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Creating systems for safe COVID airway management: The Groote Schuur experience

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Introduction: The COVID-19 pandemic has required rapid alterations in healthcare systems to cope with both a surge of patients with severe respiratory disease (including a subset of patients who fail supplementary oxygen therapy and require intubation and mechanical ventilation), and an increasing number of patients who may be infectious with SARS-CoV-2 but require airway management to facilitate urgent/emergency surgery. This places practitioners at risk of infection during aerosol-generating procedures, and patients at risk of severe hypoxia during intubation.

Intervention: At Groote Schuur Hospital, the University of Cape Town's Department of Anaesthesia and Perioperative Medicine created a dedicated COVID Anaesthesia and Airway team to provide operative anaesthesia, and intubate and transfer critically ill patients with COVID pneumonia. This included creation of protocols, training materials, open-source video tutorials, in-situ simulation and cross-disciplinary training.

Preliminary outcomes: To date, the team has completed more than 500 COVID cases, of which approximately half are intubations for respiratory failure in COVID. We describe the patient characteristics, airway management and immediate outcomes, as well as reflections on the successful use of personal protective equipment (PPE).

Conclusions: Severe hypoxia and hypotension occur commonly during intubations for COVID pneumonia, while stringent adherence to a PPE protocol has thus far prevented any COVID infections of members of the team.