



“PRESSURE-FREE” OXYGEN MASK HEADGEAR-AN INVENTION OF SKIN CARE IN TAIWAN

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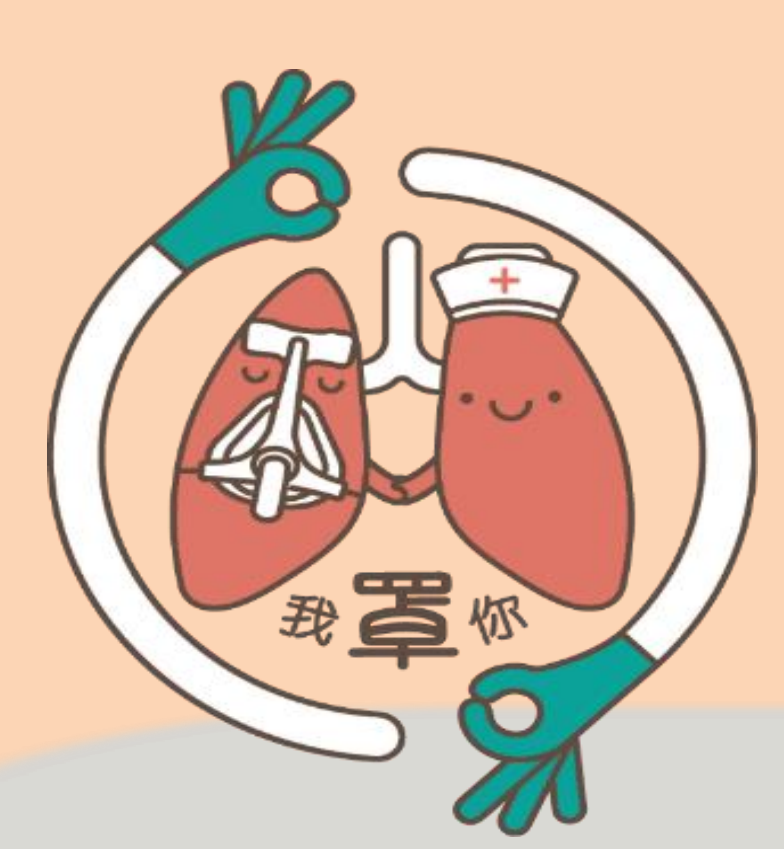
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Introduction



Patients with lung disease often need oxygen therapy to improve. About 30% of pressure injuries are related to oxygen therapy devices including , which may cause pain or wound infection in patients, and may increase the length of hospitalization. for 5-8 days.

In current care, ear pressure damage caused by a thin elastic band of the oxygen(O2) mask is usually prevented by wrapping the band with gauze. It takes time and is not easy to maintain. According to the center for quality management of our department, the incidence of oxygen mask pressure injury in thoracic medicine ward from 2018 to 2019 was 0.055% with an increasing trend. To prevent oxygen-related pressure injury, we invented a special headgear device for O2 masks for patients who need O2 therapy continuously.



high pressure
cut pressure



Rough surface of gauze
high friction

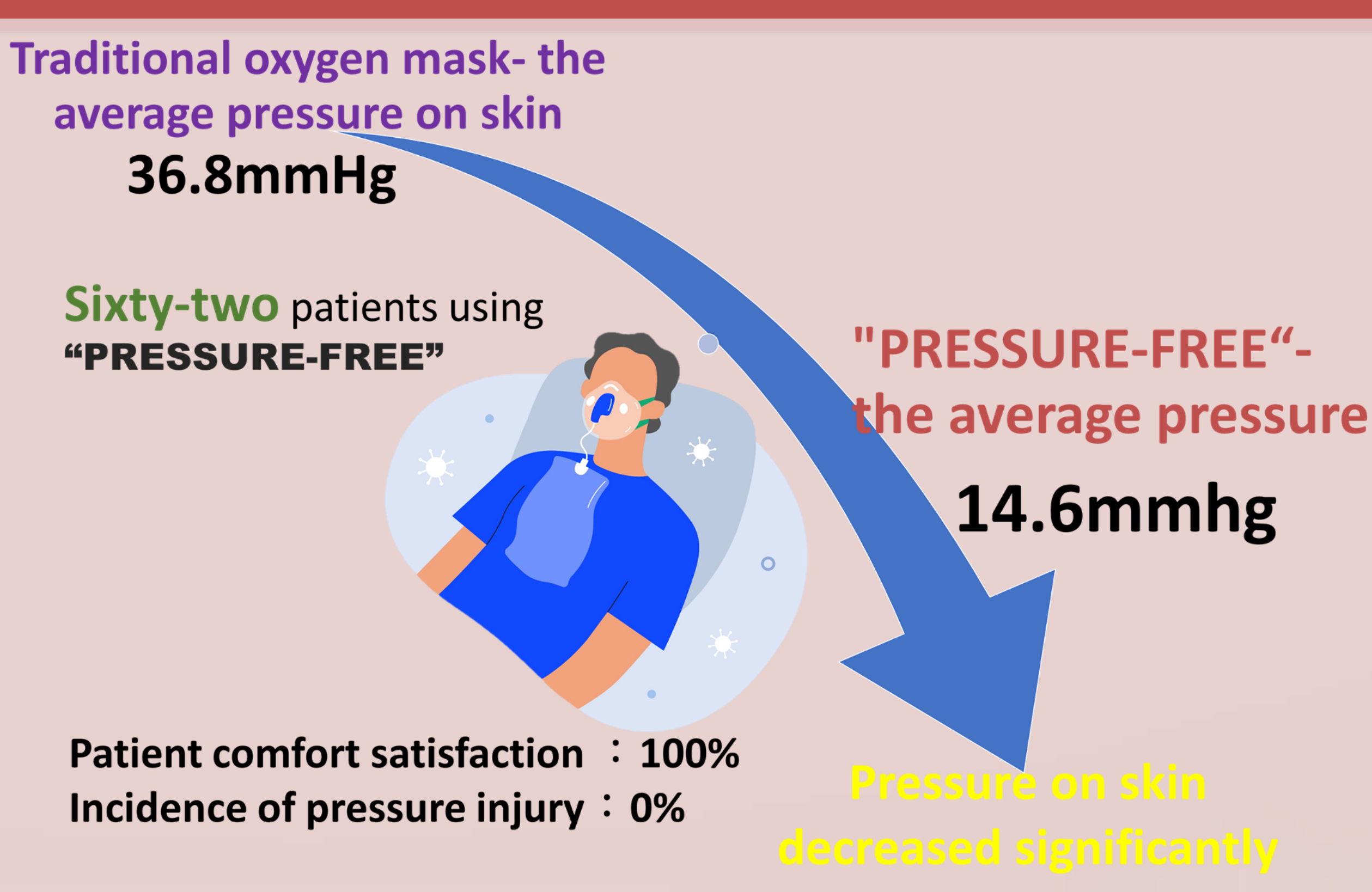


Methods

The cause of the ear pressure injury caused by the elastic band of the general O2 mask is that the elastic band is too thin, and the compress area is small. It produces a large pressure on the skin. According to the center for quality management of our department, the incidence of O2 mask pressure injury in thoracic medicine ward from 2018 to 2019 was 0.055%. We ideated a new headgear “Pressre -Free” for the O2 mask. Based on an adult head circumference of 54~57cm, we used the hook and loop band that was easy to adjust the tightness and made the belt appropriate width to decrease pressure on the skin. The average pressure of the patient's ear and facial skin was measured to be less than 16mmHg on using "Pressure-Free" in reliability. The "Pressure-Free"O2 mask headgear was completed in August 2020 for implementation.



Results



Conclusion

- Prevent the occurrence of device-related pressure injuries, especially for patients who refuse invasive intubation.
- Effectively maintain the safety of patients and reduce the discomfort of patients receiving oxygen therapy.
- Improve nursing care efficiency.

References

• Arnold-Long, M., Ayer, M., & Borchert, K. (2017). Medical Device-Related Pressure Injuries in Long-term Acute Care Hospital Setting. *Journal Wound Ostomy Continence Nursing*, 44(4), 325-330.

• Barakat-Johnson, M., Barnett, C., Wand, T., & White, K. (2017). Medical device-related pressure injuries: An exploratory descriptive study in an acute tertiary hospital in Australia. *Journal of tissue viability*, 26(4), 246-253.

• Jackson, D., Sarki, A. M., Betteridge, R., & Brooke, J. (2019). Medical device-related pressure ulcers: A systematic review and meta-analysis. *International Journal Nursing Studies*, 92, 109-120. doi: 10.1016/j.ijnurstu.2019.02.006. Epub 2019 Feb 10.