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Use of petroleum jelly to improve surgical mask and eyewear associated skin irritation and fogging

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To the Editor:

There is a high prevalence of skin irritation, particularly of the nasal bridge and cheeks, associated with prolonged surgical mask and goggle use. We present a simple solution using petroleum jelly to minimize this irritation. Using a sterile cotton-tipped applicator and a single-use petroleum jelly pack, apply a layer of petroleum jelly to the entire interior aspect of the nasal bridge portion of the surgical mask, taking care not to contaminate your protective equipment. Similar application of petroleum jelly to the nasal bridge where protective eyewear contacts may provide further benefit. This technique presents a simple and effective tool for individuals experiencing complications associated with prolonged surgical mask and eyewear use.

The use of surgical masks and goggles is common within many medical fields; however, their use has expanded dramatically as the result of the COVID-19 pandemic. Virtually the entire health care community and even large subsets of the general public are now required to wear these protective measures for extended periods. There is a high prevalence of skin irritation, particularly of the nasal bridge and cheeks, associated with prolonged mask and goggle use [1]. Moreover, fogging of eyewear is common with masks and this may contribute to medical errors associated with decreased visibility. These adverse events are likely more common amongst individuals who are not trained in their use and may not be correctly wearing their personal protective equipment. Minimization of these

outcomes can be achieved through behavior modifications such as educating health care workers to expect mild skin irritation, utilizing prophylactic dressings, and often finding alternative personal protective equipment (PPE), [2]. Although many of these options are effective, they are not always realistic options for busy health care workers. We present a simple solution using petroleum jelly to minimize some common adverse events associated with prolonged surgical mask and goggle use.

Solution

Most disposable surgical masks contain a nasal bridge reinforced with semi-moldable material meant to improve the nasal seal. This seal is often incomplete, which contributes to air leakage and to eyeglass fogging. Using a sterile cotton-tipped applicator and a single-use petroleum jelly pack, apply a layer of petroleum jelly to the entire interior aspect of this nasal bridge portion of the surgical mask (**Figure 1**). Take care not to contaminate your PPE during this application process. Once complete, appropriately don the surgical mask and ensure a proper seal exists. The petroleum jelly acts as a non-reactive barrier to prevent skin irritation as well as helps minimize the amount of air loss to the anterior aspect of the mask.

Many forms of protective eyewear can be similarly irritating and ineffective, as the standardized nasal bridge of these glasses often does not provide a natural fit with the provider. By applying a layer of petroleum jelly to the nasal bridge of these glasses you are providing an additional barrier to prevent skin irritation. Moreover, as the nasal bridge is a common source of air loss with face masks, this additional layer of petroleum jelly on the eyeglasses



Figure 1. Application of petroleum jelly to surgical mask. Apply petroleum jelly to the nasal bridge at the discretion of the user. This application will serve as both a prophylactic protectant against irritation and also reduce incidence of eyewear fogging by improving nasal seal.

will further minimize fogging and the resulting reduction in visibility.

Irritant contact dermatitis is a common dermatologic diagnosis and is best managed, when possible, by avoiding known triggers. Unfortunately, health care workers are unable to avoid constant use of PPE and in most cases do not choose the specific types of PPE

which are provided to them. Petroleum jelly is readily available in almost all health care settings and provides a cheap and simple solution to dermatitis associated with prolonged mask and goggle use. This additional layer of petroleum acts as a non-reactive prophylactic emollient to prevent irritation and allow individuals to more easily wear masks and goggles for an extended period of time. In addition, this additional barrier can help reduce air loss and eyeglasses fogging which plagues many healthcare workers. In the current climate of COVID-19, caution must be extended to avoid this, or other barrier techniques when utilizing N95 or similar masks requiring direct skin contact to maximize efficacy. In these settings, ensuring that you have been fit-tested and are utilizing a proper sized mask is essential for your protection and the protection of those around you.

The application of prophylactic petroleum jelly presents a simple and effective tool for individuals experiencing complications associated with prolonged surgical mask and eyewear use.

Potential conflicts of interest

The authors declare no conflicts of interests.

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