

Supplemental Table S1. A stepwise approach and checklist to the design, data analysis and data interpretation of rectal compliance and sensibility method comparison studies.

| Study phase | Topic | Checklist item |
|---------------|------------------------|--|
| Design | Measurement protocols | <ul style="list-style-type: none"> • Standardized testing protocol and the London classification for disorders of anorectal function • Phenotyping of subjects for large-scale studies on patients with IBS • Create a protocol for the measurement of rectal compliance with HRAM based on available data and variables used in barostat studies to allow comparison. |
| | Criteria for agreement | <ul style="list-style-type: none"> • A correlation factor above 0.6 between variables will then be assessed using the Bland–Altman method of measuring agreement. • There are no data regarding acceptable bias or level of agreement, and intraindividual variation needs to be taken into account. A bias or confidence interval approaching the observed median values of the respective variables should be regarded as a poor level of agreement. |
| | Sample size | <p>Our study involved the assessment of rectal function in 26 participants. Power calculations are dependent on the expected difference, which is unknown.</p> <ul style="list-style-type: none"> • Power calculation using a clinically relevant difference of 20 mmHg between the same sensory thresholds suggested that 11 participants might be sufficient. |
| | Reference technique | The rectal barostat investigation is considered the gold standard of rectal sensory and compliance testing. |
| Data analysis | Normal distribution | <ul style="list-style-type: none"> • We will assume that the results are not normally distributed. • The between-method differences will be checked for normality since this allows the use of parametric methods to obtain confidence intervals. |

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|----------------|-----------------------|--|
| | Bland–Altman analysis | <p data-bbox="660 304 1273 378">Calculate the bias, level of agreement and their corresponding 95% confidence intervals.</p> <hr/> <p data-bbox="660 430 1278 504">All participants are investigated once with each method.</p> <hr/> <p data-bbox="660 555 1378 707">Check the presence of proportional bias, spread or both visually in the Bland–Altman plot and the Pearson correlation test between the between-method differences and means.</p> |
| Interpretation | Reference precision | <p data-bbox="660 763 1270 837">Available studies indicate some intraindividual variability in barostat studies.</p> <p data-bbox="660 844 1342 958">Repeated HRAM investigations in a subgroup of the cohort will aid in interpreting bias and the level of agreement.</p> |