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Researchers discover secret of bowel movement

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High performance athletes like Olympians can push their bodies to optimal potential, but some of the ways the human body actually works is still a mystery. Now McMaster University researchers have cleared up one aspect of how the bowels move that had mystified scientists for, well, forever.

Gastroenterology scientist Jan Huizinga and his team have learned that of the two types of movement, the segmentation motion occurs when not one but two sets of pacemakers interact with each other to create a specific rhythm. Then they work together with nerves and muscle to generate the movement that allows for nutrient absorption. The other type of movement moves the food along.

The discovery was made by Huizinga, a professor of medicine, and his researchers at the Farncombe Family Digestive Health Institute at McMaster University working with investigators of Wuhan University in China and colleagues at the University of Toronto. The paper was published by the prestigious science journal *Nature Communications* on Feb. 24.

"In the long run, it's simple," said Huizinga. "It's like when a stone is dropped in water, it creates waves or motion that pushes things along, but when a second stone is dropped in the water, the movement changes to up and down, appearing to stay in the same place."

The discovery is important as it gives direction for development of drugs

or nutrients which will combat disorders when people have diarrhea, constipation, bloating or malabsorption of nutrients from food. With diarrhea, the segmentation activity is too low; in constipation, the same activity is too high and pain related to eating is often caused by abnormal contractions, said Huizinga.

Provided by McMaster University