to be used and replaced frequently. Staff made aware of risks and clinical features of this issue with information and laminates circulated.