

Japan develops 'swimming' capsule endoscope

June 21 2011

Japanese researchers said Tuesday they had developed a self-propelled remote controlled capsule endoscope that can "swim" through the digestive tract.

They have succeeded in capturing images inside a person's stomach and colon using the tadpole-shaped capsule as a first step toward its [clinical application](#), the scientists said.

It is the first time a self-propelled endoscope has successfully moved from one part of the [digestive tract](#) to another and shot images inside the colon, the team said.

The device, nicknamed the "Mermaid", is about one centimetre (0.4 inches) in diameter and 4.5 (1.8 inches) long and has magnetic driving gear that allows for precise control of its direction and location.

Doctors use a joystick to control the capsule's movements, watching them on a monitor screen. It can be swallowed for examination of the stomach or inserted rectally for the colon.

The research was announced at an international conference on [digestive diseases](#) in Chicago, Illinois, in May, according to the team, which included scientists from Ryukoku University and Osaka Medical College.

Capsule [endoscopes](#) have been developed since the 1980s and came to

be widely used in the 2000s. But they were unable to propel themselves, relying instead on muscle contractions to move them along.

The self-propelled capsule was first tested inside a dog's stomach in 2009 and it has been since modified and made smaller, the team said.

The Mermaid was demonstrated before Japanese media at Osaka Medical College in Osaka's suburbs on Tuesday.

"By remotely controlling the capsule, we can precisely photograph the area which needs to be tested," Osaka Medical College professor Kazuhide Higuchi said.

"It can examine the digestive canal from the oesophagus to the colon in a few hours. It reduces burdens on patients and can led to the discovery of cancer," he said.

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