

Device for Assisting the Placement of Nasogastric Tubes with Light and Sound

Nasogastric tubes (NG) are essential in providing medication, nutrients, and draining fluids, and if they are misplaced it impedes the infusion of fluids, causes lung damage, and can be fatal. This technology is an accurate and low risk NG tube with custom light sourcing to aid in the placement of the tube once it enters the airway and enters the stomach.

What is the Problem?

Every day, thousands of nasogastric tubes are placed. These tubes, spanning the nasal cavity to the stomach, provide essential access for medication, nutrients, and the draining fluids. NG tubes are essential for patients that have difficulty swallowing, require medication, or need post-surgery bowel protection. With the important function they serve, it is alarming that up to 40% of NG tubes are placed incorrectly in babies and small children. These misplaced tubes impede the infusion of fluids, can cause lung damage, and may lead to death. Current methods are inadequate, with the gold standard being X-rays which are time consuming and irradiate the patient. Other methods are inaccurate or overly costly. The medical market needs a reliable method to guide insertion and maintain nasogastric tube position throughout the life of the nasogastric tube for neonatal patients.

What is the Solution?

The solution is a simple and effective addition to a standard NG tube. This device uses a light source positioned at the distal end of the NG tube that can shine through the tissue of the patient. The light source includes a custom pattern that aids the user in determining the path and direction of the NG tube. The user will be able to identify in the earliest stages of placement when an NG tube has entered the airway instead of the esophagus. It will also shine through the abdominal tissues to quickly show that the NG tube is in the stomach.

What Differentiates it from Solutions Available Today?

Radiographs are the most used verification method, it comes with high radiation exposure, which is also increasingly undesirable the younger the patient is. There is no well-established method used between clinics that offers accuracy and low risks. Additionally, many of the existing solutions do not address caregivers performing the procedure at home and are simply not feasible for them. The EnsuriNG device is a simple and effective addition to the standard NG tube that has the potential to avoid the many complications brought by misplaced tubes. The patterned light source is simple enough that anyone can place an NG tube confidently with little training. This technology will allow NG tubes to be safely placed without the need for costly and

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Category

Device/Respiratory

Device/Other

Selection of Available Technologies

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time-consuming x-rays will allow time and effort to go to other necessary tasks.