Understanding COVID-19

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Understanding COVID-19
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**Topic**
- Provided are materials for safety and education on COVID-19 for the anesthesia provider
- SARS-CoV-2 causes COVID-19 (Coronavirus Disease 2019 [COVID-19], 2020)

**Why COVID-19**
- COVID-19 has grown to impact new lives each day
- Empowerment of knowledge to combat virus
- Remain healthy to serve and educate others
- 43% of infected with 2003 SARS (similar to COVID-19) in Canada were healthcare providers (Peng et al., 2020)
- Many anesthetic procedures have potential to transmit the disease
- Anesthetists will be exposed to the viral plume

**Signs and Symptoms**
- Many patients are asymptomatic per Jacofsky et al. (2020)
- Those with symptoms per Jacofsky et al. (2020) identified:
  - dry cough
  - sore throat
  - fever
- Transmission via viral shedding can occur 2 days prior to reported symptoms (He et al. 2020)

**Underlying Patho**
- Transmission entry points per Kowalik et al. (2020)
  - Upper respiratory tract
  - Gastrointestinal tract not ruled out
- Once inside host COVID-19 response includes per Kowalik et al. (2020)
  - Large amounts of inactive CD8+ T cells produced
  - Amount of inactive cells block active immunity
  - Viral particles switch on the apoptosis of macrophages

**Early stage, likely to be transmittable
- Recommend self-isolation

**COVIDs Significance**
- Due to impact on immune system per Kowalik et al. (2020)
- Healthy children and adults combat virus
- Elderly, Immuno-compromised have difficulty combating disease
- When complications arise, procedures to maintain airway may be indicated
- Viral shedding and transmission via the respiratory tract pose risk for anesthesia providers due to aerosol plume of procedures (Peng et al., 2020)
- Intubation
- Tracheostomy

**Nursing Care**
- To reduce exposure Peng et al. (2020) posed
  - Personal protective equipment (PPE)
  - Double gloving
  - Room prep
  - Airway management
  - Air purifying respirators
- Due to direct exposure Sommers et al. (2020) advises
- Avoid tracheostomy if possible
- Pichi et al. (2020) finds early tracheostomy reduced mortality rates over last 30 years
- Figure 1 shows acronym with steps for successful tracheostomy (Pichi et al., 2020)
- C – Cover self
  - O and R – utilize the OR
  - O – Open the trachea with deep neuromuscular blockade
  - N – Nursing, schedule cannula change
  - A – Airway management, safe suction management
- Pichi et al (2020) found a designated team utilized for tracheostomy reduced complication

**Conclusion**
- COVID-19 continues to complicate lives
- Symptoms may or may not be present during the transmission period
- Viral and antibody testing combined give information on progression of disease
- Immunocompromised and elderly at risk for severe complications
- Anesthetists are at risk for severe complications
- Tracheostomy should be avoided if possible
- If not possible to avoid tracheostomy remember CORONA to guide care
- A specialized team for tracheostomy reduces issues and exposure

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**References**
- Peng et al., 2020
- Kowalik et al., 2020
- Jacofsky et al., 2020
- Sommers et al., 2020
- Pichi et al., 2020

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Figure 1
Reduce Exposure While Performing Tracheostomy

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