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Background
- Covenant Medical Center Endoscopy Unit has been using Simethicone via irrigation channel of an endoscope to remove air bubbles in the GI tract allowing good visualization during endoscopic procedures.
- Most endoscopy centers all over the country and other countries has already stopped this process.
- Evidence Based Practice (EBP) demonstrate that the use of Simethicone on the irrigation channel results in the retention of the drug and fosters biofilm development and microbial growth.
- Biofilm is a collection of microorganisms that adhere to surfaces of an object in a moist environment. This is very important in device related infection.
- An endoscope has 2 channels (Figure 2), irrigation and working/instrument channel. Compared to the irrigation channel, the working/instrument channel can be cleaned manually using a brush before automated scope reprocessing.
- Simethicone is a medication that is fully methylated silicone-based polymer commonly used to decrease surface tension of gas or air bubbles. It contains sugars, thickeners and binding agents commonly used to decrease surface tension of gas or air bubbles.

Purpose
- To provide the best possible patient care, it is important to incorporate EBP standards into our everyday practice.
- To be compliant with EBP standards, it is our goal to implement a new process of Simethicone administration.
- To stop Simethicone use on the irrigation channel and use Simethicone only as needed via working/instrument channel.

Methods
- The process improvement was presented to our manager, GI physicians and endoscopy staff.
- Communication letters detailing the process change and EBP recommendations were provided.
- The previous practice was stopped, and Simethicone was used as needed via working/instrument channel.
- An evaluation tool was created to evaluate the effectiveness of the change.
- This was provided and utilized by all circulating nurses during GI procedures for a certain time period.
- Data was collated and results were determined.

Results
- Out of the 229 endoscopy procedures that were evaluated, 10 procedures, 5 upper endoscopy and 5 lower endoscopy procedures presented with issues regarding image clarity.
- 219 evaluated GI procedures reported to have good image clarity.
- Two interventions to decrease bubbles and improve visibility were used by the physicians. 1) Use of plain sterile H2O irrigation as needed 2) Use of 0.3 ml Simethicone mixed with 60 ml sterile H2O flushed via the working/instrument channel as needed.

Discussion/ Implications
- In conclusion, endoscopy procedures can be performed effectively following EBP standards regarding use of Simethicone.
- By following the new standard for Simethicone usage, infection prevention will be achieved.
- Best practice and excellent patient care is accomplished when Evidence Based research guides our practice.
- The process change is still being practiced up to this time and a policy was formulated.

References
3. FDA. (2016) FDA warns duodenoscope manufacturer about failure to comply with required postmarket surveillance studies to assess contamination risk. Download/ Medical Devices/ Products and Medical Procedures/ Reimbursement of Preventive Medical Devices/ U.S. FDA 08-16.pdf