

Verification of Gastric Tube Placement: Identifying New Practice When the Evidence is Inconclusive.

Daniela Diehl BSN, RN

Lehigh Valley Health Network, Daniela.Diehl@lvhn.org

Andrew Hill BSN, RN

Lehigh Valley Health Network, Andrew_T.Hill@lvhn.org

Alexandra A. Lazaridis BSN, RN

Lehigh Valley Health Network, Alexandr_A.Lazaridis@lvhn.org

Megan J. Sevi BSN, RN

Lehigh Valley Health Network, Megan_J.Sevi@lvhn.org

Christina M. Siracuse BSN, RN

Lehigh Valley Health Network, Christina_M.Siracuse@lvhn.org

See next page for additional authors

Follow this and additional works at: <http://scholarlyworks.lvhn.org/patient-care-services-nursing>

 Part of the [Nursing Commons](#)

Published In/Presented At

Diehl, D. Hill, A. Lazaridis, A. Sevi, M. Siracuse, C. Watson, W. (2017, July 28). *Verification of Gastric Tube Placement: Identifying New Practice When the Evidence is Inconclusive*. Poster presented at: LVHN Vizient/AACN Nurse Residency Program Graduation, Lehigh Valley Health Network, Allentown, PA.

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

Authors

Daniela Diehl BSN, RN; Andrew Hill BSN, RN; Alexandra A. Lazaridis BSN, RN; Megan J. Sevi BSN, RN; Christina M. Siracuse BSN, RN; and William J. Watson Jr BSN, RN

Verification of Gastric Tube Placement: Identifying New Practice When The Evidence is Inconclusive

Daniela Diehl RN, BSN Andrew Hill RN, BSN Ali Lazaridis RN, BSN Megan Sevi RN, BSN Christina Siracuse RN, BSN and Will Watson RN, BSN

Lehigh Valley Health Network, Allentown, Pennsylvania

Background/Introduction

- Gastric tubes are primarily inserted for two reasons; decompression and/or feeding and medication administration
- Traditional practice for placement check has included auscultation of air, assessment of aspirate characteristics among others.
- Multiple publications have addressed the concern that traditional practices for verification of gastric tube placement are not reliable
- It is a complex issue that includes not only initial placement verification after insertion but also day to day, shift to shift practice to verify placement.
- Acceptance of new practice guidelines, such as AACN's Practice Alert, has been less than expected. Most likely the resistance to change is due to the lack of an alternative placement verification practice that is reliable, simple and cost effective.

Purpose

- P - Adult patients with gastric tubes
- I - Most reliable method of assessing placement (audible air injection, x-ray confirmation, gastric pH, aspirate characteristics, capnography, securement method/distal length of tube)
- C - Unreliable/dangerous methods
- O - For the best, least harmful outcomes based on evidence
- The purpose of this project is to identify reliable alternatives to traditional practices to verify both initial placement of a gastric tube ongoing placement verification.

Evidence

- **X-Ray:** is considered the gold standard for initial confirmation of placement of gastric tubes. It is not, however, feasible for ongoing placement verification.
- **Auscultation of air injection:** Even though this method is still used at many institutions, it is considered unreliable and may result in patient harm
- **pH testing of aspirate:** It is considered most reliable for use with initial insertion and for patients receiving intermittent infusion of tube feeding. Results may be skewed with concurrent use of continuous tube feedings, PPI's and H2O blockers.
- **Assessment of aspirate characteristics:** Color and consistency of aspirates vary and are not considered reliable.
- **Measurement of distal length of tube:** Easy to use and may indicate if tube has shifted. It does not indicate the location of the tip of the tube and should never be used as sole means of determining placement
- **Capnometry/Capnometry:** Detection of CO2 has yielded variable results. May require additional equipment. Colorimetric capnometry will add significant cost if used for ongoing verification of tube placement.
- **Bilirubin/Enzyme Testing:** Used in combination with pH testing-a pH >5 and a bilirubin level less than 5mg/dL typically indicates pulmonary placement. Requires laboratory testing which will add to cost.

Barriers

- While pH testing offers a reliable alternative, the results may differ depending on certain patient conditions
- Recent publications call in to question the reliability of current pH testing products
- While x-ray is considered most reliable it is not possible to use this method each time a placement check is required

Recommendations/Conclusion

- CXR should be standard for initial verification of all blindly placed small and large bore gastric tubes
- Ongoing verification of placement will require more than one method of verification depending on the clinical situation
- pH testing is a POC test and will require initial and annual validation of staff.

REFERENCES

1. AACN Practice Alert: Verification of Feeding Tube Placement in Adults Critical Care Nurse V00132 No 2 April 2016
2. Bedside Assessment of Enteral Tube Placement: Aligning Practice with Evidence. American Journal of Nursing Vol 112 No 2 40-46 2012.
3. Feeding Tube Placement in Adults: Safe Verification Method for Blindly Inserted Tubes. American Journal of Critical Care Vol 18 No 1 73-76 2009.
4. Effect of pH Test-Strip Characteristics on Accuracy of Readings. Critical Care Nurse. Vol 37 No 3 2016 50-58

© 2014 Lehigh Valley Health Network

A PASSION FOR BETTER MEDICINE.™



610-402-CARE LVHN.org