GASTRIC RESIDUAL VOLUME CHECKS: DOES THE EVIDENCE SUPPORT THIS HISTORIC PRACTICE?

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Background:

A gap between literature and clinical practice was noticed as Gastric Residual Volume (GRV) checks were perceived as innocuous and correlated with preventing aspiration, even though it is a time consuming task for nursing. Evidence shows that monitoring GRV appears unnecessary to guide nutrition, does not correlate to aspiration, <u>and not checking residuals is not inferior to checking</u>.
A change in practice utilizing an evidence based approach was proposed.

Methods:

- The literature was reviewed for the most current EBP. (See "References")
- EBP shared with intensivist and surgeons at intensivist meeting in March 2018.
- Baseline data was obtained on nursing time to perform GRV checks during their ICU stay compared to not checking (T=zero).
- RD time was monitored for 'GRV assessment and RN discussion if needed' in the Q4 hour GRV group compared to the non GRV group.
- Specific criteria was established for discontinuing Q4 hour checks, along with criteria to assess GI tolerance.
- Non-GRV check patients were tracked for aspiration.

GRV checks*	Time/Volume
Average time to measure GRV **per Q4 hour check**	4 minutes, 22 seconds
Average time to measure GRV **per shift**	13 minutes 5 seconds
Average time to measure GRV **per day**.	26 minutes 10 seconds
Average volume in Q 4 hour check	126 ml
Average time RD checks EPIC for GRV data.	14.5 seconds
RD to RN communication for high residuals	None. All had normal or low residuals.

*Number of patient check =5, by 4 ICU RN's. Total of 18 checks performed.

Results:

This *very recent change in practice* has provided the following results thus far:

1. With an average number of patients receiving tube feeding in the ICU of at least 10, extrapolating the data increases the daily time nurses check GRV to <u>4 hours and 22 minutes/ unit/day.</u>
2. RD time assessing GRV is non-productive.
3. Though only a small group thus far, there have been no increases in aspiration in patients not having Q4 hr GRV checks. (N=4)

Conclusion:

An interdisciplinary team with new evidence is inspiring a practice change. Continued work includes:

1. Refining criteria to stop GRV's.
2. Continue to monitor non-GRV patients for GI related side effects and aspiration.
3. Monitor actual nutritional support.
4. Stopping GRV checks will allow nursing time and RD to focus on high priority tasks.
5. $58,000 dollars (average savings/year/RN) could be reallocated to other aspects of clinical care.

References:

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2. McClave SA, Lukan JK, Stefater JA, et al. Poor validity of residual volumes as a marker for risk of aspiration in critically ill patients. Crit Care Med. 2005;33(2):324-330.
3. McClave SA, Taylor BE, Martindale RG, et al. Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.). JPEN J Parenter Enteral Nutr. 2016;40(2):159-211.
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