

Stichting B.G.

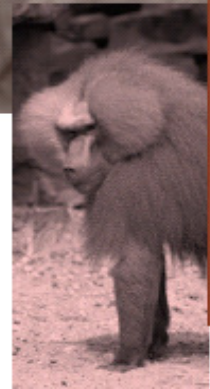
Het proctum
21 januari 2014
Theater de Veste - Delft



Testen functionaliteit kleine bekken
Anorectale functietesten

André Smout
AMC Amsterdam





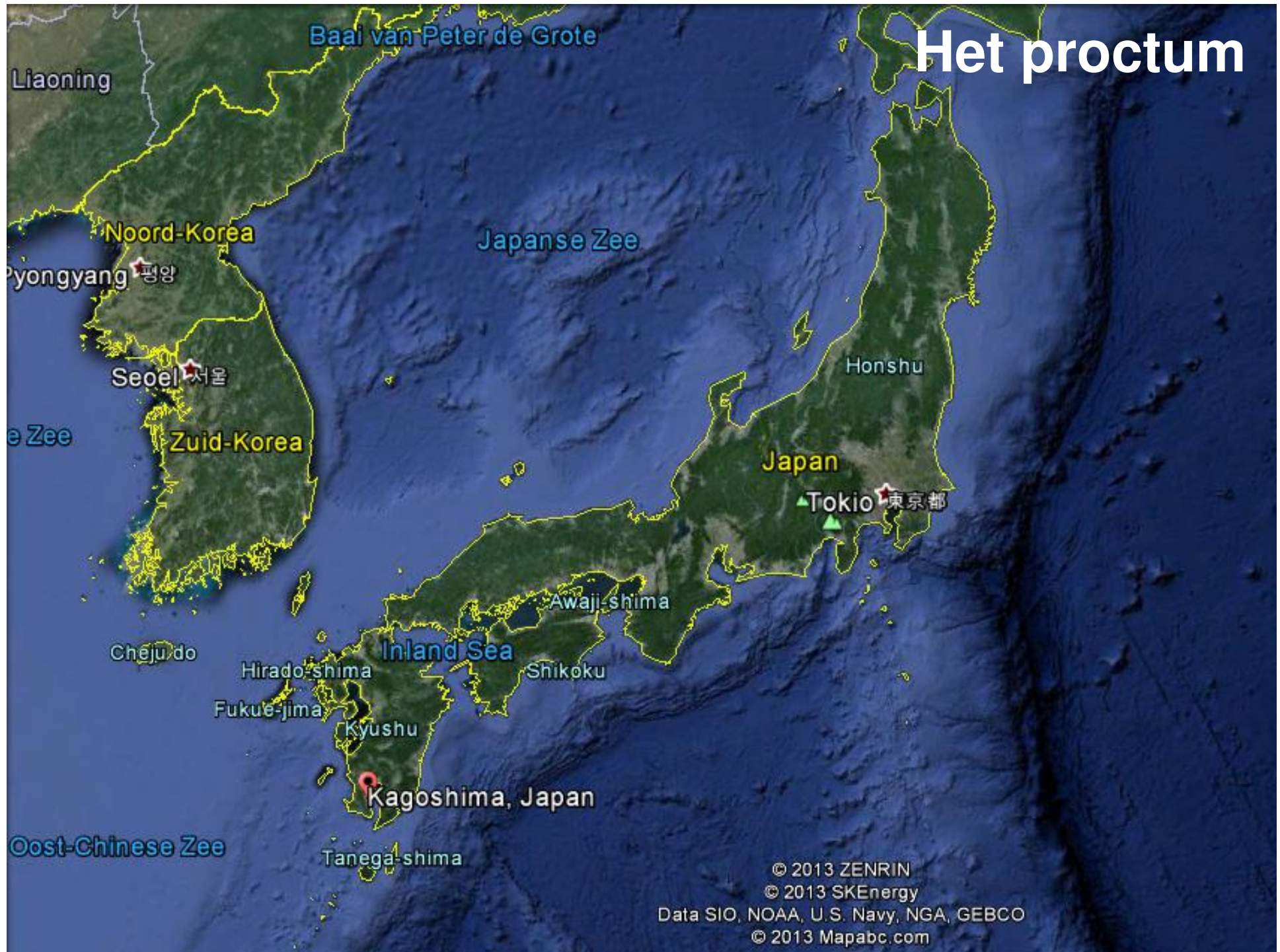
Disclosures

- Sponsoring onderzoek
 - Medical Measurement Systems
 - Given Imaging
- Honorarium
 - Reckitt Benckiser
 - AstraZeneca
 - Tramedico

Het proctum



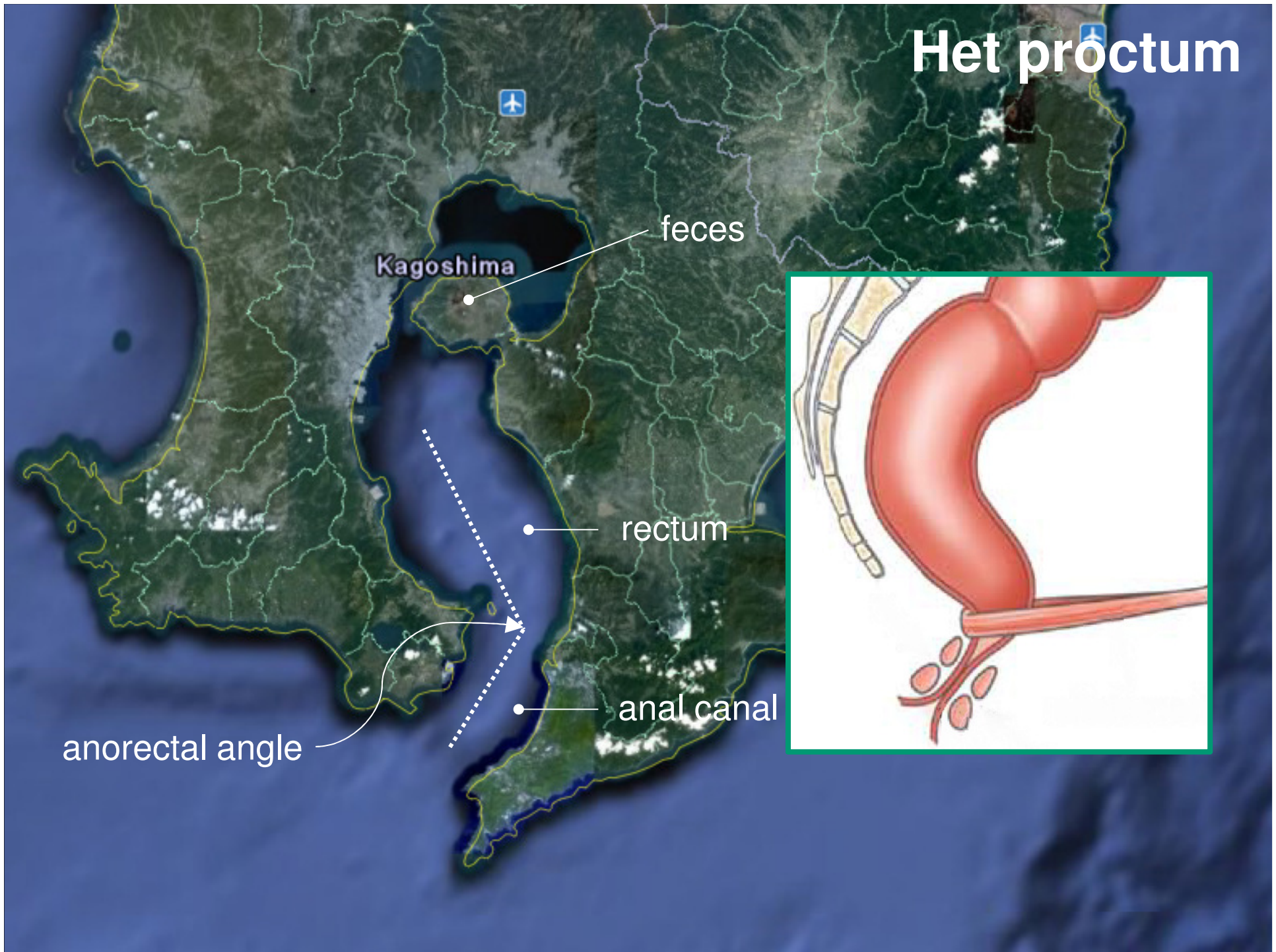
Het proctum



Het proctum



Het proctum



feces

Kagoshima

rectum

anal canal

anorectal angle

Anorectale funktietesten

- Rectaal toucher
- Rectoanale manometrie
- Rectoanale sensibiliteitsmeting
- N. pudendus-latentietijdmeting
- Electromyografie
- Ballonuitdrijvingstest
- Defecografie
- MRI defecografie
- Endoanale ultrasonografie
- MRI kleine bekken

Anorectale funktietesten

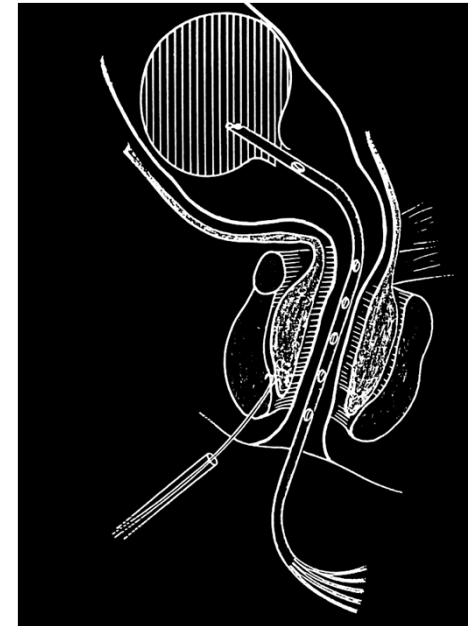
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Anorectale funktietesten

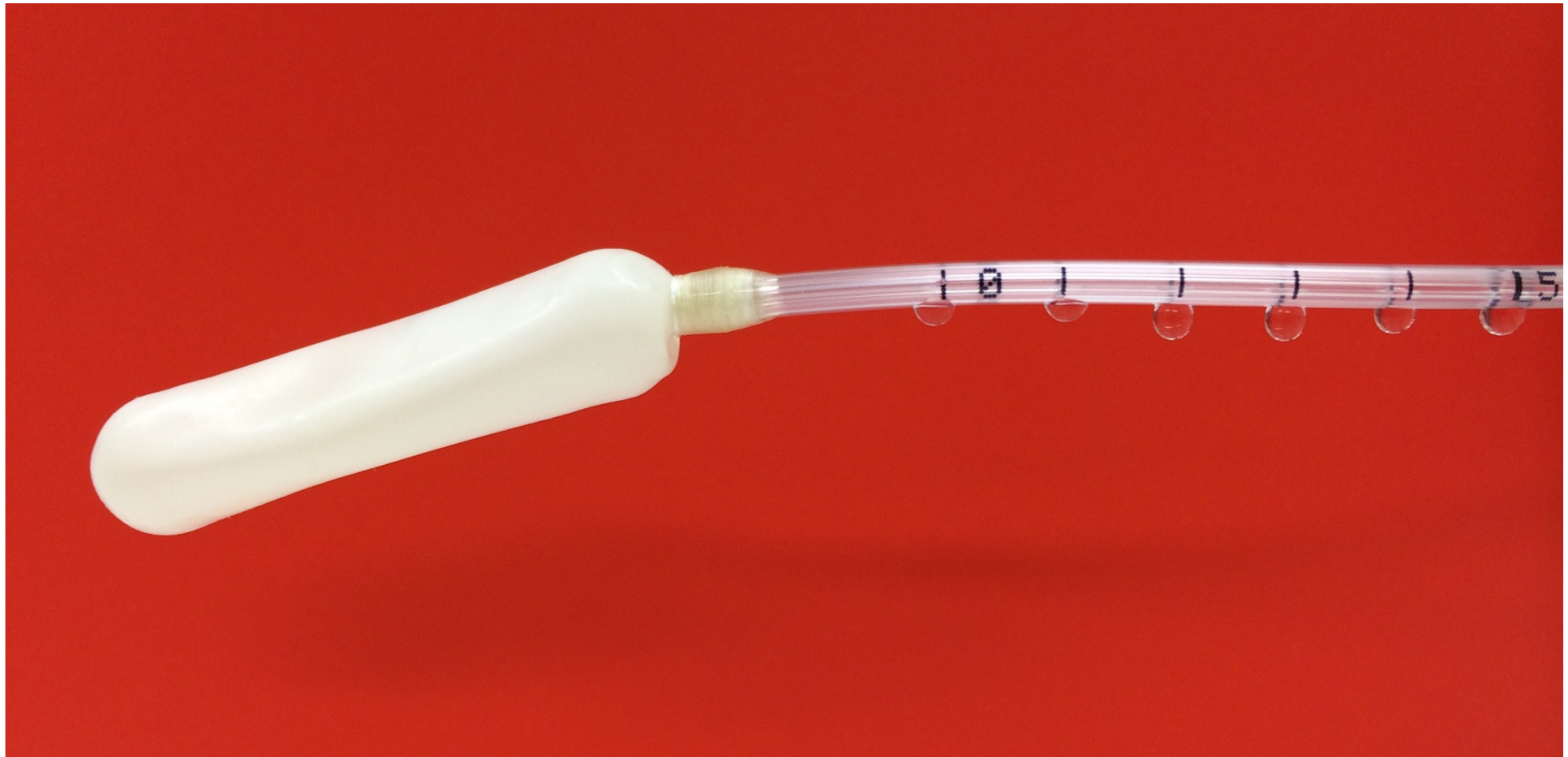
- Rectaal toucher
- **Rectoanale manometrie**
- Rectoanale sensibiliateitsmeting
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Rectoanale manometrie

- Water-geperfundeerde catheter
- Catheter met microtransducers (“solid-state”)
- Stapsgewijze terugtrekking (“station pull-through”)
- Continue terugtrekking (“slow pull-through”)
- Stationair
 - Lage resolutie
 - Hoge resolutie
 - 3-dimensionaal

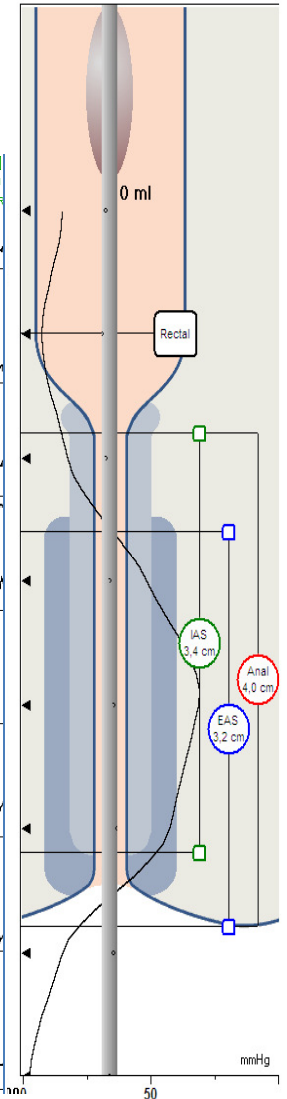
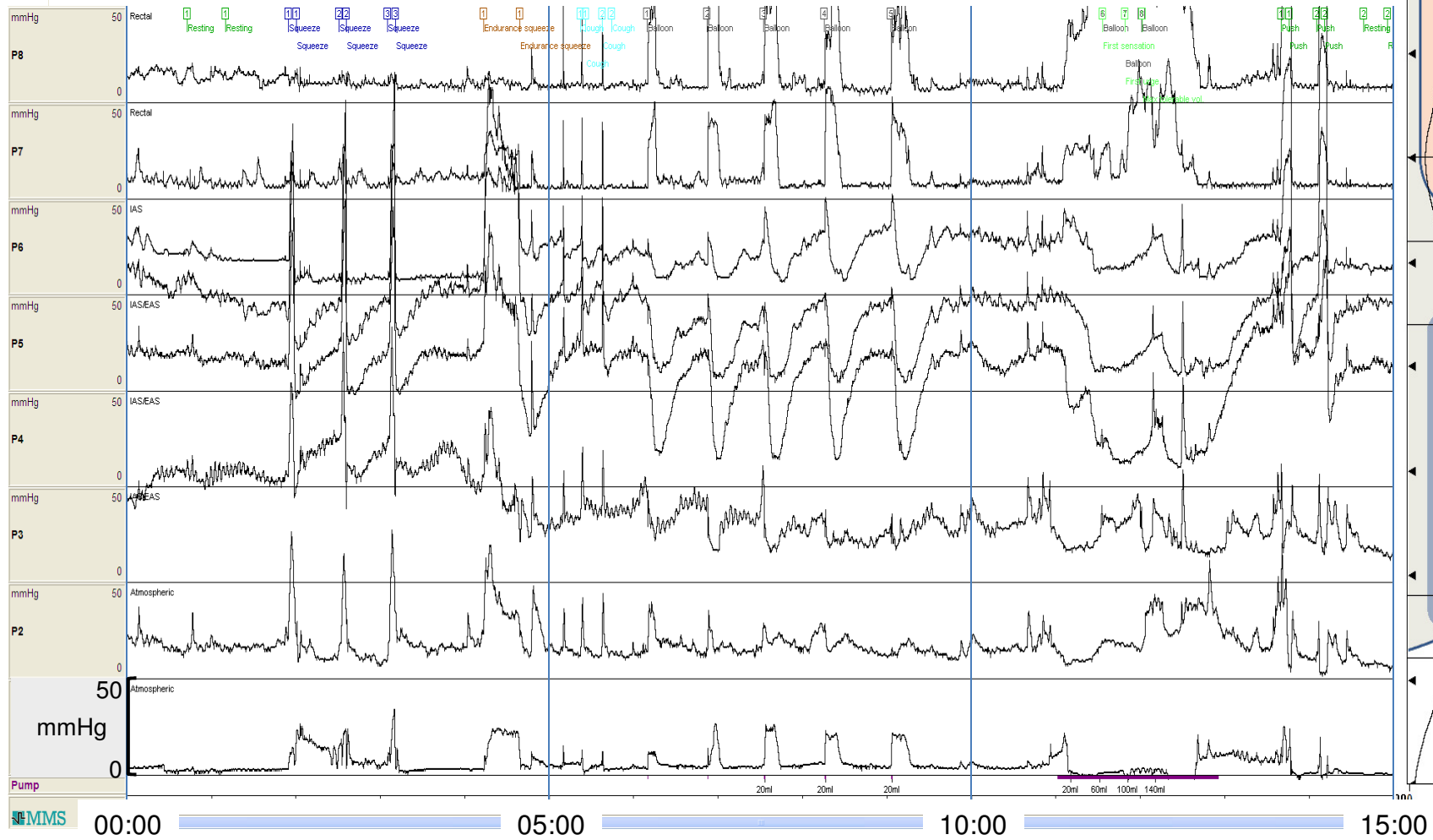


Disposable catheter voor rectoanale manometrie



Rectoanale manometrie

conventionele weergave



tijd →

Rectoanale manometrie

weergave in kleuren

mmHg

100

90

80

70

60

50

40

30

20

10

0

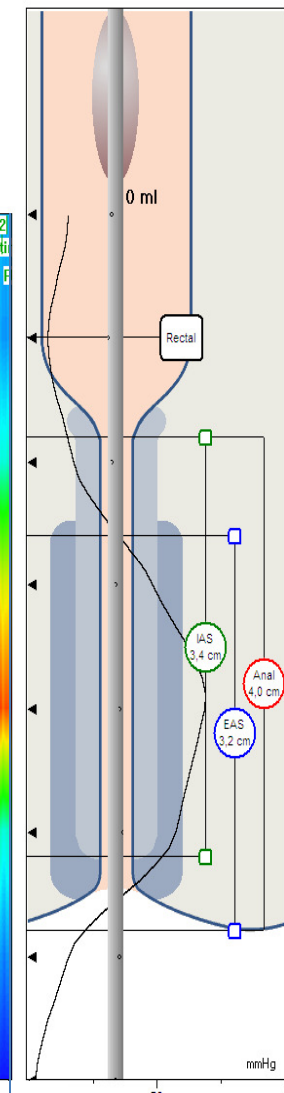
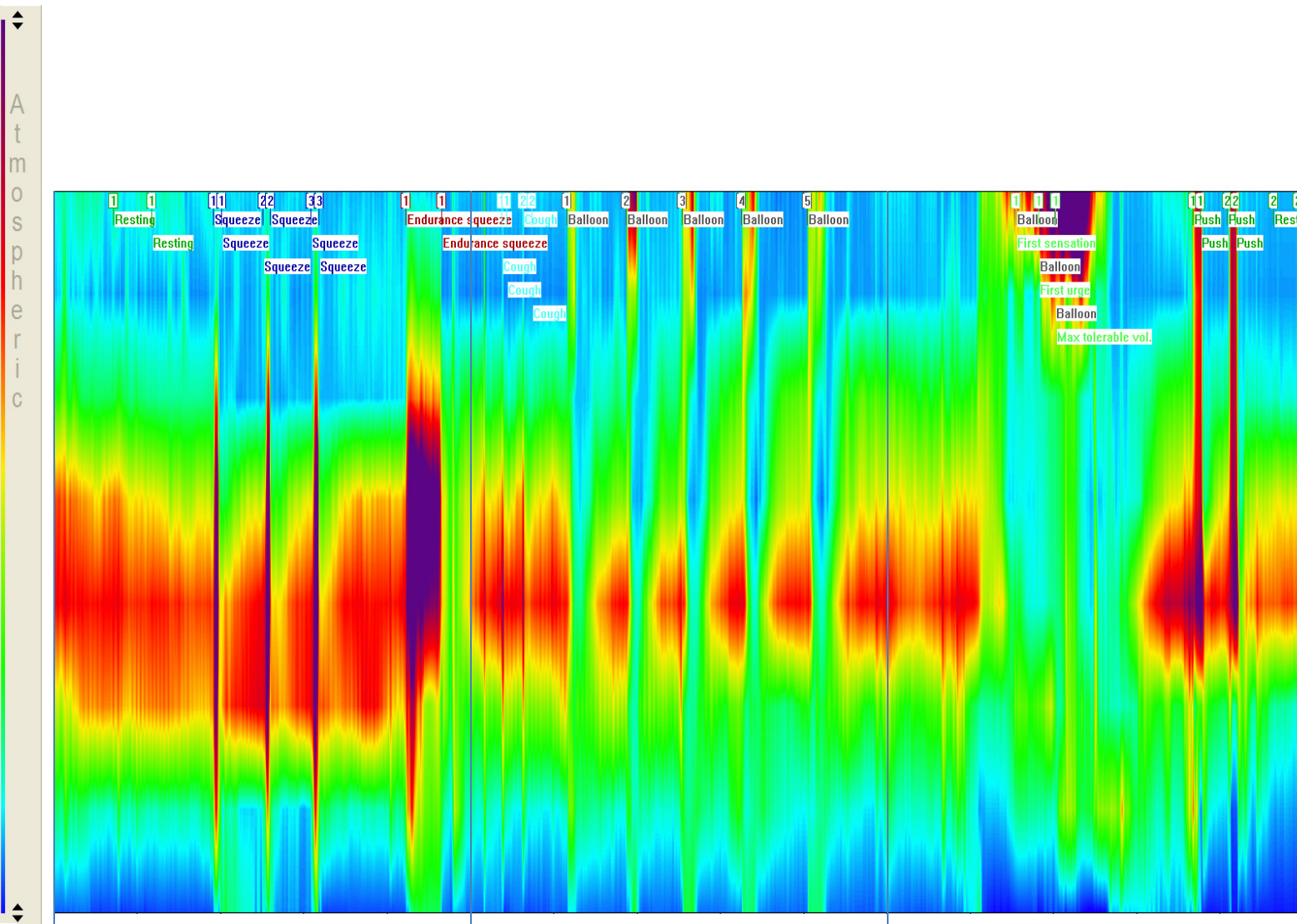
00:00

05:00

10:00

15:00

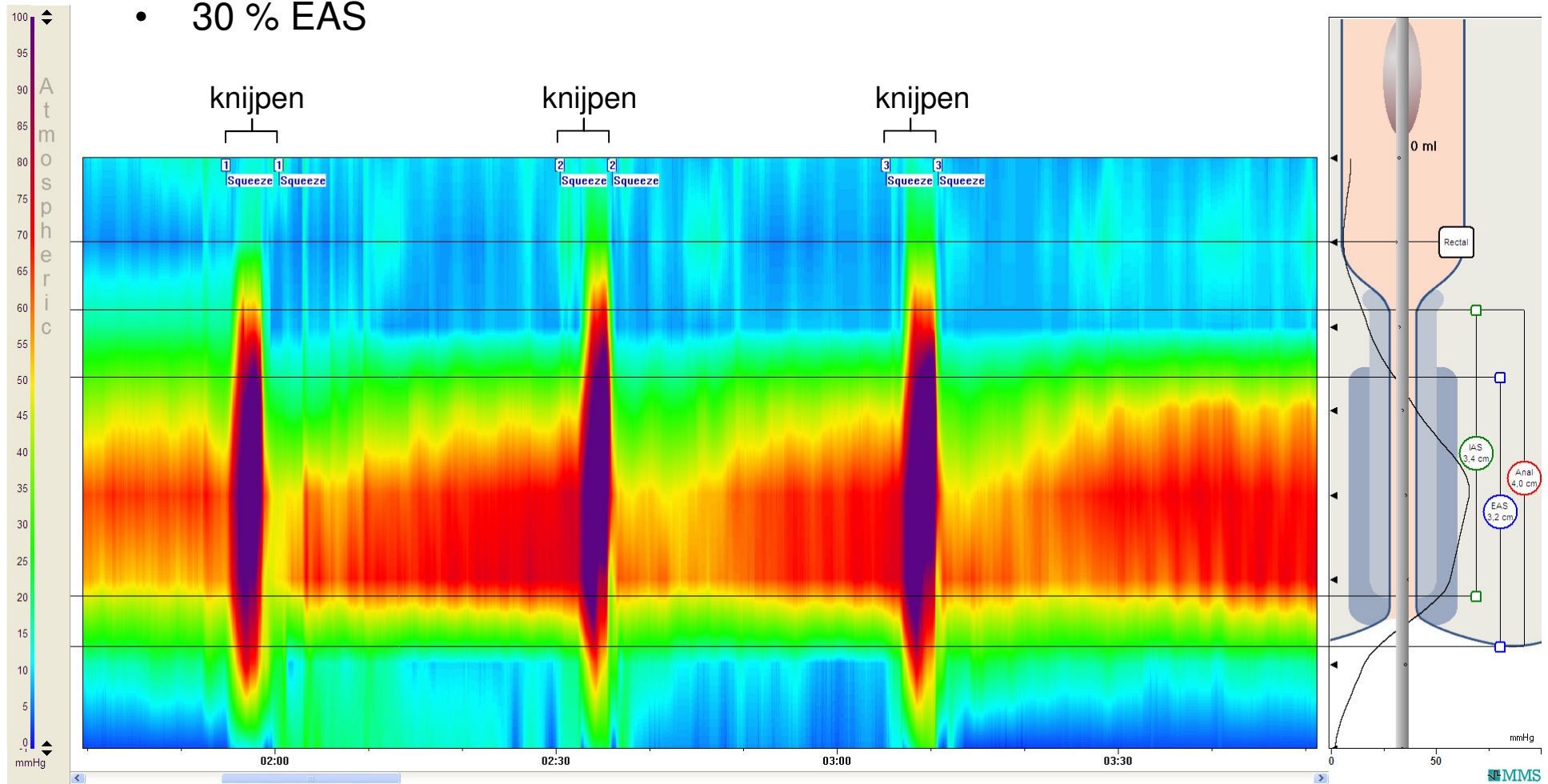
tijd →



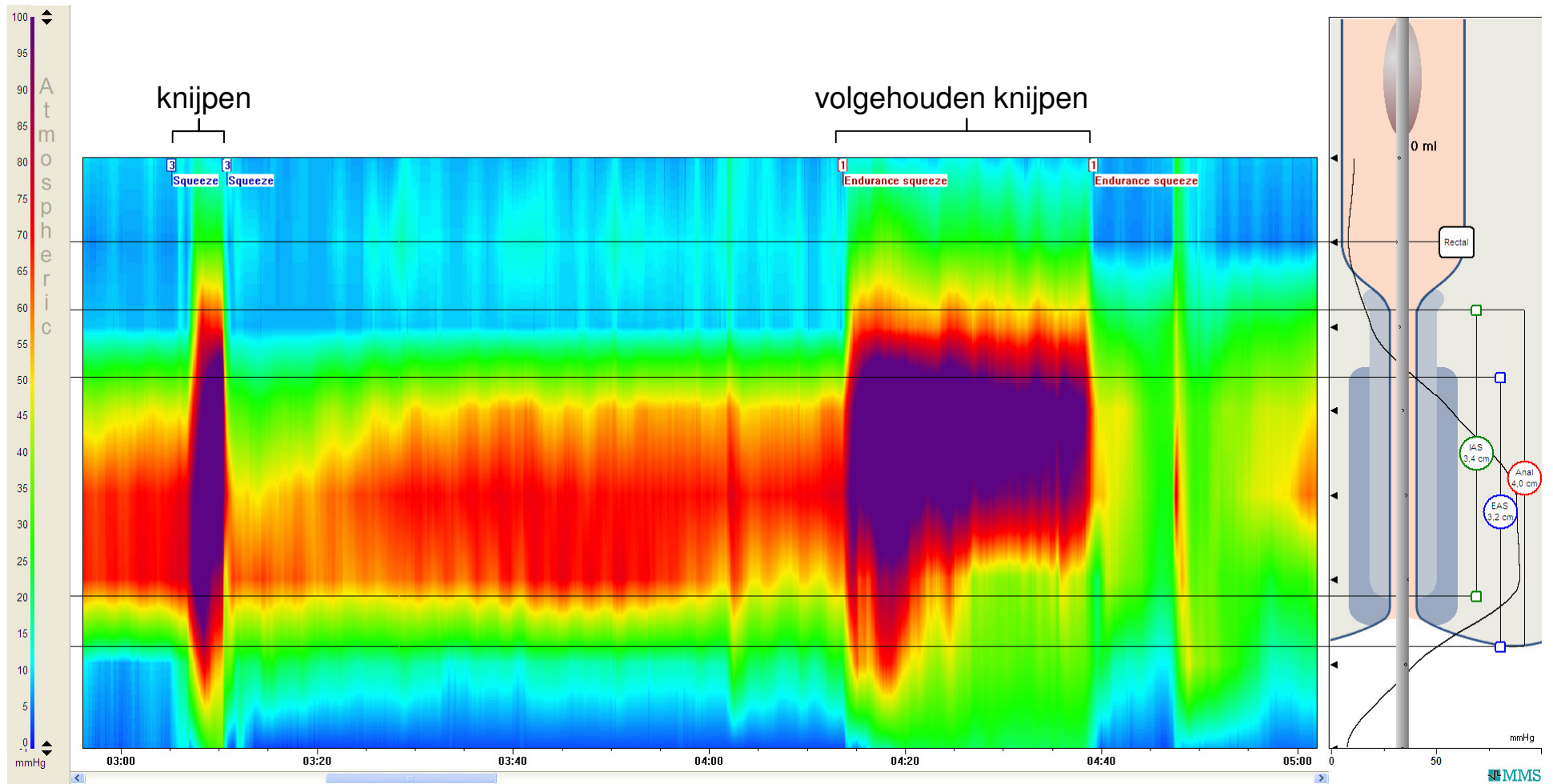
Rustdrukken en drukken bij knijpen

Rustdruk in anale kanaal:

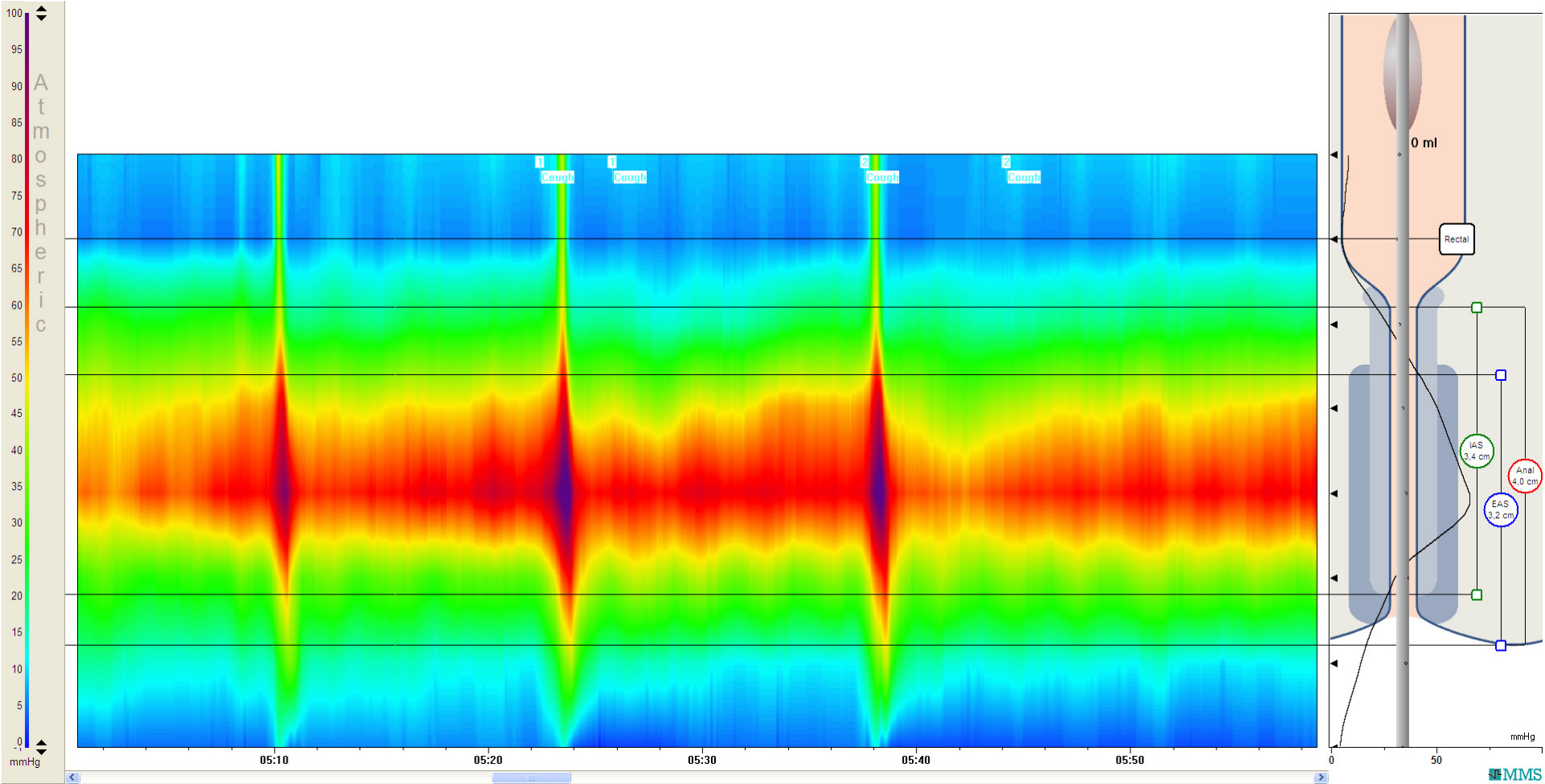
- 70 % IAS
- 30 % EAS



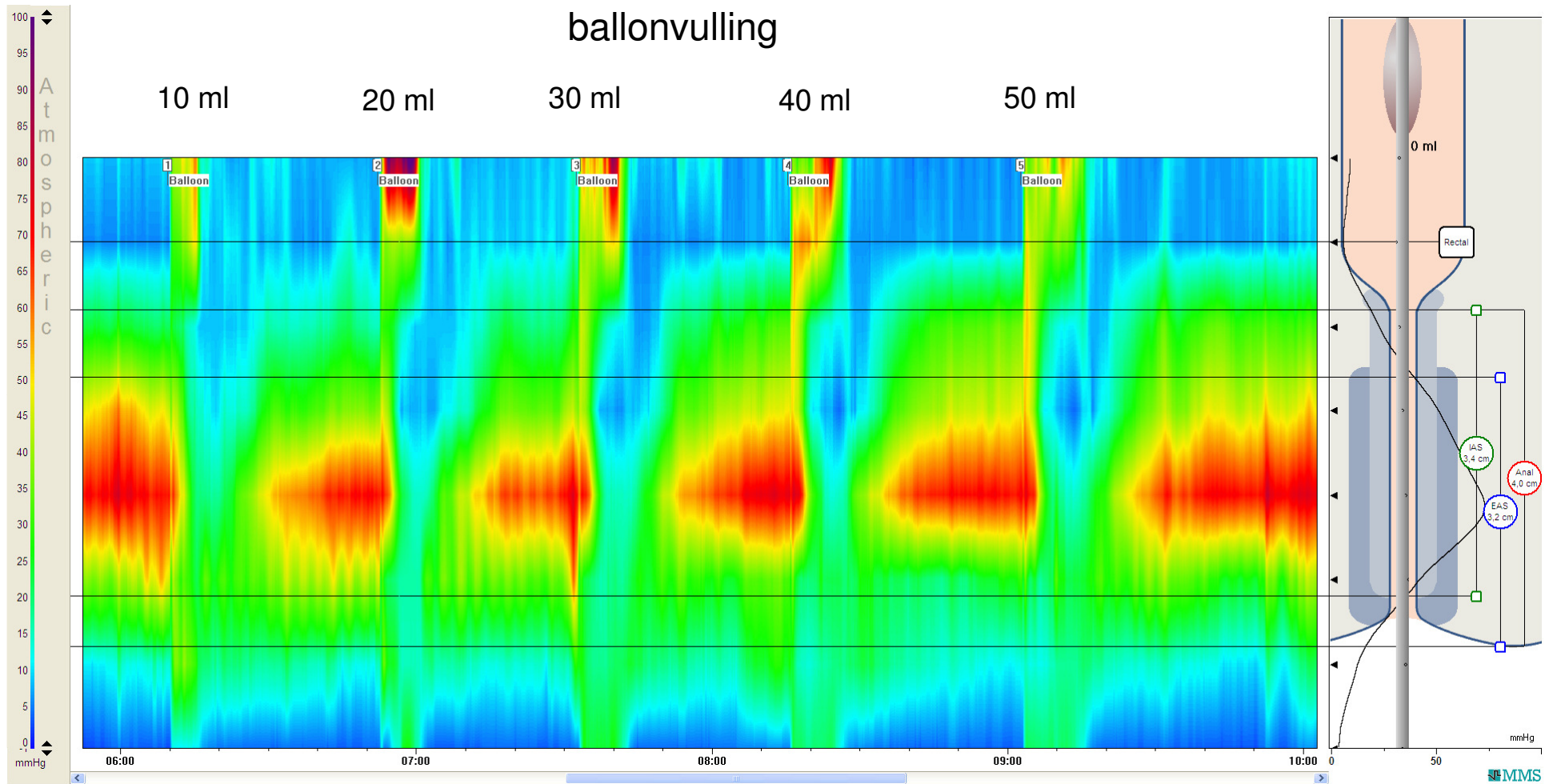
Rustdrukken en drukken bij knijpen



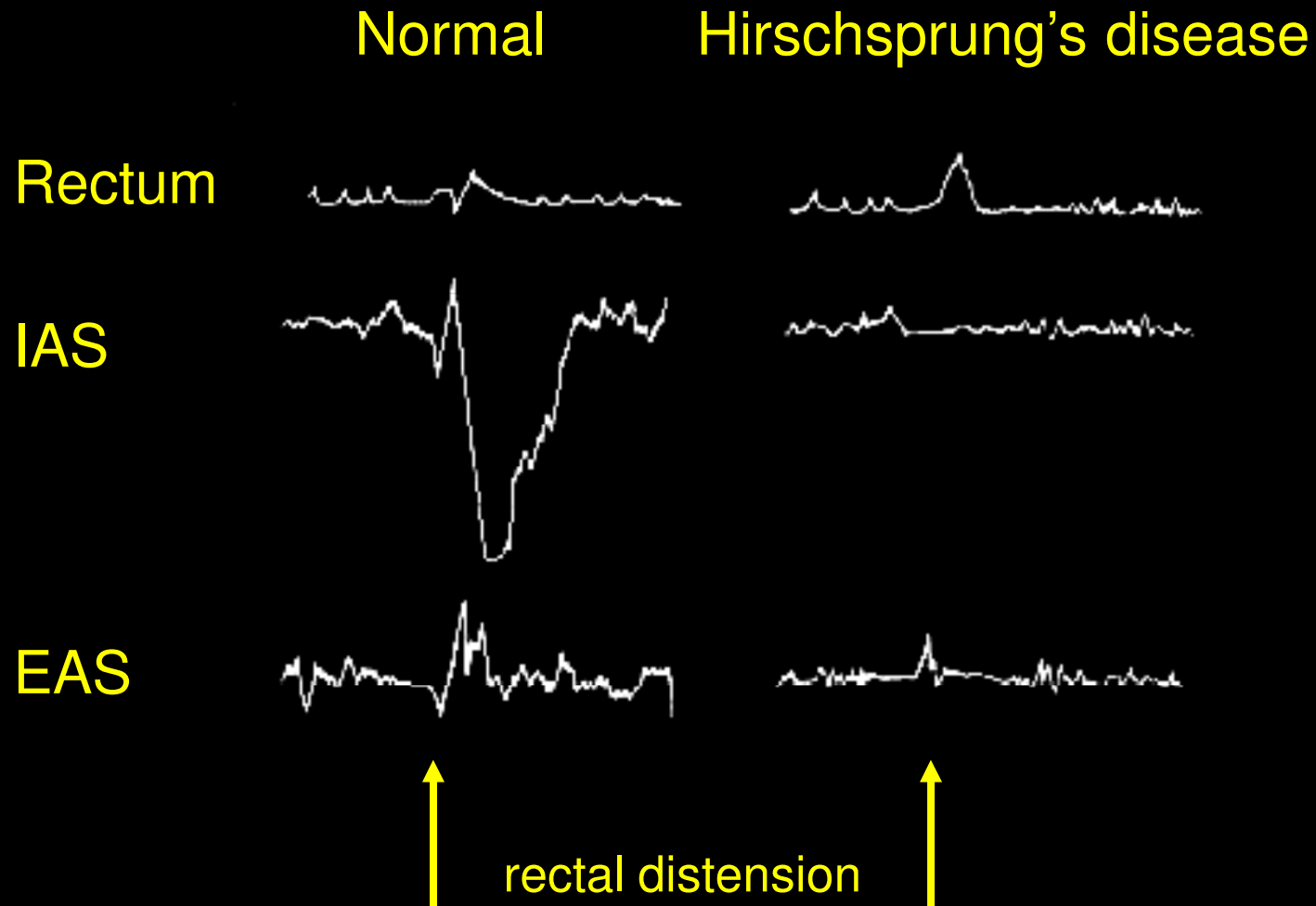
Hoesten



Rectoanale inhibitiereflex



In Hirschsprung's disease
the recto-anal inhibition reflex is absent



“Anorectal sampling”

IAS relaxatie

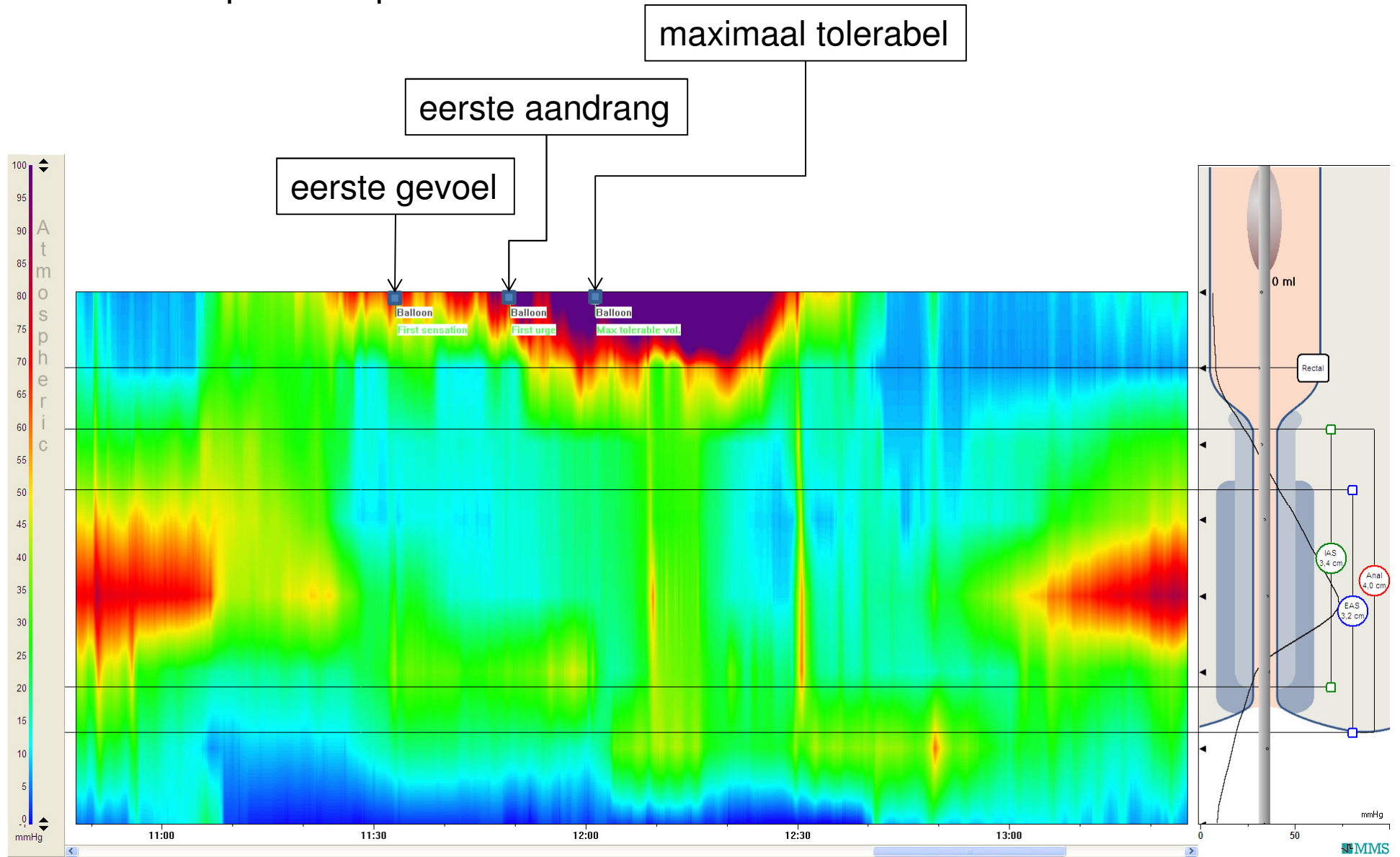
→ inhoud rectum in contact met sensoren in anale kanaal:

- Krause
- Golgi-Mazzoni
- Meissner
- Pacini

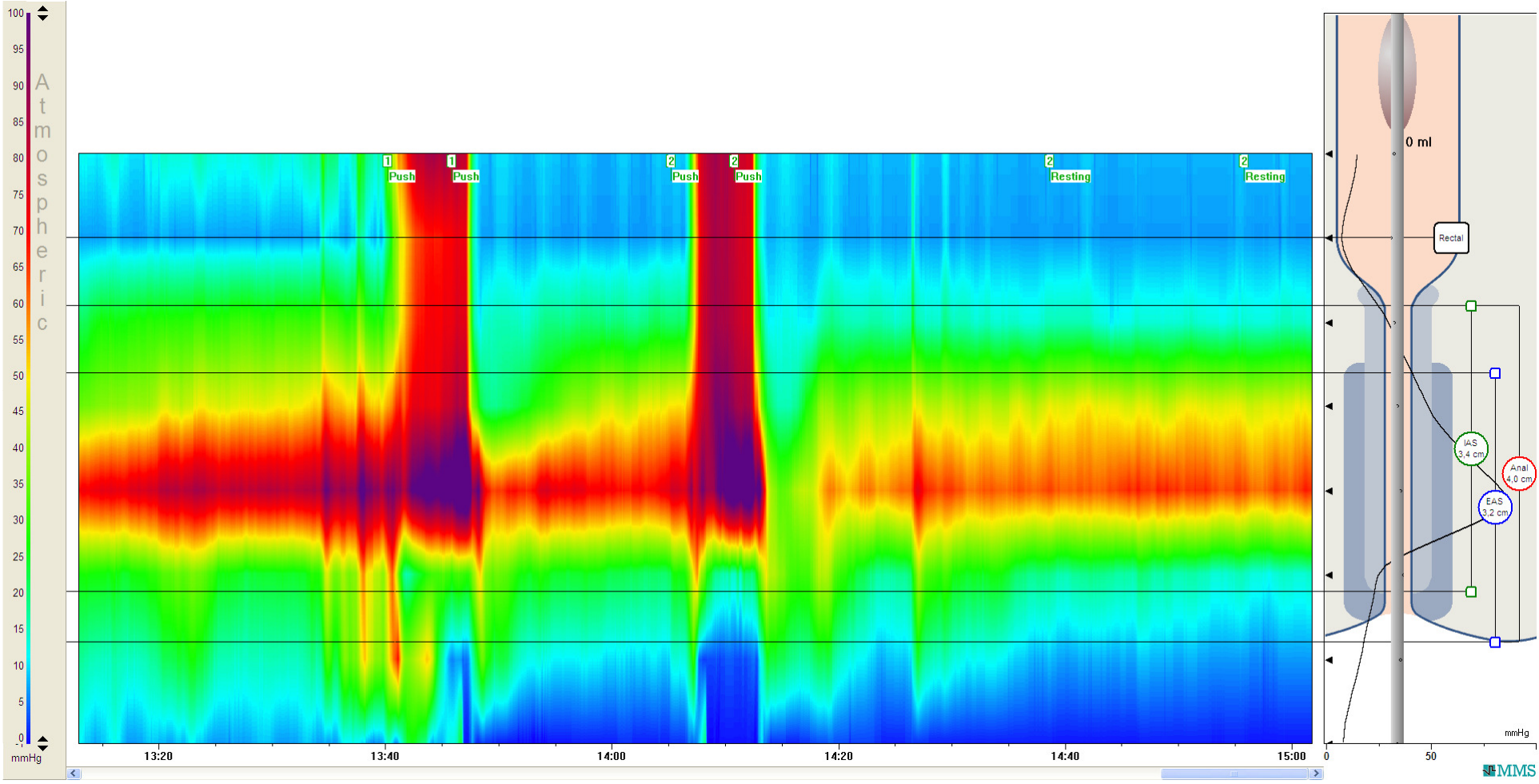
→ onderscheid tussen flatus en faeces



Perceptiedrempels



Poging tot uitdrijven *bekkenbodemyssynergie?*



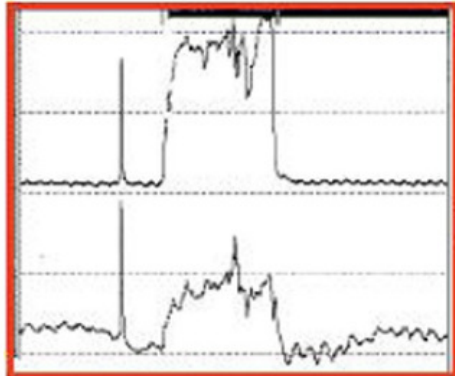
Dyssynergic defecation

Table 1 Rome 3 diagnostic criteria* for functional defecation disorders

1. The patient must satisfy diagnostic criteria for functional constipation**
2. During repeated attempts to defecate must have *at least two* of the following:
 - a. Evidence of impaired evacuation, based on balloon expulsion test or imaging
 - b. Inappropriate contraction of the pelvic floor muscles (i.e., anal sphincter or puborectalis) or less than 20% relaxation of basal resting sphincter pressure by manometry, imaging, or EMG
 - c. Inadequate propulsive forces assessed by manometry or imaging

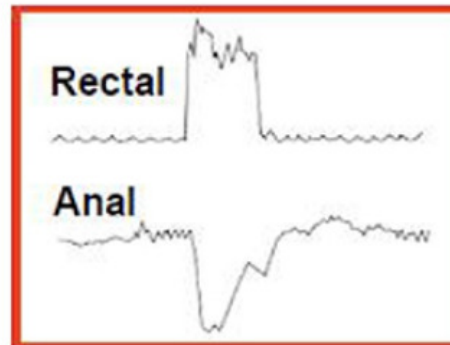
Manometric patterns associated with dyssynergic defecation

Type I



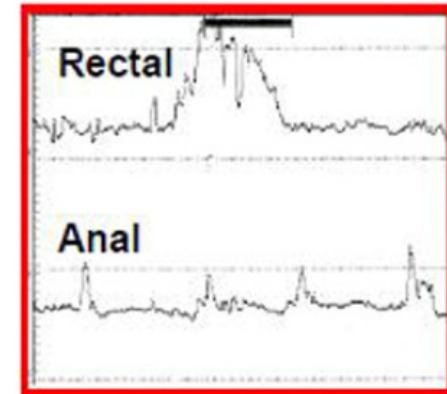
**Rectal pressure
> 40 mmHg**

Normal

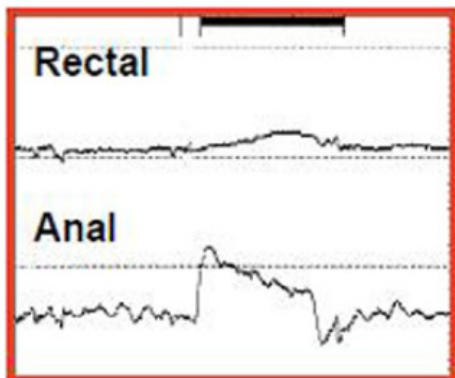


**Rectal pressure
< 40 mmHg**

Type III

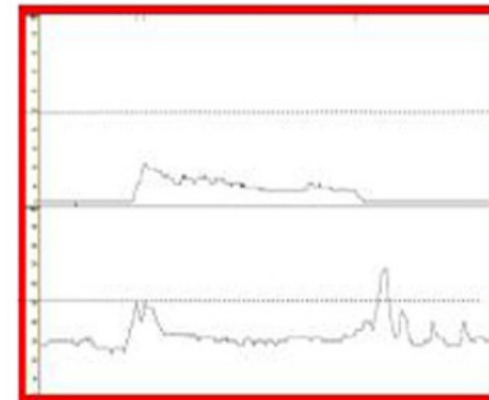


Type II



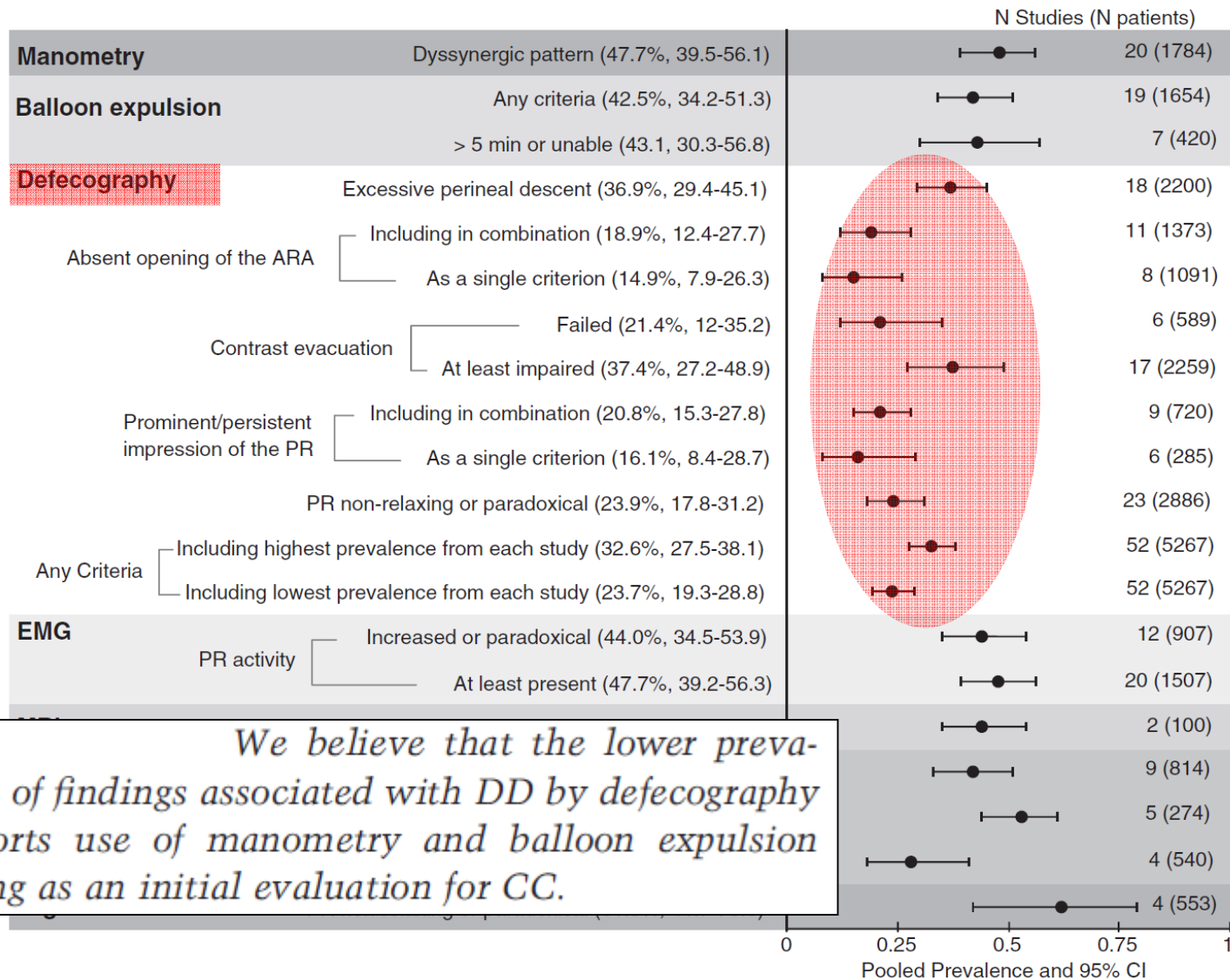
**Paradoxical increase
in anal pressure**

Type IV



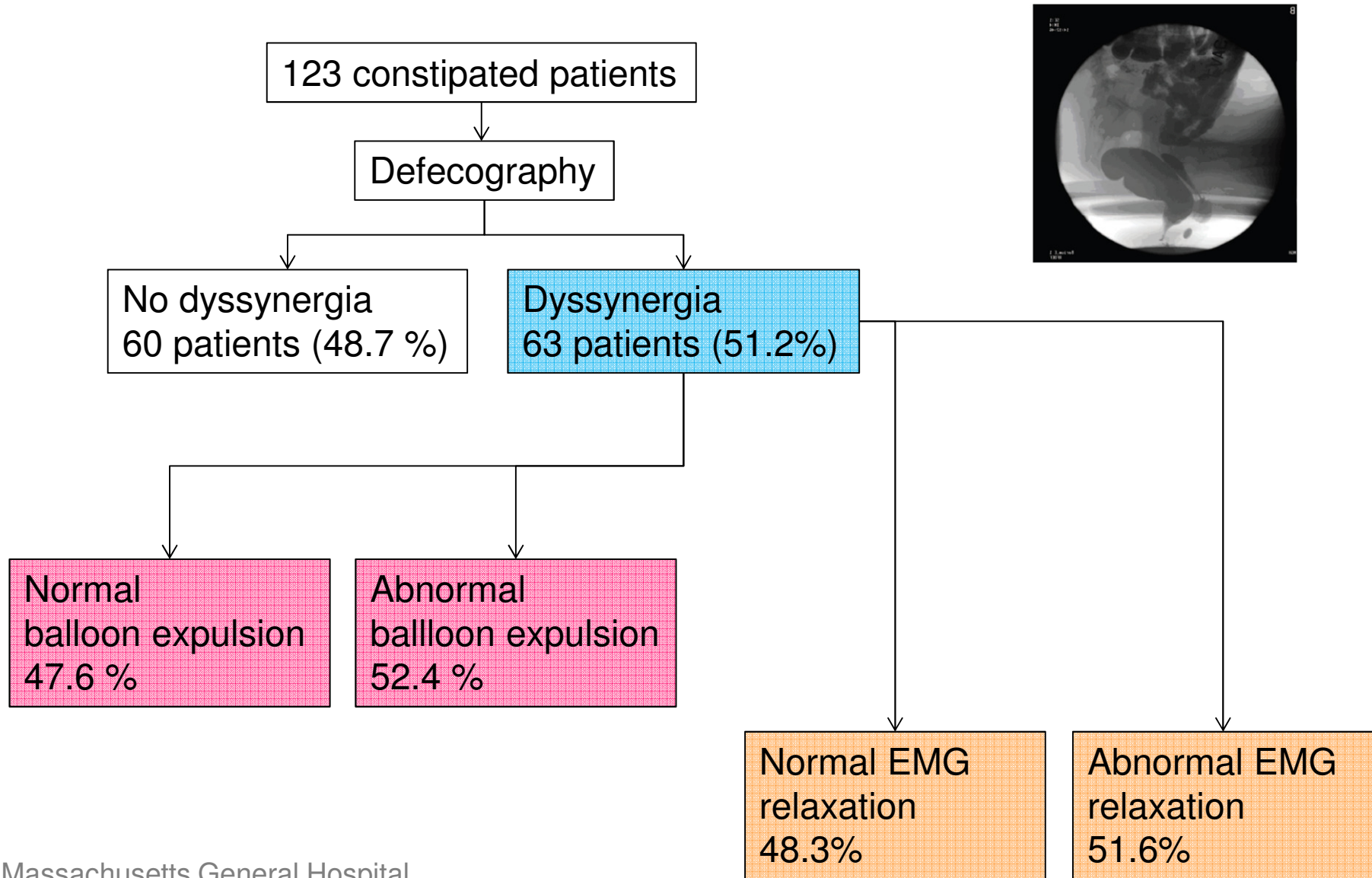
Absent relaxation

Diagnostic testing for dyssynergic defecation in chronic constipation: meta-analysis



We believe that the lower prevalence of findings associated with DD by defecography supports use of manometry and balloon expulsion testing as an initial evaluation for CC.

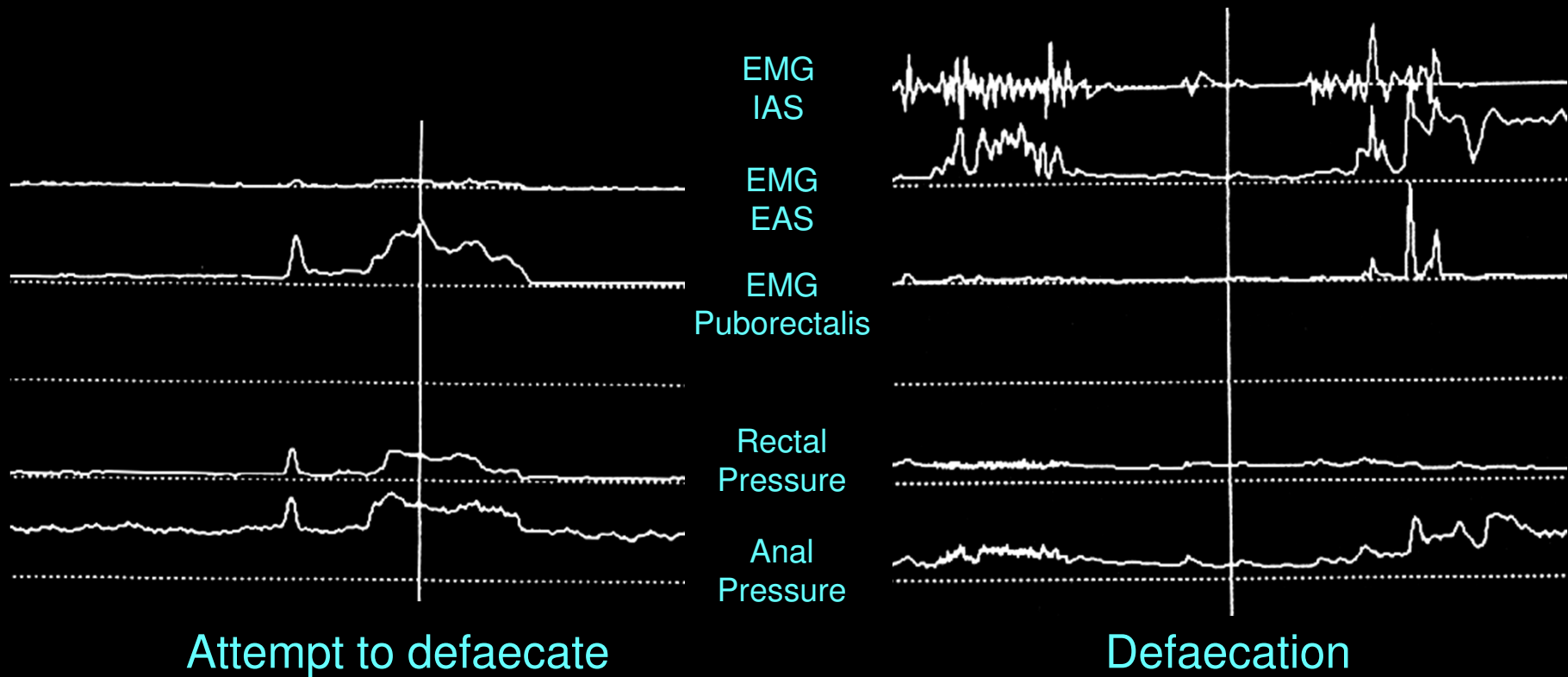
Pelvic floor dyssynergia: which test result matters?



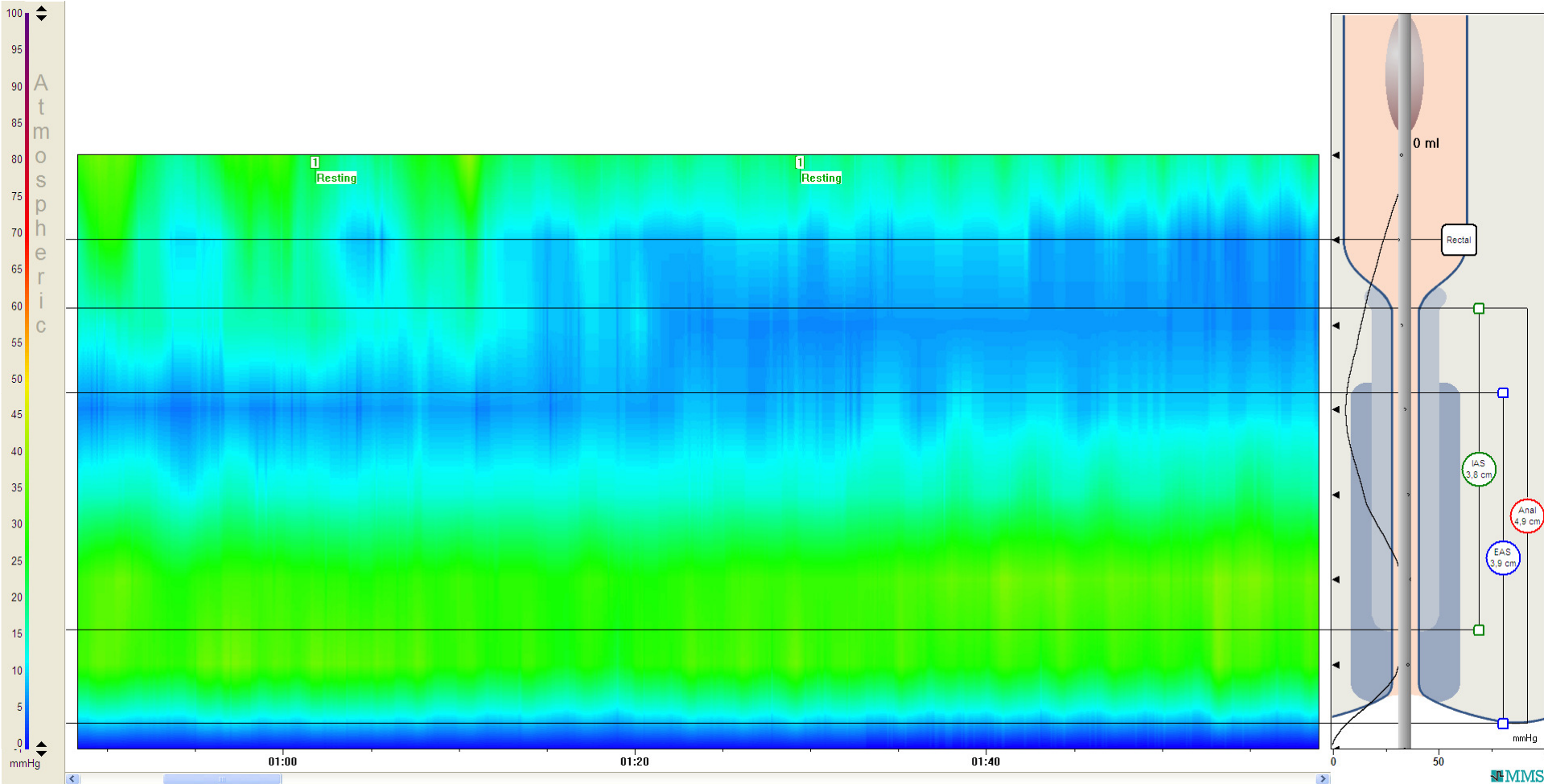
Only 3 out of 11 patients with anismus in the laboratory showed evidence of anismus at home

In laboratory

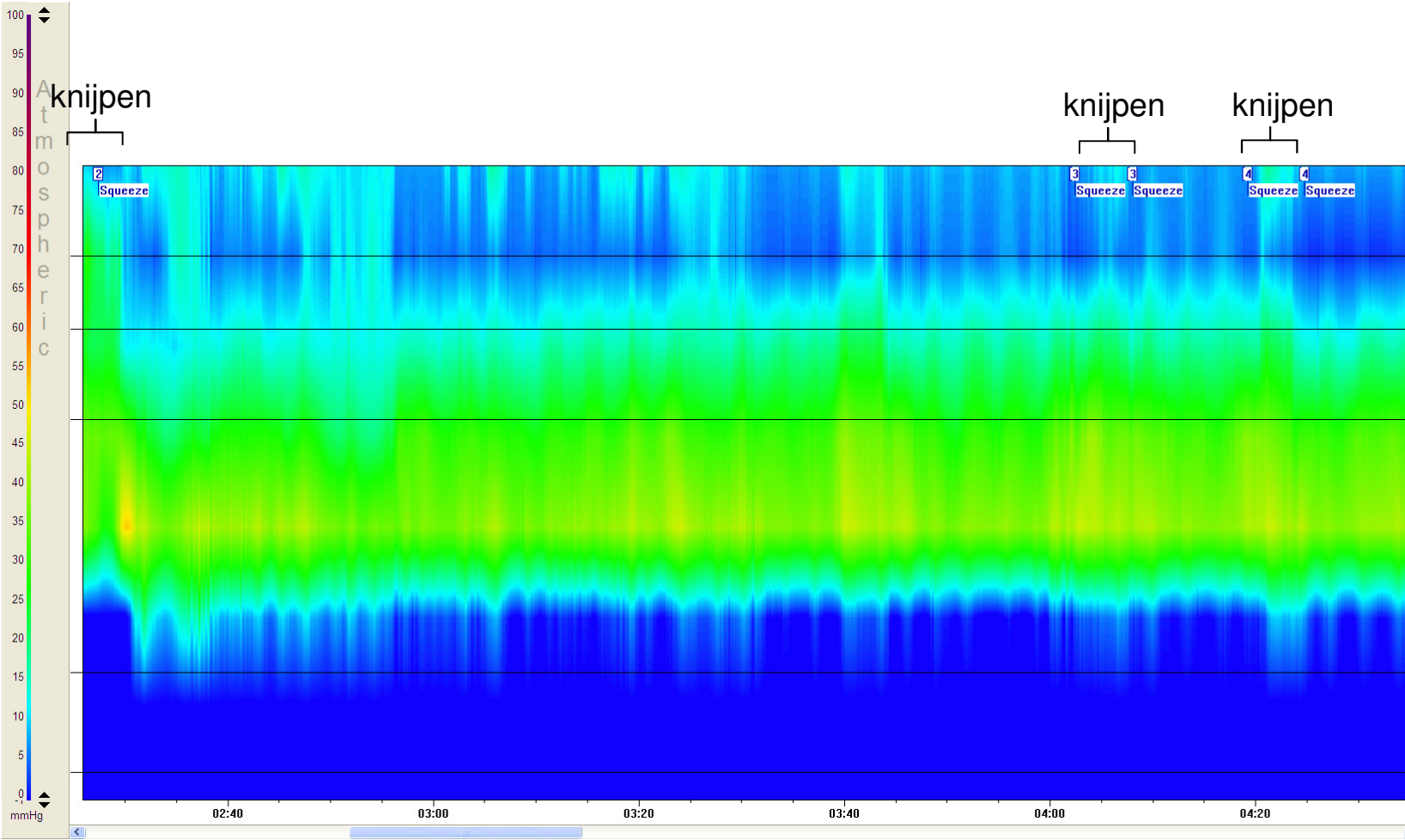
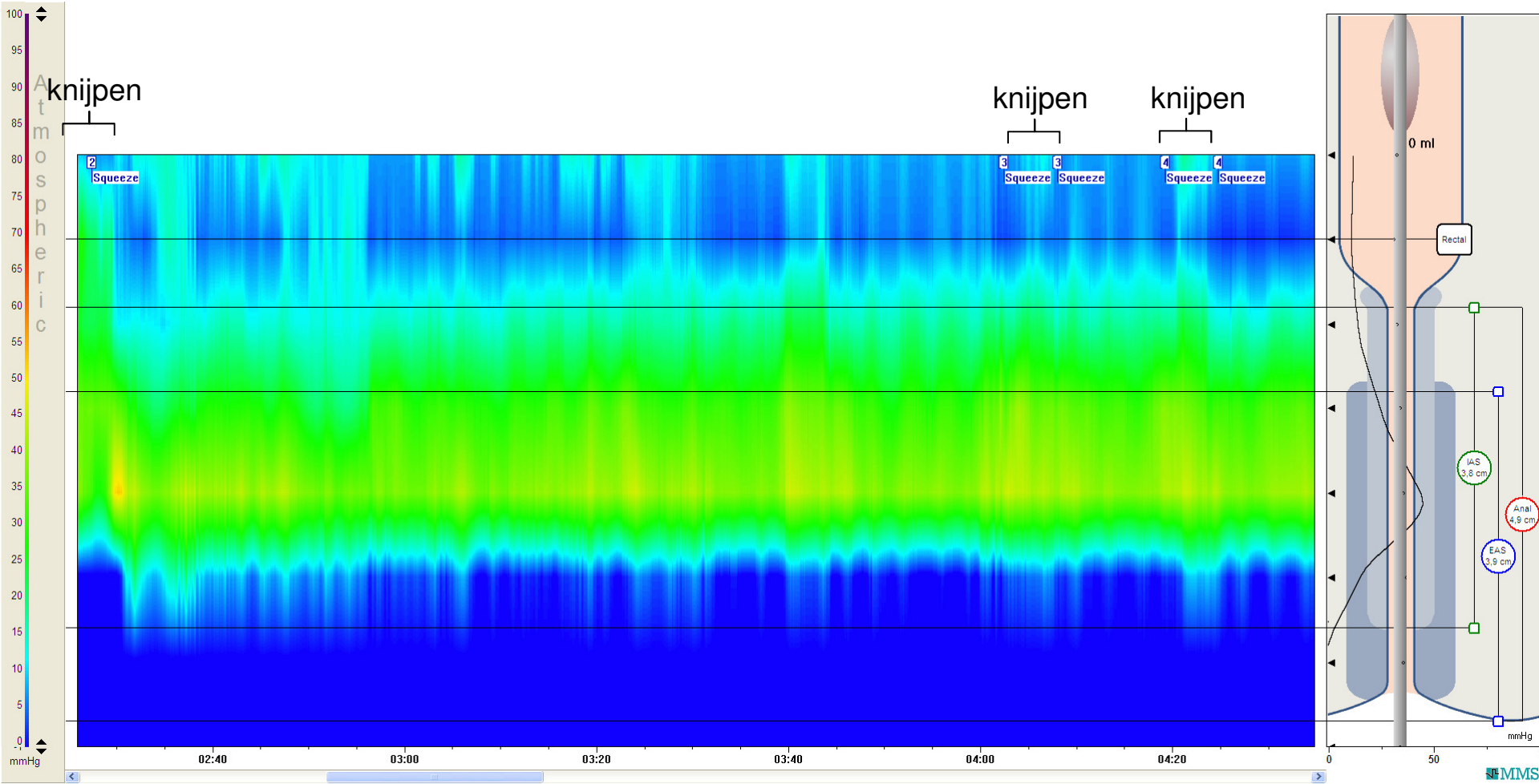
At home



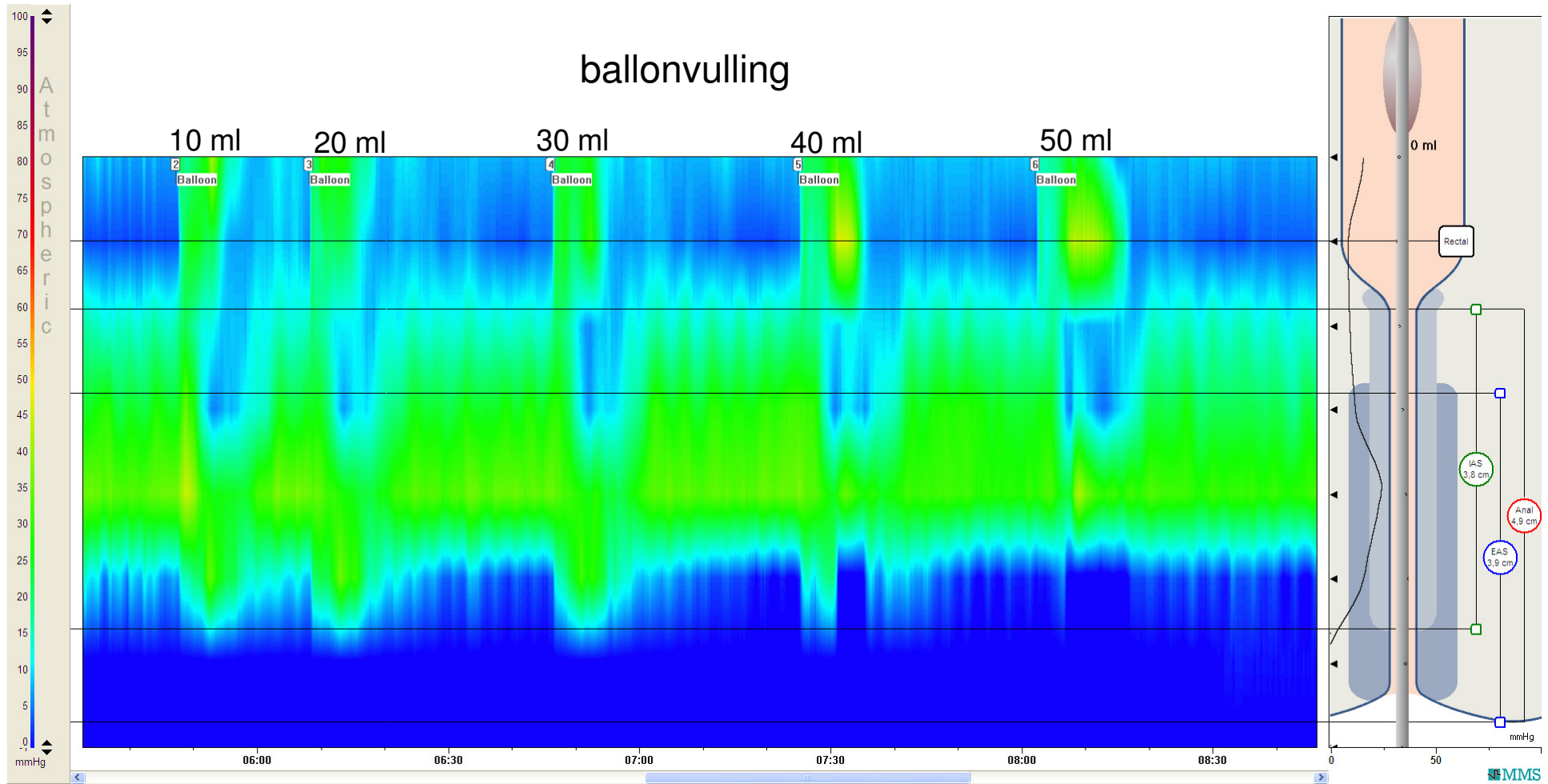
Lage sfincterspanning bij incontinentie



Lage sfincterspanning bij incontinentie



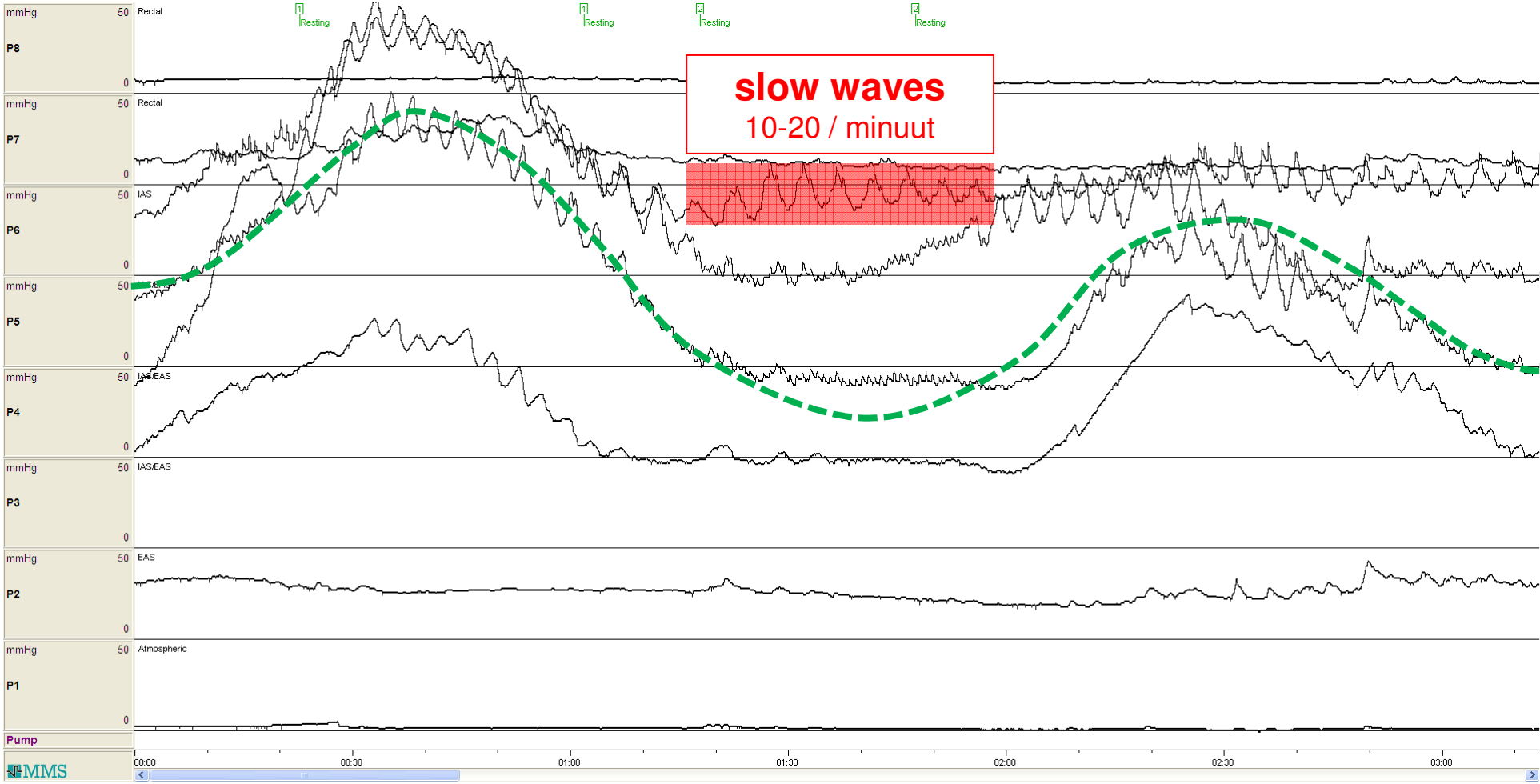
Lage sfincterspanning bij incontinentie



Anale ultra-slow waves

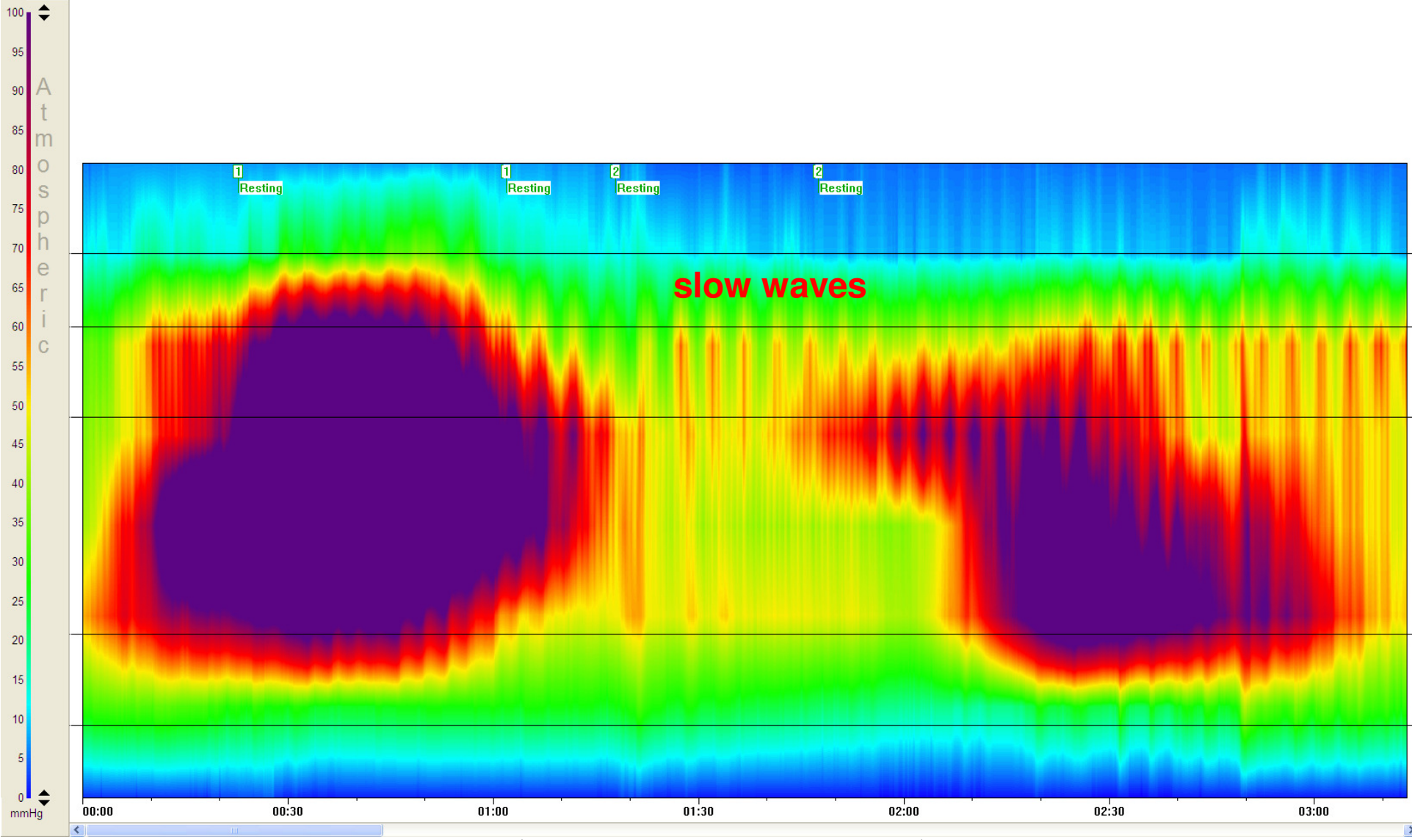
< 2 / minuut

Patient met
proctalgia fugax



1 minuut

Anale ultra-slow waves



1 minuut

Anale ultra-slow waves

Zelden bij gezonde proefpersonen

Vaak bij:

- fissura ani
- dyschezie
- hemorrhoiden
- proctalgia fugax

Geassocieerd met hoge anale sfincterdruk en hogere slow wave amplitude

Verminderd door:

- NO-donor (nitroglycerine, ISDN)
- botulinetoxine
- chirurgische sphincterotomie

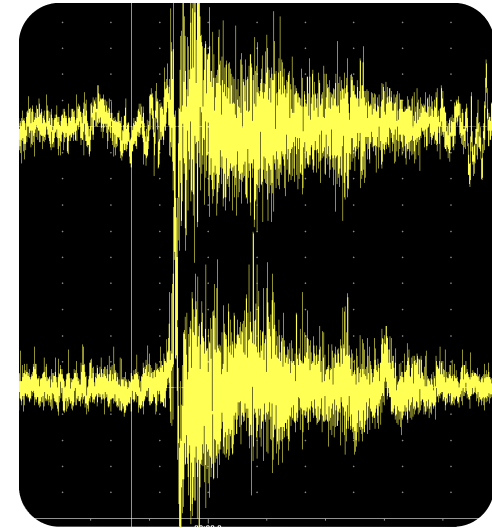
Schouten WR *et al.* Int J Colorectal Dis 1992;7:115-118

Eckardt VF *et al.* Dig Dis Sci 1997;42:2439-2445

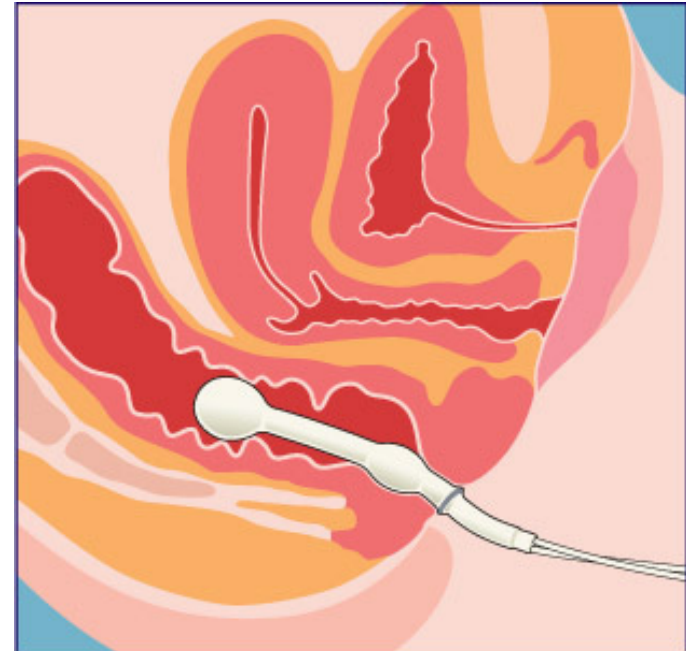
Arroyo A *et al.* Am J Surg 2005;189:429-434

Electromyografie (EAS)

- Naald-electroden
- Plug-electroden
- Spons-electroden
- Oppervlakte-electroden

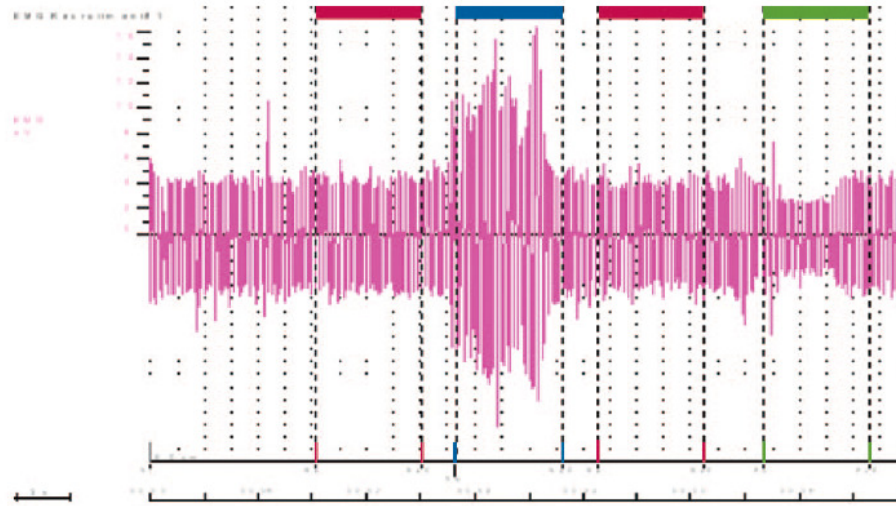


Meest gebruikt bij biofeedback-training

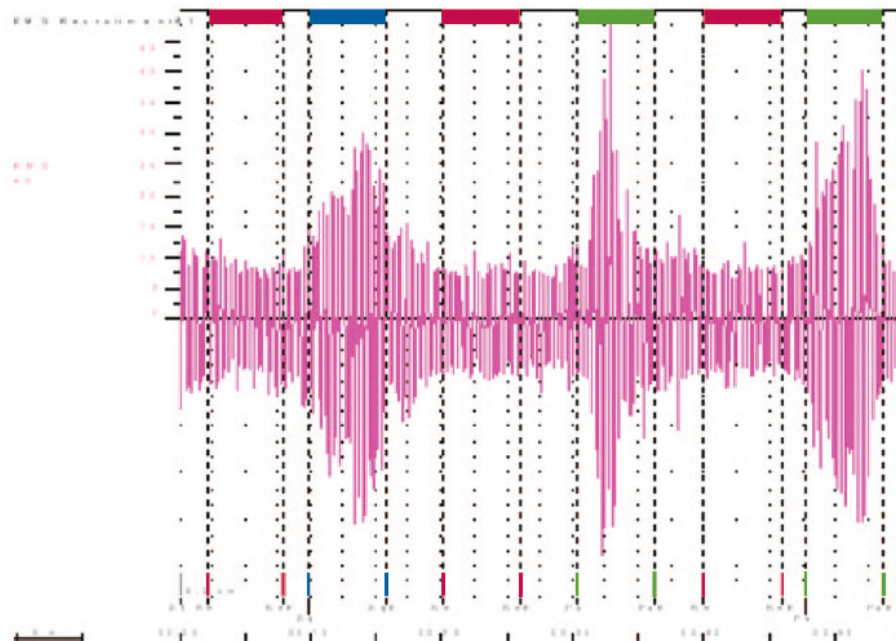


EMG

Rest Squeeze Push

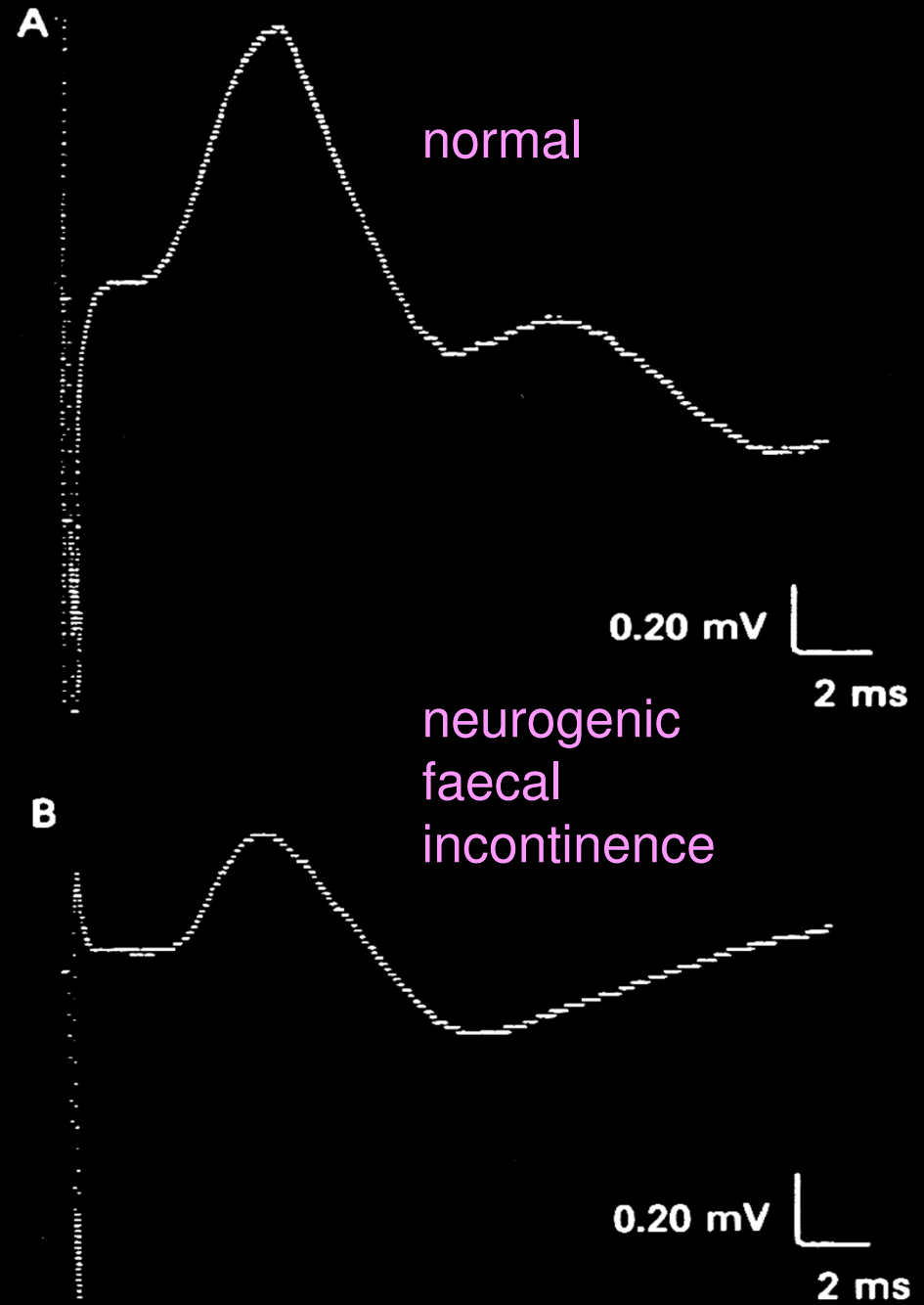
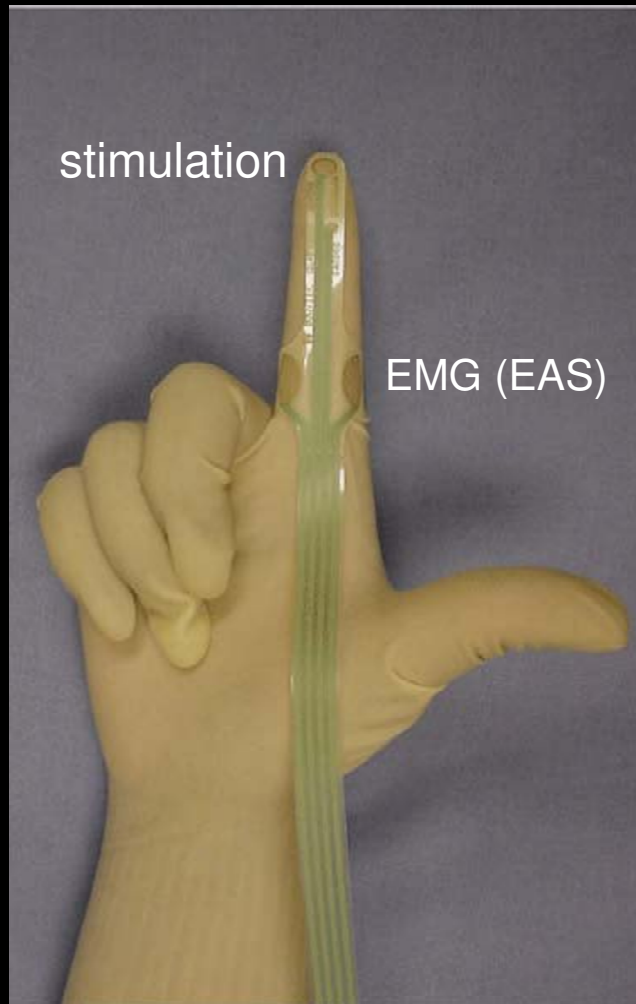


Normal



Dyssynergia

Pudendal nerve terminal motor latency measurement





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- MRI defecografie
- Endoanale ultrasonografie
- MRI kleine bekken
- incontinentie, obstipatie
- incontinentie, M. Hirschsprung?
- incontinentie
- incontinentie
- geobstrueerde defecatie
- geobstrueerde defecatie
- geobstrueerde defecatie
- incontinentie
- incontinentie

Indicaties voor anorectale funktietests

(Ernstige) obstipatie:

- Vanaf de geboorte: **manometrie** om Hirschsprung uit te sluiten
- Bij verdenking op anisme / dyssynergie: **defecografie**
- Tijdens biofeedback-training: **EMG**

Faecale incontinentie:

- Anale **echografie**

Dank voor uw aandacht

