BiPAP-related HAPI in DSU During the COVID-19 Pandemic

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BACKGROUND

• Reduction or elimination of medical device-related pressure injuries (MDR PI’s) are among key indicators of patient safety and nursing quality in healthcare facilities
• Most MDR PI’s develop when skin or underlying tissues are subjected to a sustained pressure or shear from medical devices
• Dressings have shown substantial biomechanical effectiveness in alleviating facial tissue deformations and stresses by providing localized cushioning to the tissue at risk
• In the 4 months before the project initiation, one patient per month had BiPAP related pressure injuries
• The DSU is the primary site for admission of unstable COVID patients

PURPOSE

• To reduce and eliminate BiPAP related pressure injuries using an evidence-based solution in conformance with the precautions and restrictions in caring for COVID-19 patients
• To promptly identify problem areas for early treatment and prevention

REFERENCES

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METHODS

• Design: Evidence-based quality improvement
• Setting: DSU and SDU
• Participants: COVID and Non-COVID patients using BiPAP

Procedure:
• Obtained historic data from leadership
• Conducted baseline chart audits
• Continued use of Curagel Nasal Pad (silicone), alternating between full face and total face masks every 6 hours, prn, and when safe and tolerated by the patient
• Engaged respiratory therapists in the project
• Educated staff regarding project
• Alternated between full mask and total face mask every 6 hours
• Incorporated skin assessment under medical device during 4-eyes
• Conducted 20 monthly audits including 4-eyes, Braden Score, skin order set, presence of silicone pad, and presence of HAPI

RESULTS

• BiPAP-related HAPI occurred in conjunction with peaks in COVID-19 census and severity of illness
• Compliance with the evidence-based quality improvement project was adapted based on COVID-19 restrictions and precautions

DISCUSSION

• Rotation of masks and use of silicone pads proved to be effective in eliminating BiPAP associated pressure injuries based on a project prior to the COVID pandemic and the use of proning
• COVID-19 necessitated changes in practice:
  • Requirement to keep the BiPAP system intact; unable to rotate between full face mask and total face mask
  • Prone position puts additional pressure on face

CONCLUSION

• Prior to COVID-19, project interventions eliminated HAPI related to BiPAP. Modifications in care required for COVID-19 patients contributed to new occurrences of BiPAP related HAPIs
• Additional study is necessary to determine the most effective methods of decreasing HAPI associated with prone positioning and the debilitating effects of COVID