



## TECHNOLOGY

# Straight Expandable Polypectomy Forceps

## OVERVIEW

Endoscopic biopsy forceps are routinely used for the resectioning of small, sessile, sub-centimeter polyps of the gastrointestinal tract. Originally invented to biopsy and sample mucosa, these forceps remain inadequate for the resectioning of entire polyps and often require multiple passes for complete removal. In order to resolve this issue, UMB inventors have developed a straight expandable polypectomy forceps to obtain large biopsies of the mucosa and to perform polypectomies within various systems including gastrointestinal, urinary and respiratory tracts. Currently used forceps are mainly limited by the small size of the forceps and the inability to expand over multiple axes which do not allow complete removal of the polyp in one pass. The straight expandable polypectomy forceps however are designed to include an expandable, elongated jaw at the distal tip that is shaped in a zig-zag fashion to capture and resect tissue targets. In addition, control wires connected to the jaw have an axially rigid sheath that enclose the control wires and possess handles that connect to the sheath/wire. This invention provides an easier, faster, and more efficient method in which to perform a polypectomy and is likely to present improved accuracy of diagnoses and treatment due to the larger sampling size of the biopsies.

## APPLICATIONS

Gastroenterology is the most common surgical specialty performed yearly with, on average, 1.5 million endoscopies with and without the chances of a biopsy (CDC). Biopsies are commonly ordered tests due to the usefulness in examining an area of tissue more closely. Typically, biopsies are conducted using biopsy forceps which expand up to 7mm and only in one dimension, greatly limiting the freedom of movement and actuation of the samples. The straight expandable polypectomy forceps however has the capacity to expand over two axes after it emerges from the distal tip of the endoscope to allow adjustable coverage over a larger area. This ultimately translates to a faster, more efficient method of biopsying large samples and complete removal of polyps during a polypectomy.

## ADVANTAGES

-Complete removal of small gastrointestinal polyps (<1 cm) with one application without leaving a margin. -Adjustable tip to allow large gastrointestinal mucosal biopsy, based on the size of the polyp or the mucosal lesions. -Opens over two axis, versus one straight axis of currently used biopsy forceps.

## R&D REQUIRED

Development of prototype and experimental studies required.

## LICENSING POTENTIAL

UM seeks to develop and commercialize by an exclusive or non-exclusive license agreement and/or sponsored research with a company active in the area.

## CONTACT INFO

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## **Additional Information**

### **INSTITUTION**

University of Maryland, Baltimore

### **PATENT STATUS**

US patent application - pending, Canadian patent application - pending, European patent application - pending

### **LICENSE STATUS**

Exclusively licensed

### **CATEGORIES**

- Devices
- Surgical devices

### **INVESTIGATOR(S)**

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### **EXTERNAL RESOURCES**

- [Biopsy forceps is inadequate for the resection of diminutive polyps.](#)
- [Diagnostic accuracy of forceps biopsy versus polypectomy for gastric polyps: a prospective multicentre study.](#)

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