2015

Verification of Nasogastric Tube Placement in Inpatient Populations: A Review of Current Literature

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What We Learned

This literature review was completed as part of a BSN degree required research course. We were able to critique, analyze, and synthesize nursing and medical research articles to create a reasonable conclusion on how the information on nasogastric tube placement verification should be interpreted into clinical practice.

Background
Correct NG tube placement is essential to minimize risk of aspiration. Various methods of verification are used, however cost and nursing experience may dictate which is used more than the factor of reliability.

Purpose & Aims
Determine the accuracy and usage of various types of placement verification, including:
- X-rays
- Ultrasound
- pH
- Auscultation
Also determine the role of nurse preference and experience in choosing a verification method

Methods

- West Chester University of Pennsylvania Francis Greene Library OneSearch database used
- Limited to results from 2009-2015
- Search term: nasogastric tube placement verification
- Three nurse authored
- One physician authored

Results

<table>
<thead>
<tr>
<th>Method</th>
<th>Sensitivity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X-Rays</strong></td>
<td>92.2</td>
</tr>
<tr>
<td><strong>Ultrasound</strong></td>
<td>93</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>79</td>
</tr>
<tr>
<td><strong>Auscultation</strong></td>
<td>90</td>
</tr>
</tbody>
</table>

Discussion

- The findings of the four articles supported that x-rays are the most reliable method of placement verification
- Also supported by the findings of three articles were pH and ultrasound-guided placements, with high sensitivities
- Auscultation is not recommended to be used alone to verify placement, as show by
- Nurses may need more education on the most effective methods of confirming placement

Next Steps

- More research
  - Follow-up on nursing survey, present findings of this study, and evaluate if the practices would change
  - Conduct a study to determine how patient preference effects which method is used

Limitations

- Studies were conducted on different age groups
- Lack of current research
- One study was a pilot, had no supplemental studies to support

Acknowledgments

We would like to thank West Chester University, and Dr. Cheryl Monturo for facilitating this research as well as providing instrumental guidance and direction in the data collection and compilation process.