

# Medical device-related pressure injury in health care professionals in times of pandemic

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Facing the number of cases of coronavirus infection (COVID-19), the World Health Organisation (WHO) has declared that the disease, present in several countries and continents, is a pandemic of global alert and mobilisation<sup>1</sup>.

In Brazil, the pandemic arrived at the end of February 2020 and has been causing alarm due to the increase in the number of contaminated people related to the high capacity of transmission of the disease. In affected patients, the virus can cause from simple symptoms, which can be treated at home, to hospital admissions, assistance in intensive care units and can even lead to death<sup>2</sup>.

In the midst of this pandemic, the professionals who assist patients with suspected or confirmed COVID-19 infection constitute a population at high risk of contagion. In this way, preventive measures such as adequate hand hygiene and the use of personal protective equipment (PPE) have been reinforced.

Among PPEs, N95 type and similar respiratory protection masks should be used to perform procedures that generate aerosols, such as: intubation, noninvasive ventilation, aspiration and other care. In addition, the Society of Intensive Care Medicine recommends the constant use of this protection in intensive care environments that treat patients with confirmation and/or suspicion of COVID-19<sup>3</sup>.

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The WHO recognises the need for the use of a respiratory protection mask, but draws attention to the fact that it should not be used for more than four hours in a row, due to the discomfort resulting from its use. However, something has been drawing the attention of nurses, especially enterostomal therapists, which are the medical device-related pressure injuries<sup>4,5</sup> caused by the use of N-95 mask. We have often seen in social media<sup>6</sup> the dissemination of photos (Figures 1 and 2) of health professionals with skin lesions in the area of application of this PPE<sup>7</sup>.

Medical device-related pressure injury<sup>4,5</sup> has been gaining prominence in national and international research, especially because we know that the devices used in health care are often indispensable, making it necessary to implement preventive measures or preventive recommendations to preserve the integrity of the skin in the area exposed to risk.

However, until now, the preventive recommendations have been directed to the patients under our care, although, in face of the current demands, it is fundamental to turn the attention also to the maintenance of the integrity of the professional's skin, since the occurrence of the lesion can cause impacts on the care, quality of life and self-esteem, as well as presenting itself as an open door for infections.

With this in mind, some recommendations that are generally directed and carried out for the care of patients can also be applied to health professionals wearing breathing masks and other PPEs, in order to contribute to the maintenance of intact skin<sup>8,9</sup>:

- Clean the skin with liquid soap, preferably with a pH compatible with the skin (slightly acidified) and moisturise the skin with a cosmetic product (moisturising cream) without the presence of lipids;
- Apply a prophylactic coating as an interface between the skin and the mask attachment area (when the mask is used for a long time, especially in the zygomatic region and nasal bone), such as: thin polyurethane foam, silicone, transparent film or extra thin hydrocolloid plates;



Figure 1. Brazilian professionals with pressure injuries related to mask use. Images published with permission.

- Schedule minutes of pressure relief, with the possibility of removing the mask every two hours;
- Inspect the skin frequently and watch for signs of pain, discomfort, hyperemia and injury;
- Avoid placing the mask and other PPEs on areas of skin lesions, eczema or hyperemia without proper prior topical treatment.

Health professionals, especially the nursing staff, are world-renowned for their heroism, their struggle and their self-sacrifice in caring for others. However, it is fundamental



Figure 2. Images of Chinese healthcare workers with pressure injuries caused by PPE.<sup>6</sup>



that self-care prevails at this time of pandemic, because it is necessary that professionals have their health preserved in order to collaborate with effective care for society.

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