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Pressure Ulcer Incidence in Patients Wearing Nasal-Oral Versus Full-Face Noninvasive Ventilation Masks Available to Purchase

CE Article

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Background

Device-related pressure ulcers from noninvasive ventilation masks alter skin integrity and cause patients discomfort.

Objective

To examine the incidence, location, and stage of pressure ulcers and patients' comfort with a nasal-oral mask compared with a full-face mask.

Methods

A before-after study of a convenience sample of patients with noninvasive ventilation orders in 5 intensive care units was conducted. Two groups of 100 patients each received either the nasal-oral mask or the full-face mask. Skin was assessed before the mask was applied and every 12 hours after that or upon mask removal. Comfort levels were assessed every 12 hours on a Likert scale of 1 to 5 (1, most comfortable).

Results

A pressure ulcer developed in 20% of patients in the nasal-oral mask group and 2% of patients in the full-face mask group ($P < .001$). Comfort scores were significantly lower (more comfortable) with the full-face mask (mean [SD], 1.9 [1.1]) than with the nasal-oral mask (mean [SD], 2.7 [1.2], $P < .001$). Neither mean hours worn nor percentage adherence differed significantly: 28.9 (SD, 27.2) hours and 92% for full-face mask and 25 (SD, 20.7) and 92% for nasal-oral mask. No patients who had a pressure ulcer develop with the nasal-oral mask had a pressure ulcer develop with the full-face mask.

Conclusion

The full-face mask resulted in significantly fewer pressure ulcers and was more comfortable for patients. The full-face mask is a reasonable alternative to traditional nasal-oral masks for patients receiving noninvasive ventilation.