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Technology Transfer Office

Eccentric Dilation Balloons for Use With Endoscopes

Researchers at the University of South Florida have developed a novel dilation balloon catheter to be used with an endoscope that enables the scope to more readily navigate body strictures and lumens.

Endoscopes are instruments inserted into the body to visualize an organ or inner body structure. Current endoscopes are typically limited by the diameter of the body part they are passing through, making some tight spaces unreachable. This often causes damage to delicate lumen by the scope. Therefore, a balloon catheter or dilator is frequently used with an endoscope to dilate tight structures, such as esophageal strictures or to clear obstructions. However, many modern balloon dilators do not align the balloon's contour with the endoscope's contour, therefore obstructing stricture wall visualization. This highlights the need for a more well developed and efficient balloon catheter.

USF researchers have developed a balloon catheter comprised of a transparent dilation balloon that when inflated, aligns with the endoscope along an identical longitudinal axis. This novel dilation technique permits direct visualization through the endoscope. The balloon's transparent material allows the balloon to act as a lens for viewing various anatomical structures such as tumors, strictures, and the inner luminal wall surface itself. Furthermore, the close engagement of the balloon catheter and endoscope enables the scope to more readily navigate strictures and rough body lumen without harming these soft tissues. The balloon has applications in urology, vascular surgery, cardiology, and other medical applications.

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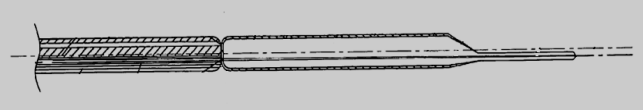
ADVANTAGES:

- **Efficiently guides the endoscope**
- **Protects body lumens**
- **Gives unobstructed views of strictures**
- **Gently dilates body tissue for easy passage**

A Dilation Balloon Compatible with Endoscopes that Assists with Passing Safety Through Strictures



A Partially Sectioned Side View of the Device Showing Engagement of the Balloon with the Endoscope

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