Clinical Based Discharge Criteria for Pediatric Out-patient Adenotonsillectomy
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Abstract

Educational Objectives:
• To use a quality improvement methodology to improve a practice pattern
• To demonstrate proof of principle for clinical based discharge criteria
• To propose clinical based discharge criteria for adenotonsillectomy

Objectives
To develop and evaluate clinical based discharge criteria for pediatric out-patient adenotonsillectomy

Study design
Three-phase quality improvement (QI) initiative.

Methods
Phase 1 involved testing myriad clinical characteristics to ascertain the validity of the approach. Phase 2 utilized a collection tool with time-stamps. Phase 3 was implementation of the tool.

Results
A total of 66 patients were part of this QI initiative. Prior to intervention, mean time to discharge was 103 minutes (SD 53). In phase 1, n=25 patients; mean time to discharge was 78 minutes (SD 20, range 50-120). In phase 2, n=31; mean time to discharge was 83 minutes (SD 22, range 58-142). In phase 2, the age of the patients was 7.5 years (SD 3.5) and pain scores on a 10-point scale (0 no pain) was a mean of 1.9 (SD 1.9). Seven specific discharge criteria are used in phase 3. To date, in phase 3, there are 10 patients (mean age 7.8 years, SD 3.1), the mean time to discharge is 92 minutes (SD 23) and mean pain score of 2.3 (SD 1.8). There were no adverse outcomes in any phase of the study.

Conclusions
Implementation of clinical based discharge criteria resulted in significant improvements in patient through-put while maintaining clinical outcomes. Compared to normative discharge times at our facility, this QI intervention resulted in an 11% improvement in time to discharge with no difference in outcomes. Utilization of QI methodology to specific cases in Otolaryngology to derive clinical based discharge criteria has significant value for our specialty.

Methods – Data Collection Tools

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<th>Quality Improvement Intervention: Standardized Discharge from PACU for Adenotonsillectomy Patients</th>
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The project was a three-part quality improvement initiative to create and trial the discharge tool.

Phase I: working with our nursing colleagues, seven clinically based discharge criteria were identified.

Phase II: time stamps were placed adjacent to the clinically based discharge criteria to provide the ability to evaluate patient flow through the PACU and look for which variables assisted in the discharge flow.

Phase III: creation of a standardized discharge form with the discharge criteria.

The phase III standardized discharge form is created to be used by other institutions and to explicitly state the clinical based discharge criteria while providing the nursing team with steps to guide the discharge flow.

Results

A total of 66 patients were part of this QI initiative; enrollment is still continuing for phase III with periodic evaluation to ensure that the form is properly utilized to drive discharge and ensure safety.

Prior to this intervention the mean time to discharge was 103 minutes (SD 53).

After implementation of phase 1 (n=25 patients), the mean time to discharge was 78 minutes (SD 20, range 50-120).

Placing the time stamps and increasing the sample size, in phase 2 (n=31) resulted in a mean time to discharge of 83 minutes (SD 22, range 58-142).

Additional data was collected in phase 2. These included the age of the patients which was 7.5 years (SD 3.5) and pain scores on a 10-point scale (0 no pain) which was a mean of 1.9 (SD 1.9).

To date, in phase 3, there are 10 patients (mean age 7.8 years, SD 3.1), the mean time to discharge is 92 minutes (SD 23) and mean pain score of 2.3 (SD 1.8). There were no adverse outcomes in any phase of the study.

Discussion

Adenotonsillectomy is one of the most commonly performed surgeries in America. Over the last two decades, there has been a marked decrease in the time spent in PACU for patients undergoing adenotonsillectomy. Concomitantly, there has been a decrease in the age of patients that are able to undergo day surgery in pediatric adenotonsillectomy with no significant impact on outcomes.

Such advancements are in part due to refinements of anesthesia techniques and better understanding of the post-operative recovery of these patients.

This QI initiative is one of the first in our specialty to use clinical based discharge criteria rather than time based discharge criteria (which have been arbitrarily set and have decreased over the past decades).

The data collection tools, the process described herein, and the reduction in PACU stay with application of the clinical based discharge criteria validate this QI initiative.

Application of these seven clinical based discharge criteria afford the opportunity for standardization of a previously customized process.

Such standardization allows for safety and efficiency gains in the post-operative management of pediatric adenotonsillectomy patients in the PACU.

Conclusions

In this quality improvement initiative, clinical based discharge criteria for pediatric out-patient adenotonsillectomy were assimilated and validated. Use of the clinical based discharge criteria rather than the traditional time based discharge criteria resulted in significant improvements in patient through-put while maintaining clinical outcomes. Compared to normative discharge times at our facility, there was an 11% improvement in time to discharge with no difference in outcomes. Utilization of QI methodology to specific cases in Otolaryngology to derive clinical based discharge criteria has significant value for our specialty.