

# A Simple Method to Determine the Location of the Capsule and Thus Whether Prokinetic Drugs Are Needed During Video Capsule Endoscopy

# UCTN

The new method of video capsule endoscopy [1] allows visualization of the small intestine with very little discomfort for patients. Since the capsule is passively transported through the gastrointestinal tract, passage times vary considerably depending on bowel motility. However, the transmission time of the capsule is limited. Consequently, if it is transported too slowly and the cecum is not reached soon enough, video capsule enteroscopy remains incomplete. Therefore, some investigators prefer to administer prokinetic drugs routinely for the examination. However, if the capsule is transported too quickly then fewer images are recorded, and small lesions may be visualized on only a single picture or may even be missed.

We describe a simple method which allows determination of whether the capsule has passed the stomach and reached the small bowel after a certain time interval, and thus the identification of patients in whom the use of prokinetics is advisable.

The M2A system is prepared and a sensor array is attached in the usual way. The patient swallows the capsule. After 1 hour, a second sensor array connected to a sec-

ond recorder and battery pack is held near the abdomen of the patient without being attached. Successful transmission is indicated by rhythmic blinking of the green light-emitting diode of the second recorder. Recording is continued for about 2 minutes. The recorded images are then downloaded to the computer and viewed (Figure 1).

If gastric mucosa is visualized at 1 hour after ingestion of the capsule, we advocate the administration of prokinetics. However, if small-bowel mucosa is already visible then the spontaneous transport of the capsule is probably quick enough, and a prokinetic might accelerate the capsule too much.

Including the time for preparation of the second recorder and evaluation of the images, this extra procedure takes less than 10 minutes. Additional equipment such as fluoroscopy is not needed.

This approach was tested in three patients. Two patients received 10 mg metoclopramide intravenously because the capsule was still in the stomach after 1 hour. In the third patient, the capsule had reached the small bowel after 1 hour and complete visualization of the small bowel was possible without prokinetics.

Further studies regarding the optimal timing on an early check of the location of the capsule are warranted. An additional investigation should be done to determine whether a further check, 1–2 hours before the end of the expected transmission time, could improve the rate of complete visualization of the small bowel.

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**Figure 1** The first image provided by the second recorder already indicates a successful passage into the small bowel within the first hour.

## Reference

- <sup>1</sup> Gavriel Iddan G, Meron G, Glukhovskiy A et al. Wireless capsule endoscopy. *Nature* 2000; 405: 417

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