



Background

Patients receiving oxygen therapy often sustain pressure injuries over their faces and ears due to the pressure exerted from the oxygen mask stripe or oxygen tubing. In Changi General Hospital, there were 20 patients who developed pressure injury related to oxygen therapy in 2016.

Aim

This project aims to prevent the occurrence of pressure injury caused by oxygen therapy devices, and targets zero pressure injury occurrence post implementation.

Methodology

Fish bone diagram was utilized to identify the root causes. Iterative Plan-Do-Study-Act (PDSA) model was adopted. Several surveys were conducted to gather feedback from patients and nurses who tried on the pressure relieving device.

The first implementation survey findings revealed:

- 63% of patients felt comfortable with the device
- 11% felt warmness
- 6% complained of itchiness
- 25% felt that it would not benefit other patients.

With these findings, team sourced for alternative materials to improve our device. After the enhancement, another survey was carried out. The results indicated:

- 93% of patients reported that they felt comfortable
- 0% felt warmness
- 0% complained of itchiness
- 93% agreed that it would benefit other patients

Nurses' feedback was obtained, and the findings were:

- 85% felt that the device helped to prevent pressure injury
- 84% felt that it was easy to apply
- 79% were satisfied with the implementation
- 88% commented that they would use it on their patients

Results

With the introduction of this pressure relieving device, there was zero pressure injury occurrence post implementation.

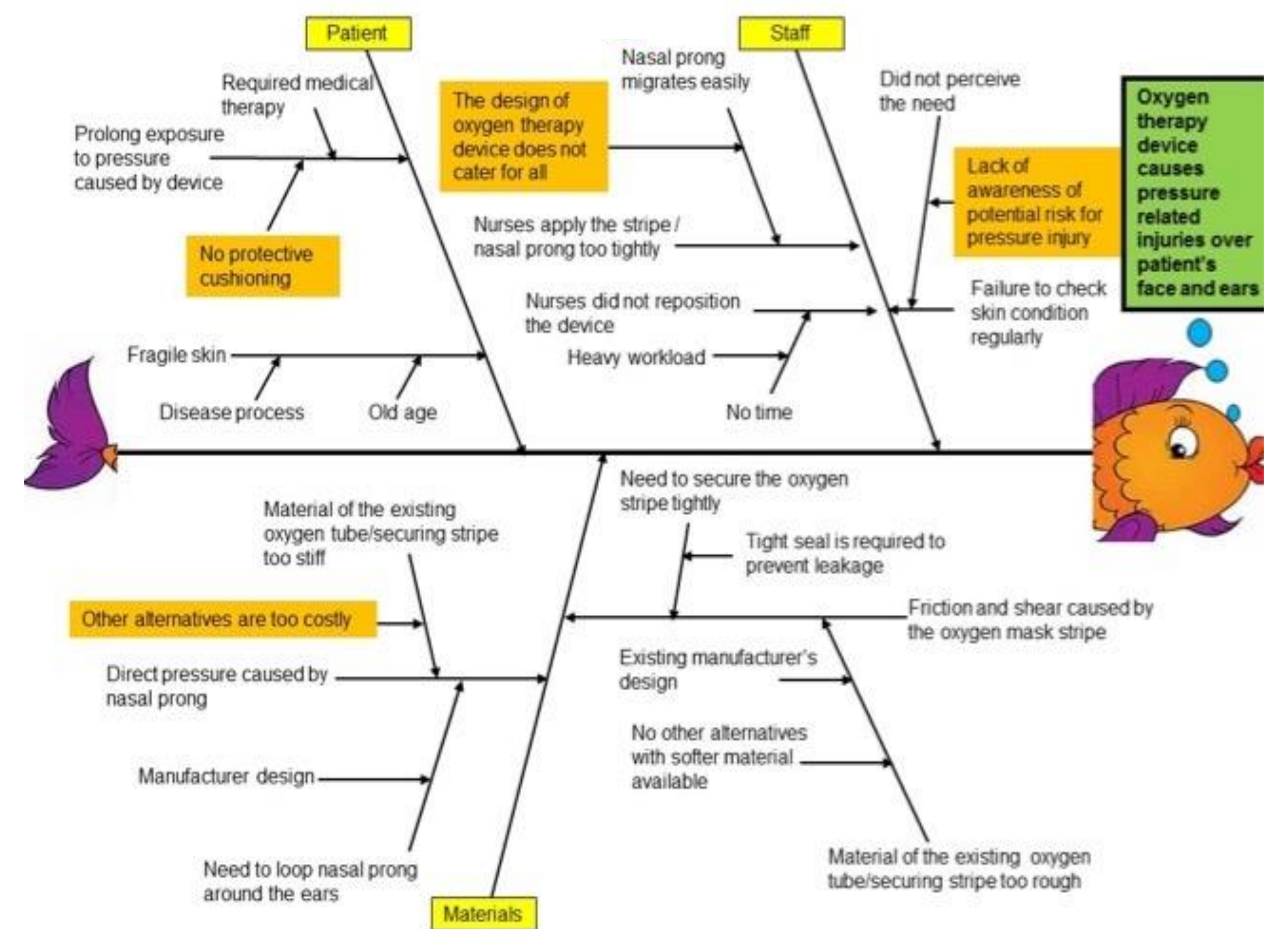
Other tangible results:

- 1) Cost saving. It was estimated that for every pressure injury, the additional hospitalization cost was at least \$250 per case.
- 2) Time saving. Additional nursing time spent was estimated to be at least 100 minutes per pressure injury.

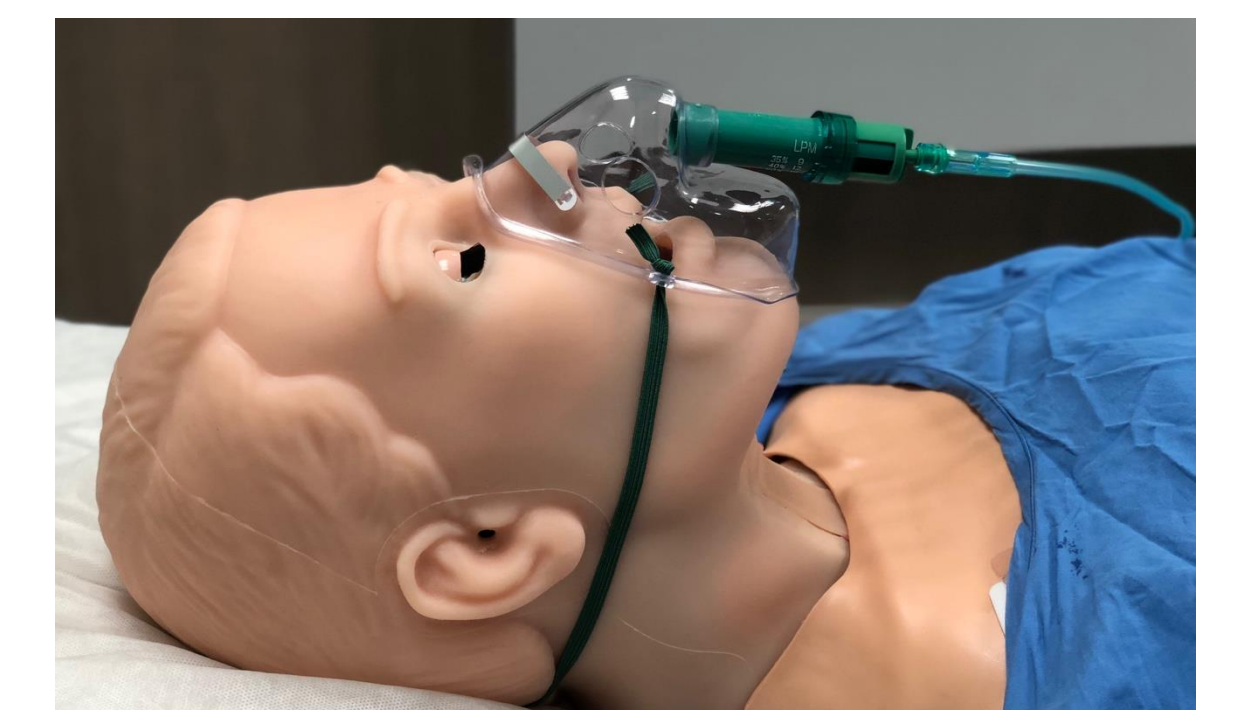
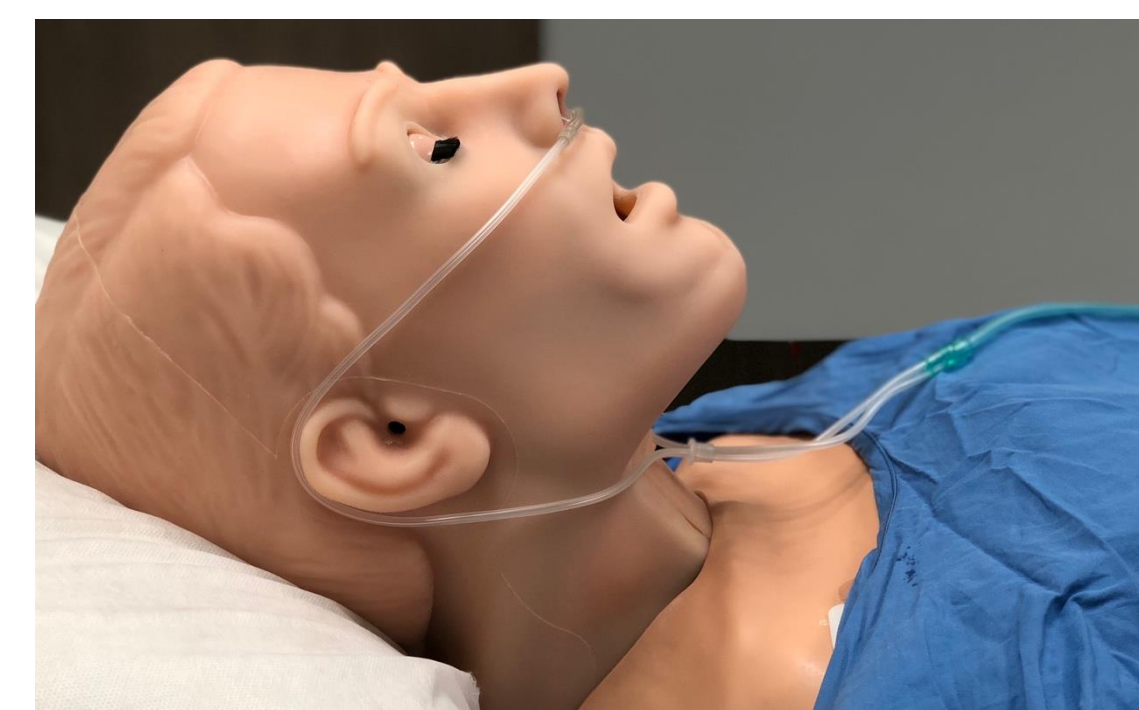
Intangible results includes:

- 1) Improvement in patients' comfort and experience;
- 2) Increased staff awareness and satisfaction;
- 3) Enhancement of organization image.

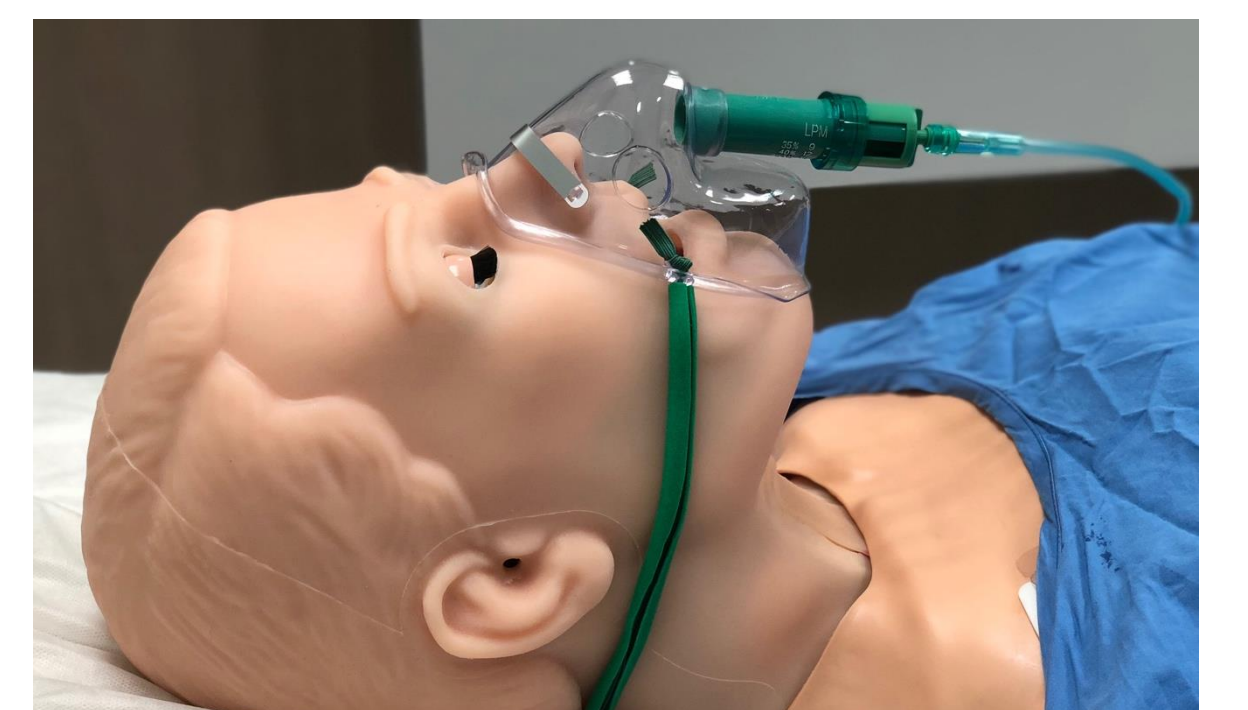
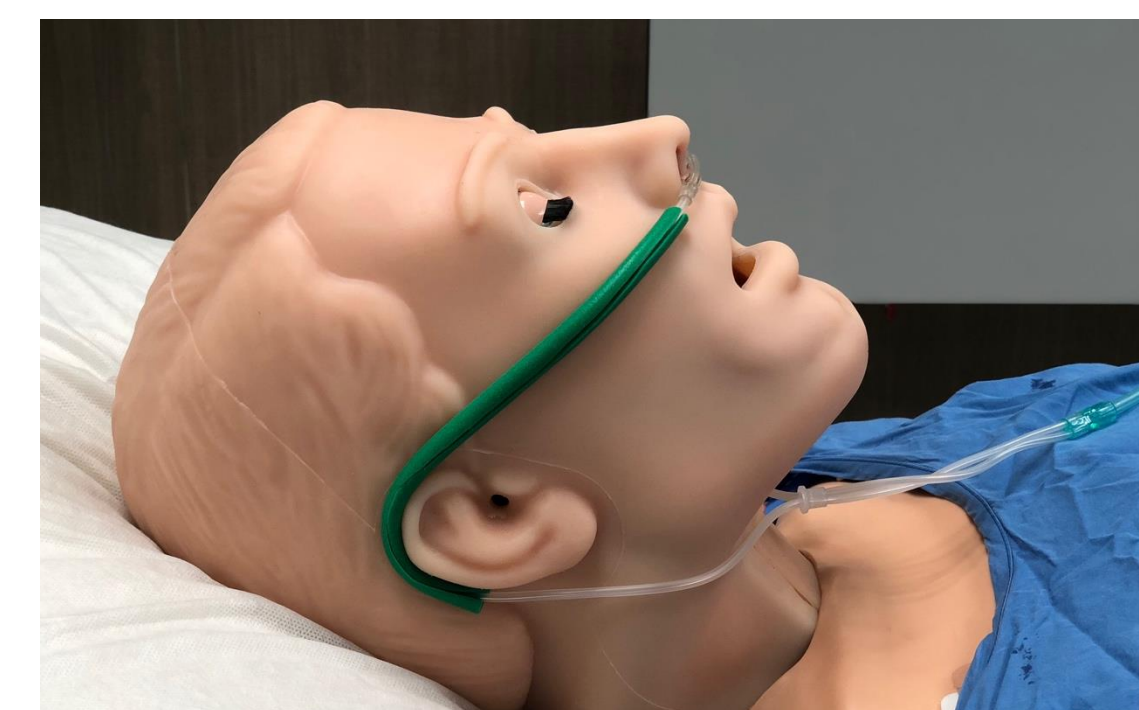
Root cause analysis



Pre implementation

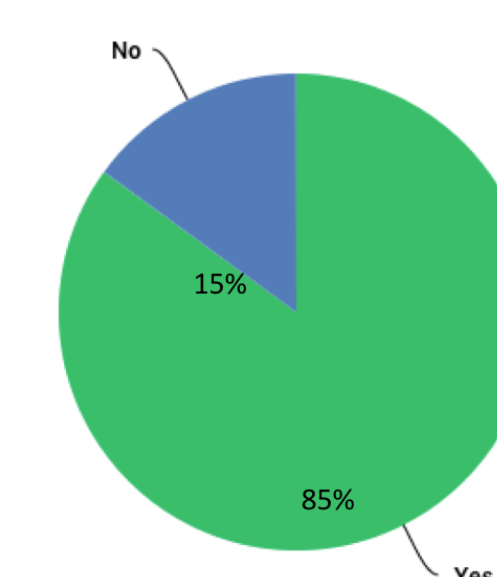


Post implementation

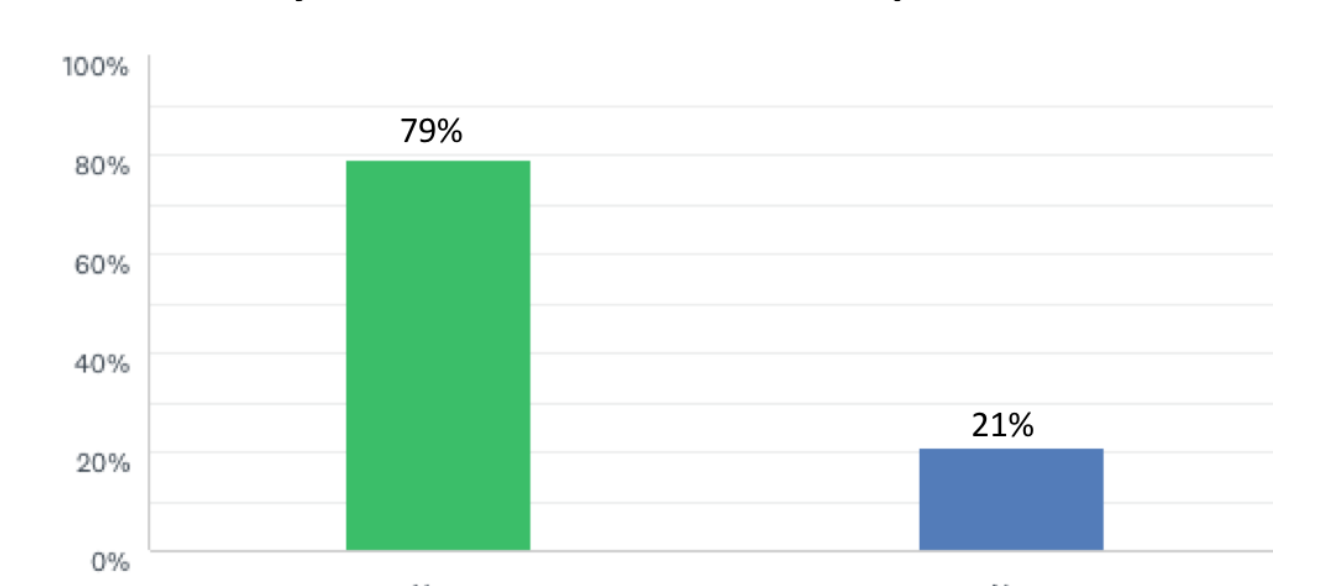


Survey findings

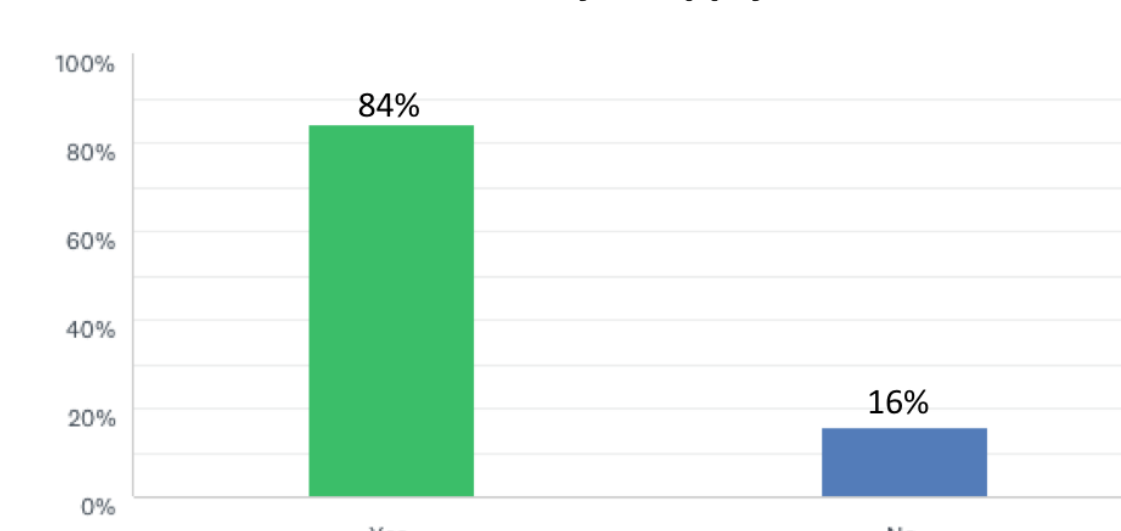
Does the oxygen tubing cushion help to prevent pressure injury?



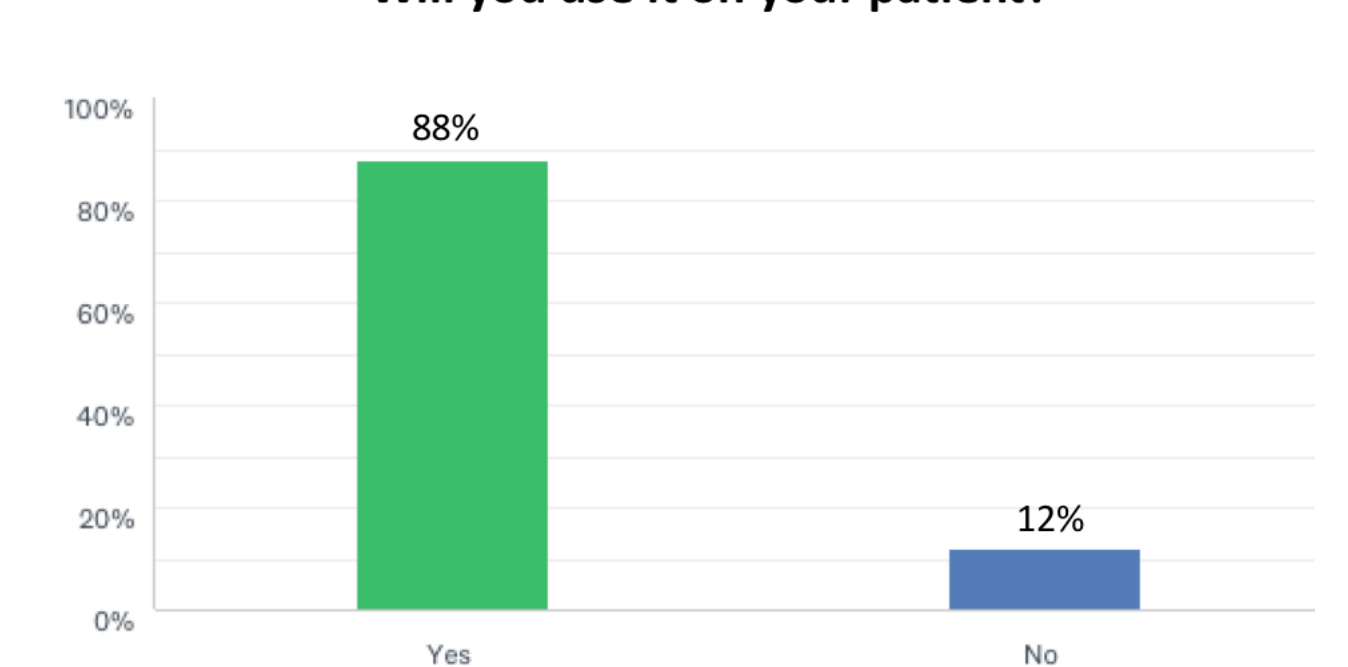
Are you satisfied with this new implementation?



Is it easy to apply?



Will you use it on your patient?



Conclusion

Device related pressure injury is preventable. Pressure injuries increase healthcare cost and prolong patients' hospital length of stay. With the use of pressure relieving device, the occurrence of pressure injury during oxygen therapy can be eliminated.