

Cost and labor savings in eliminating automatic, unwarranted, gastric residual volume monitoring for enterally fed adult patients – a retrospective study

Cost of checking Gastric Residual Volume at Franklin Square Hospital

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BACKGROUND

Gastric residual volume (GRV) is routinely used by hospital staff to assess the tolerance of enteral nutrition (EN) in hospitalized patients. The 2016 ASPEN guidelines does not support automatic GRV monitoring as a measure to assess tolerance or reduce risk of complications.

"We suggest that GRV's not be used as part of routine care to monitor ICU patients receiving EN"

"We suggest that, for those ICU's where GRV's are still utilized, holding EN for GRV's <500 mL in the absence of other signs of intolerance should be avoided."

-ASPEN 2016 Guidelines

GRV levels contribute to caloric deficits in catabolic and often malnourished patients and can lead to further decline in nutritional status. Analyzing expenses related to automatic GRV monitoring except when there are other signs of intolerance of feedings such as abdominal distention or nausea vomiting or in major abdominal surgeries or lung transplants will help better understand if nursing time and cost of labor can be saved by eliminating or reducing the frequency of checking GRV.

LEARNING OUTCOMES

1. Quantify the caloric deficit created from discarding residuals
2. Quantify the total labor minutes spent checking GRV
3. Quantify the total labor cost spent checking GRV

METHODS

Nursing surveys, nursing observations and information from the Electronic Medical Record were used to collect data. Data was then compiled to an Excel spreadsheet for analysis.

Nursing Survey

A twelve question survey and consent form was administered to 10 ICU and 10 medical floor nurses to collect information about clinical practice habits in checking GRV. Information collected can be viewed to the right.

Nursing observation

RNs were observed while checking residuals to quantify actual time vs estimated time spent checking GRV. They were asked to estimate time typically spent checking GRV for one patient. Time considered checking residuals included time between washing hands and clamping the tube. Time after clamping the tube was excluded because RNs proceeded with obligations in addition to checking residuals.

Electronic Medical Record (EMR)

A report was created using Medconnect EMR to identify which patients received EN in January 2017. Information from this report was used to determine kcal density and method of EN delivery. Patient identifiers from that report were used to search medical records from January to determine age, gender, estimated calorie needs, days of tube feed, residual volume aspirated, residual volume discarded, calorie concentration, evidence and type of intolerance.

Gastric Residual Volume Practice - A Nursing Survey
Morrison Healthcare - Fall 2017 Class

Please give your best possible answer. There are no correct or wrong answers to this survey. It will take about 5 minutes to complete this survey. By participating in this survey, your practice will not be affected and no confidential or personal data will be collected/report of any kind.

1. Number of years of nursing practice: _____
2. How often do you check GRV? _____
3. If you have often do you check GRV? _____
4. In your estimate, how much time do you spend checking GRV? _____
5. What level of GRV do you consider as high? _____
6. At what level do you hold tube feeds for high GRV? _____
7. How long do you hold tube feeds for high GRV? _____

8. What is your facility policy for high GRV levels at which you hold the tube feeds? _____
9. On average, how much residual do you aspirate each time from a tube feed patient? _____
10. What do you do with the residual that is taken out of the patient? (What is your practice regarding of the level?) _____
11. Do you check GRV for patients with tubes placed in the small bowel (to NG and PEG feeds)? _____
12. What are your top 3 reasons for checking GRV routinely? Check 3 out of the choices below and rank them in order of importance: _____

Additional information

The average salary of an entry level RN at Franklin Square was estimated using the average of a salary range listed on Glassdoor.com

RESULTS

Caloric Deficit:

Labor Hours

Labor Cost

CONCLUSION

Eliminating or reducing the frequency of checking gastric residual volume can reduce labor hours, labor cost and caloric deficit in hospitalized patients. Checking GRV contributed to 1,428 minutes spent, \$771.12 in labor costs and a total 1,763kcal deficit. By eliminating or reducing the practice of checking GRV, hospitals can more efficiently use time, money and increase the nutritional status of patients. More research is needed to further analyze the economic and nutritional impact of GRV checking and to provide evidence to support ASPENs 2016 guidelines that no longer support routine checking of GRV to measure tolerance of EN.

Costs per patient per day to Check Residuals in January 2016

\$19.28 per patient per month
7 minutes per day per patient receiving EN
Average 37kcal deficit per patient

REFERENCES

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