

Preventing Skin Injury from Prolonged N95 Mask Use during COVID-19

THE PROBLEM

During the COVID-19 pandemic, healthcare workers are experiencing skin injury related to friction, pressure and moisture from the prolonged use of N95 masks and other personal protection equipment (PPE), including face shields and goggles. Skin injuries have been described as redness, itching, burning, rash and maceration in areas over the bridge of the nose, cheeks, forehead and ears. In the absence of strong research-supported studies, clinicians should consider the following skin injury prevention and management strategies as outlined by the National Pressure Injury Advisory Panel (NPIAP) and other professional bodies (e.g., CDC, NIOSH), including CHI/Dignity Health Wound Care Leaders.

THE SOLUTION

- **Minimize skin injury from moisture and friction**

- Maintain good skin care practices, keeping the face clean and dry.
- Limit the use of facial cosmetics on the forehead, cheeks, nose and chin.
- Replace mask, if moist, wet or soiled.
- Consider removing mask for a period of time throughout the shift to relieve pressure (optimal 15 minutes every 2 hours), when outside of patient contact. Ensure doffing practices adhere to facility practices.
- Apply skin liquid sealants on intact or broken skin (i.e., 3M Cavilon™ Advanced Skin Protectant, 3M Cavilon™ No Sting Barrier Film, S&N No-Sting Skin Prep, Medline Marathon® No Sting or Medline Sureprep® No-Sting Skin Prep). When applying products, avoid close contact with eyes and mucous membranes (lips and inside of nose).
- Apply protectant products containing dimethicone on intact or broken skin (i.e., Medline Remedy® Skin Repair Cream). Avoid skin protectant products containing petroleum, mineral oil or lubricants, which could cause mask slippage and misplacement.
- Allow skin sealants/protectants to dry fully before applying the mask.

- **Minimize skin injury from duration and intensity of pressure**

- Use a thin prophylactic dressing cut into strips for the nasal bridge, cheek bones and behind ears (i.e., duoderm, hydrocolloid dressings).
- Avoid “stacking” multiple dressings, which could increase pressure.
- Use foam dressings with a non-permeable outer layer. Porous dressings may allow transfer of fluids or microorganisms to the skin.
- Following the application of any prophylactic dressing, confirm the seal of the N95 mask by blowing out and checking for leaks.
- Treat all dressings as potentially contaminated. Perform hand hygiene and don clean gloves prior to removal. Take care not to contaminate eyes, nose, or mouth.

NOTE: It is the responsibility of each healthcare worker to consult with Infection Prevention and/or Employee Health at their facility before taking measures to prevent or manage PPE-related skin injury. Caution must be taken to ensure that any efforts implemented do not alter the efficacy of the fit-tested N95 mask and comply with the facility policy and procedure.

References

Centers for Disease Control and Prevention and National Institute for Occupational Safety and Health. (2010). *How to properly put on and take off a disposable respirator*. Retrieved from <https://www.cdc.gov/niosh/docs/2010-133/pdfs/2010-133.pdf>

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