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The Uro-Wheel

Tech ID: 32058 / UC Case 2018-527-0

BRIEF DESCRIPTION

Though guidewires are a common part of many endoscopic procedures as they help the scope reach its desired organ successfully, they are often difficult to maneuver due to their flexible and slippery construction. To combat this and assist physicians in rapid and effective endoscopic placement, researchers at UCI have developed a novel device which, by a simple turn of a finger wheel, allows the guidewires to be automatically and controllably advanced and retracted.

SUGGESTED USES

·Endoscopic procedures where there are small cameras placed in the body to stop, lower, or retract slippery wires containing the camera.

·Besides endoscopy, this technology can be used in interventional radiology, or any medical procedures that includes intravenous lines using guidewires.

FEATURES/BENEFITS

» Easier: The Uro-wheel allows for guidewires to be automatically advanced/retracted by a simple turning of the wheel, thereby making insertion of endoscopes easier.

» Safer: In addition to reducing complications from endoscope misplacement, the disposable nature of the Uro-wheel housing also reduces the risk of inter-patient cross contamination.

» Inexpensive: Both the housing and wheel itself are constructed of inexpensive plastic, making them easy and inexpensive to manufacture.

» Versatile: Though it is presented here for the case of cystoscopy, the general construction of the Uro-wheel could be beneficial in any type of endoscopy which utilizes guidewires.

TECHNOLOGY DESCRIPTION

Endoscopes are medical devices that allow physicians to obtain images of the interior of an organ by inserting a wire-mounted camera directly into the patient. One of the most common types of endoscopy is cystoscopy, which images the upper urinary tract directly. In the US alone, over 4 million cystoscopies are performed every year to identify UTIs, urinary stones, and even cancerous tumors. As such, cystoscopies are a critical part of many diagnostic plans. Despite how routine they have become, cystoscopies (and many other endoscopies in general) are still often difficult to perform due to the guidewires used in the insertion process. Briefly, the guidewires, which are thinner and more flexible than the endo- or cystoscope, are inserted first to establish a pathway. The scope is then inserted and advanced along the guidewire so that it reaches the appropriate destination. Unfortunately, due to their flexible and slippery construction, these guidewires are often difficult for physicians to maneuver, making the endoscopic procedure more time-consuming and prone to complications from accidental misplacement.

To aid in rapid and easy guidewire placement, researchers at UCI have developed a novel device, the Uro-wheel, which allows guidewires to be easily inserted, advanced, and retracted by the turning of a simple finger wheel. The Uro-wheel is disposable and constructed from inexpensive plastic and can be used in

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OTHER INFORMATION

CATEGORIZED AS

- » **Imaging**
 - » Medical
- » **Medical**
 - » Devices
 - » Diagnostics
 - » Disease: Kidneys and Genito-Urinary System
- » Imaging

RELATED CASES

2018-527-0

nearly any type of endoscopic procedure.

PATENT STATUS

| Country | Type | Number | Dated | Case |
|--------------------------|---------------|------------|------------|----------|
| United States Of America | Issued Patent | 11,779,735 | 10/10/2023 | 2018-527 |

STATE OF DEVELOPMENT

Concept only

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