In Adult Critical Care Patients Receiving Enteral Feedings, Would Volume Based Nutritional Intake Compared to Current Enteral Feeding Policy Help Patients Meet their Nutirional Goals?.

Mikayla K. Lentz BSN, RN
Lehigh Valley Health Network, Mikayla_K.Lentz@lvhn.org

Caitlin N. Pasquale BSN, RN
Lehigh Valley Health Network, caitlin_n.pasquale@lvhn.org

Molly Moyer BSN, RN
Lehigh Valley Health Network, Molly.Moyer@lvhn.org

Published In/Presented At

Lentz, M. Pasquale, C. Moyer, M. (2017, July 28). *In Critical Care Patients Receiving Enteral Feedings, Would Volume Based Nutritional Intake Compared to Current Enteral Feeding Policy Help Patients Meet Their Nutritional Goals?*. Poster presented at: LVHN Vizient/AACN Nurse Residency Program Graduation, Lehigh Valley Health Network, Allentown, PA.

In adult critical care patients receiving enteral feedings, would volume based nutritional intake compared to current enteral feeding policy help patients meet their nutirional goals?

Mikayla Lentz BSN RN (TNICU), Cailtin Pasquale BSN RN (TNICU), Molly Moyer BSN RN (Burn)

Lehigh Valley Health Network, Allentown, Pennsylvania

Background/ Introduction:

- Nutrition is essential for patients on the Trauma/ Neuro ICU (TNICU) and the Burn Unit
- Paused tube feedings during nursing care for short periods of time.
  - –"There is no benefit from stopping feedings during short periods of HOB lowering (Bankhead R., et al, 2009)
  - –"Precautionary withholding of enteral feedings during repositioning does not reduce the incidence of aspiration in critically ill patients" (DiLibero, J. et al, 2015)
- Inadequate nutrition due to tube feeding pauses:
  - –current manner in which enteral tube feeding is delivered in the ICU results in grossly inadequate nutritional support (McClave et. al, 1999)
- Volume based feeding vs Rate based feeding

Methods:

- Chart audits were conducted on TNICU and the Burn Unit to calculate how much of their prescribed nutrition patients were receiving
- A survey was sent out to nursing staff on the TNICU, the Burn Unit, and the Trauma/Neuro/ Burn Float Pool to test their knowledge of tube feedings
- Conversations were had with both dietary and nursing staff about their general thoughts/ concerns regarding enteral feedings
- Research was conducted regarding volume based feeding and its effectiveness

Chart Audits and Survey:

- Chart audits on 10 patients:
  - –Less than prescribed nutrition – 6 patients with a deficit of 7-31% of their prescribed nutrition
  - –More than prescribed nutrition – 4 patients with a surplus up to 14% of their prescribed nutrition
- Survey:
  - –18% of nurses knew that tube feedings were calculated for 22 hours a day From the conversations had with staff, nurses voiced their concerns about forgetting to resume feedings after turns and not being able to hear the alarms on the tube feeding pumps
  - –56.8% of nurses believe their patients are receiving prescribed nutrition
  - –66% staff would be interested in learning about a nursing based protocol for titrating enteral feedings

Volume Based Feeding:

- Volume based feeding (VBF) allows RN to adjust infusion rate to make up for interruptions in delivery (McClave, et. Al, 2015)
  - – Research conducted by McClave et. al (2015): VBF group: 92.9% caloric requirements met; rate based feeding group: 80.9% caloric requirements met
  - – Recent guidelines for the provision and assessment of nutrition support therapy in the adult critically ill patient suggests use of the VBF protocol (McClave, et. al, 2016)

Conclusions:

- Pausing tube feedings is causing patients to not meet their caloric intake requirements
  - –Research shows that not all short term nursing care requires tube feed to be held when HOB is <30 degrees (Bankhead, et. al, 2009, DiLibero, J. et al, 2015)Other barriers included difficulty calculating true daily feed totals because of the times at which nursing
  - –There is very little data to support that it is necessary to pause tube feedings during short, routine periods where HOB < 30; more research needs to be conducted to examine whether or not healthcare providers can eliminate unnecessary holds on feedings
- Data collected on the TNICU and Burn Unit at LVH-CC showed that 60% of the patients surveyed were not meeting caloric requirements
- Survey reflected a need for further RN education
- Literature search highlighted the benefits from a volume based feeding protocol and how it fulfills a larger amount of patient caloric needs rather than the rate based protocol (McClave et al, 2015, McClave et al, 2016)
- Further research would need to be conducted to prove the effectiveness of VBF on the TNICU and Burn Units

References:

- Bankhead, R. et al. (2009). A.S.P.E.N enteral nutrition practice recommendations. Journal of Parenteral and Enteral Nutirtion, *33*(122).
- DiLibero, J. et al. (2015). "Witholding or continuing enteral feedings during repositioning and the incidence of aspiration." *American Journal of Critical Care.*
- McClave, S. A., et al. (1999). "Enteral tube feeding in the intensive care unit: Factors impeding adequate delivery." *Critical Care Medicine 27*(7).
- McClave, S. A., et al. (2015). "Volume-based feeding in the critically ill patient." *Journal of Parenteral and Enteral Nutrition 39*(6).
- McClave, S. A., et al. (2016). "Guidelines for the provision and assessment of nutrition support therapy in the adult critically ill patient: Society of critical care medicine and American society for parenteral and enteral nutrition." *Journal of Parenteral and Enteral Nutirtion 40*(2).