

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

Dry sputum and secretions in a ventilated patient causing endotracheal tube occlusion when dry circuit in use.

What happened?

Acute and profound desaturation following patient coughing. Unable to fully pass suction catheter the whole way down the endotracheal tube (ETT). Therefore, ETT changed urgently. ETT was almost completely blocked with a “concrete” plug of mucus. Patient had been on a dry circuit with an HME.

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 of concerns that circuits using active humidification devices could increase the risk of aerosolization of virus in the event of a disconnection of the circuit.

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

High secretion load, use of dry circuits together with non-ICU nursing staff unfamiliar with intubated patients and troubleshooting could lead to increased problems of sudden or progressive ET tube obstruction. Early consideration of the balance of risks of wet versus dry circuits and awareness of the potential risks could be highlighted. For patients with high secretion load consider a wet circuit.

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

Reconsideration of risks of wet v dry ventilator circuits: Convert to “wet” humidified circuit, with active humidification in cases with high sputum load. High vigilance.