

Use of Hydrocolloid Strips underneath N95 Face Mask Reduces Skin Injury Without Compromising Seal:

An investigational pilot study



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Introduction

Results

Discussion

Since the start of the COVID-19 pandemic, healthcare workers (HCW) have had to use PPE in unprecedented ways.

While essential, prolonged use of N95 masks is associated with significant discomfort and cutaneous adverse events (AEs). This resulted in frequent mask repositioning, risking contamination and exposure. Alternatively, many sought makeshift interventions to reduce symptoms without safety or efficacy validation.

So far, there are no published studies or FDA advisories regarding the use of “protective barriers” under PPE, and there are currently no regulations or FDA advisories to that effect.

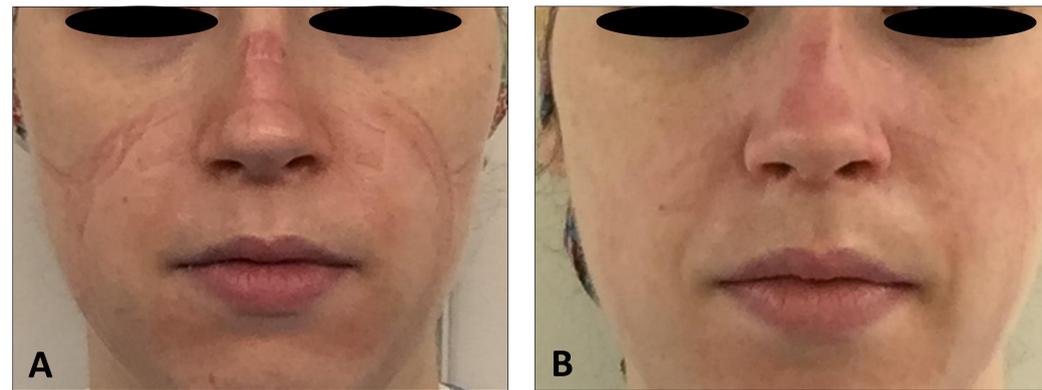
Methods

COVID-facing HCWs experiencing cutaneous AEs associated with prolonged N-95 use were recruited.

All participants underwent fit-testing with and without addition of hydrocolloid barrier.

A 4-point Likert scale was created to collect information regarding degree of PPE-related AEs.

Participants were asked to complete the questionnaire and provide photographs after the completion of a standard shift with and without the hydrocolloid dressing.



Images shared by one participant after two consecutive shifts of equal duration. (A) without hydrocolloid; (B) with addition of hydrocolloid

Redness, pain, skin markings, bruising, and skin sensitivity all demonstrated improved ratings

Pre-intervention	
Reported need for frequent mask repositioning	100%
Reported use of make-shift intervention to improve comfort	30%
Post-addition of hydrocolloid barrier	
Maintained seal on fit test	100%
Reported need for frequent mask repositioning with barrier in place	33%
Participants considering intervention successful	80%
Participants wanting to adopt intervention as part of their standard practice	80%

Any intervention related to PPE use must first and foremost ensure safety of the user. Our pilot study has demonstrated that the addition of hydrocolloid dressing underneath N95 masks does not impair seal or compromise safety.

Considering the physical toll of working safely to care for patients, enhancing comfort and improving user experience would be ideal. This intervention shows promising results so far.

The addition of hydrocolloid barrier under N95 masks shows promise in being a safe, easy, and effective intervention to reduce N95-related AEs.

References

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