

Rating Form for Physical and Biological Constructs (Pathologies and Impairments) and their Implications for Diagnosis, Health, Function, and QOL

<i>Scale Name</i> Rectal Planimetry	
Construct	
	Measures rectal cross sectional area, and imputes information on rectal wall properties. It does this by studying electrical properties of the colorectum via a rectally placed electrode and inducing a low intensity electrical field. This is a common technique in many other medical measurements.
Subscales / parameters measured	Measures rectal cross sectional area [CSA] as a continuous zero-based linear scale.
Statistics	Linear statistics. Must be zeroed with measured intraluminal rectal pressure [manometry]
<i>Comment</i>	<i>An interesting new technique that may or may not have clinical significance.</i>
Administration	
Type/mode/equipment	Describe type or mode of test, including equipment involved, nature of samples collected (if any), etc. Unknown whether commercial equipment exists. One study [Krogh, 2002] used custom devices, probes, in Denmark.
Performance?	Is substantial/maximal performance by the person required – or moderate involvement vs. passive acquiescence? No real performance issues, this is passive testing.
Language/multi-cultural issues	Because of need to insert monitoring catheter rectally, may be gender/cultural issues arise.
Burden / risk	Inconvenience, discomfort, risks, # tests, expense, time to administer, special equipment, training required or available. Rectal catheter may entail risk. However no other risk factors
<i>Comment</i>	<i>This is a relatively new technique measuring colon parameters. It may prove to have excellent correlation with both neurological state,</i>

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	<i>physiology, and clinical concerns</i>
Population Applicability	
	A variety of patients have been studied: n injury patients, plexopathy, cancer, and SCI
Extent of Use in SCI	A few studies exist in SCI in this relatively new and rare recording method
Norms	Norms appear to be available, but require further investigation
<i>Comment</i>	<i>Impedence rectal planimetry appears to be newly applied to the SCI population. Slightly greater data exist for other groups, but even here it doesn't appear to be well-established.</i>
Reliability / Reproducibility and Bias	
Reliability, Reproducibility	Appears reproducible, but uncertain about this fact. Requires further investigation.
Bias	Not biased, near as I can tell. Objective data output
Other reliability	none Known.
<i>Comment</i>	<i>This technique requires additional study to understand biasing, reproducibility. However variations of the technique have been seen for many years and proven to be extremely useful.</i>
Sensitivity to Change	1 Apparently fairly good for retest reliability. Post intervention.
Measurement range/ceiling/ floor	There would be a floor, but pretty good linear measure
<i>Comment</i>	May be useful for patients with slight change. May measure clinically insignificant change. Uncertain.

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Validity	
Analysis Framework(s)	Uncertain
Criterion-oriented validity: technical	At times this test validated against manometry, itself not fully validated. As no real gold standard evaluation, this is difficult. However, this may be well-correlated to clinical scales of bowel function. More data is needed.
Predictive validity: function and QOL	Uncertain predictive validity. One paper reports correlation to other measures of colon function, but relatively general [Krough, 2002]
Clinical utility.	May provide some pre/post intervention measurement, but seems very cumbersome to this task.
	<i>Comment on predictive validity and uses/usefulness. Should it be used more/less? Could it be?</i> <i>This measure may prove extremely useful in predicting colonic intervention, measuring neurological change and clinical utility. However it's relatively new and rare. More data needed.</i>
Other validity	NA
Comment	<i>See above</i>
Overall Ratings	
Overall Validity in Similar Population	* *
Overall Rating of quality in SCI	* *
Comment	Seems to be mostly related to research of colonic function in various populations. Uncertain relation to useful clinical measures. Rare measure requiring further study.