



Reduction in Post Operative Nausea & Vomiting

Avera St. Anthony's Hospital
O'Neill, NE



Identification of Need

- Lack of uniform evidence based procedures in Critical Access Hospitals.
- Absence of any post operative nausea and vomiting risk assessment.
- Observed that some patients that may have benefitted from pre-operative prophylaxis did not receive any treatment.

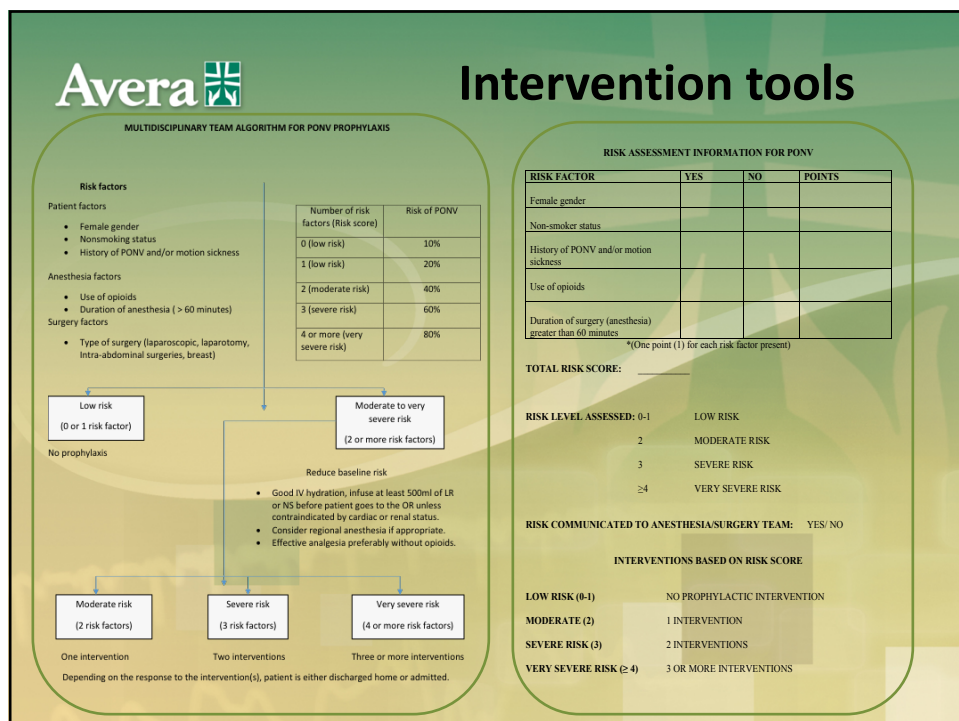


Process Methods

- Tool presented and discussed with the surgical multidisciplinary team prior to implementation.
- Tool utilized by surgical nurses, CRNA, and surgeons
- Organizing framework – The Deming Model.¹⁹
- Plan-Do-Check Act (PDCA)¹⁹
- Descriptive exploratory pre-post study with two groups (Retrospective & Prospective)



Intervention tools





Intervention Tools cont.

Prophylactic Interventions

Pharmacologic interventions

- Ondansetron (Zofran)
- Dexamethasone
- Metoclopramide (Reglan)
- Aprepitant (Emend)
- Scopolamine patch

Complementary Measures

- Acustimulation (Anti-nausea wrist band)
- Aromatherapy (Quease Ease)

Anesthetic Interventions

- Total intravenous anesthesia (Propofol)

NAUSEA AND VOMITING SCALE (NVS)

SEVERITY OF PONV IF PRESENT (Using nausea and vomiting scale - NVS)

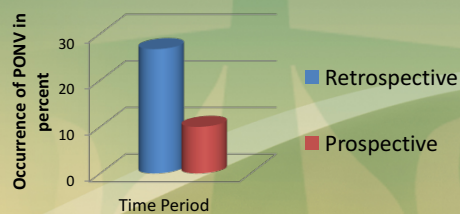
NVS	Severity
0	No complaint of nausea
1	Mild nausea
2	Moderate nausea
3	Frequent vomiting (up to 4 times)
4	Severe vomiting (continuous)



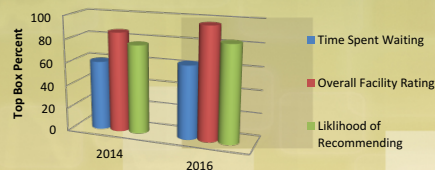
Results

- 42 general surgical patients between September 1, 2014 and November 30, 2014, out of which 30 charts were randomly selected for analysis.
- 42 general surgical patients between September 1, 2016 and November 30, 2016 for which the multidisciplinary intervention was utilized. 30 charts were randomly selected for analysis.
- Occurrence of PONV in 2014 (pre-test) was 26.7% (8 out of 30 charts).
- Occurrence of PONV in 2016 (post-test) was 10% (3 out of 30 charts).
- 62.5% reduction in the occurrence of PONV ($p < 0.001$).
- Improvement in HealthStream patient satisfaction scores from 2014-2016.

Occurrence of PONV



HealthStream Patient Satisfaction Survey Results 4th Quarter





Results Cont.

Retrospective group comparison of patients with and without PONV

	PONV	N	Mean	Standard deviation	Standard Error of Mean	P-value
PACU stay (min)	Yes	8	177.3	94.006	33.236	0.034
	No	22	89.68	38.258	8.157	

Prospective group comparison of patients with and without PONV

	PONV	N	Mean	Standard deviation	Standard Error of Mean	P-value
PACU stay (min)	Yes	3	108.33	83.716	48.333	0.587
	No	27	94.30	36.851	7.092	

- Retrospective group noted to have statistically significant difference in the duration of time in the PACU in patients with and without PONV.
- Prospective group is noted to have NO statistically significant difference in PACU length of stay in patient with and without PONV.
- Conclusion: PONV is unable to be eliminated. When the intervention tool is implemented, a decrease in PACU times, and a decrease in severity of PONV is noted in the prospective group.



Conclusion

What Was Learned

- Systematic approach has proven to decrease rate of PONV in adult, general surgical patients
- Decreased time spent in the PACU with systematic approach
- Improvement in three areas of patient satisfaction scores

What Comes Next

- Present day use of the PONV Risk Assessment tool with interventions
- (Draft) Policy to maintain use of intervention tools for surgical patients
- Submitting data to Avera Health Standards committee in hopes to develop a tool in Meditech EMR system for electronic documentation use
- Vision of Avera adopting protocol system wide