Editorial I

SPECIAL ARTICLE COVID-19

Prevention of COVID-19 Infection in Neck Breathers, Including Laryngectomees

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The current COVID-19 pandemic presents a unique challenge for laryngectomees. This commentary outlines the precautions that laryngectomees should exercise to protect themselves from COVID-19 infection.

All respiratory viruses, including COVID-19, can access the body through the nose, mouth, conjunctiva and stoma. It is, therefore, prudent for laryngectomees to be extra vigilant in protecting themselves.[1]

Laryngectomees are at risk for poor outcomes with COVID-19 due to comorbidities, such as chronic pulmonary disease, peripheral vascular disease, cardiac disease, cerebrovascular disease, diabetes, and underlying cancer history, as well as propensity for lower lobe atelectasis due to the loss of upper airway resistance.[2] Additionally, because the majority of laryngectomees have a smoking history, they are also prone to acute infections due to impaired mucociliary function and mucosal irritation from cold, dry inspired air.

Accordingly, it is important for all neck breathers, as well as those who are in close contact with them, to be extremely careful to follow the instructions of the Center for Disease Control and Prevention.[3] If an individual in close contact with a laryngectomee becomes exposed or infected with COVID-19, they should self-quarantine as soon as possible and avoid any contact with the neck breather.

Laryngectomees can protect themselves and others by taking these steps:

- Wearing a heat and moisture exchanger (HME) at all times, especially when around other people. An HME with greater filtering ability works better in reducing the risk of inhaling the virus (e.g., Provox Micron [Atos Medica, New Berlin, WI, USA]). Provox Micron has an electrostatic filter and a filtration rate $>$ 99.9%; its cover prevents direct finger contact with the stoma.[4] Wearing it also protects other individuals if the laryngectomee is infected with the virus. An HME cassette adaptor enables the use of an HME with any tracheostomy tube having a 15-mm International Standardization Organization (ISO) connector. Individuals with a tracheostomy can protect themselves by using a ProTrach XtraCare HME (Atos Medical).
- Wearing a hands-free HME for individuals using tracheal esophageal speech, since such a device does not require touching while speaking. Those who use a regular HME should wash their hands before touching their HME.
- Wearing a surgical mask (preferably an N95 respirator) over the stoma (►**Figure 1**), an additional surgical mask or respirator over the nose and mouth, and protective glasses or a face guard.[5] These devices can prevent the virus from entering the body through these sites and can avoid spreading the virus to others if the neck breather is infected.[6] Men should shave their facial hair prior to wearing a surgical mask or respirator. If worn properly, a surgical mask can help block large-particle droplets, splashes, sprays or splatter that may contain microorganisms. While a surgical mask may be effective in blocking splashes and large-particle droplets, it does not filter or block very small particles in the air that may be transmitted by coughs, and sneezes.[7] Wearing the mask on the stoma and face also serves in preventing laryngectomees from touching these locations with unclean hands.
- Washing hands often with soap and water for at least 20 seconds. Use an alcohol-based hand sanitizer that contains at least 60% alcohol if soap and water are not available. This is especially important before managing the stoma and touching the HME when using tracheoesophageal speech.[8]
- Avoiding touching the stoma, HME, eyes, nose, and mouth with unwashed hands. A useful routine is to use the nondominant hand to touch the stoma and the dominant hand for other activities (e.g., touching a door handle).
- Avoiding close contact with sick people and avoiding public and crowded places.
- Cleaning and disinfecting objects and surfaces, especially when frequently touched.

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Fig. 1 Wearing a surgical mask over the stoma.

People who are asymptomatic carriers or those infected with COVID-19 risk exposing neck breathers to the virus when they come in close contact with each other. Such individuals, as well as the neck breathers, should observe meticulous hand hygiene and wear surgical masks, gloves, eye shields, or similar protective items to prevent further dissemination of the disease.

Following these recommendations may reduce the risk of acquisition of COVID-19 infections in neck breathers.

Conflict of Interests

The author declare that there is no conflict of interests.

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