

THE USE OF N95 SURGICAL MASKS/RESPIRATORS IN BURN AND WOUND CARE: IS IT FEASIBLE?*

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The use of personal protective equipment provides protection for the clinician as well as the patient. The use of respiratory protection during the care of patients with open wounds as well as those in high risk environments is becoming standard of care. Standard surgical masks provide “splash protection” for the wearer but have been shown to provide very limited protection from exposure to microorganisms and other particles.

The use of the N95 Surgical Mask/Respirator is increasingly recommended in high risk environments. These masks are designed to filter particles as small as 0.35 microns providing enhanced protection for the wearer. A recent study also indicates improved protection for the patient from microorganisms transmitted from the health care provider’s mouth. Examples of common particle sizes encountered in health care include; surgical smoke: 0.1-5.0 microns, bacteria: 0.3-15.0 microns, dust: 0.5-5.0 microns, Human Immunodeficiency virus: 0.15 microns. Despite evidence indicating the improved protection provided by the N95 Surgical mask/respirator its use remains limited in part due to perceived poor fit, difficulty breathing and overall poor “wearability.”

A new N95 Surgical Mask/Respirator recently released to the market by Ansell provides protection of particles as small as 0.1 microns and was developed to address the concerns of “wearability.” It uses a patented face seal technology that reduces inhalation resistance by up to 13% over current N95 masks on the market. In preference testing at APIC 73% of participants preferred this new Ansell mask over the top market competitors and at CHICA 95% of participants felt this mask was more comfortable and provided improved breathability over its competitors.

In order to evaluate the ability of clinicians to wear the Ansell mask for longer periods of time during actual patient care, an IRB approved trial was performed at an active regional burn center. Ten practitioners wore the Ansell N95 Surgical mask/respirator for two hours during patient care activities. Questionnaires were used to evaluate breathability, mask fit and maintenance of shape. The Ansell N95 scored an average of 6.7 out of 10 for breathability and 5.1 out of 10 for comfort as compared to no mask at all. Mask fit was scored a 7.2 out of 10 and maintenance of shape a 7.6 out of 10 over the 2 hour period.

These results show that this new N95 Surgical mask/respirator can be worn for prolonged periods of time during patient care activities with reasonable comfort and breathability. Health care providers working in high risk areas should consider this option as part of their personal protective equipment.

**Data on file.*

***Authors have performed paid consulting work for Ansell and/or its affiliates.*