Nasojejunal (NJ) Tube Placement in Critical Ill Patients

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Introduction

It has been stated in various studies that enteral nutrition is preferred method of feeding when it comes to physiological and economic advantages compared to parenteral nutrition. Poor nutrition can compromise critically ill children even further so it is recommended to start enteral nutrition early. In order to this typically a nasojejunal tube is placed and after placement and position confirmed, feeds will be started. Some hospitals use nasogastric tubes to feed patients while Hershey prefers to use nasojejunal tube to feed our patients.

PICO Question:

P: Pediatric patients that are critically ill
I: Nasojejunal tube placement
C: Performing blind bedside placement of a nasojejunal tube compared to other methods such as fluoroscopic/endoscopic or newer devices like an electromagnetic device
O: Safe and effective placement of an nasojejunal tube

Question: Is blind placement of a nasojejunal tube safe and effective? How many x-rays are taken to confirm position of feeding tube?

Methods

- PSHMC nasojejunal (NJ) tube placement policy
- Databases Used: American Association of Critical-Care Nurse, American Journal of Critical Care, Patient Safety Advisory
- Questionnaire for RNs in PICU who were placing a Nasojejunal Tube

Results

Questionnaire from RNs in PICU:

- On average one nurse tried to place nasojejunal tube and one x-ray was taken to confirm position of feeding tube
- Nurses who placed these NJ tubes are considered experienced in placing NJ tubes and use certain methods each time when placing them

Research articles

- Some hospitals MDs place styleted NJ tubes, not the RNs
- Majority of hospitals do blind bedside placement of NJ tubes and use a radiograph to confirm position before starting feeds
- There are newer techniques currently being tested such as an electromagnetic device to help placement of NJs at bedside
- Blind bedside placement of NJ tubes are the standard compared to fluoroscopic/ endoscopic; which can expose them to more risks then blind placement

Discussion

Looking at the methods used to insert NJ tubes and to confirm the correct position of them before starting feeds: are these methods same across the board, are they safe? Other hospitals use auscultation, pH testing, aspirate appearance, capnography and usually confirmed with radiograph. Hershey RNs use methods from putting NJ in ice water before insertion, blowing air while inserting, auscultation, and “snap back” and then ALWAYS confirmed with radiograph before starting feeds. While other hospitals may have MDs insert NJ tubes (styleted) Hershey PICU RNs insert them that are considered a part of the “team”.

Newer technology is coming out to help with bedside blind insertion of NJ tubes, though the cost and the effectiveness of these products have not been proven and outweighed against just using nursing skills and judgment to blindly insert NJ tubes.

When running into complications with inserting NJ tubes and not being able to get them into the confirmed position to start feeding; patients can be taken to get NJ tubes placed under fluoroscopy or endoscopy. Taking a critically ill patient out of the unit can impose more complications and risk for these patients and expose them to more radiation. Inadvertent placement of an NJ tube into the lungs with blind insertion is possible but this is why most hospitals require a radiographic confirmation of where the NJ tube is before use.

Nursing Implications

There is a clear opportunity to improve practice on insertion of feeding tubes. Nurses should stay up to date with current information about testing placement for NJ tubes, review current guidelines for monitoring placement of the feeding tubes. A variety of methods should be used during insertion of feeding tubes and a confirmation radiograph should be mandatory for any blindly inserted tube before use.

Conclusions

There are no consistent rules/policies across the board for who can insert NJ tubes blindly at bedside and what methods are used to place it. Hershey does have a policy for inserting NJs blindly and what to do if it can not be placed.

From the questionnaire it seems that the Hershey PICU has guidelines to safely and effectively place our NJ tubes. It doesn’t seem that we are exposing our patients to more unnecessary radiation. The RNs who are experienced to place the NJs do a good job at it. The only problem is what happens when there isn’t any experienced RNs on staff to place an NJ and how do you become experienced to place an NJ tube? Is where we could possibly improve is getting more RNs experienced at placing NJs so care for our patients is not delayed.

References

- Metheny N., Steward B, Mills A. Blind insertion of feeding tubes in intensive care units; a national survey. American Journal of Critical Care