

Is pelvic monitoring possible with new technology? What are the positive aspects?

26th Annual Conference of The Egyptian Society of Colon & Rectal Surgeons
National 3rd International Turkish Colon and Rectal Surgery Congress
27-29 August 2025, Hilton Heliopolis Hotel, Cairo, Egypt

Peter Christensen, Professor, Consultant Surgeon

The Danish Cancer Society National Research Centre for late adverse effect to cancer in the pelvic organs

Pelvic Floor Unit, Department of Surgery

Aarhus University Hospital, Denmark



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Conflicts of interest

Coloplast

Navina

Qufora

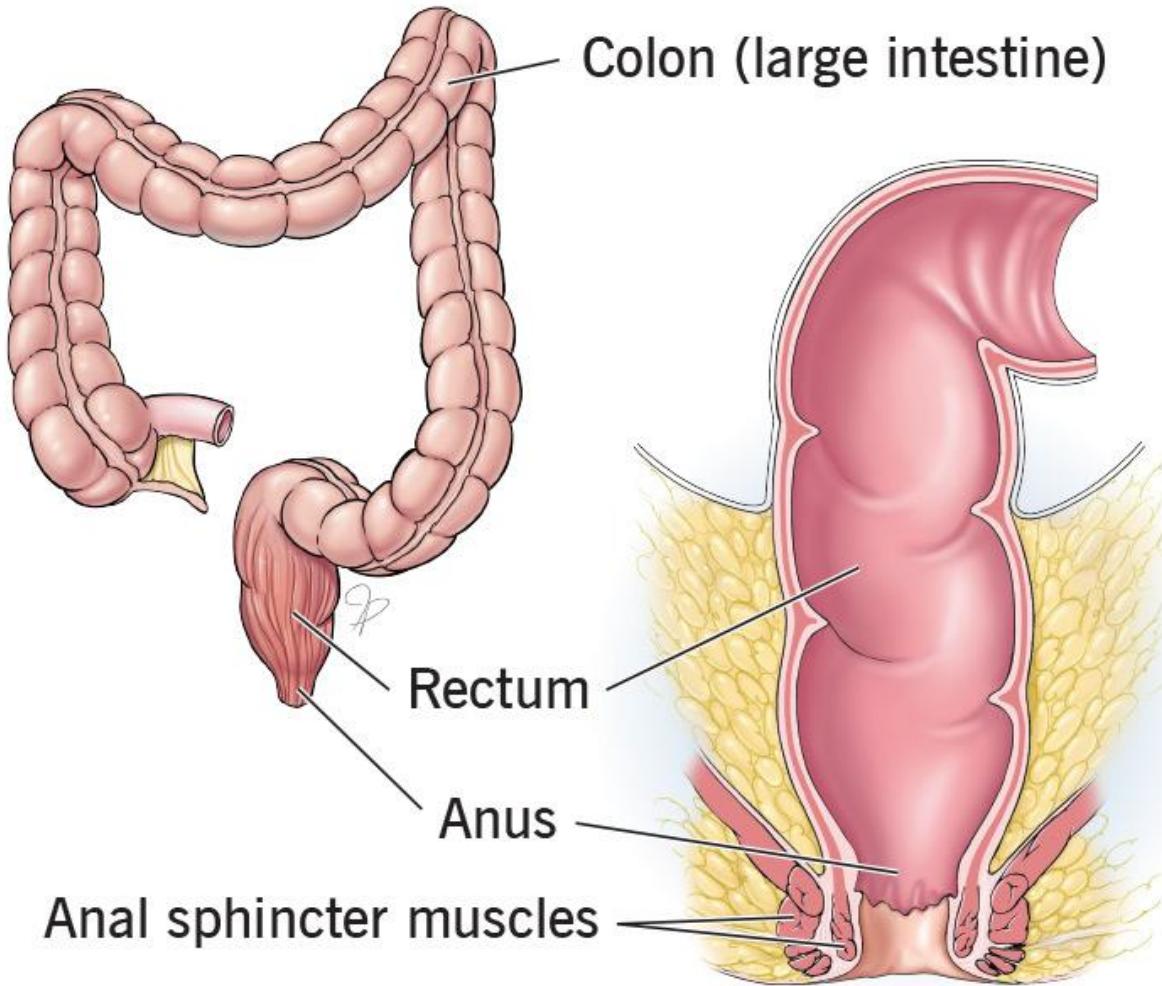
Innocon Medical

A strong belief in the 'educated finger'

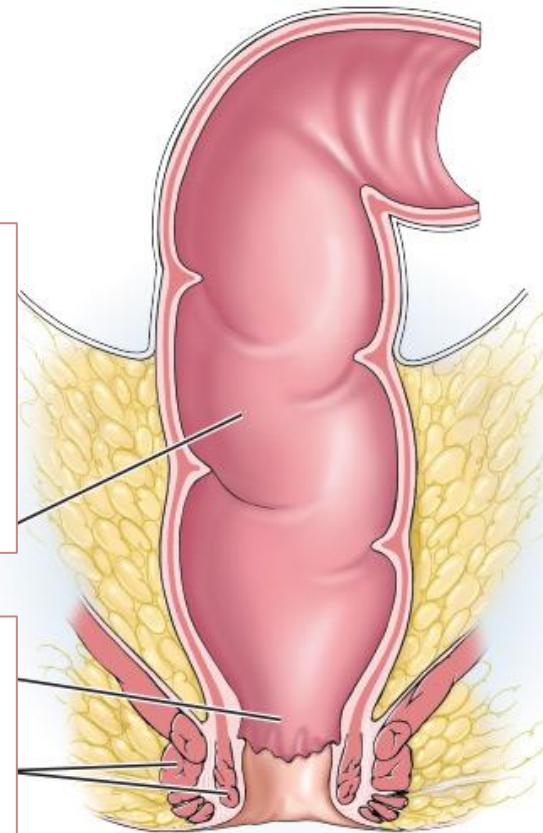


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The colon and rectum – 'social organs'



Understanding fecal incontinence



'Evacutory – function'

Hypercompliance
Hyposensitivity
Structural causes

'Seal – function'

Anal chushing
Hemorrhoidal tissue

'Reservoir – function'

Hypocompliance
Hypersensitivity
Hypercontractility

'Barriere – function'

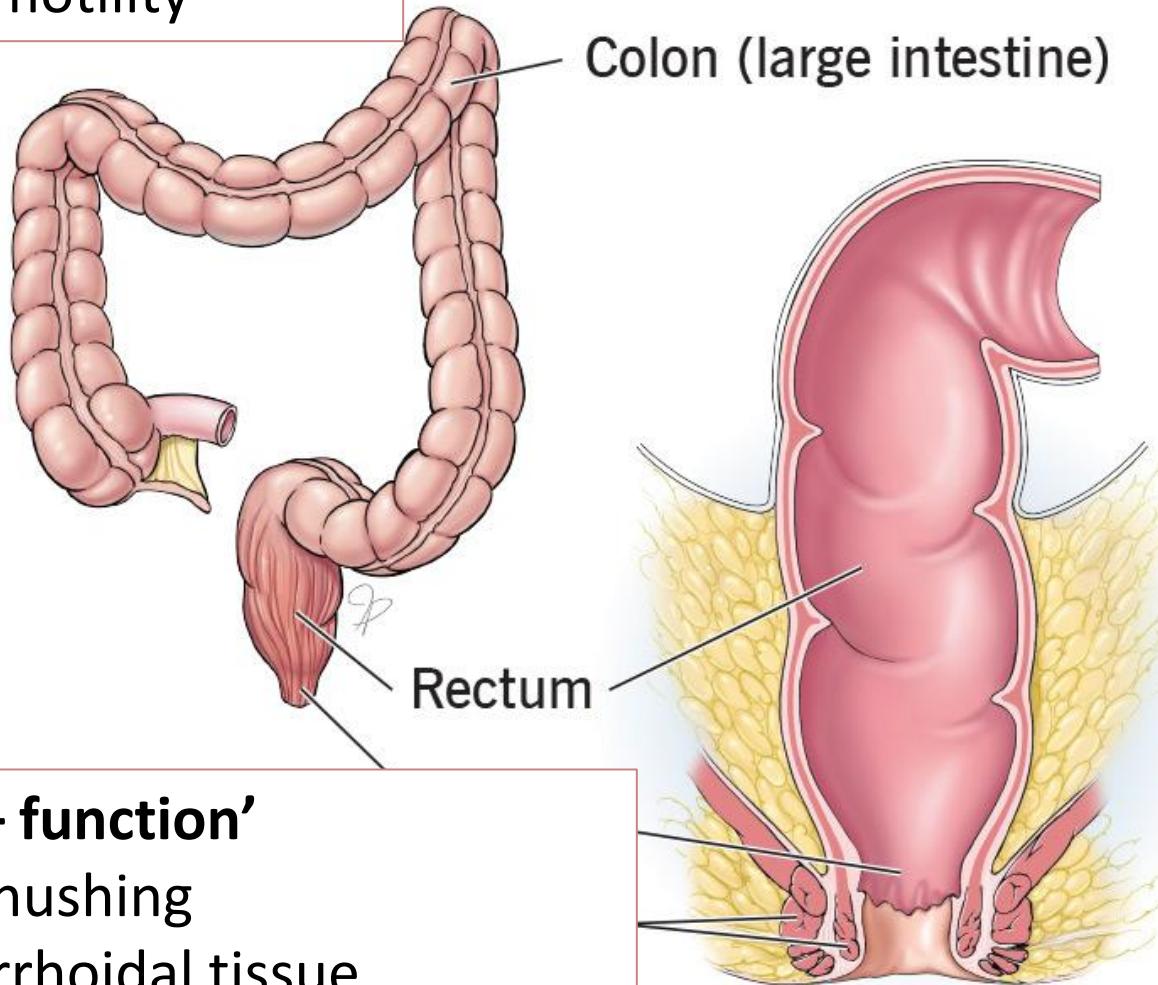
Levator ani
External anal sphincter
Internal anal sphincter



'Sigmoid brake – function'

Loose stools

Sigmoidal dysmotility



'Seal – function'

Anal chushing

Hemorrhoidal tissue

'Reservoir – function'

Hypocompliance

Hypersensitivity

Hypercontractility

'Barriere – function'

Levator ani

External anal sphincter

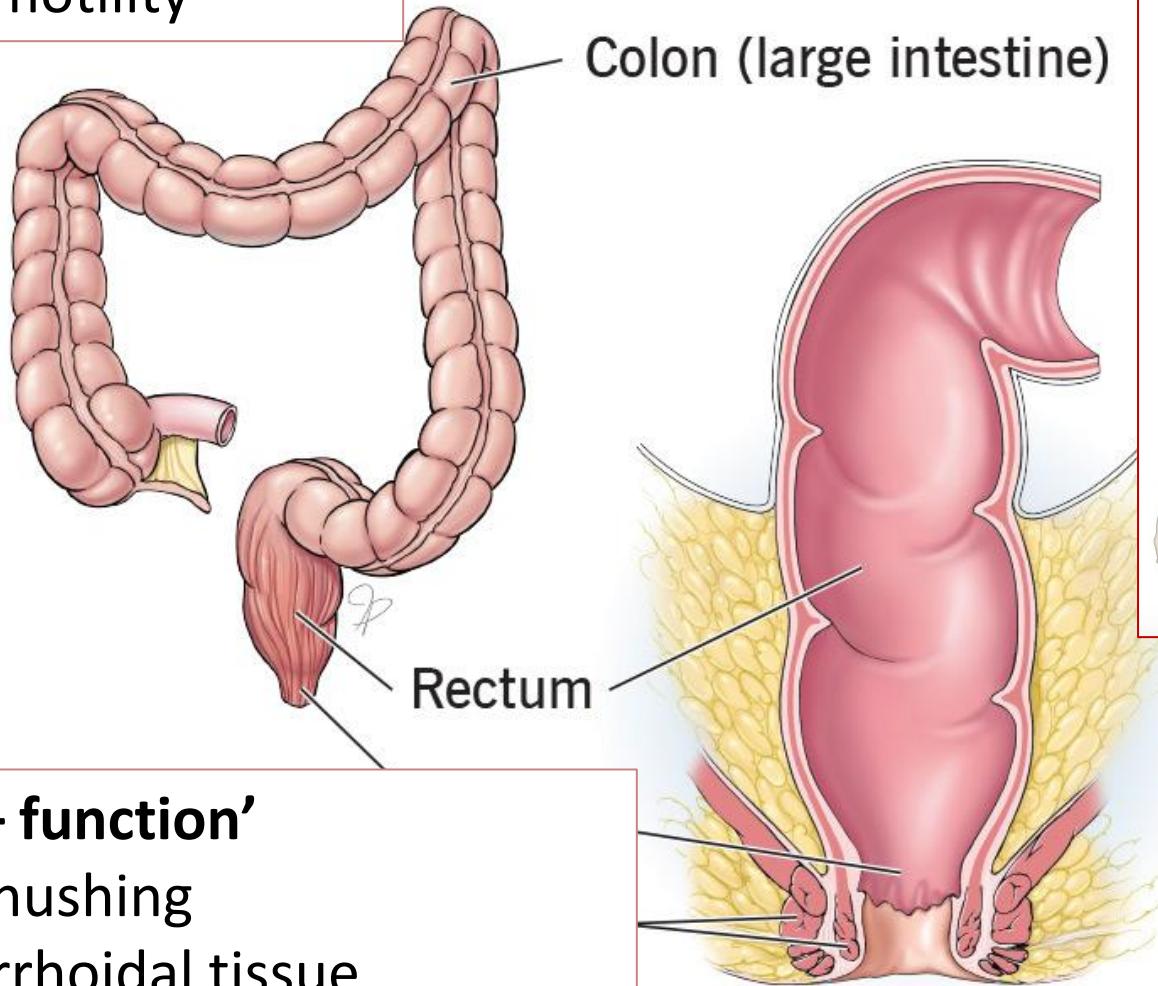
Internal anal sphincter



'Sigmoid brake – function'

Loose stools

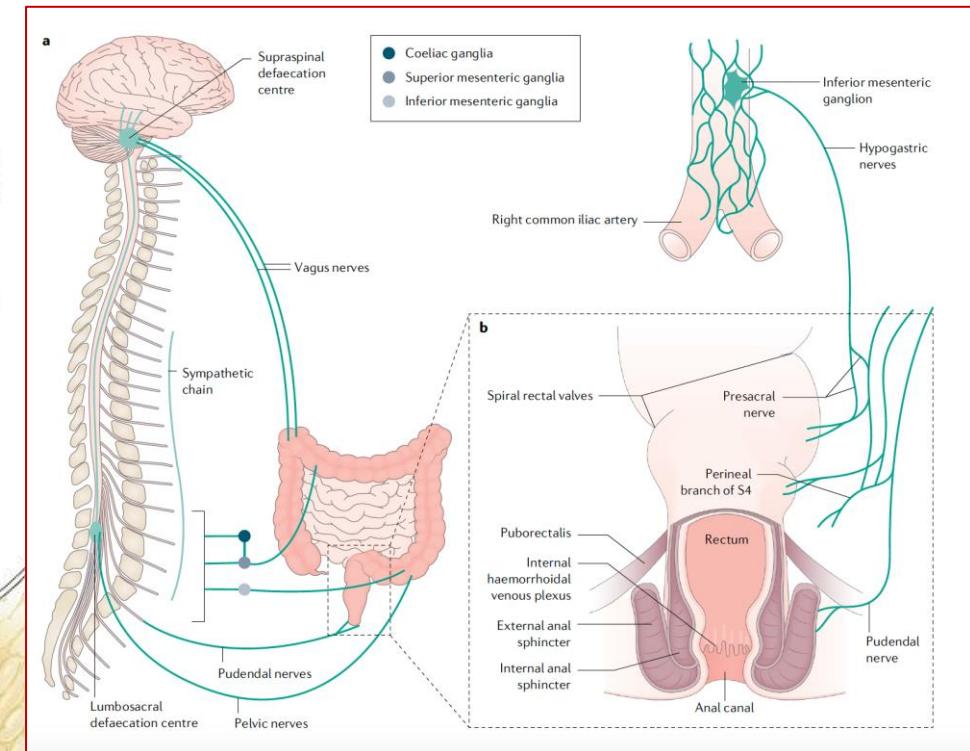
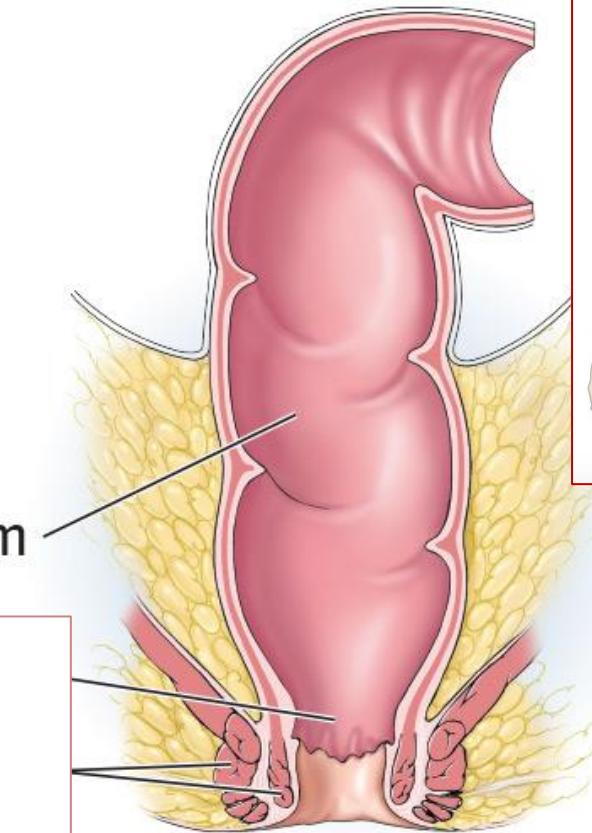
Sigmoidal dysmotility



'Seal – function'

Anal chushing

Hemorrhoidal tissue



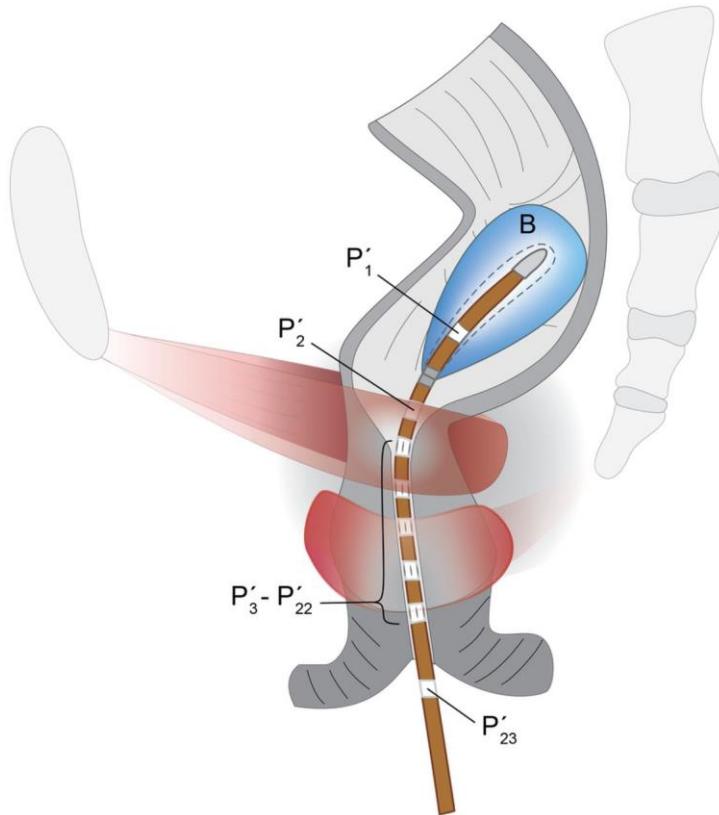
'Barriere – function'

Levator ani

External anal sphincter

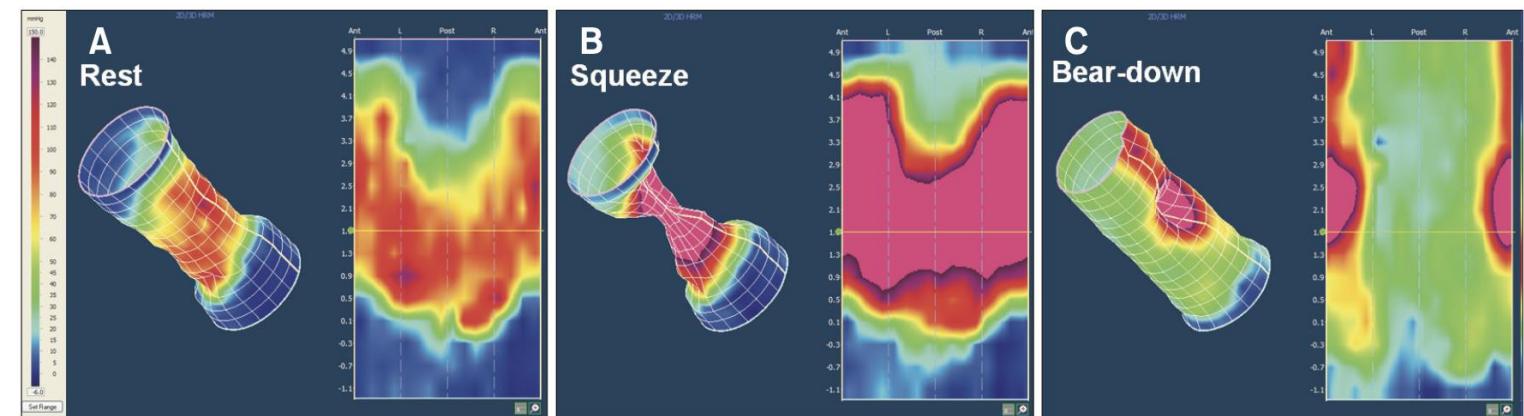
Internal anal sphincter

High resolution anal manometry (HRAM)



High resolution anal manometry

- Standardized protocols
- Normal values
- An algorithm provides basic phenotypes
- Less than 30 min
- Can be done by your lab. technician/nurse



(J Neurogastroenterol Motil 2016;22:46-59)

Neurogastroenterology & Motility. 2020;32:e13679.



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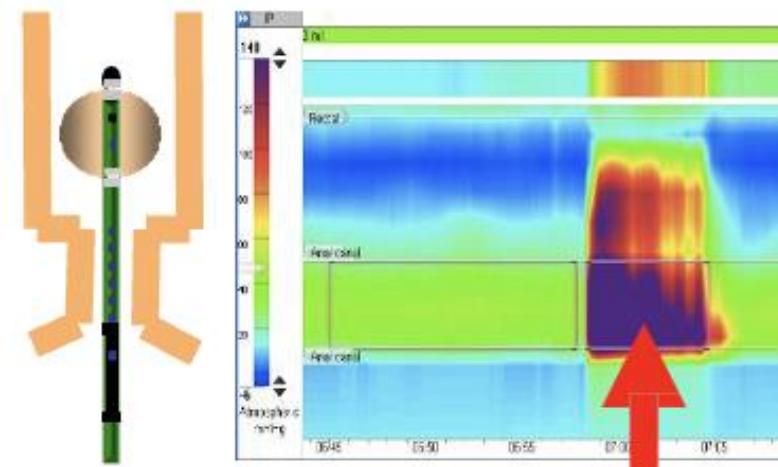
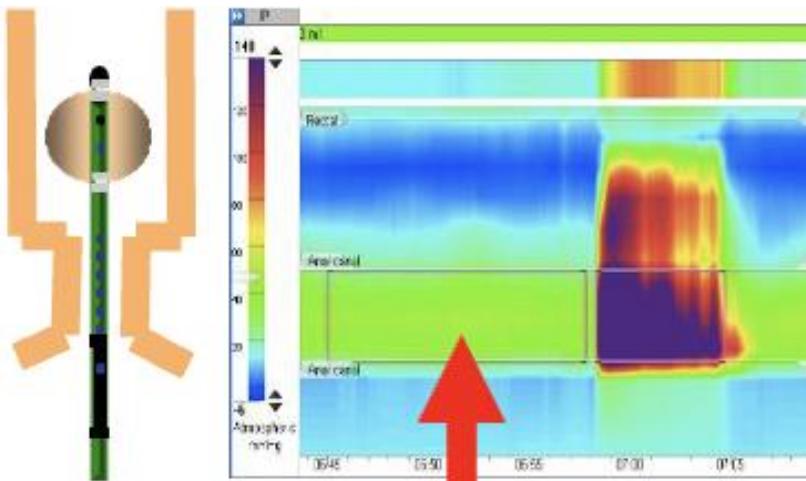
Anal tone and contractions – 'seal&barriere function'

Pooled prevalence of anal hypotoni

45% in women
24% in men

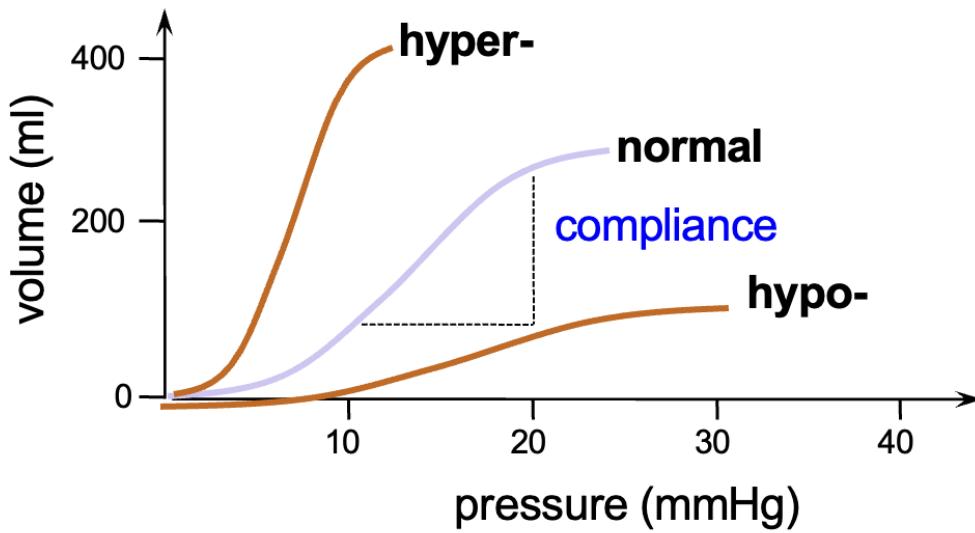
Pooled prevalence of anal hypocontractility

72% in women
37% in men



Impaired rectal function

If defaecation is to be delayed, rectal contents must be accommodated
Possibly through rectal biomechanical mechanisms (incl. compliance)



hypocompliant ('stiff')
allied to rectal hypersensitivity
loss of 'reservoir' function
urge incontinence

hypercompliant ('lax') rectum
allied to rectal hyposensitivity
enlarged rectal capacity
passive / overflow incontinence



Fecobionics

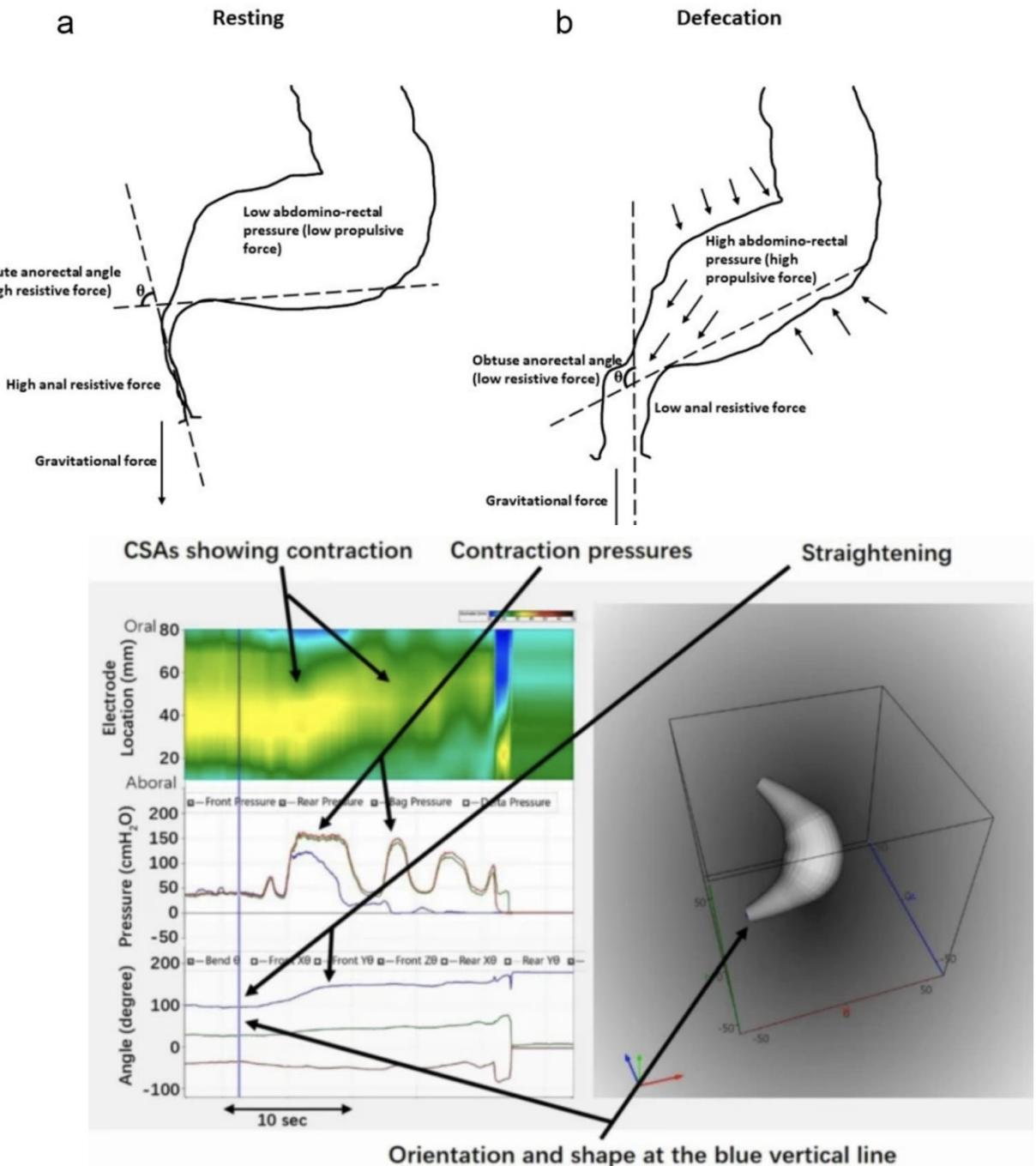
Combined measurement of
Rectal compliance
Rectal contractility
Anal tone and compliance



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Techniques in Coloproctology

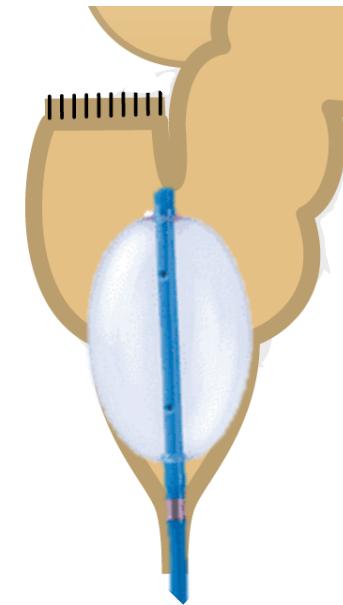
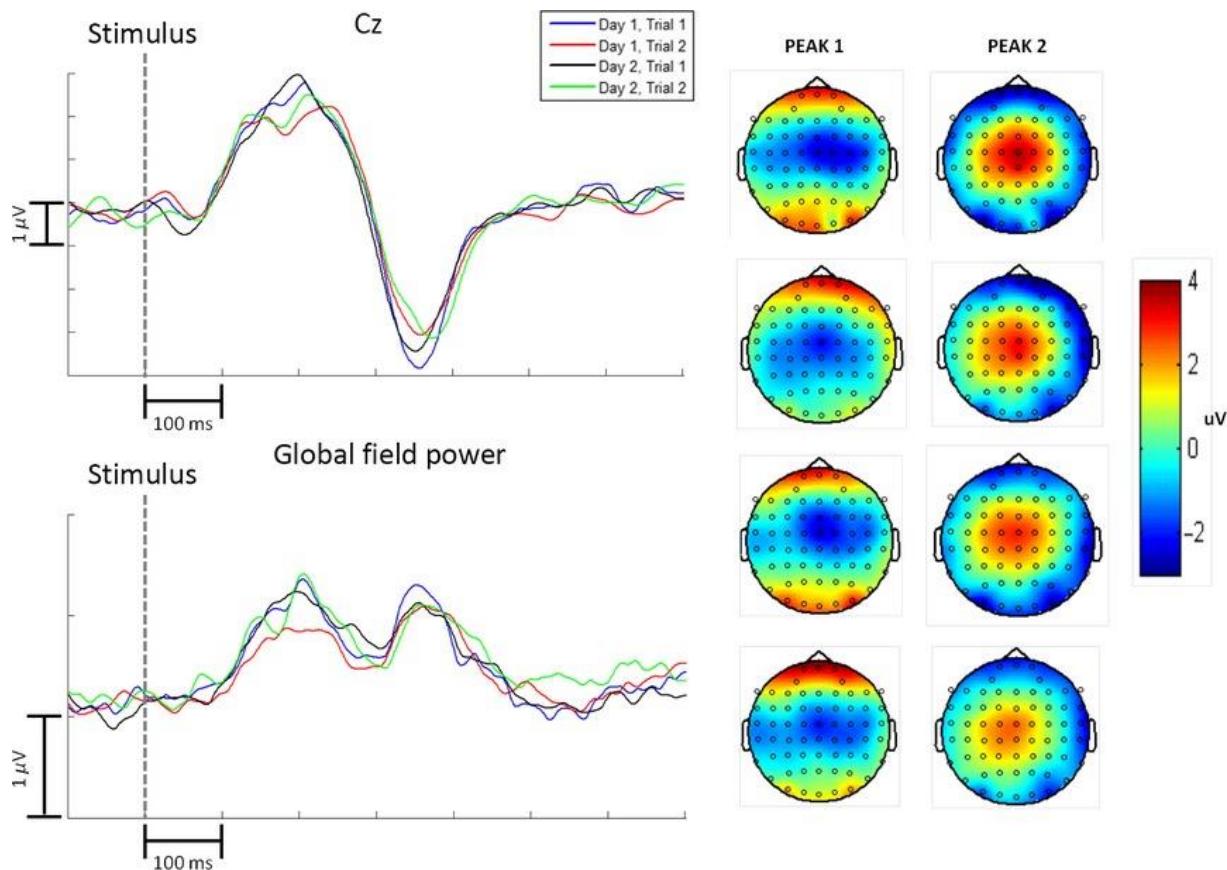
(2025) 29:86



Sensory function

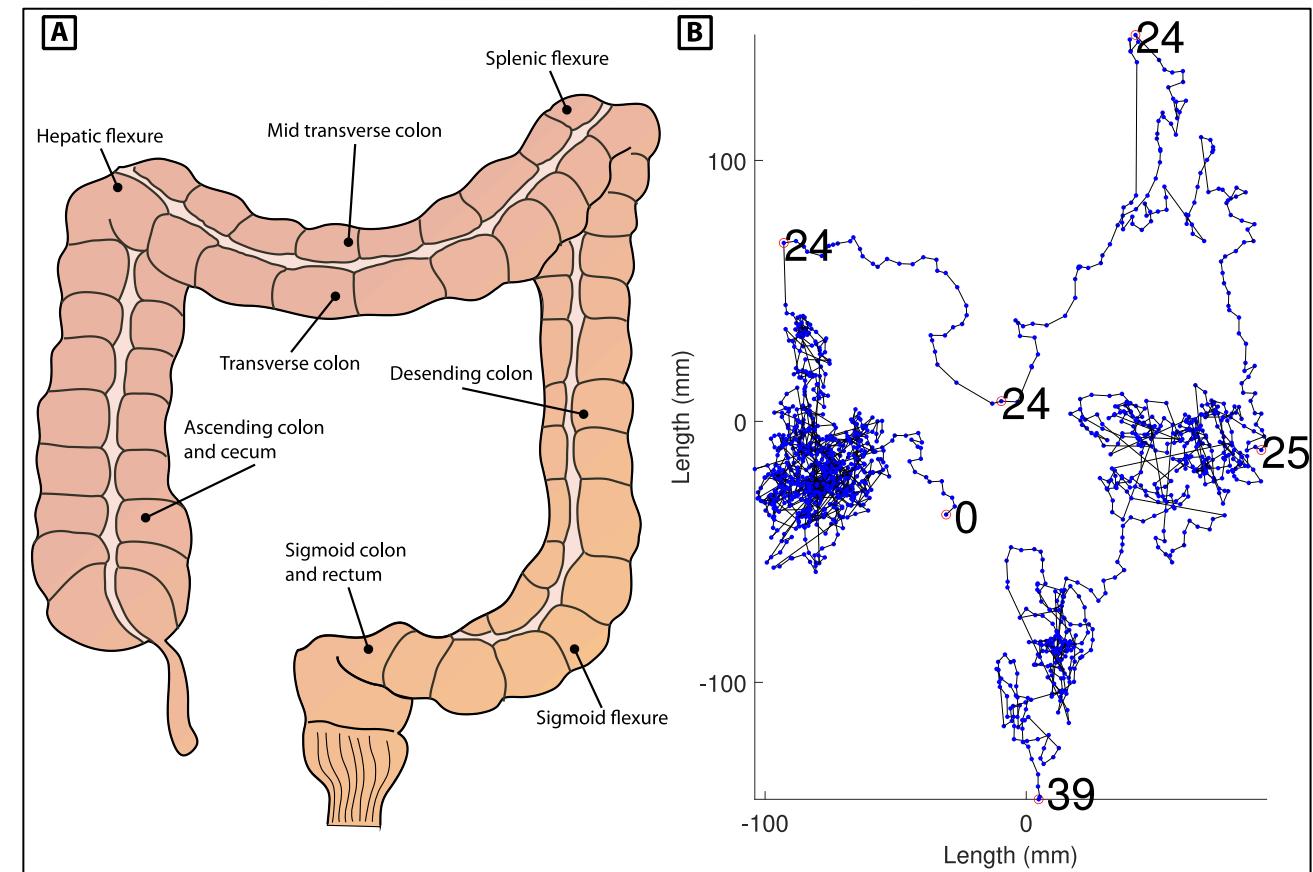
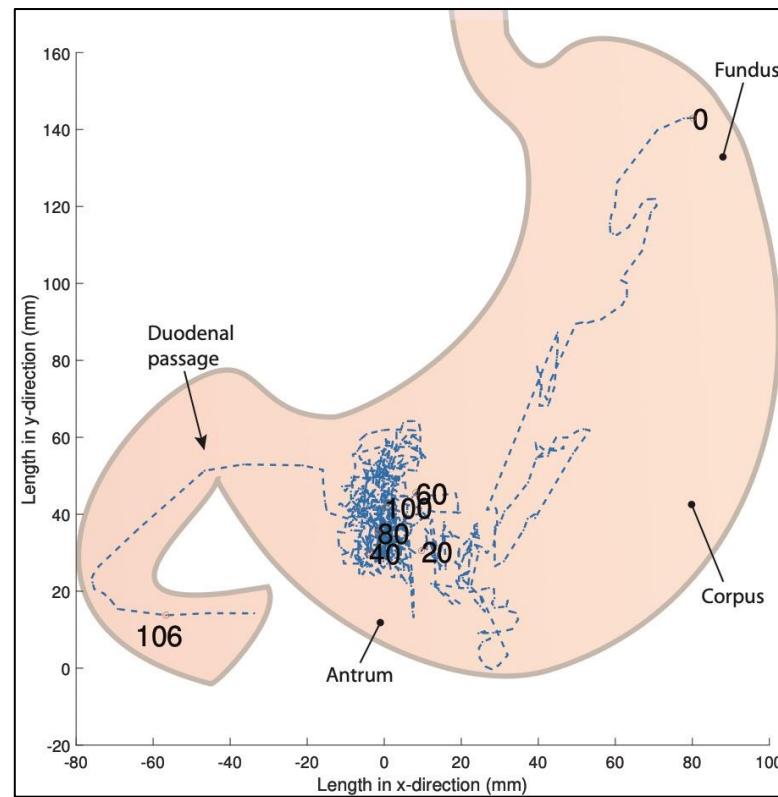
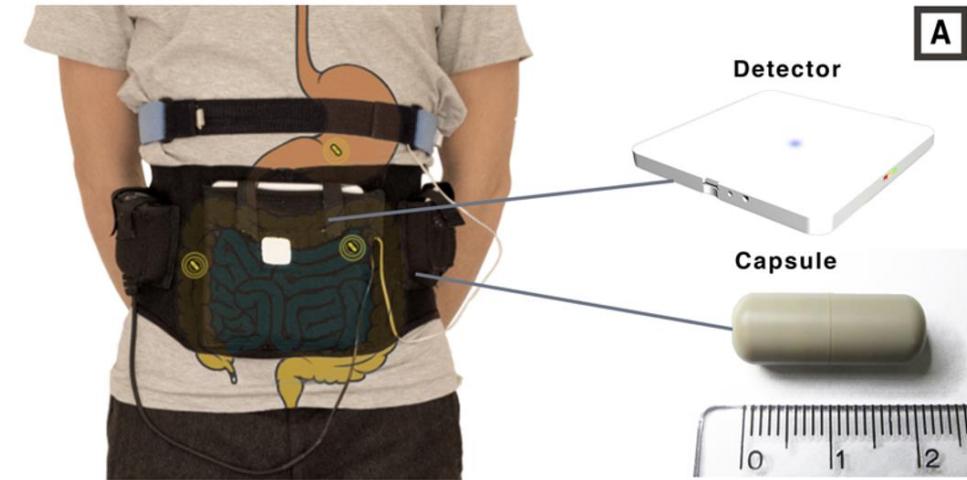
EEG/rapid balloon distension

- Evoked brain potentials



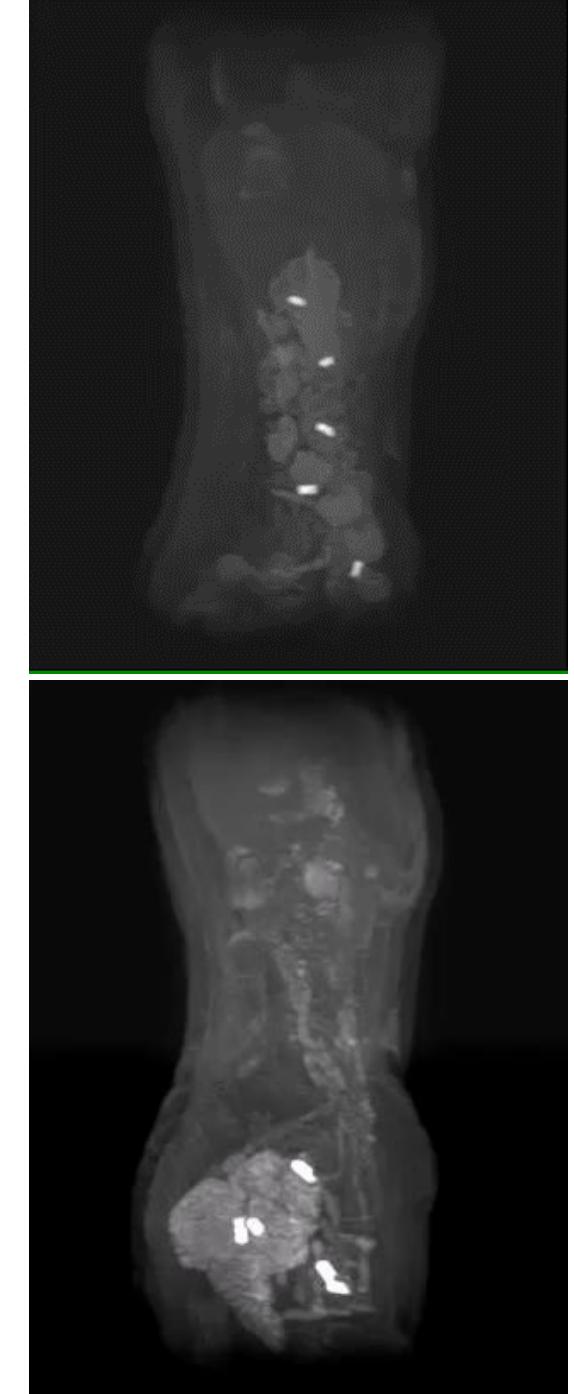
Gastrointestinal motility

3D-Transit



Colon volume or transit by MRI

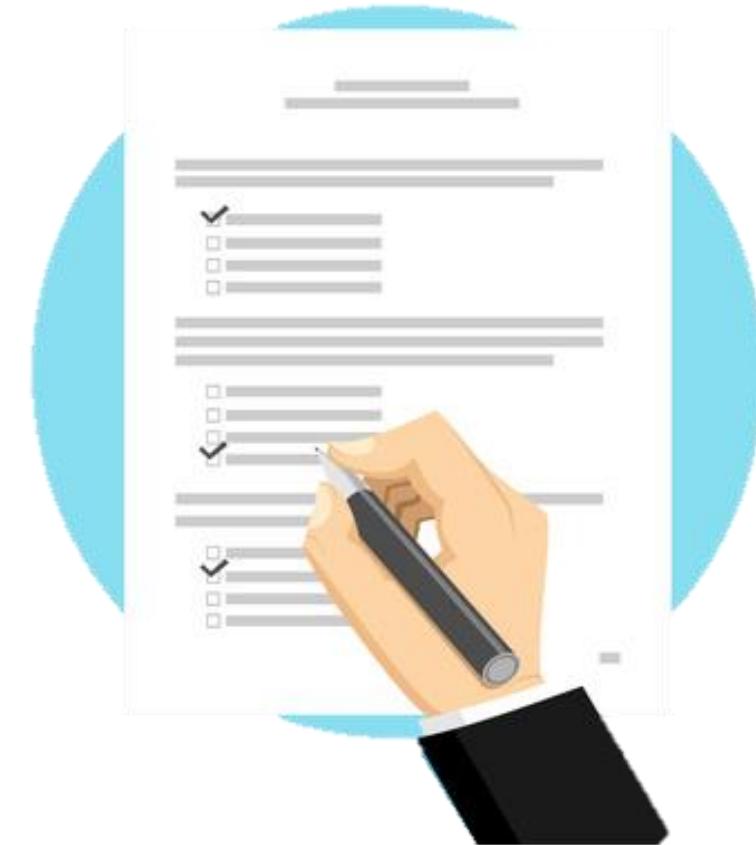
- Segmental distribution of colonic content



Subjective symptoms

Questionnaires

- LARS score
- BRISTOL stool scale
- Wexner incontinence score
- Hospital Anxiety and Depression Scale
- EQ5D quality of life



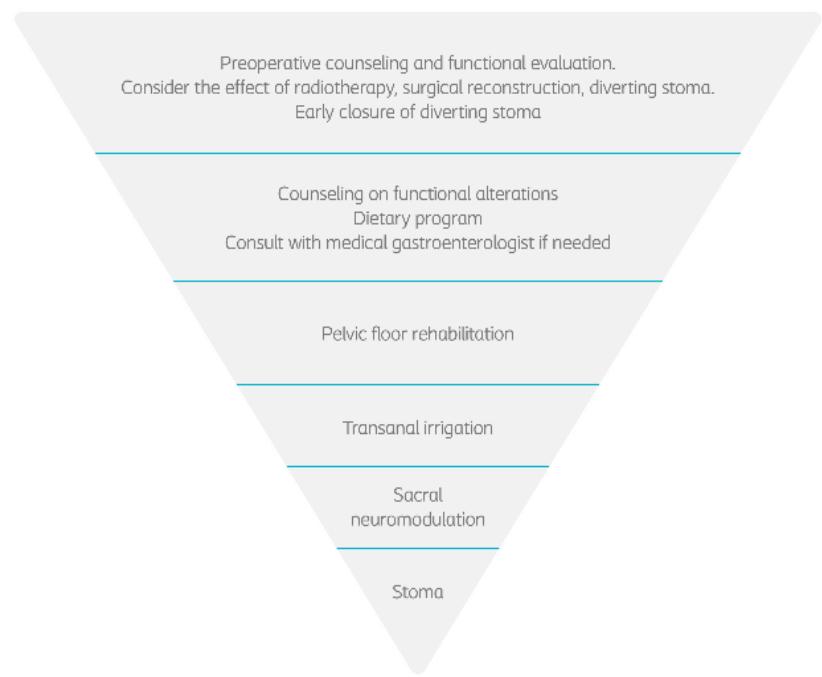
What are the positive aspects?

- or is it just expensive toys for boys who had not yet got rid of the pottery training?

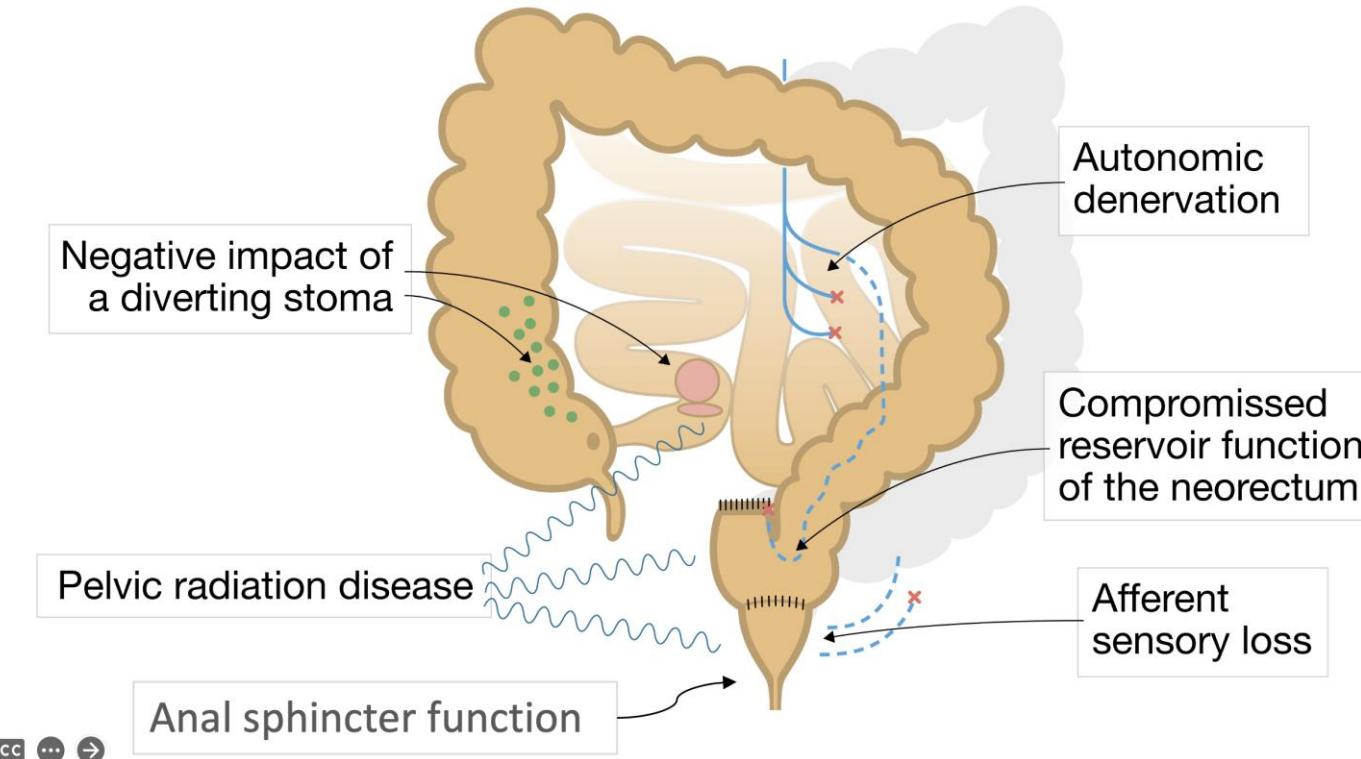


We still don't know....

- Phenotyping on symptoms?
- Phenotyping on pathophysiology?
- Will they match as predicted?
- Can we predict outcomes of specific treatments?



Understanding and tailored treatment of low anterior resection syndrome - protocol presentation

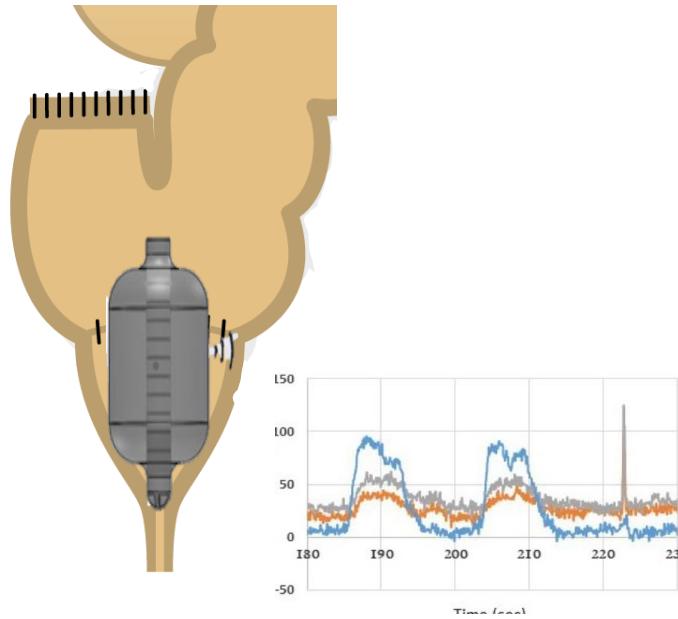


CC ... →

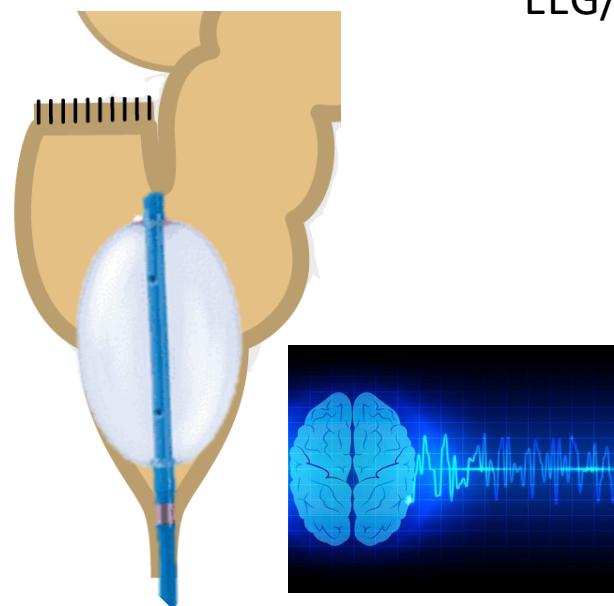


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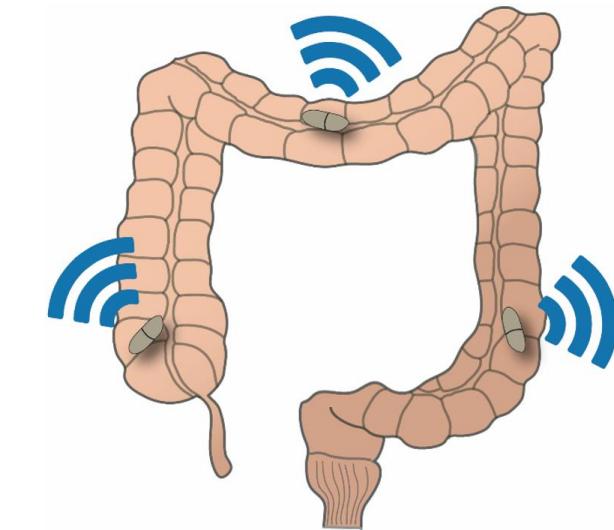
Fecobionics



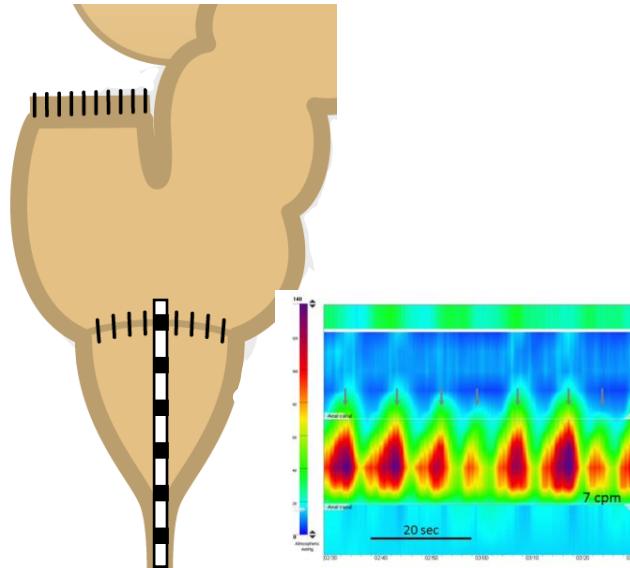
EEG/balloon



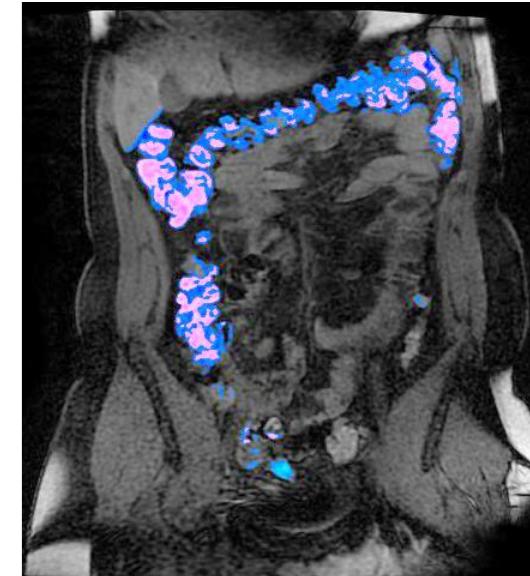
3D-Transit



HR anorectal manometry



MRI colon



Questionnaires





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