

Cost-Savings of a Nurse-Led Cervical Collar Application Program

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Main Points

- A nurse-led cervical collar application program can result in significant cost savings over utilization of an orthotic company.
- Nurses' application of cervical collars does not increase the number of collar-related adverse events, including skin breakdown.
- A nurse-led cervical collar application program may result in improved staff satisfaction.

Background & Purpose

Staff at a large multi-hospital organization shared concerns about the time it took to obtain extended-wear cervical collars for patients requiring cervical motion restriction. Most patients arrive in a rigid extrication collar not designed for extended wear. For patients requiring cervical motion restriction, the extrication collar is often replaced with a collar designed for extended wear. The organization engaged an orthotic company for all patients requiring extended-wear cervical collar application. The order process included computer order entry, telephone confirmation, and an often lengthy wait for the orthotic representative to arrive at the hospital. Time to the removal of the extrication collar and subsequent placement of an extended-wear collar have been shown to affect pressure ulcer rates; however, no benchmark exists (Lacey et al., 2019). A cost analysis determined the organization could obtain extended-wear cervical collars directly from the manufacturer at significant cost savings.

The organization determined that the current extended wear cervical collar placement process for admitted patients requiring cervical motion restriction led to excessive wait times and was found to be more costly than other processes. The application of cervical collars is within the

scope of practice for trained nurses, so the idea of a nurse-led extended wear collar application process was voiced by system leadership. Organizations have a responsibility to create fiscally responsible and safe practices within their organizations. This project aims to determine the feasibility, safety, and cost-effectiveness of a nurse-led process for extended-wear cervical collar application.

Methodology

A clinical nurse specialist led the team responsible for this process evaluation and change. Stakeholders included nursing, physicians, therapists, supply chain management, and system leadership. A literature search was conducted to support the process of nurse-led collar application. Risk for adverse events associated with cervical collar application was also described in the literature, along with supporting data for robust educational programs as a patient safety measure (Elia et al., 2018). As such, an educational and competency process was created. A super-user role was created to support staff. Super-users would obtain more in-depth education and training to be able to assist with checking off other staff and providing just-in-time education. All emergency department nursing staff, as well as nurses, were educated on appropriate trauma-related units. To support the educational process and staff satisfaction, an online repository was created for the competencies, along with educational videos. The organization's online nursing process website was also updated to reflect the change.

Once the process went live, the clinical nurse specialist project champion began rounding on patients requiring cervical motion restriction. During rounds, patients were assessed for proper fit and skin breakdown, and just-in-time education was provided to staff as needed. Data on monthly cervical collar cost expenditures were collected, as well as any incident reports describing cervical collar-related adverse events. Six months of pre and post-data were to be

collected and analyzed. As there was no clear way to determine the exact time to collar placement by the orthotic company, this metric was not collected or analyzed.

Results

The average monthly cost expenditure related to cervical collars pre-implementation was \$16,576. Post implementation, that average decreased by 26%, averaging \$12,298 monthly. There were no collar-related adverse events in the six months preceding the project implementation and none in the post-implementation period. Staff satisfaction was gauged via anecdotal reports and discussions with staff. Overwhelming satisfaction was reported, not only with the collars but with the process itself. Staff were also satisfied with the educational process, citing increased comfort with caring for patients in cervical motion restriction post-project implementation.

Strengths and Limitations

Strengths of the process improvement project include the multidisciplinary approach, and a strong focus on staff education and competency process. Limitations include the lack of formal staff satisfaction assessment, no objective measure of time to collar placement, and the potential lack of generalizability. Other organizations may have different cost expenditures related to cervical collars, depending on the patient population and cervical collar supplier. As such, other organizations may not have similar financial outcomes replicating this process.

Implications and Conclusion

This project and process improvement demonstrates the feasibility, cost-effectiveness, and safety of a nurse-led extended-wear cervical collar application program. While the literature does support nurses applying cervical collars, there is no literature describing the safety and cost-

effectiveness of a nurse-led process for extended wear collars. This program and any future papers derived from this project fill that gap. Future work on this topic may include a formal assessment of staff satisfaction with similar processes.

Healthcare organizations have a duty to support staff satisfaction, patient safety, and cost-effectiveness in care. Programs such as this one meet all three of these duties. This project may support other organizations in exploring the feasibility of similar programs.

References

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