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Publication date:
2017

Document Version
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Farmer, A. D., Wegeberg, A-M. L., Brock, B., Hobson, AR., Mohammed, SD., Scott, S. M., Holt, CEMB., Semler, JR., Hasler, W. L., & Helström, PM. (2017). *Regional gastrointestinal contractility parameters using the wireless motility capsule..* Poster presented at Scandinavian Association of Neurogastroenterology and Motility, Copenhagen, Denmark.

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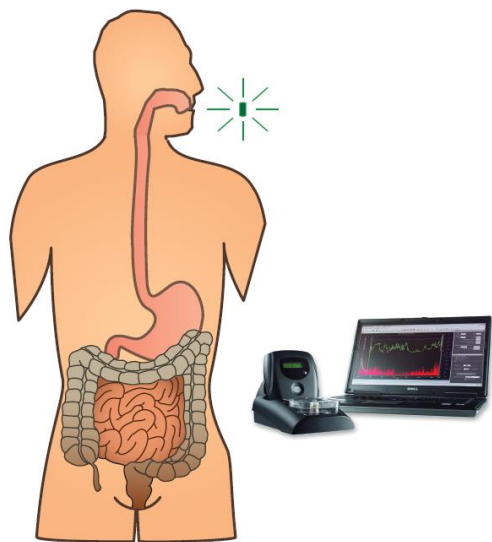
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Regional gastrointestinal contractility parameters using the wireless motility capsule.

AD Farmer, **AML Wegeberg**, B Brock, AR Hobson, SD Mohammed, SM Scott, CEMB Holt, JR Semler, WL Hasler, PM Helström, C Brock

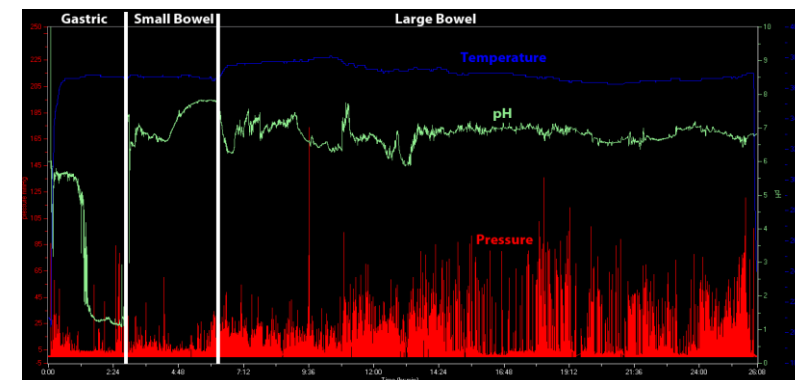
Background: The wireless motility capsule (WMC) measure pressure, pH and temperature throughout the gastrointestinal tract. Normal values has previously been describe for transit time and pH, but pressure in healthy has received little attention.

Aims: in healthy 1) to describe normative values for contractility and motility parameters, 2) to evaluate inter-observer agreement.



n=107	Measure	Gender	5 th percentile	50 th percentile	95 th percentile
Gastric GIMS	Total Contractions	All	63	195	792
	Contraction per minute	All	0.4	1.2	3.9
	Area under the curve	All	1544	6471	32629
	Motility index – natural log	All	11.3	13.6	16.3
	Sum of amplitudes	All	2610	4146	6881
Small Bowel GIMS	Total Contractions	All	242	729	1567
	Contraction per minute	All	1.5	3.3	6.4
	Area under the curve	All	7529	24799	56821
	Motility index – natural log	All	13.9	16.1	17.7
	Sum of amplitudes	All	4505	13361	30628
Large Bowel GIMS	Total Contractions	All	87	497	820
	Contraction per minute	All	0.2	0.5	1.3
	Area under the curve	All	9095	73696	375574
	Motility index – natural log	All	12.6	16.2	18.5
	Sum of amplitudes	All	3407	21587	67049
Gastric MotiliGI	Pressure maximum (mmHg)	All	64.5	240.7	433.9
	Mean amplitude (mmHg)	All	1.8	2.7	6.6
	Contractions per minute	All	0.5	1.3	4.2
	Motility index	All	13	45.5	131.4
Small Bowel MotiliGI	Pressure Maximum (mmHg)	All	50.4	110	227.2
	Mean amplitude (mmHg)	All	2.2	3.8	7.1
	Contractions per minute	All	1.6	3.6	6.4
	Motility index	All	58.2	125.7	285.7
Large Bowel MotiliGI	Pressure Maximum (mmHg)	All	90.3	147.1	235.9
	Mean amplitude (mmHg)	All	2.1	4.2	7.2
	Contractions per minute	All	1.1	2.1	4.4
	Motility index	All	70.7	186.5	382.5

Methods: 107 healthy participants from three countries, underwent a standardized WMC assessment following consumption of a SmartBar. Traces were analysed using two data analysis software packages, MotiliGI and GIMS Data Viewer, and the traces were divided into regional and sub-regional areas of interest. Furthermore, inter-observer agreement and MI was evaluated.



Results & conclusions: We present normative data with contractility and motility data in 107 individuals (62 male, median age 40 years, range 18-78), to be used as reference for future studies. Inter-observer agreement showed good reliability for all parameters. The relevance of the parameters in clinical populations warrants further investigation.