

## Fluoro-Free Guidewire for Improved Colonoscope

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### BACKGROUND

Endoscopes with a soft insertion unit can be inserted into the lumen of a body cavity to diagnose problems located in a deep region in the body cavity without the necessity of incision and can also be used to guide treatment appliances to a desired location within the body cavity. In the past, medical practitioners have needed to use radio-opaque markers or contrast either in the patient or on the instruments (or both) in order to visualize instrument placement under fluoroscopy. Visualization of conventional guidewires using fluoroscopy not only requires bulky equipment, but also may expose both the patient and the surgical team to X-ray irradiation. In cases where x-ray exposure under fluoroscopy is contra-indicated or where the scheduling of procedures to occur in radiology is economically or logistically discouraging, alternative measures are needed for positioning a variety of surgical instruments and monitoring the positions and configurations of those instruments.

### TECHNOLOGY DESCRIPTION

University of CA researchers have developed a non-fluoroscopy method for monitoring the configuration and positioning of various surgical instruments relative to each other including guidewires, catheters, endoscopes, stents, dilators, and tissue clips.

The present invention allows a guidewire to use electromagnetic signals which are detected and displayed on a monitor. The configuration of the guidewire shaft may be defined by the electromagnetic fields. In further contrast to prior designs, the configuration of the guidewire may be visualized on a display unit in real time during a procedure while the guidewire shaft is inserted in a patient's body.

Also provided by the present invention is an indicator clip that differs from past designs in that, instead of injecting contrast into the GI tract in order to "tattoo" a certain area which can be visualized on fluoroscopy, the indicator clip utilizes electromagnetic field sensing. The device indicator of the present invention similarly differs from past designs in that devices previously were not marked for radiographic contrast under fluoroscopy, whereas the electromagnetic device indicator provides electromagnetic location information for a device to which it may be attached. Embodiments of the present invention provide an electromagnetic way of marking tissue, devices and guidewires relative to each other.

In another embodiment, an electromagnetic device indicator may be monitored and is an accessory which can be placed onto any existing endoscope or accessory device. A small profile electromagnetic device indicator can be taped, strapped, or fastened to an endoscope or device (such as a stent deployment catheter or a Stretta radiofrequency catheter, for example). One or several device indicators could be used to locate the positions of multiple devices. Each indicator would individually be seen on a detector monitor. The indicator clip and the electromagnetic device indicator could be used separately or together.

In addition, embodiments of the present invention provide more general applicability, for example, by allowing the monitoring of surgical instruments other than endoscopes.

### APPLICATIONS

### PATENT STATUS

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### OTHER INFORMATION

### CATEGORIZED AS

- » **Imaging**
- » Other
- » **Medical**
- » Devices

### RELATED CASES

2004-556-0

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,412,311	04/02/2013	2004-556

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