External Support Device vs Pillow

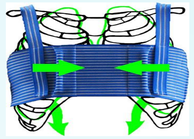
Search for Adjunct Pain Control Tool for Post-Sternotomy Pain

Mary Ann Guillen, RN, BSN, CNOR

Baylor Scott & White Heart Hospital Plano

Background

VS



Heart surgery through a median sternotomy result in significant post-operative pain. Post-op activities such as pulmonary toilet, traditionally use a pillow to splint the chest to aid in pain control. However, the pillow may not be conveniently within reach, supportive enough or adequately help reduce pain. A wearable external chest support device may be an alternative. The goal of the project was to compare the effects of an external sternum support device to traditional heart pillow splinting in reducing pain in post median sternotomy patients.

Description of the Team

Staff nurses from Pre-op, OR, and ICU; respiratory technicians, and supply chain personnel made up the team. Nursing administration and surgeon champions were also vital in the implementation of this project.

Preparation and Planning

The team met to discuss patient selection criteria, communication and staff education, implementation procedure, device supply and storage, evaluation, and data collection. Staff huddles were used to disseminate information. Project flyers were posted on communication boards and e-mailed to staff. The surgeons were likewise engaged for their support.

Assessment

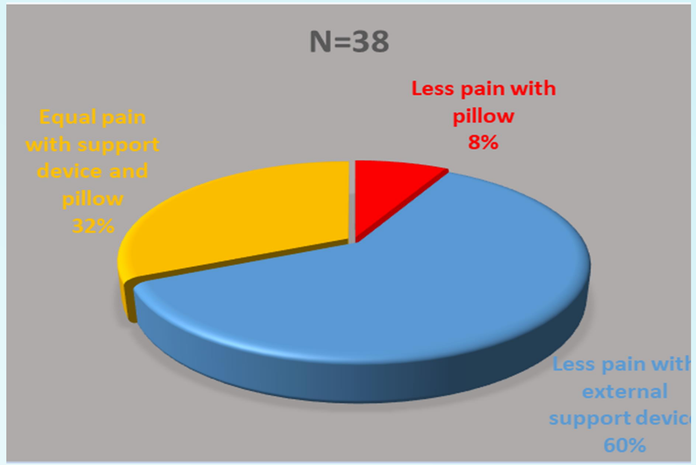
Input from different members of the team regarding on-track post-op patient's procedures, inclusion criteria, extubation, ambulation, medication, physical and respiratory therapy schedules, identified gaps in the pre-implementation plan.

Implementation

Patient inclusion criteria included full median sternotomy and patient weight of 100kg and over. Patient instructions were given pre-operatively.
The external support device was put on the patient postoperatively in the OR. Post-op visits were done on the 3rd or 4th post-op day. Instructions for use were reinforced. A Baker-Wong pain scale was included in the questionnaire as a visual guide. Patients were asked to compare pain perception with the pillow and the external support device at rest and during deep breathing and coughing exercises.

Outcome

Of the thirty-eight participating patients, sixty percent of patients reported less pain with the external support device. Thirty two percent of patients reported no difference in pain perception. Eight percent of patients reported less pain with the pillow.



Implications for Perioperative Nursing

The use of a wearable external chest support device appear to be a more effective tool in reducing pain for post-sternotomy patients as compared to a pillow. It is worth noting that majority of the patients point to the convenience and support or compression the external support device provided. It also served as a reminder to practice sternal precaution. Further investigation should be done with a larger sample and comparing different external support devices in the market.