

PICOT

**Question:**

In the med surg population amongst nurses, will using foam dressing, moisturizers, and emollients help against skin related injuries from prolonged PPE verses not adopting preventative measures?

**Summary:**

Since 2020, COVID-19 made a huge impact on the nursing world; including skin related injuries due to prolonged use of PPE. As it is stated by *National Library of Medicine*, “Although PPE use is intended for protection, the professionals are also prone to the occurrence of skin lesions caused by their prolonged use and frequent hand hygiene, which can progress to pressure ulcers, acute and chronic dermatitis and worsening of preexisting dermatosis, as well as being a gateway to secondary infections.” (Silva LFMD, Almeida AGA, Pascoal LM, Santos Neto M, Lima FET, Santos FS, 2022). Also, wearing PPE for extended periods of time can affect the integrity of the skin by the friction causing tissue damage. According to research provided by *National Library of Medicine*, “A study that evaluated the protective measures for skin lesions found that mild emollients, silicone cream and film dressing applied in the region of greater mechanical pressure between the mask and the skin were more accepted.” (Silva LFMD, Almeida AGA, Pascoal LM, Santos Neto M, Lima FET, Santos FS, 2022). Furthermore, *National Library of Medicine* stated “Foam dressings with a silicone edge are beneficial when used correctly, as shown in a study developed by nurses in Bahrain. The professionals who used the dressing presented fewer skin reactions after one hour of continuous use when compared to those who did not use any protection.” (Silva LFMD, Almeida AGA, Pascoal LM, Santos Neto M, Lima FET, Santos FS, 2022). Second, according to an online journal from *PLOS ONE*, a study also showed self-reported skin damages as stated: “The common clinical symptoms of skin reactions were redness, device-like mark, and burning pain in face; and dryness, dermatitis, and itch/irritation in hands.” (Yuan X, Xi H, Le Y, Xu H, Wang J, Meng X, et al., 2021). For their study, 150 participants did at least 1 preventive suggestion including either a dressing or a moisturizer to help against these adverse skin reactions. They also stated the following: “Maintaining the integrity of the skin barrier is crucial for self-protection. Our study provides the evidence of the high incidence of adverse skin reactions and hopes to promote the education of preventive strategies for healthcare fighters worldwide.” (Yuan X, Xi H, Le Y, Xu H, Wang J, Meng X, et al., 2021). Third, according to *Research Gate*, they conducted a study showing that skin injuries were in the following location: “Located on the nasal bridge, cheekbones, and behind the ears.” (Jayaningrum, Bella & Wirawan, Gede Benny Setia & Dwipayana, Anak & Darma, Anak & Lusyana, Lya & Suriana, Sang., 2021). One thing that they found participants doing is layering polyester tape around facial areas and behind the ears. Also, using emollient cream helped out. However, with their research they were able to come to the following conclusion: “Protective measures were found effective to prevent skin injuries in all locations. We found high prevalence of facial skin injuries among healthcare workers accompanied by inadequate practice of preventive behaviors. These preventive behaviors have been found effective in other study as well and existing evidence support its promotion for more widespread

practice.” (Jayaningrum, Bella & Wirawan, Gede Benny Setia & Dwipayana, Anak & Darma, Anak & Lusiana, Lya & Suriana, Sang., 2021).

### **Conclusion:**

After reading all of these studies conducted in regards to how prolonged PPE effects the skin integrity of med surg nurses; there is proof showing that the use of dressings, moisturizers, and emollients can help with these skin injuries. Skin lesions due to PPE was recognized and “The data obtained can guide the professionals in identifying risks and promoting preventive measures to avoid their occurrence.” (Silva LFMD, Almeida AGA, Pascoal LM, Santos Neto M, Lima FET, Santos FS, 2022). Education is also important among nurses as stated, “Education should involve skin hygiene, application of sealant and skin protector to avoid skin reaction and damages.” (Yuan X, Xi H, Le Y, Xu H, Wang J, Meng X, et al., 2021).

### **Work Cited:**

#### **Primary Article**

Silva LFMD, Almeida AGA, Pascoal LM, Santos Neto M, Lima FET, Santos FS. Skin injuries due to Personal Protective Equipment and preventive measures in the COVID-19 context: an integrative review. *Rev Lat Am Enfermagem*. 2022 Apr 20;30:e3551. doi: 10.1590/1518-8345.5636.3551. PMID: 35476010; PMCID: PMC9019902. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9019902/>

#### **Secondary Article**

Yuan X, Xi H, Le Y, Xu H, Wang J, Meng X, et al. (2021) Online survey on healthcare skin reactions for wearing medical-grade protective equipment against COVID-19 in Hubei Province, China. *PLoS ONE* 16(4): e0250869. <https://doi.org/10.1371/journal.pone.0250869>  
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250869>

#### **Tertiary Article**

Jayaningrum, Bella & Wirawan, Gede Benny Setia & Dwipayana, Anak & Darma, Anak & Lusiana, Lya & Suriana, Sang. (2021). Facial Skin Injury Related to Personal Protective Equipment Among Healthcare Workers: Single Center Cross-Sectional Study. *Intisari Sains Medis*. 12. 789-793. 10.15562/ism.v12i3.990. [https://www.researchgate.net/publication/355983304\\_Facial\\_Skin\\_Injury\\_Related\\_to\\_Personal\\_Protective\\_Equipment\\_Among\\_Healthcare\\_Workers\\_Single\\_Center\\_Cross-Sectional\\_Study](https://www.researchgate.net/publication/355983304_Facial_Skin_Injury_Related_to_Personal_Protective_Equipment_Among_Healthcare_Workers_Single_Center_Cross-Sectional_Study)