Researchers at the University of South Florida have developed a novel catheter that addresses the loss of insufflation from the lumen of the bowel, when performing intraluminal medical procedures. The development of advanced techniques that allow for complex procedures to be performed within the lumen of the gastrointestinal tract has met some difficulties in preventing the loss of gas used to distend the walls and provide sufficient working space. Oftentimes this insufflation is able to escape due to passage within the lumen, causing collapse of the working area. This problem has led to a search for an improved method of controlling the loss of insufflation in a way that does not impede accessibility.

In light of this shortcoming, our inventors have designed a semi-rigid catheter with multiple channels that can be guided into position within the bowel either through an endoscope or working port. The distal end of the catheter has an attached flexible balloon capable of conforming to the size and shape of the bowel lumen when filled with either gas or liquid. The catheter may then be used to internally occlude any cavity to which it is able to conform, including the colon, small intestine, esophagus or stomach. Multiple independent channels on the proximal end of the catheter correspond to the individual internal channels within the catheter. These channels may be used for a variety of tasks including the insertion of a removable wire that can add rigidity to the catheter, gas injection, gas evacuation or internal lighting of the lumen.

ADVANTAGES:

- Prevents loss of endoluminal insufflation
- Improves safety of complex interventional intraluminal procedures
- Internally occludes any gastrointestinal cavity to which it is able to conform

Enhances Efficiency of TAMIS Procedures

(Above) Initial form of intraluminal bowel occluding catheter with (inset) flexible balloon filled with air