

# Prolaps & ODS

Niels Wijffels  
Regiomaatschap Heelkunde Midden-Nederland  
Zuwe Hofpoort Ziekenhuis ,Woerden

# Prolaps & ODS

Disclosure belangen spreker	
(potentiële) belangen	geen

ODS

# Constipatie



ODS

Frequentie ↑  
Incomplete evacuatie  
ondanks soepele ontlasting

Persen

Moeite met ontlasten



STC

Frequentie ↓  
Harde ontlasting  
Buikpijn/  
opgeblazen gevoel

## Obstructed Defecation (Syndrome)

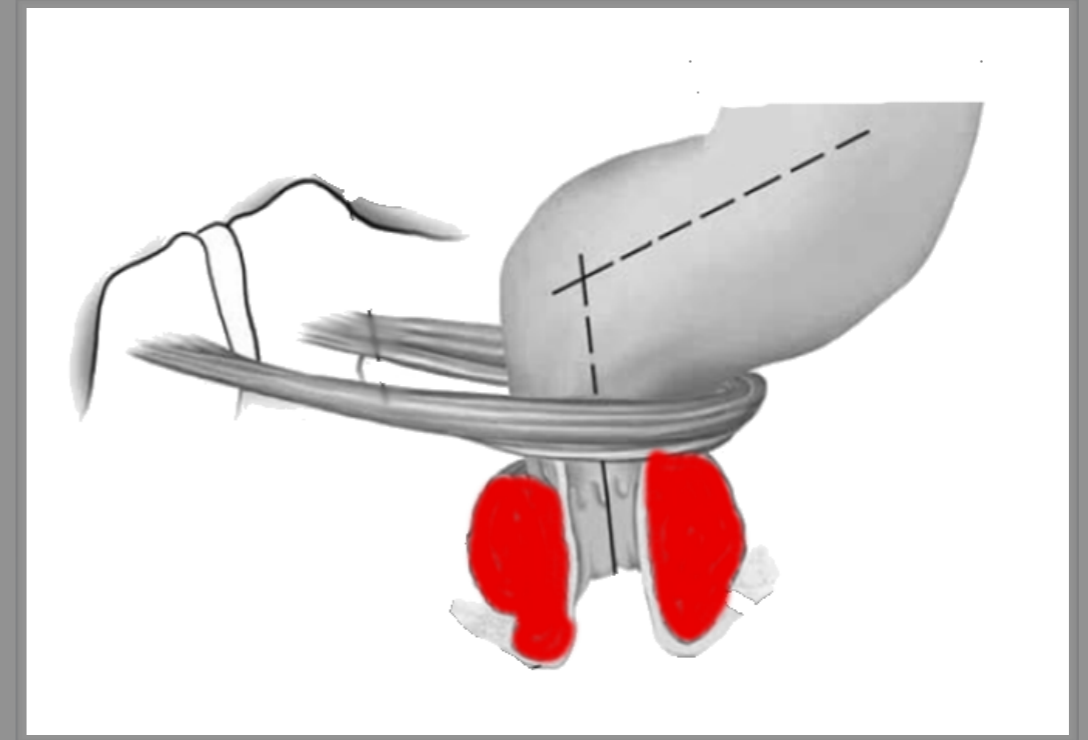
- Beschrijving van klachten, geen pathologische entiteit
- *Geassocieerd* met prolaps (kip & ei)
- Meerdere oorzaken

# ODS

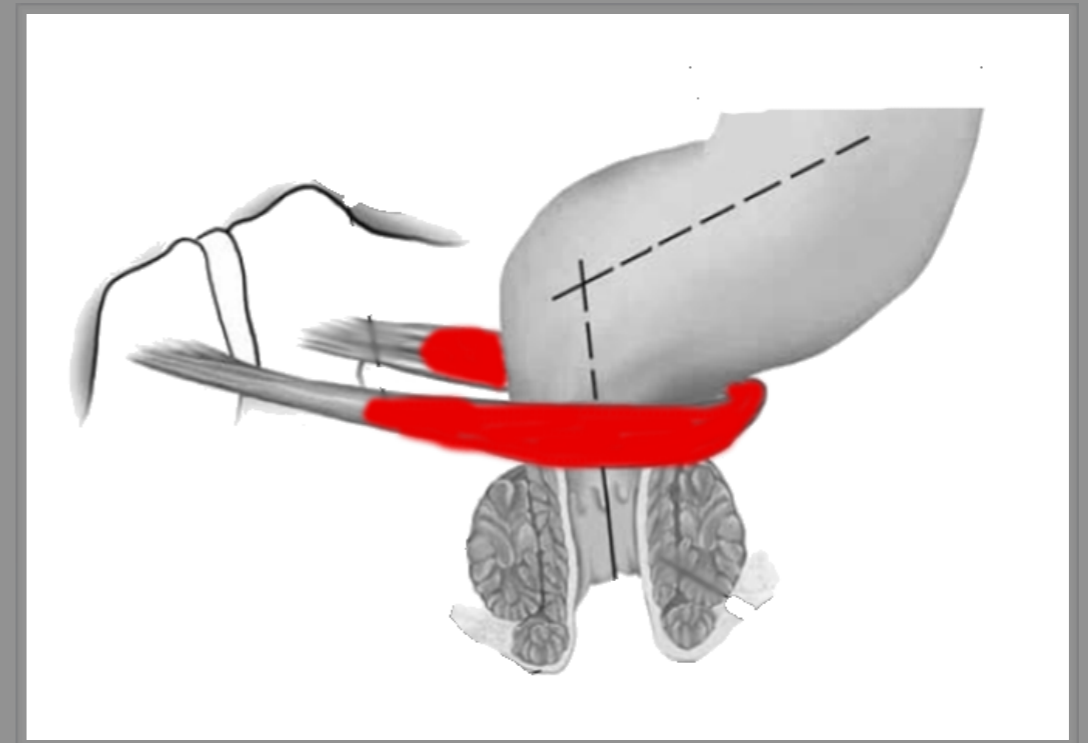
- Anismus/ Pelvic floor dyssenergy
- „Prolaps”
  - Intussusceptie Rectum
  - Rectocele
  - Enterocele
- (RIP/ stenosis)

# ODS

- Anismus/ Pelvic floor dyssenergy
- „Prolaps”
  - Intussusceptie Rectum
  - Rectocele
  - Enterocele
- (RIP/ stenosis)



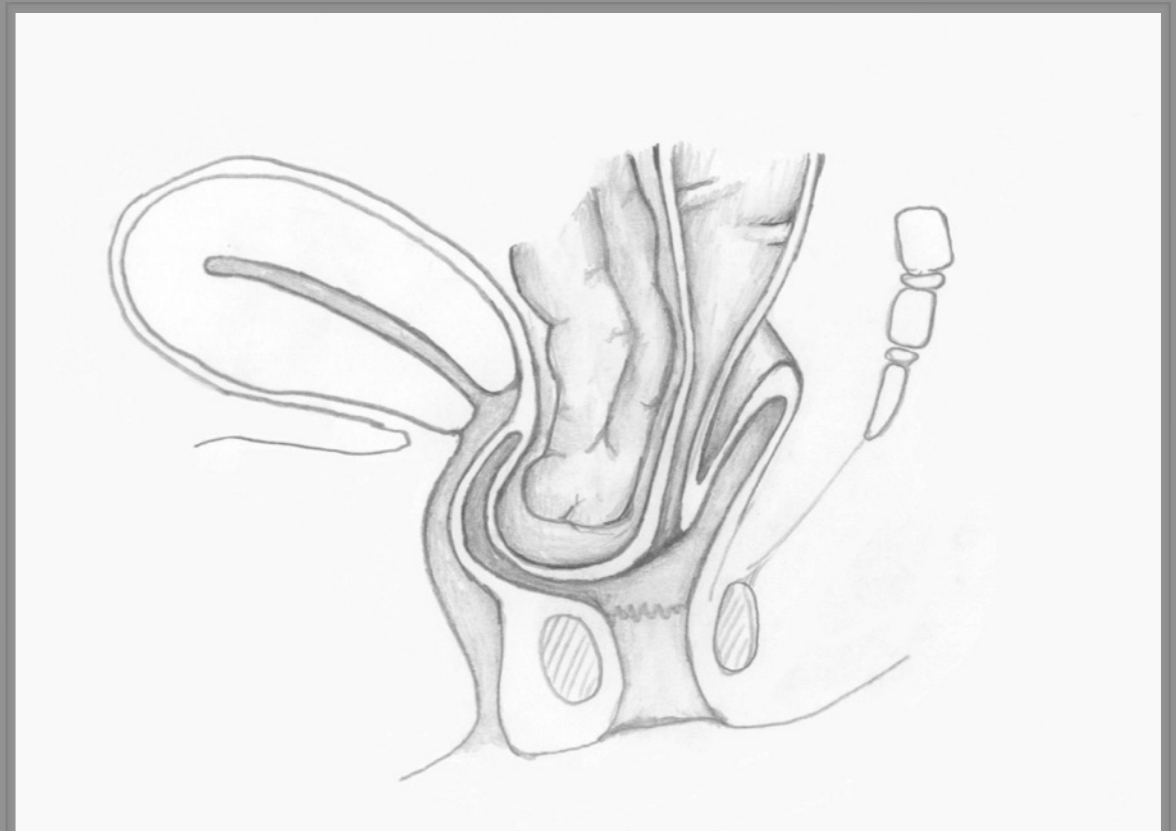
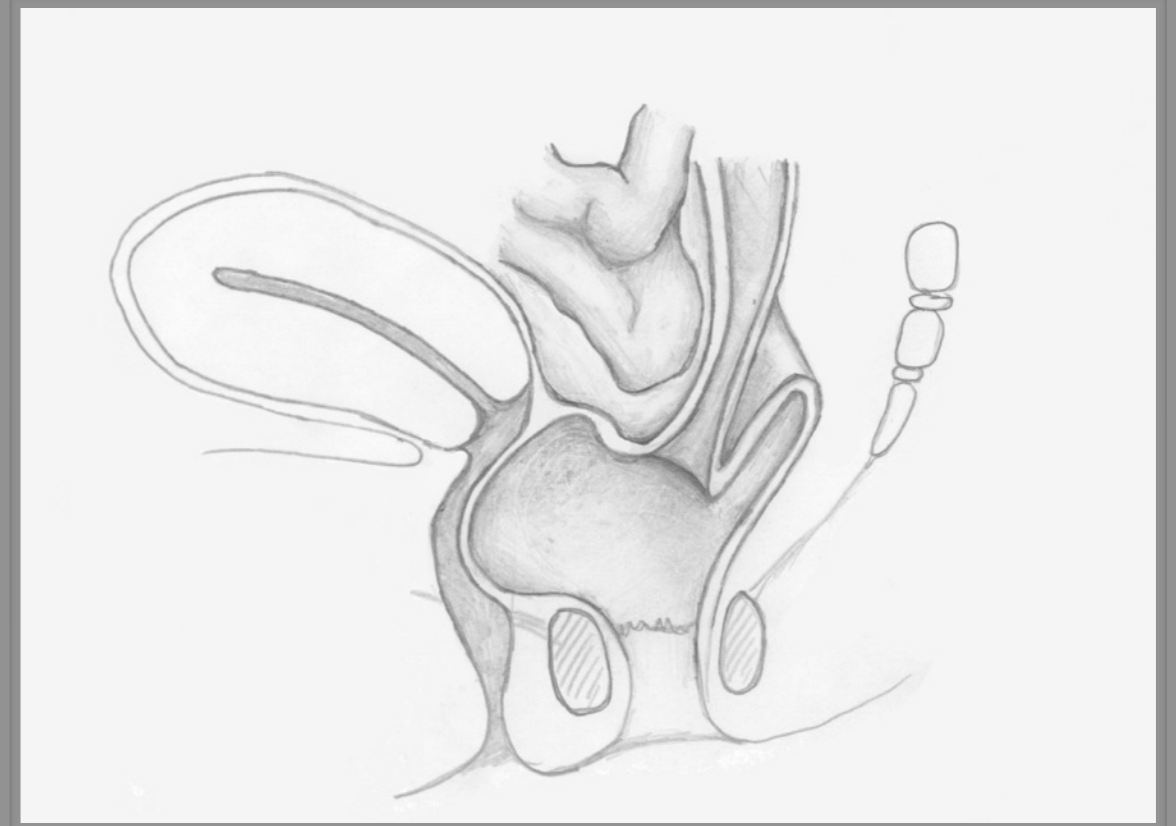
Type a



Type b

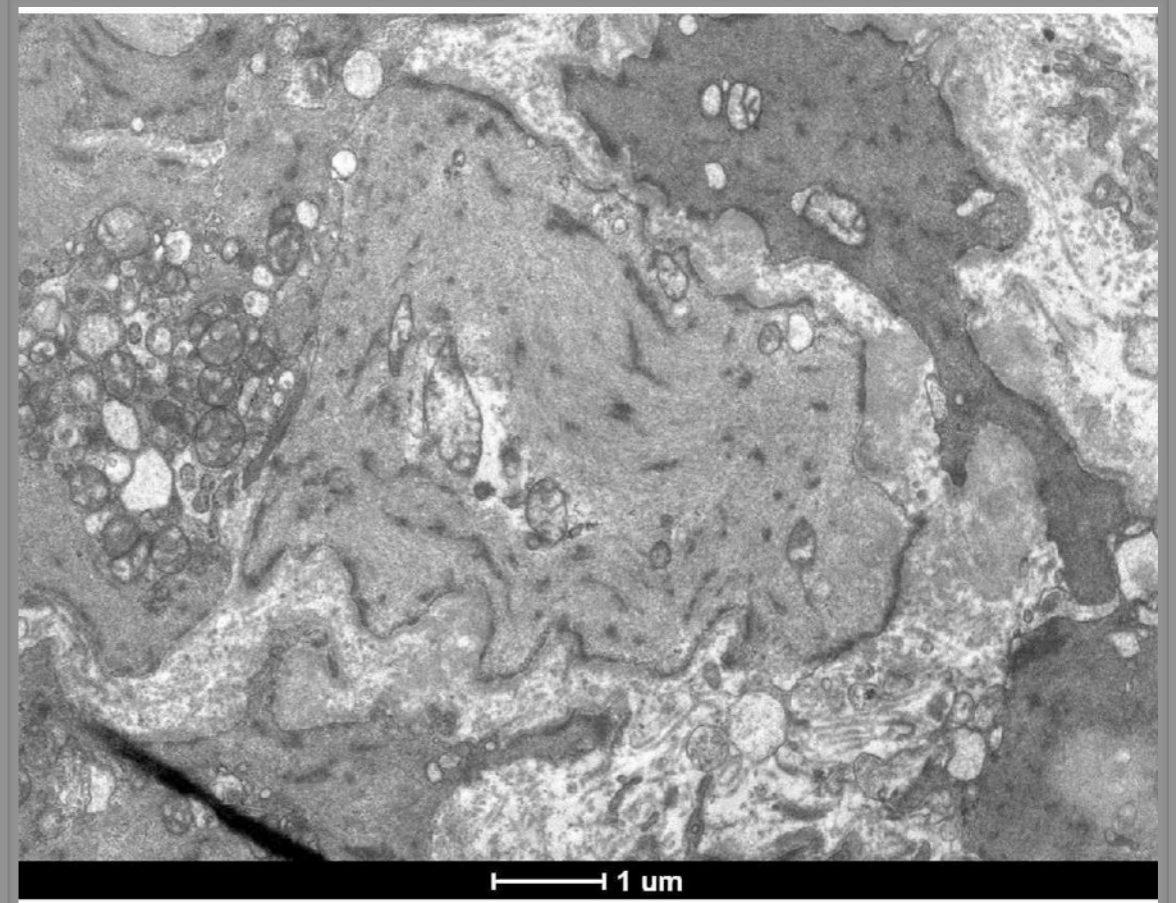
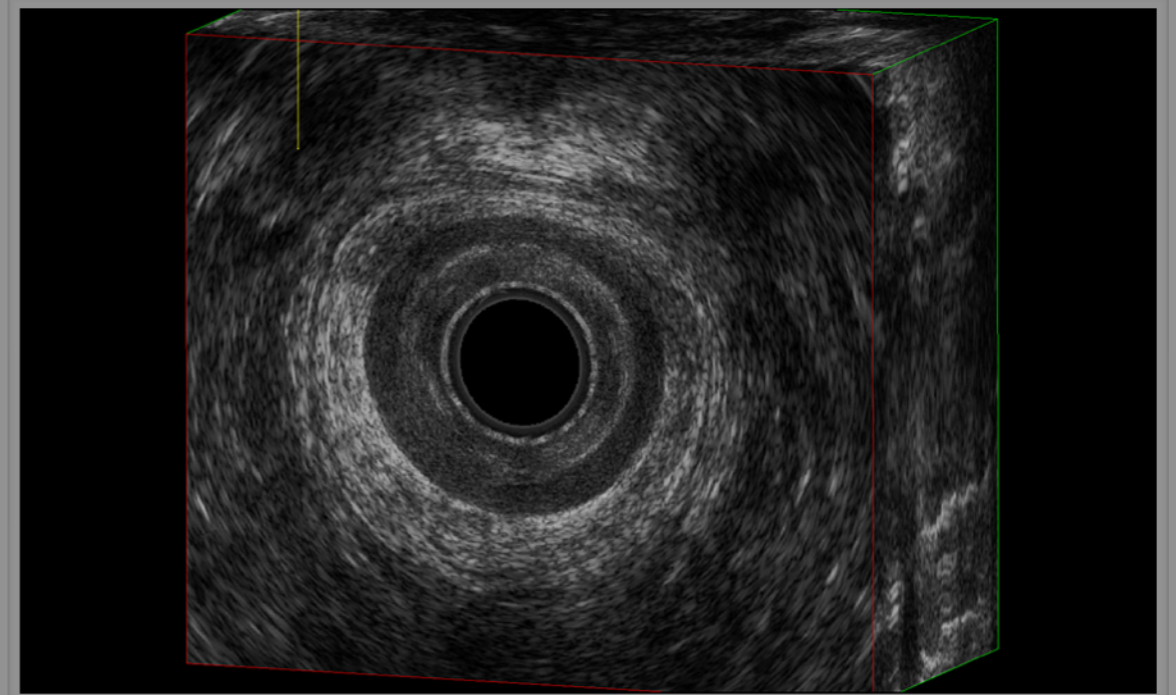
# ODS

- Anismus/ Pelvic floor dyssenergy
- „Prolaps”
  - Intussusceptie Rectum
  - Rectocele
  - Enterocele
- (RIP/ stenosis)



# ODS

- Anismus/ Pelvic floor dyssenergy
- „Prolaps”
  - Intussusceptie Rectum
  - Rectocele
  - Enterocele
- (RIP/ stenosis)
- **Rariteiten**
  - **Myopathie IAS**
  - Bezoar
  - Duplicatie-cyste rectum





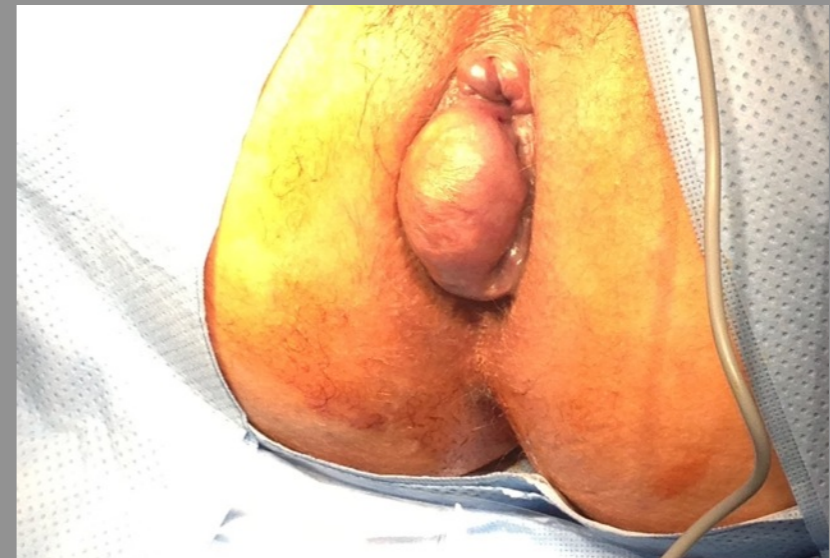
# ODS

- Anismus/ Pelvic floor dyssenergy
- „Prolaps”
  - Intussusceptie Rectum
  - Rectocele
  - Enterocele
- (RIP/ stenosis)
- **Rariteiten**
  - Myopathie IAS
  - **Bezoar**
  - Duplicatie-cyste rectum



# ODS

- Anismus/ Pelvic floor dyssenergy
- „Prolaps”
  - Intussusceptie Rectum
  - Rectocele
  - Enterocele
- (RIP/ stenosis)
- **Rariteiten**
  - Myopathie IAS
  - Bezoar
  - **Duplicatie-cyste rectum**

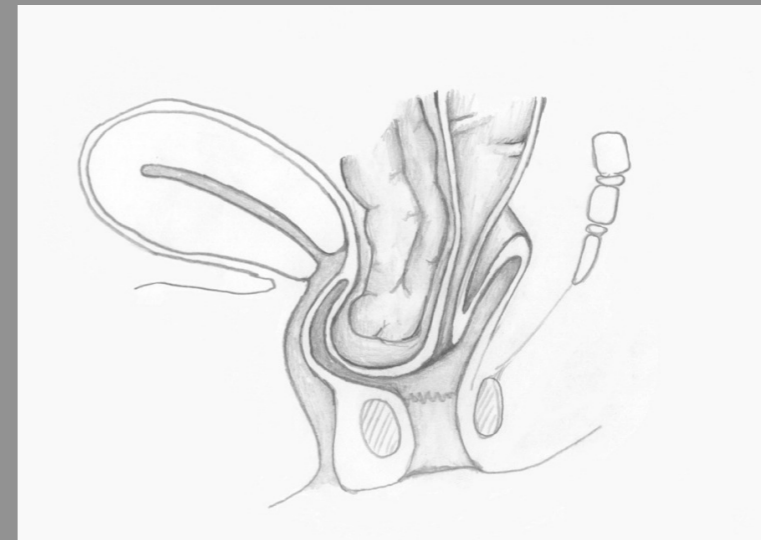
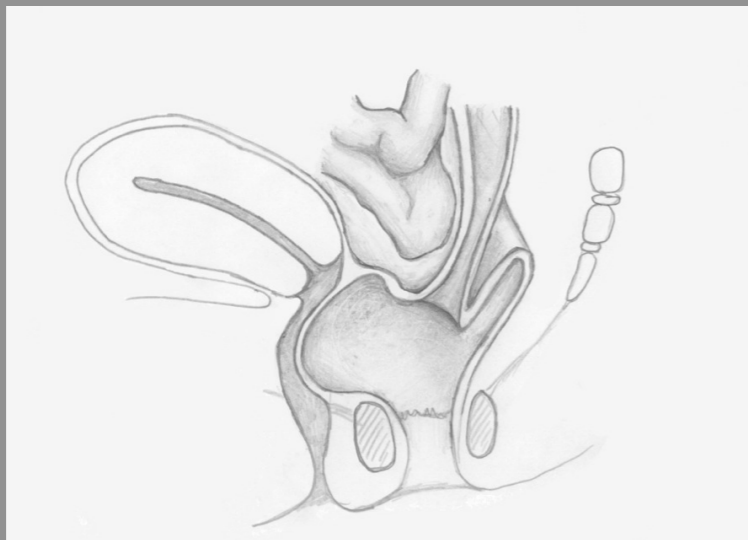


# Prolaps

Rectocele

IRP

Enterocoele

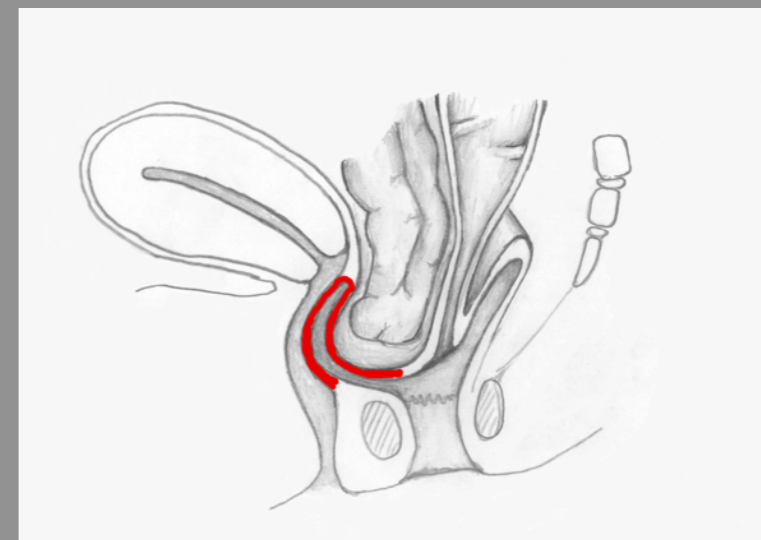
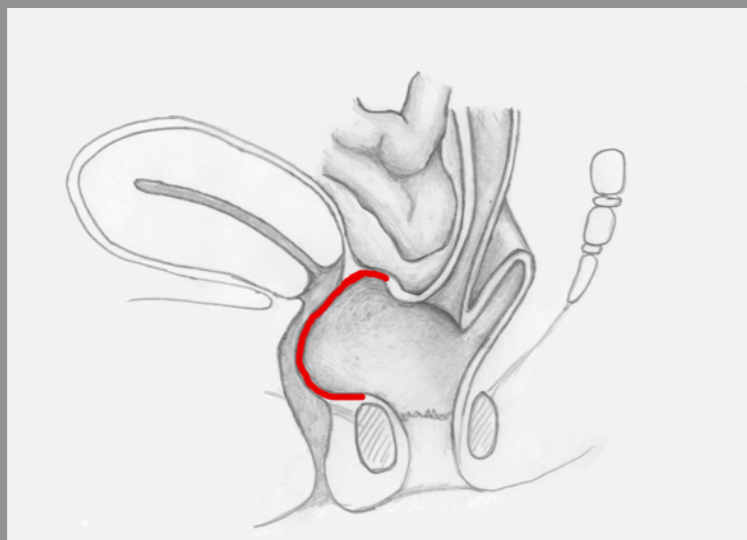


# Prolaps

Rectocele

IRP

Enterococele

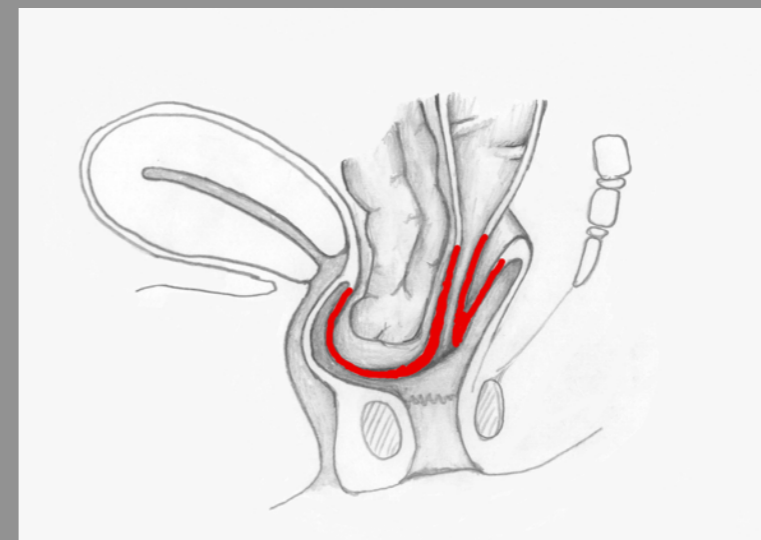
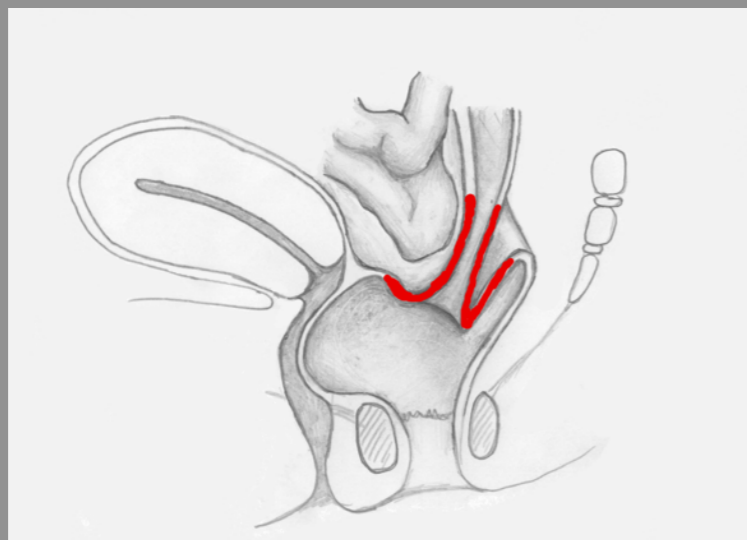


# Prolaps

Rectocele

IRP

Enterocoele

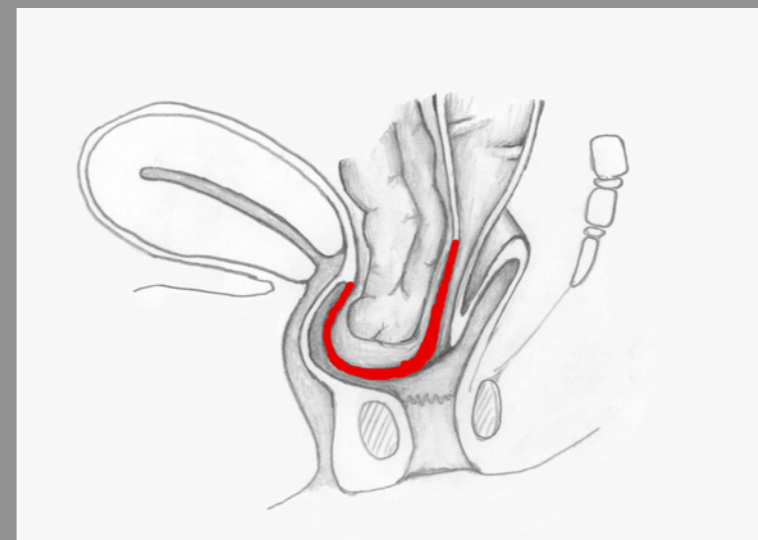
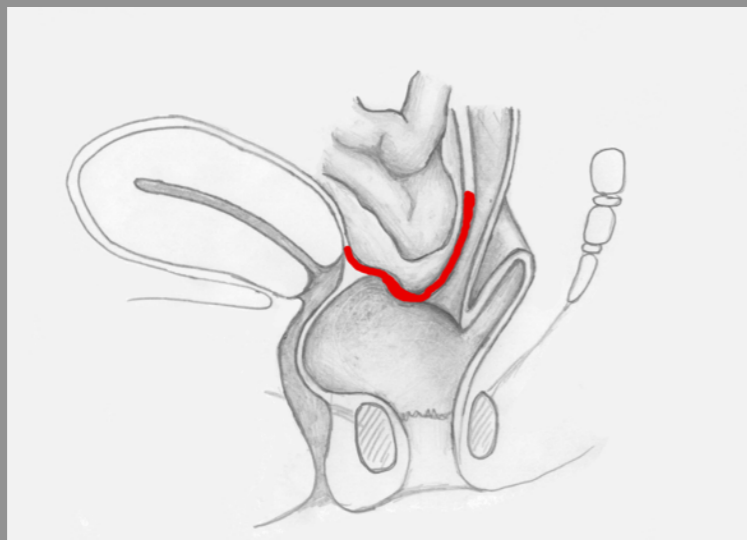


# Prolaps

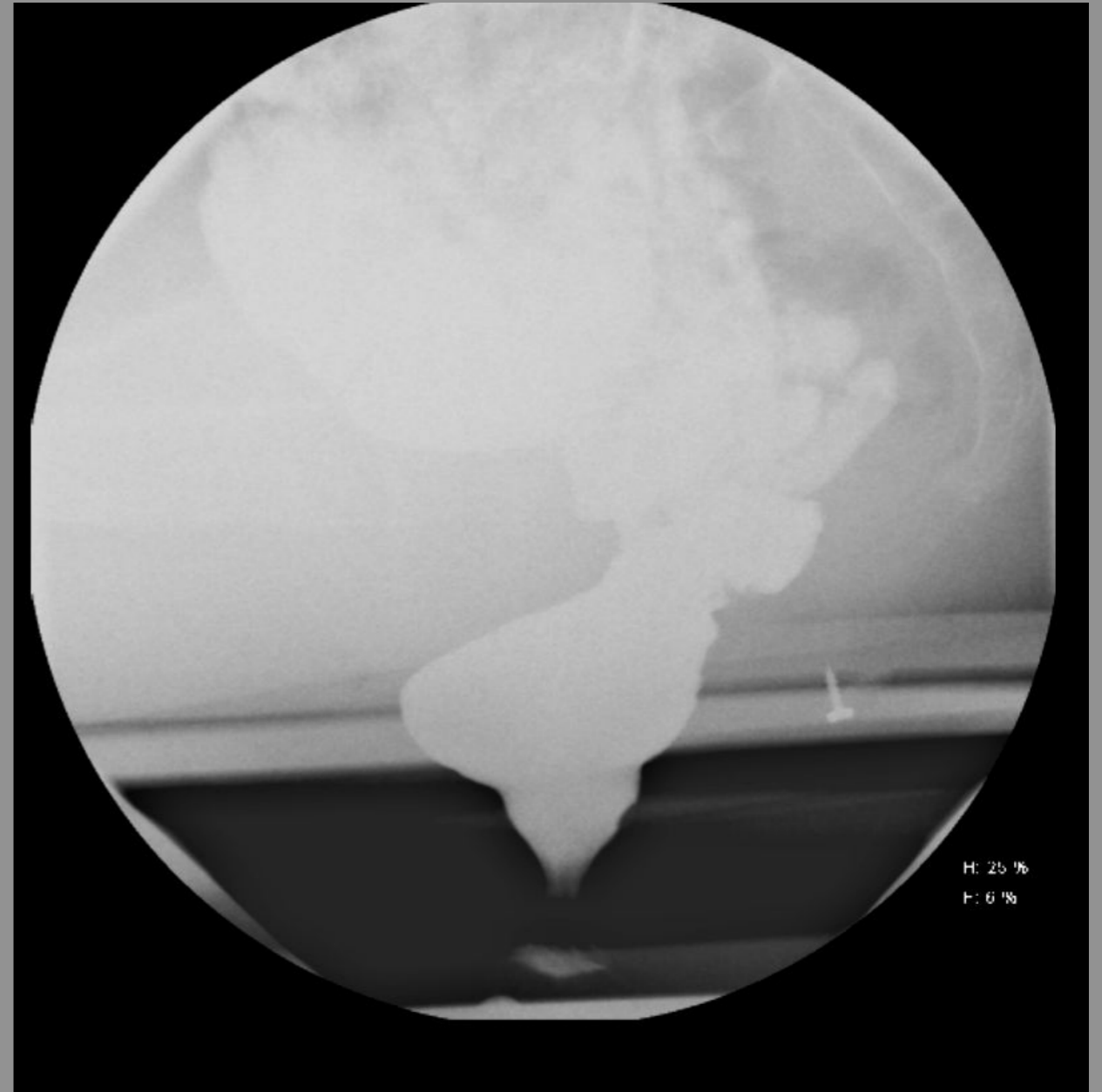
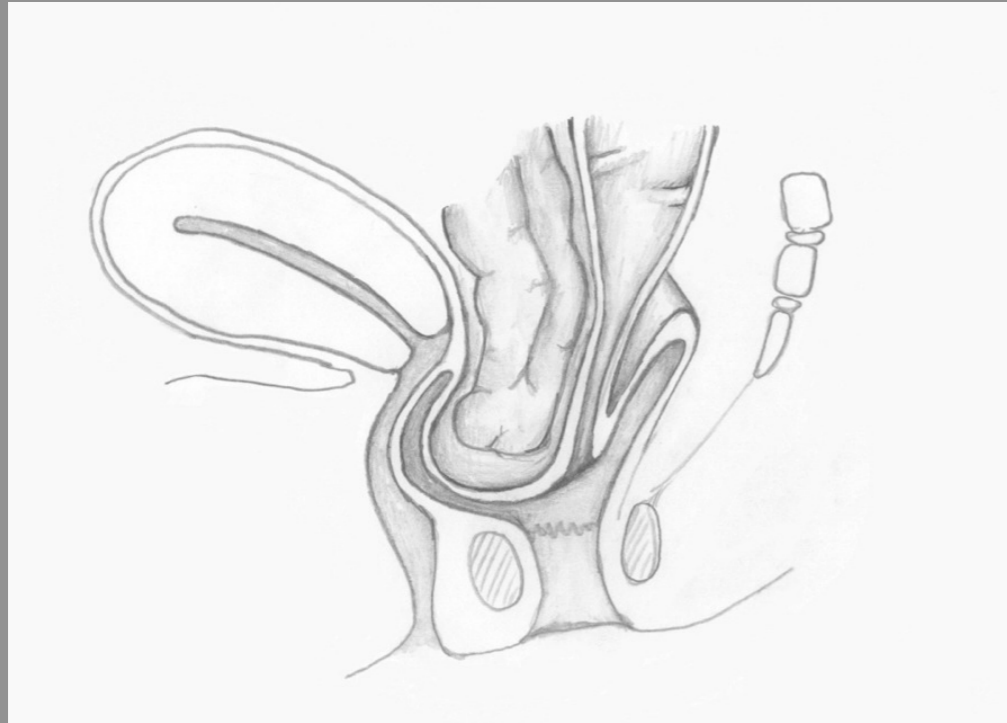
Rectocele

IRP

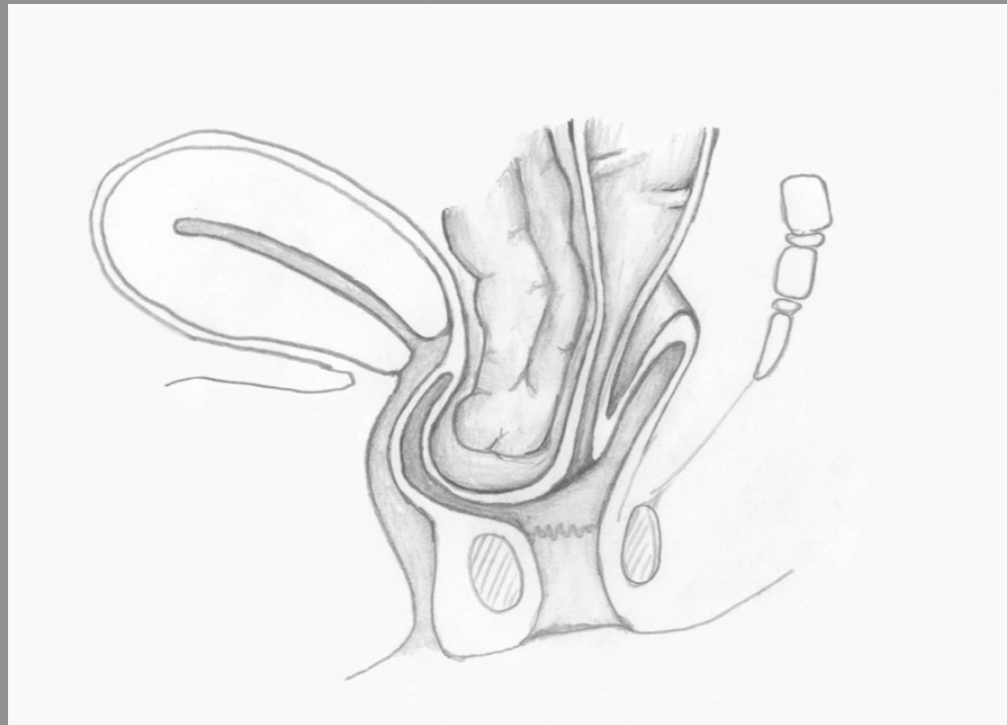
Enterocoele



# Prolaps

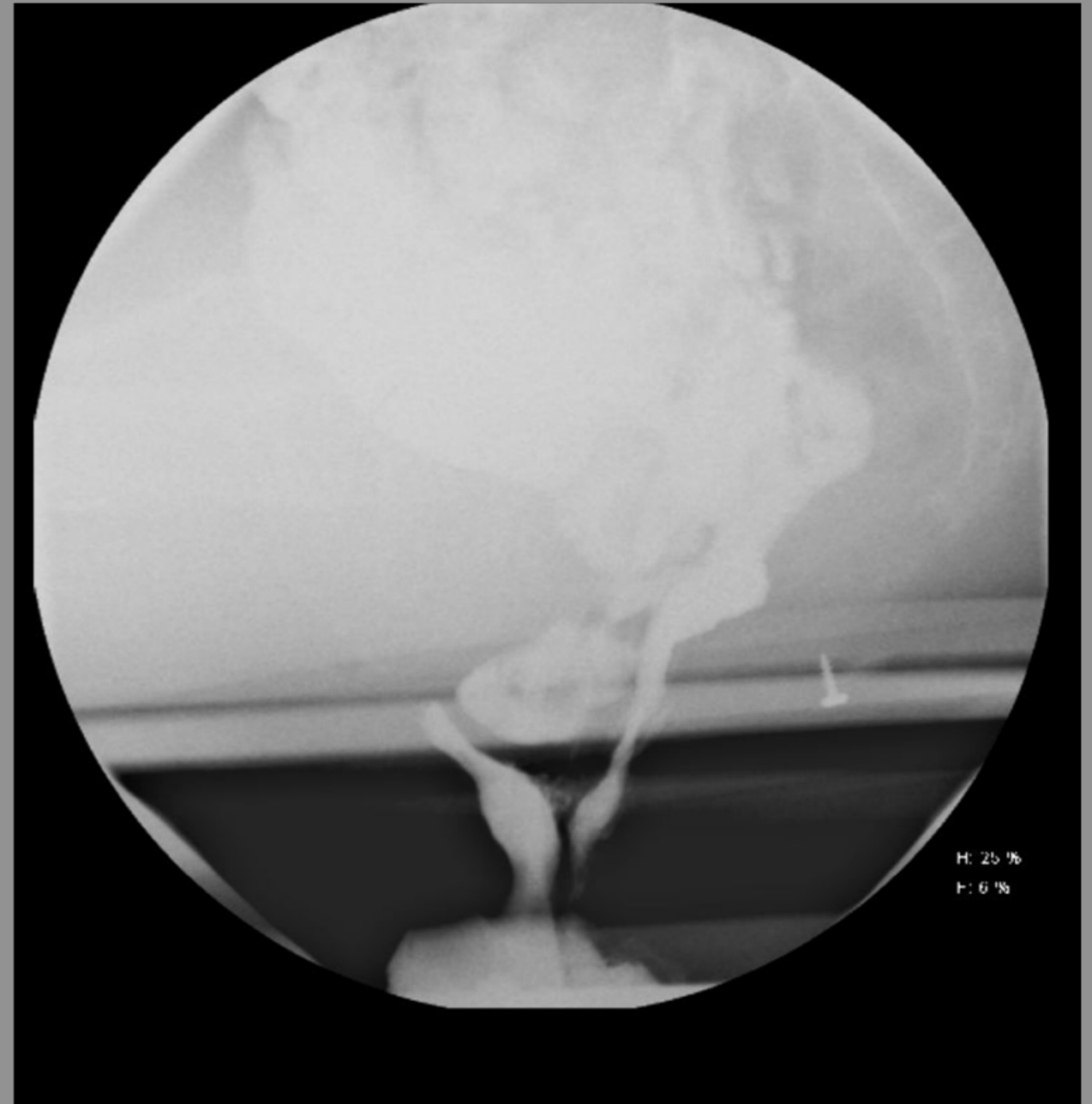
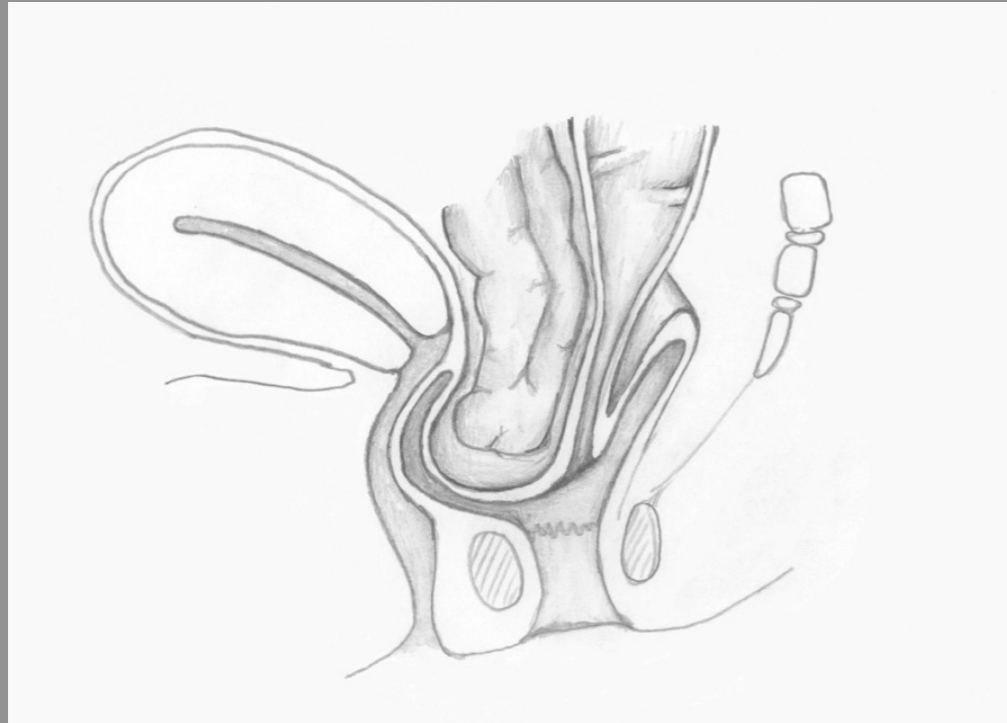


# Prolaps

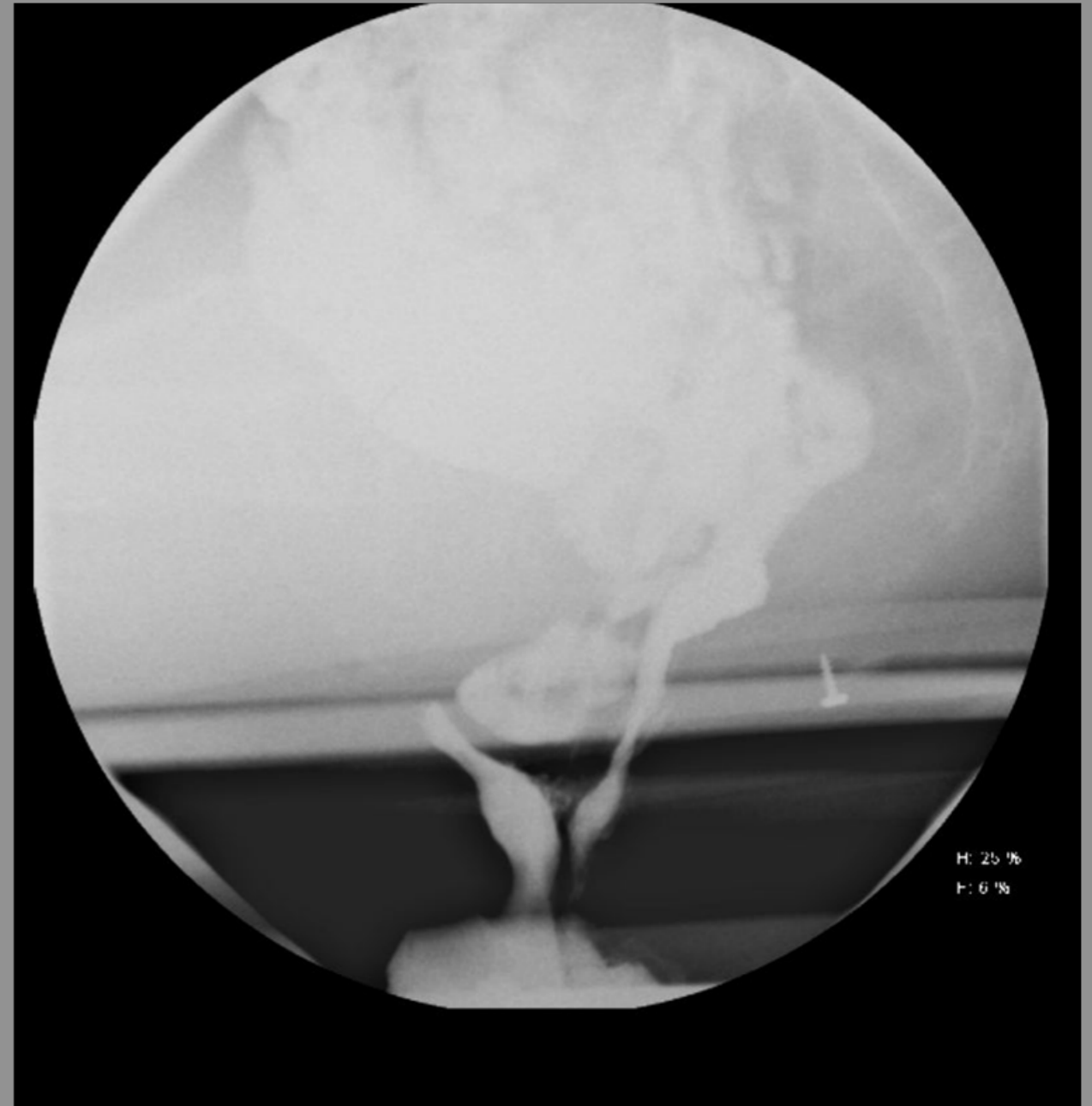
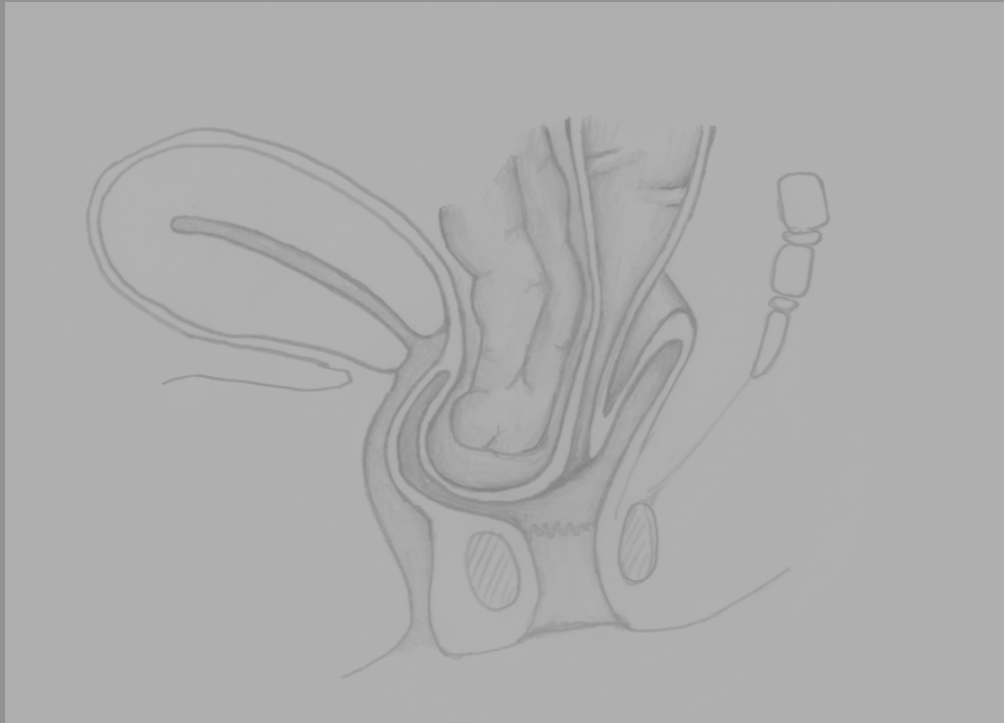




# Prolaps



# Prolaps



# Prolaps

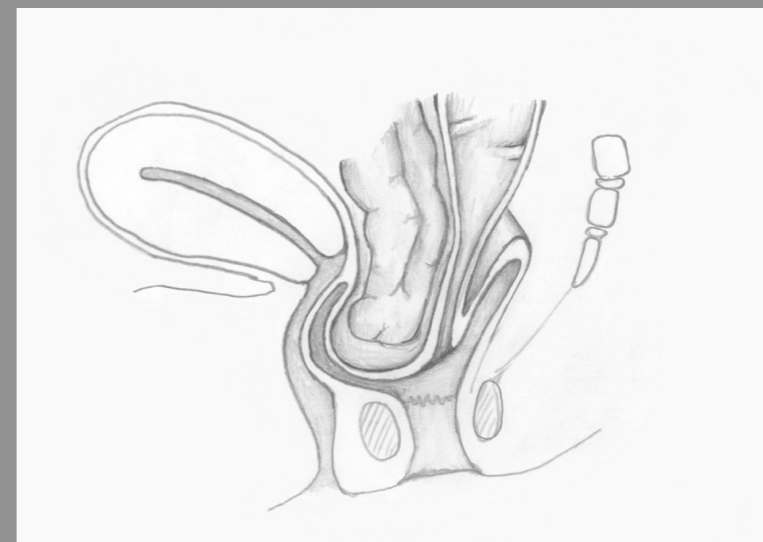
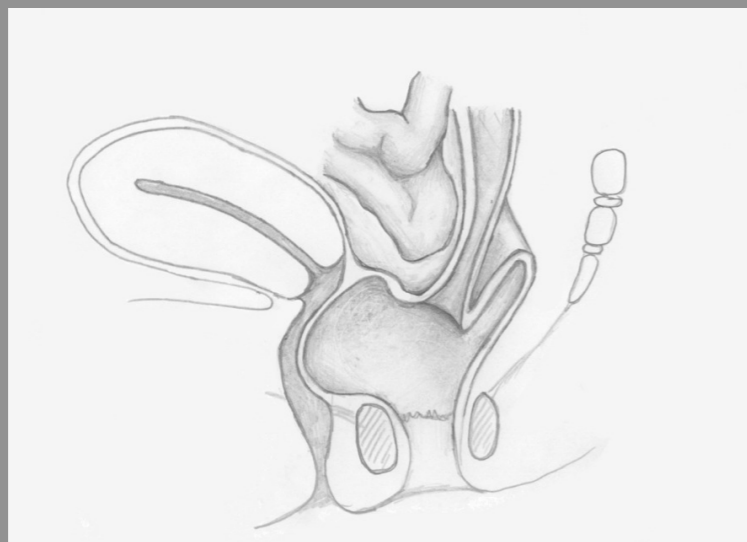


# Prolaps

Rectocele

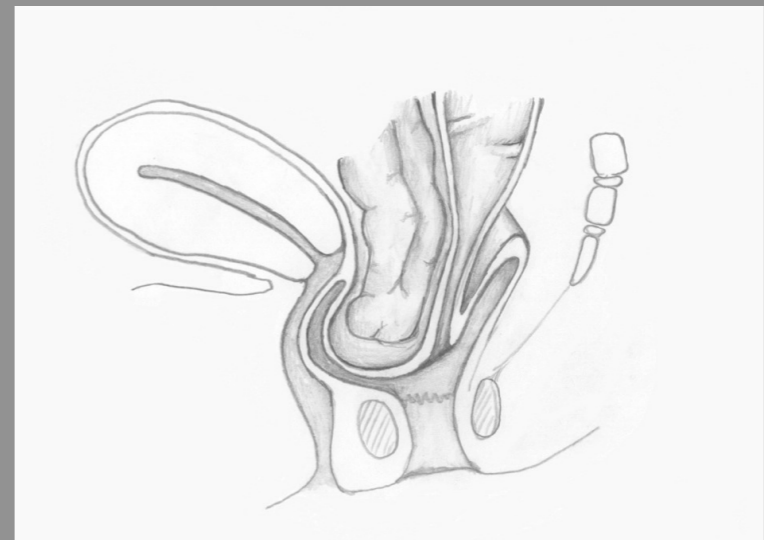
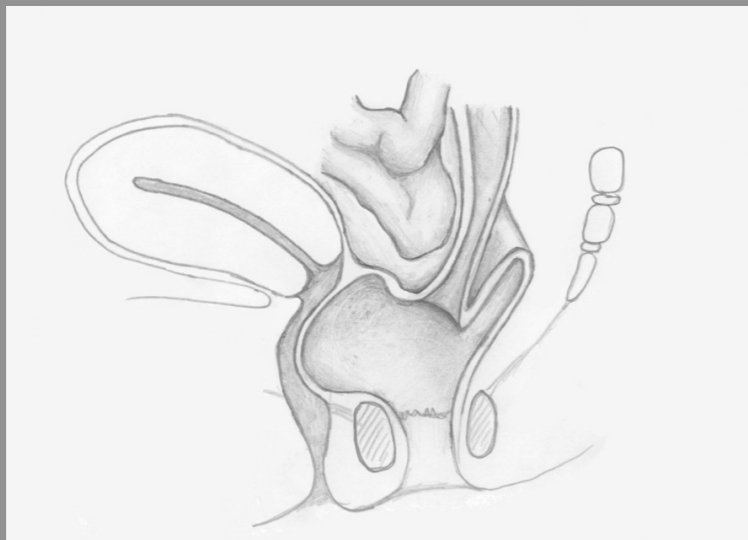
IRP

Enterocoele

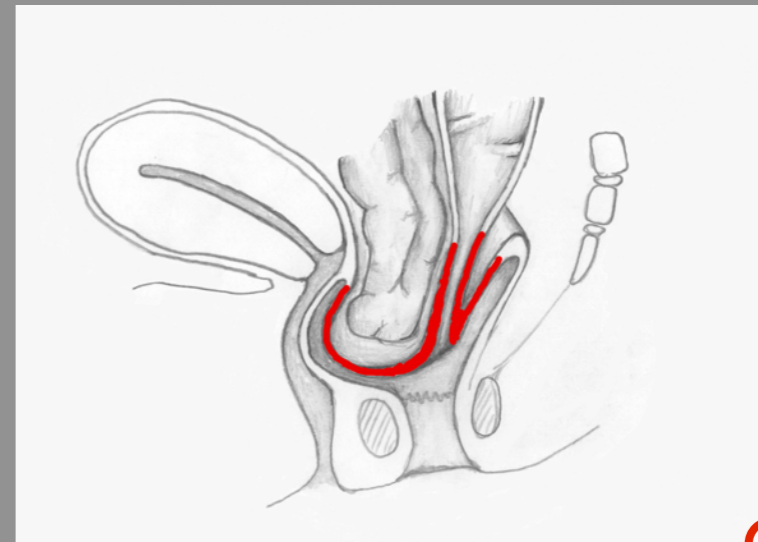
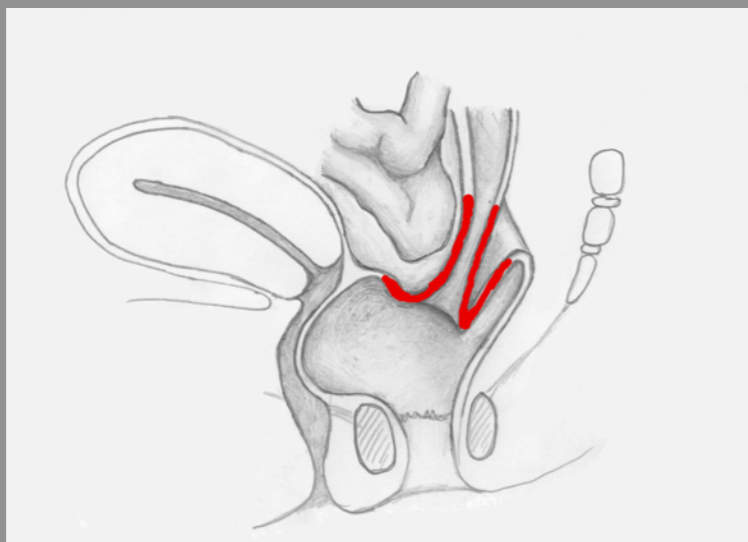


# Prolaps

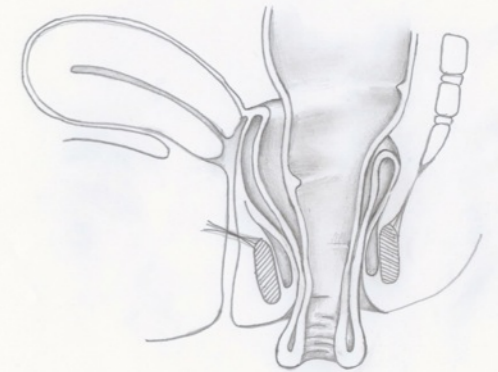
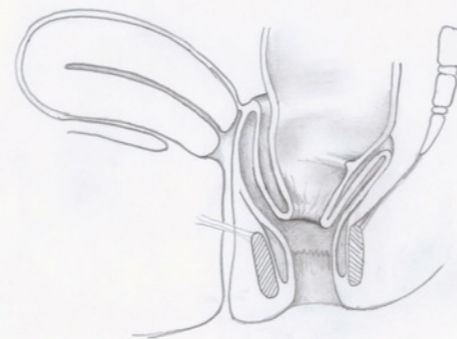
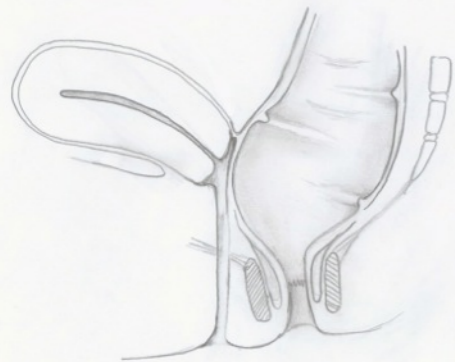
Descending perineum syndrome



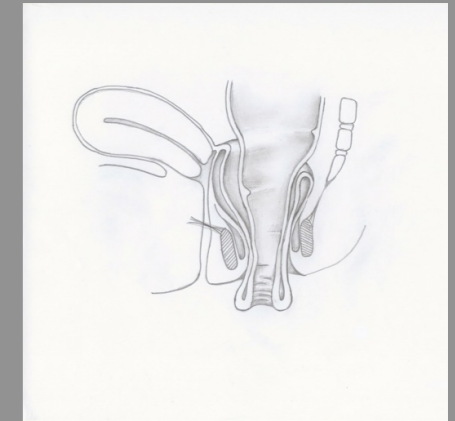
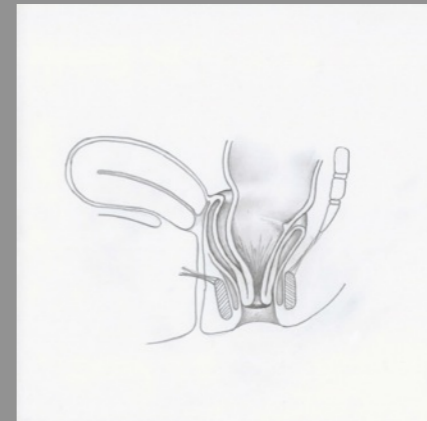
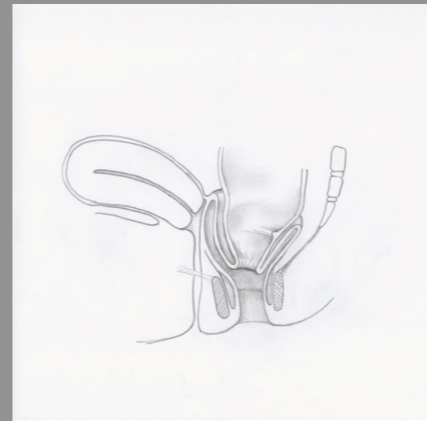
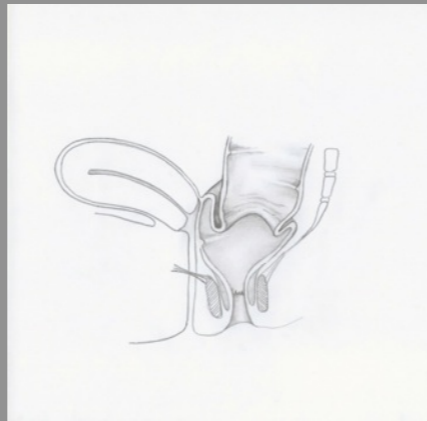
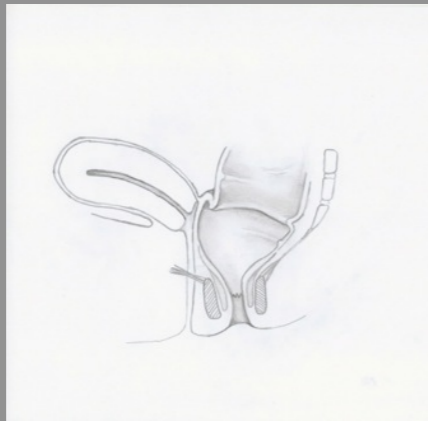
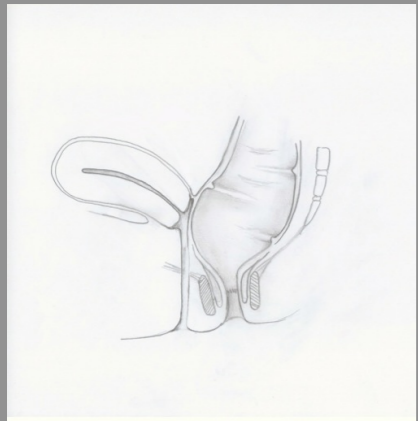
# Pars pro toto



# Prolaps

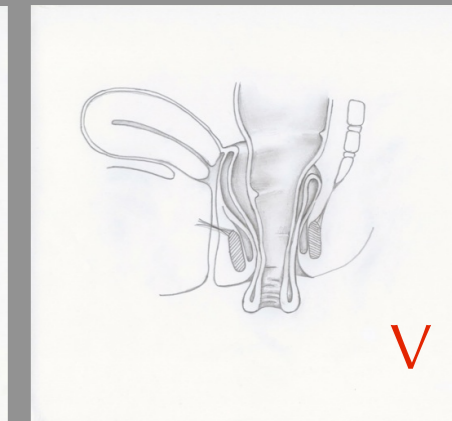
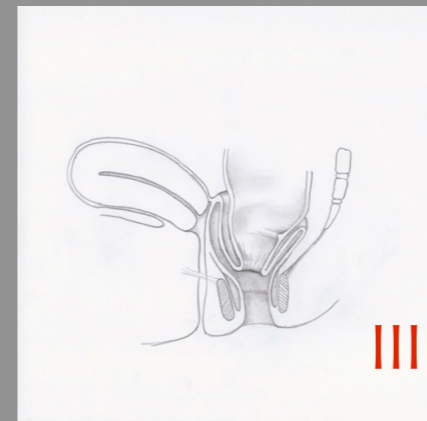
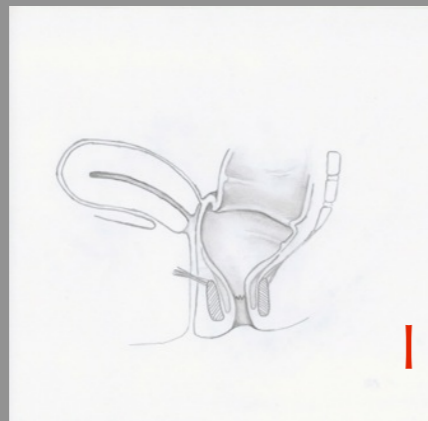
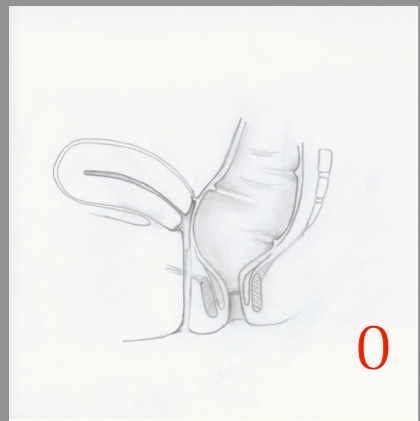


# Prolaps

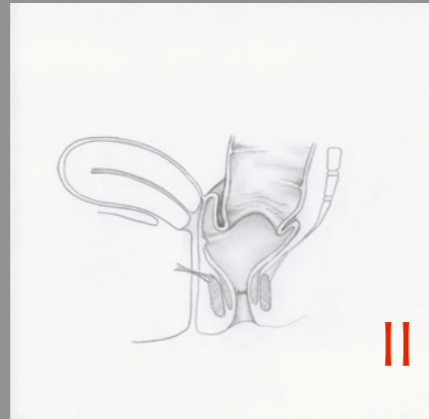
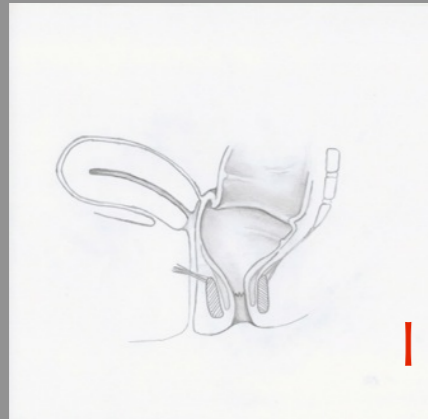




# Prolaps



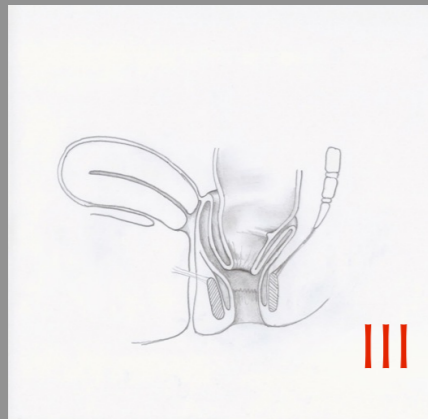
# Prolaps



## Recto-rectal Intussusception (RRI)

I (high rectal) Descends no lower than proximal limit of the rectocele

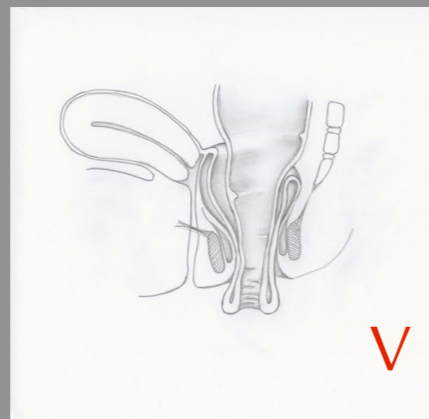
II (low rectal) Descends into the level of the rectocele, but not onto sphincter / anal canal



## Recto-anal Intussusception (RAI)

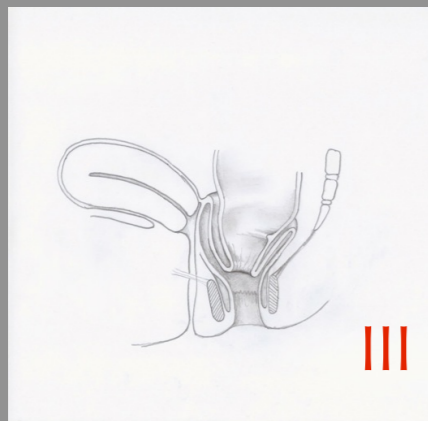
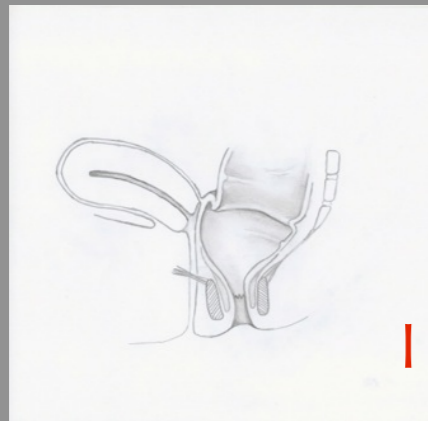
III (high anal) Descends onto sphincter / anal canal

IV (low anal) Descends into sphincter / anal canal

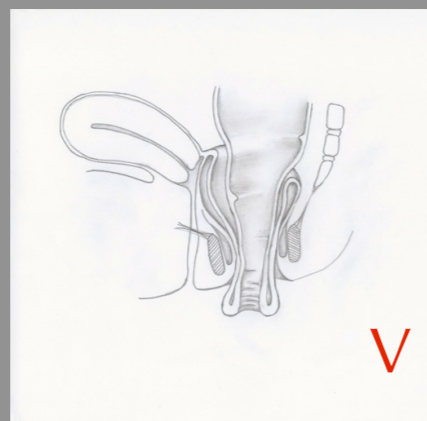
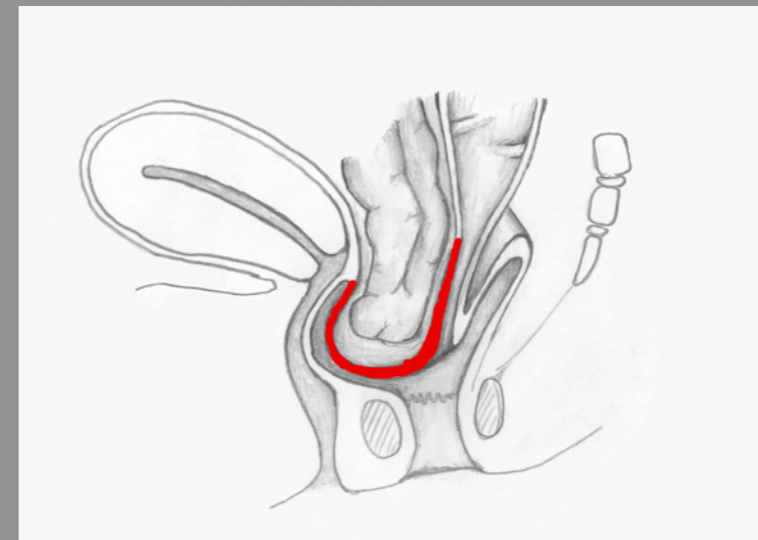


## V External Rectal Prolaps (ERP)

# Relatie rectumprolaps en enterocele

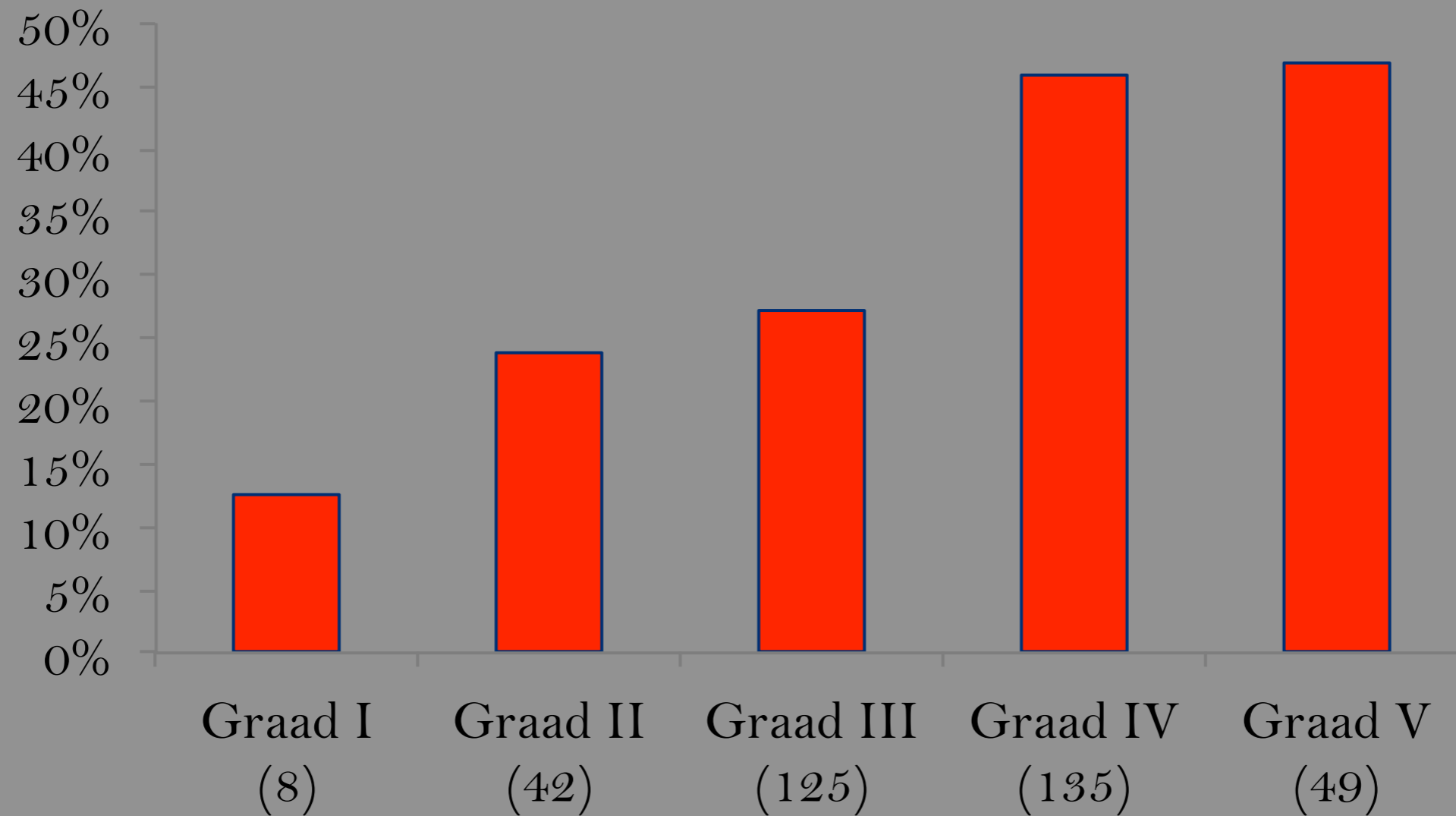


X

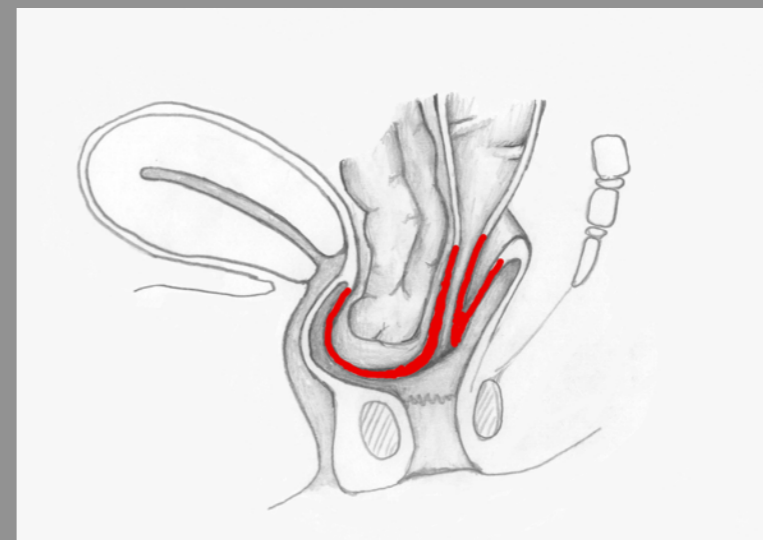
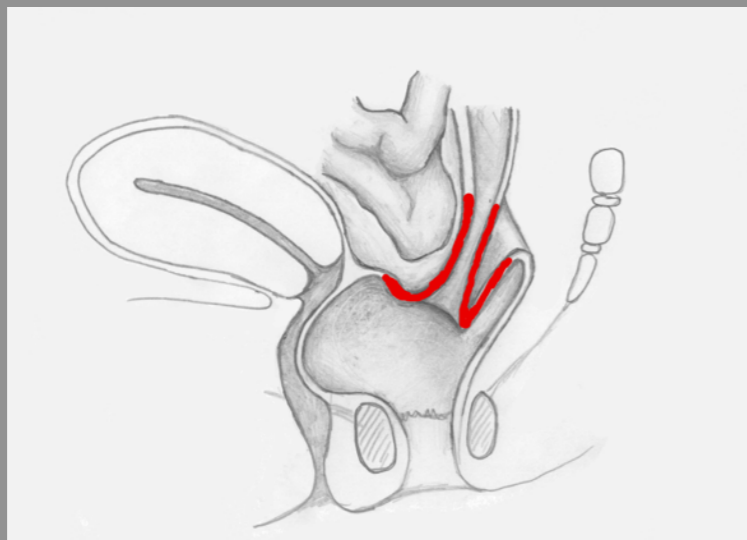


n=371

# Relatie rectumprolaps en enterocele

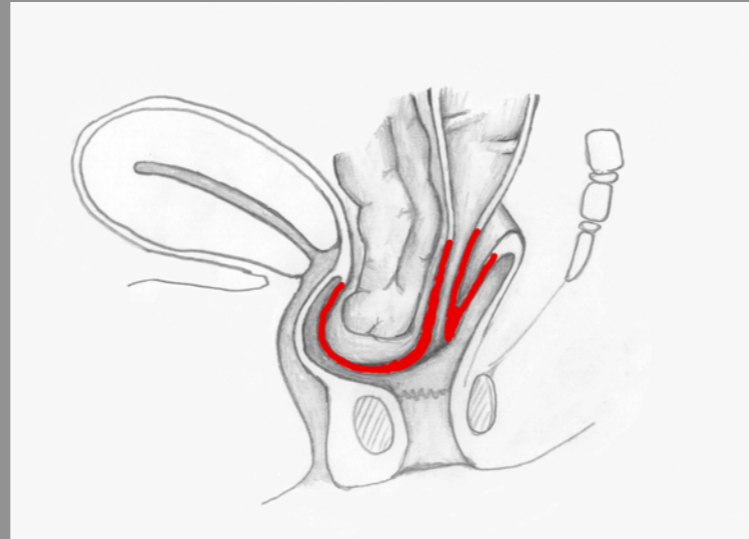


# Pars pro toto



IRP

ODS +



=



?

IRP



*Gut*, 1989, **30**, 1737-1749

## Defecography in normal volunteers: results and implications

P J SHORVON, S McHUGH, N E DIAMANT, S SOMERS,  
AND G W STEVENSON

*From the Department of Radiology, McMaster University Medical Center, Hamilton, Ontario, Canada, and Division of Gastroenterology, Department of Medicine, Toronto Western Hospital, Toronto, Ontario, Canada*

**SUMMARY** Forty seven healthy young volunteers underwent defecographic examination to determine the range of normal findings. Normality was shown to encompass radiological features often considered pathological. These features included broad ranges of anorectal angle and pelvic floor descent which overlap with reported pathological states. Furthermore, the formation of rectocoeles during defecation was a very common finding in women. Finally, a subgroup of the volunteers had marginal anorectal function. The marginal anorectal function and certain radiological findings such as rectocoeles or intussusceptions may predispose to later problems, or contribute to clinical problems when combined with other factors such as dietary fibre deficiency. The radiological findings raise a number of questions with respect to different aspects of the functioning of the continence and defecation mechanisms.

functioning of the continence and defecation mechanisms.

The radiological findings raise a number of questions with respect to different aspects of the contribute to clinical problems when combined with other factors such as dietary fibre deficiency. radiological findings such as rectocoeles or intussusceptions may predispose to later problems, or volunteers had marginal anorectal function. The marginal anorectal function and certain radiological findings such as rectocoeles or intussusceptions may predispose to later problems, or

normal volunteer studies



# Internal Rectal Intussusception Seldom Develops into Total Rectal Prolapse

Anders Mellgren, M.D., Ph.D.,\* Inkeri Schultz, M.D.,† Claes Johansson, M.D., Ph.D.† Anders Dolk, M.D., Ph.D.†

From the Departments of Surgery, \*Karolinska Hospital and †Danderyd Hospital, Stockholm, Sweden

**PURPOSE:** This study was designed to analyze how often internal rectal intussusception develops into total rectal prolapse. **METHODS:** Repeated investigations with defecography were performed in 312 patients because of persisting symptoms. In 79 patients who had a rectal intussusception at the first defecography, results of the second defecography and the patients' records were studied. **RESULTS:** A total of 38 patients had undergone surgical treatment of rectal intussusception or rectal prolapse between the first and second defecographies. One of these patients had a rectal prolapse at the second defecography, and another developed a clinical prolapse after the second defecography. **CONCLUSIONS:** The present study demonstrates that the risk of developing a rectal prolapse in patients with rectal intussusception is small. This risk should, therefore, not be used as an indication for surgery. [Key words: Rectal intussusception; Rectal prolapse; Defecography; Surgery; Rectal procidentia; Evacuation proctography]

Mellgren A, Schultz I, Johansson C, Dolk A. Internal rectal intussusception seldom develops into total rectal prolapse. *Dis Colon Rectum* 1997;40:817-820.

Surgical treatment of rectal prolapse is often indispensable. Indications for treatment of patients with rectal intussusception are debated because postoperative functional outcome is frequently unsatisfactory.<sup>19</sup> Sometimes patients with rectal intussusception are treated to avoid development of a rectal prolapse. However, there are no longitudinal studies on the risk of developing a total rectal prolapse in these patients. The aim of the present study was to analyze how often internal rectal intussusception develops into total rectal prolapse.

## MATERIALS AND METHODS

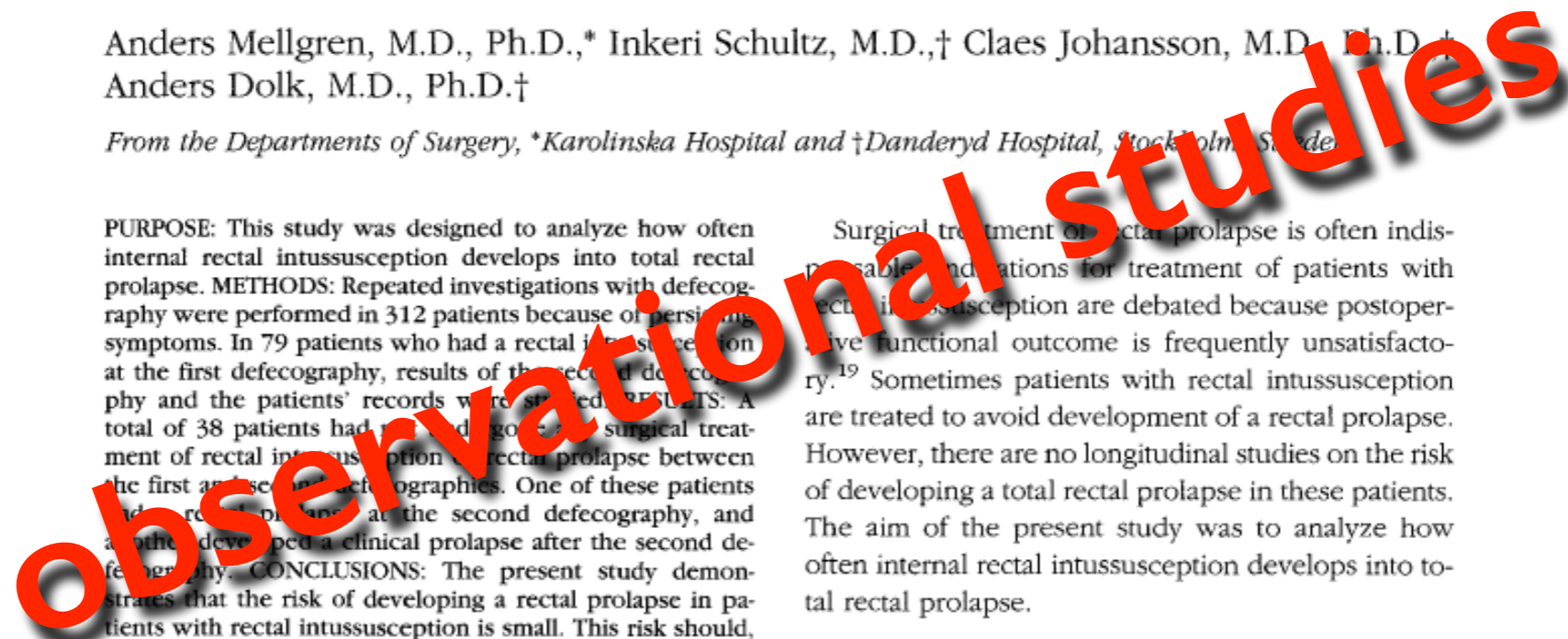
### Patients

Because of defecation disorders, 2,685 patients underwent defecography from 1967 through 1991 at the Department of Diagnostic Radiology at St. Göran Hos-

Department of Diagnostic Radiology at St. Göran Hospital because of defecation disorders, 2,685 patients un-

### Patients

## MATERIALS AND METHODS



# Rectal Hyposensitivity

## Prevalence and Clinical Impact in Patients With Intractable Constipation and Fecal Incontinence

Marc A. Gladman, M.R.C.O.G., M.R.C.S.(Eng.), S. Mark Scott, Ph.D., Christopher L. H. Chan, F.R.C.S., Norman S. Williams, M.S., F.R.C.S., Peter J. Lunniss, M.S., F.R.C.S.

From the Academic Department of Surgery and Gastrointestinal Physiology Unit, Barts and The London Queen Mary's School of Medicine and Dentistry, London, United Kingdom

**PURPOSE:** Blunted rectal sensation, or rectal hyposensitivity, has been reported anecdotally in patients with functional disorders of evacuation and continence. The purpose of this study was to determine the prevalence of rectal hyposensitivity and whether the finding of such an abnormality was associated with any clinical impact. **METHODS:** One thousand three hundred fifty-one patients, referred for anorectal physiologic investigation, were divided according to presenting symptoms into the following categories: constipation (subdivided into infrequency of and/or obstructed defecation), fecal incontinence (subdivided into passive, postdefecation, and urge incontinence), fecal incontinence and constipation, or "other." Rectal hyposensitivity was judged to be present when at least one of the sensory threshold volumes was elevated beyond the normal range (mean plus 2 standard deviations). The prevalence of rectal hyposensitivity was then calculated in each category and its relation to other investigations. **RESULTS:** Rectal hyposensitivity was present in 15 percent of patients, with males and females equally affected. In women, three percent of patients with constipation, 19 percent of patients with fecal incontinence, 21 percent of patients with incontinence associated with constipation, and only 5 percent of patients with other symptoms were found to have rectal hyposensitivity. In patients with obstructed defecation, rectal hyposensitivity was present in 33 percent with rectocele, 40 percent with intussusception, and 53 percent with no me-

**F**unctional constipation and fecal incontinence are common disorders<sup>1</sup> that cause individual suffering and constitute a substantial economic burden. In a significant proportion of these patients, surgery is performed when conservative measures fail. The long-term result has often been disappointing. Successful management requires an understanding of the pathophysiologic mechanisms involved in the symptoms. Normal anorectal function depends on a complex interplay, among other factors, of a correlation between sensory and motor function. Abnormalities of either component may thus contribute to disorders of evacuation or continence. Imbalances of motor function are widely recognized as contributing to such disorders<sup>7</sup>; interest in the role of sensory dysfunction has only been renewed recently, even though sensory abnormalities were implicated 50 years ago.<sup>8</sup>

Anorectal physiologic investigation plays

# Rectal Sensory Perception in Females with Obstructed Defecation

M. J. Gosselink, M.D., Ph.D., W. R. Schouten, M.D., Ph.D.

From the Colorectal Research Group, Department of Surgery, Erasmus Medical Centre, Rotterdam, The Netherlands

**PURPOSE:** Parasympathetic afferent nerves are thought to mediate rectal filling sensations, and the role of sympathetic afferent nerves in the mediation of rectal sensations is unclear. Sympathetic nerves have been reported to mediate nociceptive sensations in the pelvic and lower abdomen in patients with blocked parasympathetic afferent supply. It has been reported that the parasympathetic afferent nerves are stimulated by both slow ramp (cumulative) and fast phasic (intermittent) distention of the rectum, whereas the sympathetic afferent nerves are only stimulated by fast phasic distention. Therefore, it might be useful to use the two distention protocols to differentiate between a parasympathetic and sympathetic afferent deficit. **METHODS:** Sixty control subjects (9 males; median age, 48 (range, 20-70) years) and 100 female patients (median age, 50 (range, 18-75) years) with obstructed defecation entered the study. Rectal sensory perception was assessed with an "infinitely" compliant polyethylene bag and a computer-controlled air-injection system. This bag was inserted into the rectum and inflated with air to selected pressure levels according to two different distention protocols (fast phasic and slow ramp). The distending pressures needed to evoke rectal filling sensations, first sensation of content in the rectum, and earliest urge to defecate were noted, as was the maximum tolerable volume. **RESULTS:** In all control subjects, rectal filling sensations could be evoked. Twenty-one patients (21 percent) experienced no sensation at all in the pressure range between 0 and 65 mmHg during either slow ramp or fast phasic distention. The pressure thresholds for first sensation, earliest urge to defecate, and maximum tolerable volume were significantly higher in patients with obstructed defecation ( $P < 0.001$ ). In each subject, the pressure thresholds for first sensation, earliest urge to defecate, and maximum tolerable volume were always the same.

For almost three decades, paradoxical contraction of the pelvic floor has been cited as the principal cause of obstructed defecation. However, the clinical relevance of this pelvic floor dysfunction has been questioned.<sup>1-4</sup> Normal rectal evacuation requires adequate intrarectal pressure, which can be raised by increasing intrapelvic pressure, achieved by voluntary contraction of the diaphragm and abdominal wall muscles. Furthermore, increase of rectal tone proximal to the fecal mass and normal sensory perception also contribute to normal rectal evacuation. Recently, it has been shown that the rectum generates an expelling force during an evoked call to stool. In patients with obstructed defecation, this expelling force is impaired.<sup>4</sup> Many patients with obstructed defecation report that their feelings of a call to stool are blunted or absent. Balloon distention of the rectum is a widely used, simple method to measure rectal sensory perception. It has been shown that the perception of a balloon distending the rectal wall is reduced in patients with constipation.<sup>4-12</sup> In these studies, balloons of different materials, shapes and sizes were used.<sup>4-12</sup> Some workers inflated the stimulating balloon with air, whereas others used water.<sup>4-12</sup> Some investigators used phasic distention, characterized by periods of balloon inflation separated by periods of balloon deflation. Other workers used cumulative



... van de ...

... van de ...

... van de ...

# Rectopexy Is an Ineffective Treatment for Obstructed Defecation

W. J. Orrom, M.Sc., F.R.C.S.C.,\* D. C. C. Bartolo, M.S., F.R.C.S.,†  
R. Miller, M.S., F.R.C.S.,† N. J. McC. Mortensen, M.S., F.R.C.S.,†  
A. M. Roe, M.S., F.R.C.S.†

*From the Division of Colon and Rectal Surgery,\* Department of Surgery, University of Minnesota Hospital, Minneapolis, Minnesota; Bristol Royal Infirmary,† Bristol, United Kingdom; and John Radcliffe Hospital,‡ Oxford, United Kingdom*

Orrom WJ, Bartolo DCC, Miller R, Mortensen NJMcC, Roe AM. Rectopexy is an ineffective treatment for obstructed defecation. *Dis Colon Rectum* 1991;34:41-46.

The symptoms of obstructed defecation have been attributed to rectal intussusception, and thus rectopexy has been advocated in the surgical management. In this study, patients with obstructed defecation underwent manometry and proctography before and after rectopexy. Seventeen patients (16 females and one male, mean age 51.6 years) were studied. Eleven underwent anterior and posterior fixation of the rectum and six had posterior fixation

for those with a colonic motility disorder,<sup>4-9</sup> or an internal sphincterotomy or myectomy for those with outlet obstruction.<sup>10-12</sup> Paradoxical contraction of the puborectalis or anismus has been implicated as a cause of intractable constipation.<sup>3,13-15</sup> Posterior and lateral division of the puborectalis has been described in such patients demonstrating persistence of the puborectalis impression on straining during defecography, but the results have been disappointing.<sup>16-18</sup> Rectopexy has been used

for those with a colonic motility disorder,<sup>4-9</sup> or an internal sphincterotomy or myectomy for those with outlet obstruction.<sup>10-12</sup> Paradoxical contraction of the puborectalis or anismus has been implicated as a cause of intractable constipation.<sup>3,13-15</sup> Posterior and lateral division of the puborectalis has been described in such patients demonstrating persistence of the puborectalis impression on straining during defecography, but the results have been disappointing.<sup>16-18</sup> Rectopexy has been used

for those with a colonic motility disorder,<sup>4-9</sup> or an internal sphincterotomy or myectomy for those with outlet obstruction.<sup>10-12</sup> Paradoxical contraction of the puborectalis or anismus has been implicated as a cause of intractable constipation.<sup>3,13-15</sup> Posterior and lateral division of the puborectalis has been described in such patients demonstrating persistence of the puborectalis impression on straining during defecography, but the results have been disappointing.<sup>16-18</sup> Rectopexy has been used

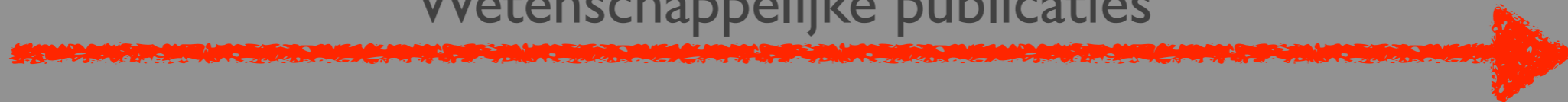
lechte resultaten

IRP

Watskeburt?



Wetenschappelijke publicaties



Nieuwe chirurgische technieken



normal volunteer studies

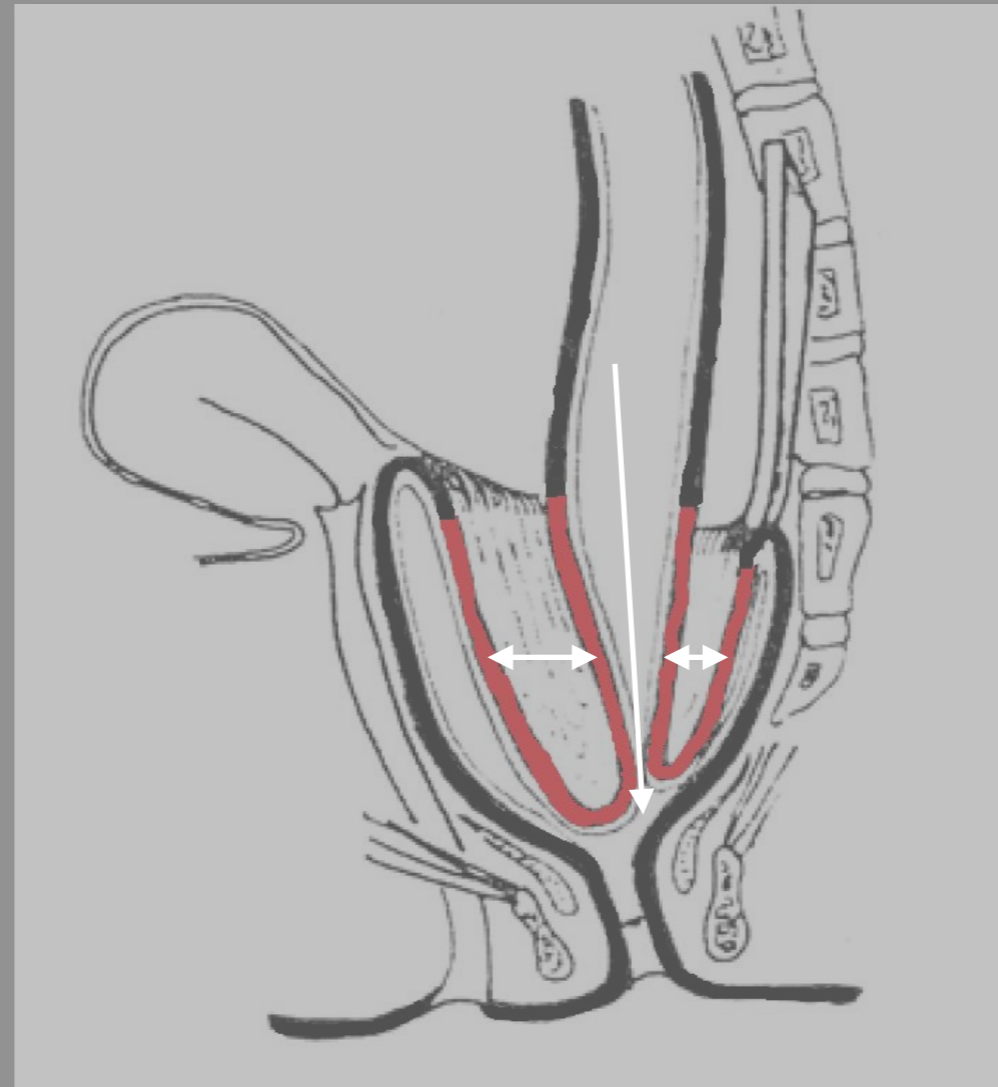
*Gut*, 1989, 30, 1737-1749

**Defecography in normal volunteers: results and implications**

P J SHORVON, S McHUGH, N E DIAMANT, S SOMERSON AND G W STEVENSON

*From the Department of Radiology, McMaster University, Hamilton, Ontario, Canada, and Division of Gastroenterology, Department of Medicine, St Michael's Hospital, Toronto, Ontario, Canada*

**SUMMARY** Forty seven normal volunteers underwent defecographic examination to determine the range of normal findings. Normality was shown to encompass radiological features often considered abnormal. These features included broad ranges of anorectal angle and pelvic floor descent which overlap with reported pathological states. Furthermore, the formation of rectocele during defecation was a very common finding in women. Finally, a subgroup of the volunteers had marginal anorectal function. The marginal anorectal function and certain radiological findings such as rectoceles or intussusceptions may predispose to later problems, or contribute to clinical problems when combined with other factors such as dietary fibre deficiency. The radiological findings raise a number of questions with respect to different aspects of the functioning of the continence and defecation mechanisms.



Pomerri F, Zuliani M, Mazza C, Villarejo F, Scopece A. Defecographic measurements of rectal intussusception and prolapse in patients and in asymptomatic subjects. *Am J Roentgenol* 2001; 176: 641-5.

Dvorkin LS, Gladman MA, Epstein J, Scott SM, Williams NS, Lunniss PJ. Rectal intussusception in symptomatic patients is different from that in asymptomatic volunteers. *Br J Surg* 2005; 92: 866-72



n=531

normal volunteer studies

**Outcome and Management of Patients With Large Rectoanal Intussusception**  
 Jong Seok Choi, M.D., Yong Hee Hwang, M.D., Mam R. Salam, M.D., Steven M. Green, M.D., Alan J. Pikarsky, M.D., Juan J. Noguera, M.D., and Steven D. Steinhilber, M.D.  
 Department of Colorectal Surgery, Cleveland Clinic Foundation, Cleveland, Ohio, U.S.A.

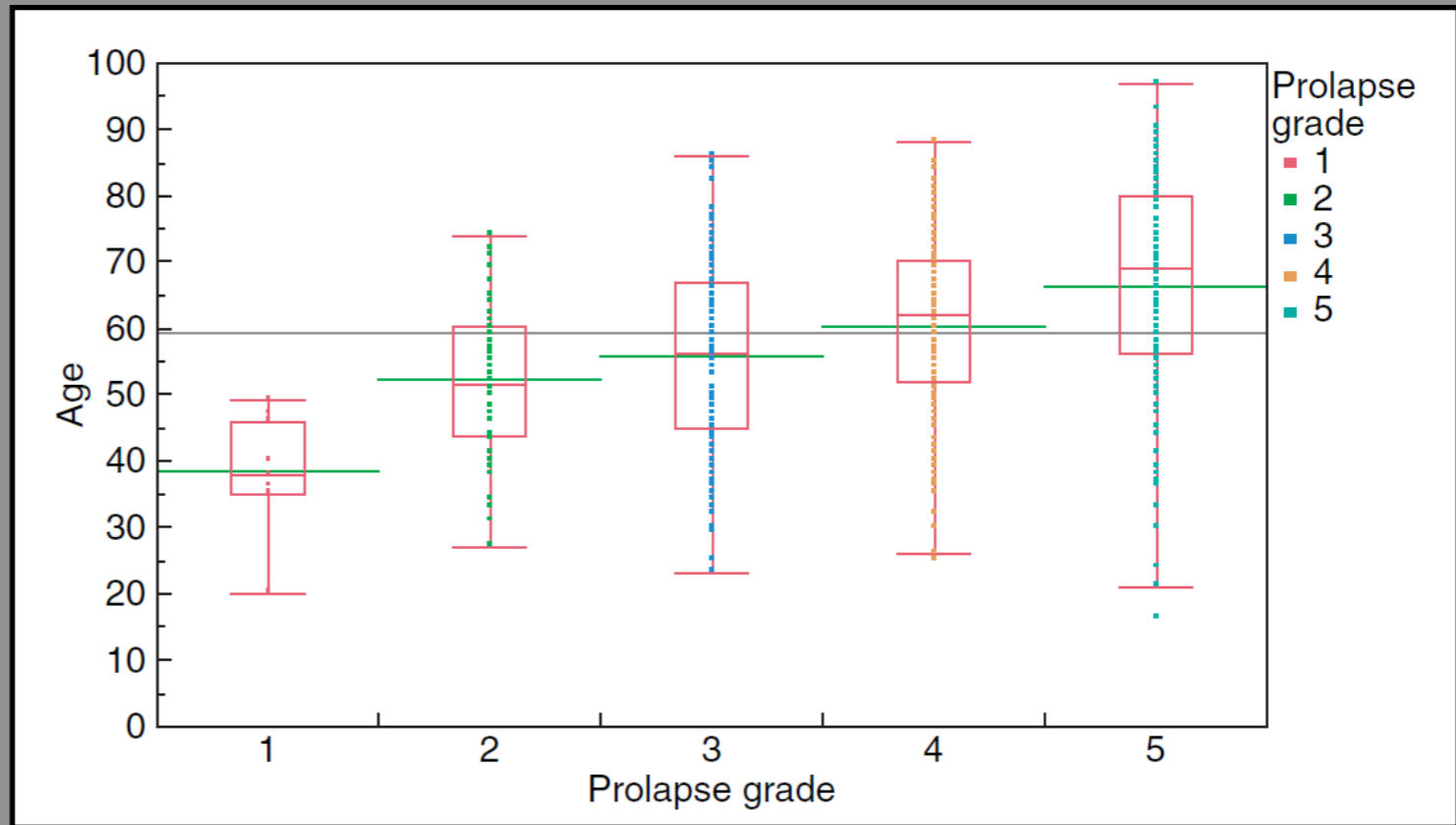
**OBJECTIVES:** Rectoanal intussusception (RAI) is a rare condition. The risk of full thickness rectal prolapse during follow-up of patients with RAI is unclear. The aim of this study was to determine the risk of full thickness rectal prolapse and whether therapy improved the natural outcome.

**CONCLUSIONS:** This study demonstrated that the risk of full thickness rectal prolapse developing in patients medically treated for large intussusception is very small (1/26, 3.8%). Moreover, biofeedback is beneficial to improve the symptoms of both constipation and incontinence in these patients. Therefore, biofeedback should be considered as the initial therapy of choice for large rectoanal intussusception. (Am J Gastroenterol 2001;96:740-744. © 2001 by Am. Coll. of Gastroenterology)

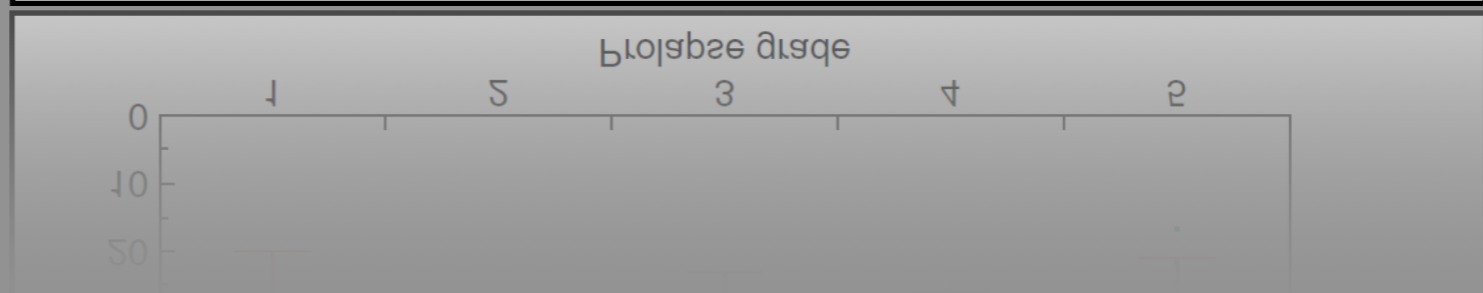
**Internal Rectal Intussusception Seldom Develops into Total Rectal Prolapse**  
 Anders Mellgren, M.D., Ph.D.,\* Inkeri Schultz, M.D.,† Claes Johansson, M.D., Ph.D.,† Anders Dolk, M.D., Ph.D.†  
 From the Departments of Surgery,\*Karolinska Hospital and †Danderyd Hospital, Stockholm, Sweden.

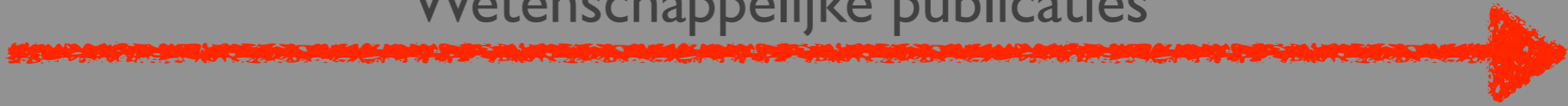
**PURPOSE:** This study was designed to analyze how often internal rectal intussusception develops into total rectal prolapse. **METHODS:** Repeated investigations with defecography were performed in 332 patients because of postoperative symptoms. In 79 patients who had a total intussusception at the first defecography, results of subsequent defecography and the patients' response to medical treatment were analyzed. In total, 38 patients had a total intussusception at the first defecography. In 10 of these patients, a total rectal prolapse developed after the second defecography. **CONCLUSIONS:** The present study demonstrates that the risk of developing a total rectal prolapse in patients with internal rectal intussusception is small. This risk should, therefore, not be used as an indication for surgery. **Keywords:** Rectal intussusception; Rectal prolapse; Defecography; Surgery; Rectal proctodesia; Evacuation proctography

**MATERIALS AND METHODS**  
**Patients**  
 Because of defecation disorders, 2,685 patients underwent defecography from 1967 through 1991 at the Department of Diagnostic Radiology at St. Göran's Hospital, Stockholm, Sweden. The patients were divided into 2 groups: 1,000 patients with internal rectal intussusception and 1,685 patients with other defecation disorders. The present study included 332 patients with internal rectal intussusception who had a second defecography.



observational studies





### Rectal Hyposensitivity

Prevalence and Clinical Impact in Patients With Intractable Constipation and Fecal Incontinence

Marc A. Gladman, M.R.C.O.G., M.R.C.S.(Eng.), S. Mark Scott, Ph.D., Christopher L. H. Chan, F.R.C.S., Norman S. Williams, M.S., F.R.C.S., Peter J. Lunniss, M.S., F.R.C.S.

From the Academic Department of Surgery and Gastrointestinal Physiology Unit, Barts and The London Queen Mary's School of Medicine and Dentistry, London, United Kingdom

**PURPOSE:** Intractable constipation, or rectal hyposensitivity, has been reported anodically in patients with functional disorders of evacuation and continence. The purpose of this study was to determine the prevalence of rectal hyposensitivity and whether the finding of such an abnormality was associated with any clinical impact. **METHODS:** One thousand three hundred fifty-one patients, referred for anorectal physiologic investigation, were divided according to presenting symptoms into the following categories: constipation (subdivided into infrequency of and/or obstructed defecation), fecal incontinence (subdivided into passive, postdefecation, and urge incontinence), fecal incontinence and constipation, or "other." Rectal hyposensitivity was judged to be present when at least one of the following threshold volumes was elevated beyond the normal range (mean plus 2 standard deviations): the rectal sensory threshold volume, the rectal sensory threshold volume, the relation to other investigated variables, and the relation to other investigated variables.

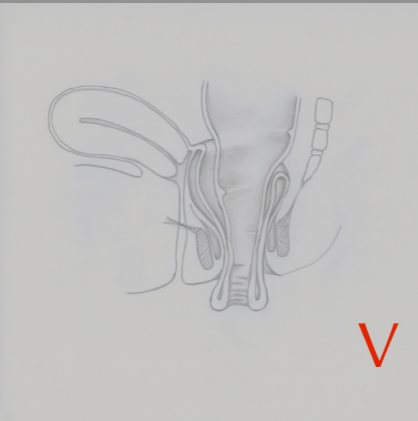
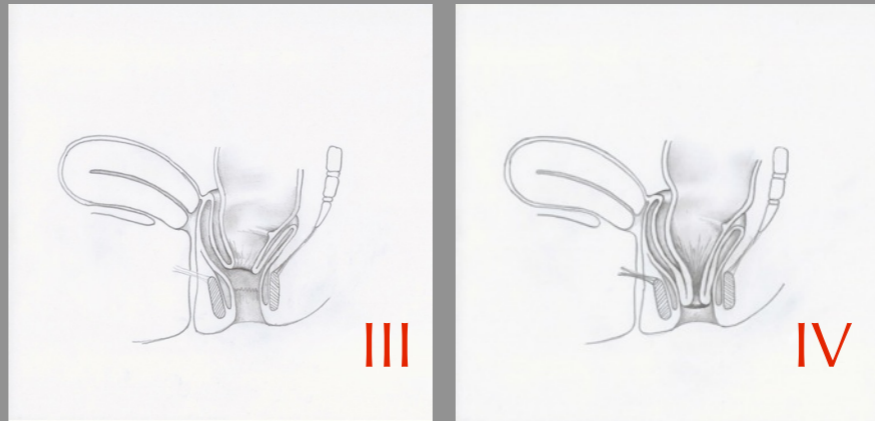
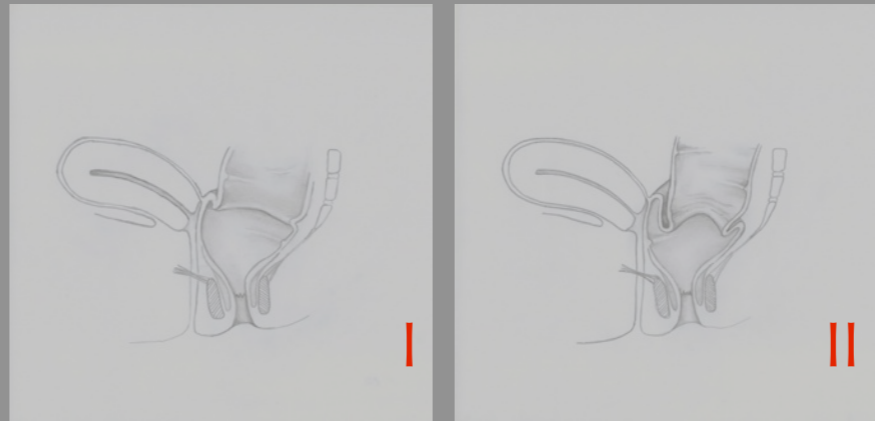
### Rectal Sensory Perception in Females with Obstructed Defecation

M. J. Gosselink, M.D., Ph.D., W. R. Schouten, M.D., Ph.D.

From the Colonocal Research Group, Department of Surgery, Erasmus University, Rotterdam, The Netherlands

**PURPOSE:** Parasympathetic afferents mediate rectal filling sensation. The afferent pathway involves the pelvic splanchnic nerves, the pelvic ganglion, and the parasympathetic afferent supply. It is reported that the parasympathetic afferent supply is blocked in patients with obstructed defecation (OD). Therefore, it might be useful to use the two defecation protocols to differentiate between a parasympathetic and sympathetic afferent defect. **METHODS:** Sixty control subjects (50 males, median age, 68 (range, 20-70) years) and 190 female patients (median age, 50 (range, 18-70) years) with obstructed defecation entered the study. Rectal sensory perception was assessed with an "inflatable" computer polyethylene bag and a computer-controlled anorectal injection system. This bag was inserted into the rectum and inflated with air to selected pressures (both according to two different distention protocols [fast phasic and slow ramp]). The distending pressures needed to evoke rectal filling sensations, the sensation of content in the rectum, and either urge to defecate were noted, as was the maximum tolerable volume. **RESULTS:** In all control subjects, rectal filling sensations could be evoked. Twenty-one patients (21 percent) experienced no sensation at all in the pressure range between 0 and 60 mmHg during either slow ramp or fast phasic distention. The pressure thresholds for first sensation, either urge to defecate, and maximum tolerable volume were significantly higher in patients with obstructed defecation ( $P < 0.001$ ). In each subject, the pressure thresholds for first sensation, either urge to defecate, and maximum tolerable volume were always the same.

**Hyposensitiviteit roctumwand**



n=408

XODS





## Rectal Hyposensitivity

Prevalence and Clinical Impact in Patients With Intractable Constipation and Fecal Incontinence

Marc A. Gladman, M.R.C.O.G., M.R.C.S.(Eng.), S. Mark Scott, Ph.D., Christopher L. H. Chan, F.R.C.S., Norman S. Williams, M.S., F.R.C.S., Peter J. Lunniss, M.S., F.R.C.S.

From the Academic Department of Surgery and Gastrointestinal Physiology Unit, Barts and The London Queen Mary's School of Medicine and Dentistry, London, United Kingdom

**PURPOSE:** Intractable constipation, or rectal hyposensitivity, has been reported anecdotally in patients with functional disorders of evacuation and continence. The purpose of this study was to determine the prevalence of rectal hyposensitivity and whether the finding of such an abnormality was associated with any clinical impact. **METHODS:** One thousand three hundred fifty-one patients, referred for anorectal physiologic investigation, were divided according to presenting symptoms into the following categories: constipation (subdivided into infrequency of and/or obstructed defecation), fecal incontinence (subdivided into passive, postdefecation, and urge incontinence), fecal incontinence and constipation, or "other." Rectal hyposensitivity was judged to be present when at least one of the following threshold volumes was elevated beyond the normal range (mean plus 2 standard deviations). The relationship between rectal hyposensitivity and the clinical impact of the disorder was assessed by comparing the prevalence of rectal hyposensitivity with that of each of the clinical disorders. **RESULTS:** Rectal hyposensitivity was present in 10.7% of patients with constipation and 10.7% of patients with fecal incontinence. In patients with both constipation and fecal incontinence, 5 percent of patients had rectal hyposensitivity. **CONCLUSIONS:** Rectal hyposensitivity is uncommon, and its clinical impact is limited. It is not a central cause of intractable constipation or fecal incontinence.

## Rectal Sensory Perception in Females with Obstructed Defecation

M. J. Gosselink, M.D., Ph.D., W. R. Schouten, M.D., Ph.D.

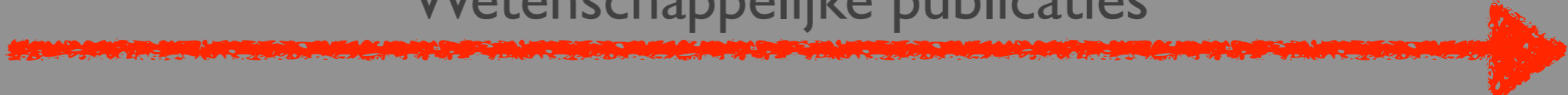
From the Colocolic Research Group, Department of Surgery, Erasmus University School of Medicine, Rotterdam, The Netherlands

**PURPOSE:** Parasympathetic afferents supply the rectum and mediate rectal filling sensation. The sympathetic afferents supply the rectum and mediate rectal emptying sensation. The purpose of this study was to determine whether the afferent supply to the rectum is intact in females with obstructed defecation. **METHODS:** Rectal sensory perception was assessed with an "airbag" complex polystyrene bag and a computer-controlled air-injection system. The bag was inserted into the rectum and inflated with air to selected pressures (ranging from 10 to 100 mmHg) according to two different distension protocols (fast phasic and slow ramp). The distending pressures needed to evoke rectal filling sensation, first sensation of content in the rectum, and earliest urge to defecate were noted, as was the maximum tolerable volume. **RESULTS:** In all control subjects, rectal filling sensation could be evoked. Twenty-one patients (21 percent) experienced no sensation at all in the pressure range between 0 and 60 mmHg during either slow ramp or fast phasic distension. The pressure thresholds for first sensation, earliest urge to defecate, and maximum tolerable volume were significantly higher in patients with obstructed defecation ( $P < 0.001$ ). In each subject, the pressure thresholds for first sensation, earliest urge to defecate, and maximum tolerable volume were always the same.



Sensation	No of abnormal thresholds	No of Patients	Overall percentage
Normal	0	241	59 %
	1	37	9 %
	2	13	3 %
	3	3	1 %
Hypersensitive	1	52	13 %
	2	44	11 %
	3	18	4 %
Hyposensitive	3	18	4 %
	5	11	3 %





## Rectal Hyposensitivity

Prevalence and Clinical Impact in Patients With Intractable Constipation and Fecal Incontinence

Marc A. Gladman, M.R.C.O.G., M.R.C.S.(Eng.), S. Mark Scott, Ph.D., Christopher L. H. Chan, F.R.C.S., Norman S. Williams, M.S., F.R.C.S., Peter J. Lunniss, M.S., F.R.C.S.

From the Academic Department of Surgery and Gastrointestinal Physiology Unit, Barts and The London Queen Mary's School of Medicine and Dentistry, London, United Kingdom

**PURPOSE:** Intractable constipation, or rectal hyposensitivity, has been reported anodically in patients with functional disorders of evacuation and continence. The purpose of this study was to determine the prevalence of rectal hyposensitivity and whether the finding of such an abnormality was associated with any clinical impact. **METHODS:** One thousand three hundred fifty-one patients, referred for anorectal physiologic investigation, were divided according to presenting symptoms into the following categories: constipation (subdivided into infrequency of and/or obstructed defecation), fecal incontinence (subdivided into passive, postdefecation, and urge incontinence), fecal incontinence and constipation, or "other." Rectal hyposensitivity was judged to be present when at least one of the sensory threshold volumes was elevated beyond the normal range (mean plus 2 standard deviations). The prevalence of rectal hyposensitivity was then calculated in each of the categories in relation to other investigations. The prevalence of rectal hyposensitivity was present in 1.7 percent of patients with constipation and 1.7 percent of patients with fecal incontinence. In patients with both constipation and fecal incontinence, 5 percent of patients had rectal hyposensitivity. In patients with obstructed defecation, rectal hyposensitivity was present in 13 percent with rectocele, 40 percent with intussusception, and 51 percent with no

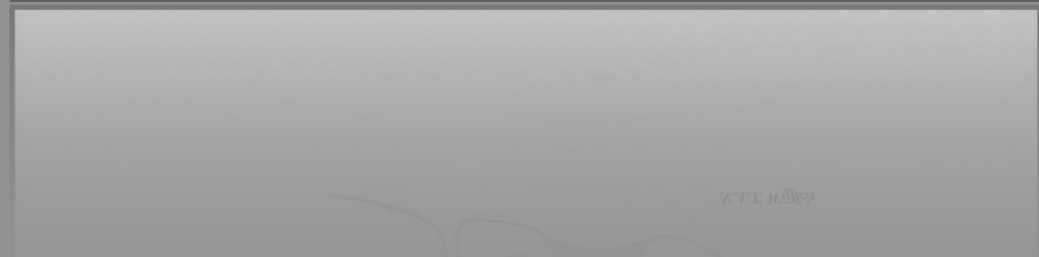
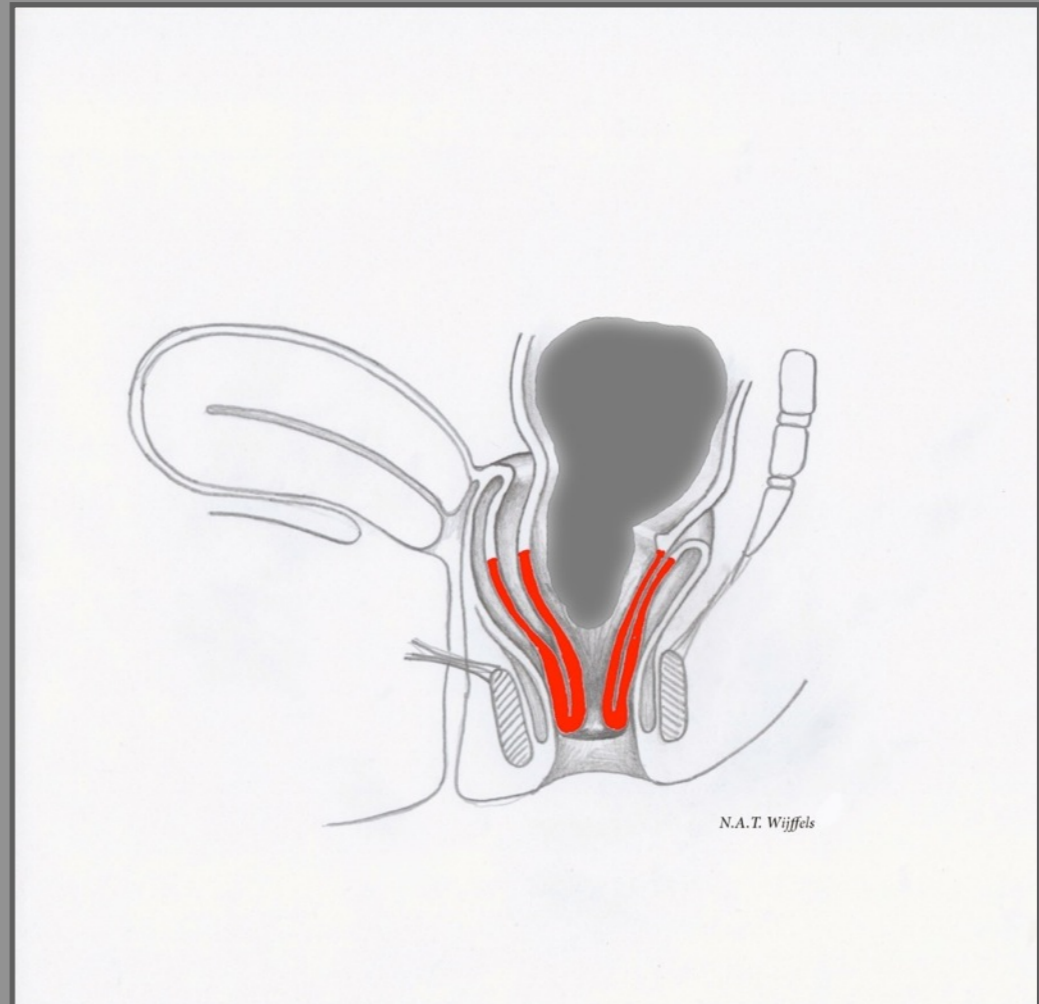
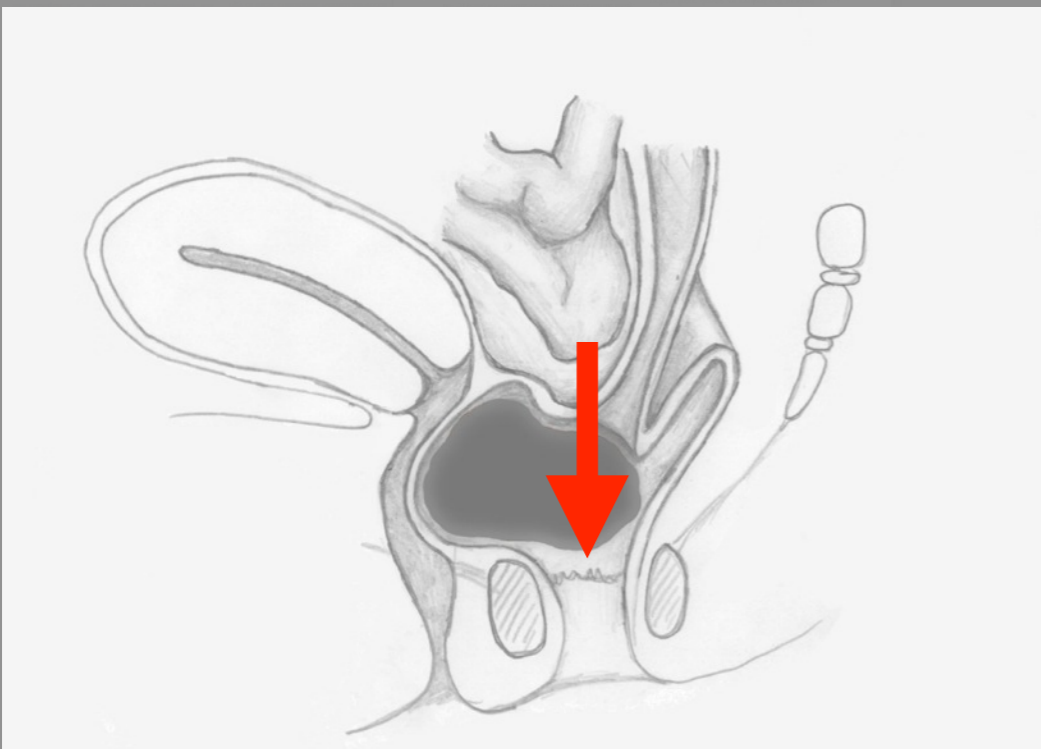
## Rectal Sensory Perception in Females with Obstructed Defecation

M. J. Gosselink, M.D., Ph.D., W. R. Schouten, M.D., Ph.D.

From the Colocolic Research Group, Department of Surgery, Erasmus University School of Medicine, Rotterdam, The Netherlands

**PURPOSE:** Parasympathetic afferent nerves mediate rectal filling sensation. The afferent nerves in the myenteric plexus and the sympathetic nerves in the paravertebral ganglia supply the rectum. In obstructed defecation, the parasympathetic afferent nerves are thought to be intact, but the sympathetic afferent nerves are thought to be damaged. Therefore, it might be useful to use the two afferent pathways to differentiate between a parasympathetic and sympathetic afferent deficit. **METHODS:** Sixty control subjects (30 males, median age, 48 [range, 20-70] years) and 190 female patients (median age, 50 [range, 18-70] years) with obstructed defecation entered the study. Rectal sensory perception was assessed with an "inflatable" complex polyethylene bag and a computer-controlled air injection system. This bag was inserted into the rectum and inflated with air to selected pressures both according to two different distension protocols (fast phasic and slow ramp). The distending pressures needed to evoke rectal filling sensations, first sensation of content in the rectum, and earliest urge to defecate were noted, as was the maximum tolerable volume. **RESULTS:** In all control subjects, rectal filling sensations could be evoked. Twenty-one patients (21 percent) experienced no sensation at all in the pressure range between 0 and 60 mmHg during either slow ramp or fast phasic distension. The pressure thresholds for first sensation, earliest urge to defecate, and maximum tolerable volume were significantly higher in patients with obstructed defecation ( $P < 0.001$ ). In each subject, the pressure thresholds for first sensation, earliest urge to defecate, and maximum tolerable volume were always the same

...the maximum tolerable volume was always the same...  
...the maximum tolerable volume was always the same...  
...the maximum tolerable volume was always the same...



### Rectopexy Is an Ineffective Treatment for Obstructed Defecation

W. J. Orrom, M.Sc., F.R.C.S.C.,\* D. C. C. Bartolo, M.S., F.R.C.S.,† R. Miller, M.S., F.R.C.S.,† N. J. McC. Mortensen, M.S., F.R.C.S.,† A. M. Roe, M.S., F.R.C.S.†

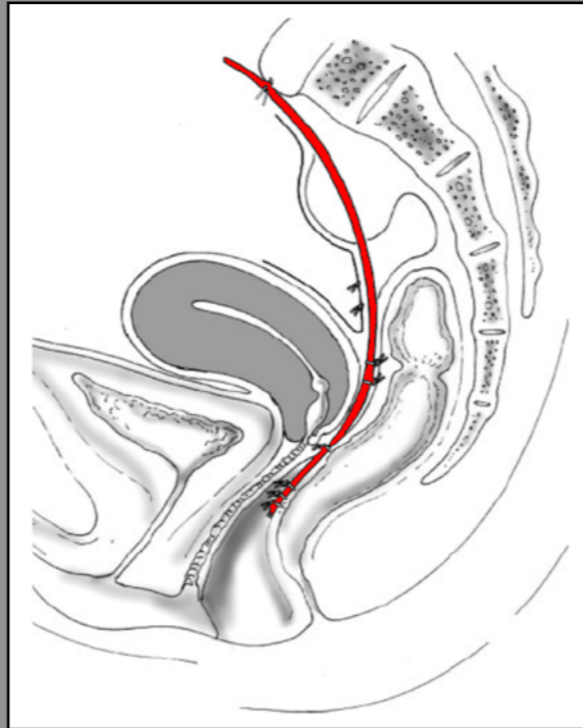
From the Division of Colon and Rectal Surgery,\* Department of Surgery, University of Minnesota Hospital, Minneapolis, Minnesota; Bristol Royal Infirmary, Bristol, United Kingdom; and John Radcliffe Hospital,† Oxford, United Kingdom

Orrom WJ, Bartolo DC, Miller R, Mortensen NJ, McC. R, Roe AM. Rectopexy is an ineffective treatment for obstructed defecation. *Colorectal Dis* 1991;13:41-46.

Problems of obstructed defecation have been attributed to rectal intussusception, and thus rectopexy has been advocated in the surgical management. In this study, patients with obstructed defecation underwent manometry and proctography before and after rectopexy. Seventeen patients (16 females and one male, mean age 51.6 years) were studied. Eleven underwent anterior and posterior fixation of the rectum and six had posterior fixation

for those with a colonic motility disorder,\* or an internal sphincterotomy or myectomy for those with outlet obstruction.<sup>10-12</sup> Paradoxical contraction of the puborectalis or anismus has been implicated as a cause of intractable constipation.<sup>5,13-15</sup> Posterior and lateral division of the puborectalis has been described in such patients demonstrating persistence of the puborectalis impression on straining during defecography, but the results have been disappointing.<sup>16,17</sup> Rectopexy has been used

to fix the rectum to the anterior abdominal wall and posteriorly to the sacrum. The results of rectopexy in patients with obstructed defecation have been disappointing. In a study of 17 patients with obstructed defecation, rectopexy was performed in 11 patients and internal sphincterotomy in 6 patients. The results were disappointing. In a study of 17 patients with obstructed defecation, rectopexy was performed in 11 patients and internal sphincterotomy in 6 patients. The results were disappointing.



80 % verbetering OD klachten



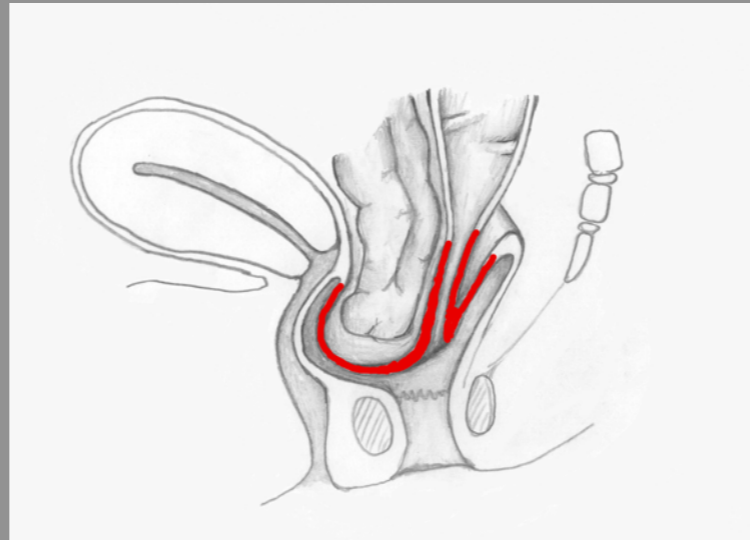
70%

Metamucil/ Psyllium (ander lax.)  
Bekkentherapie (biofeedback)  
Retrograde irrigatie

IRP

ODS

+

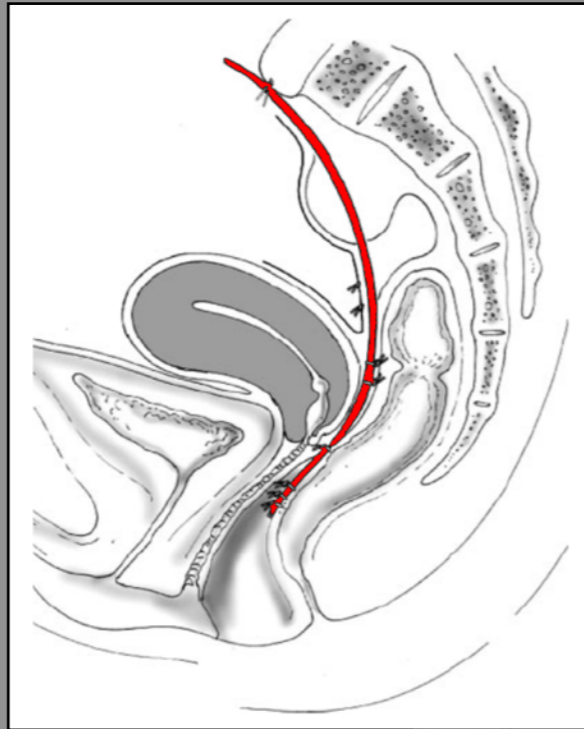


=

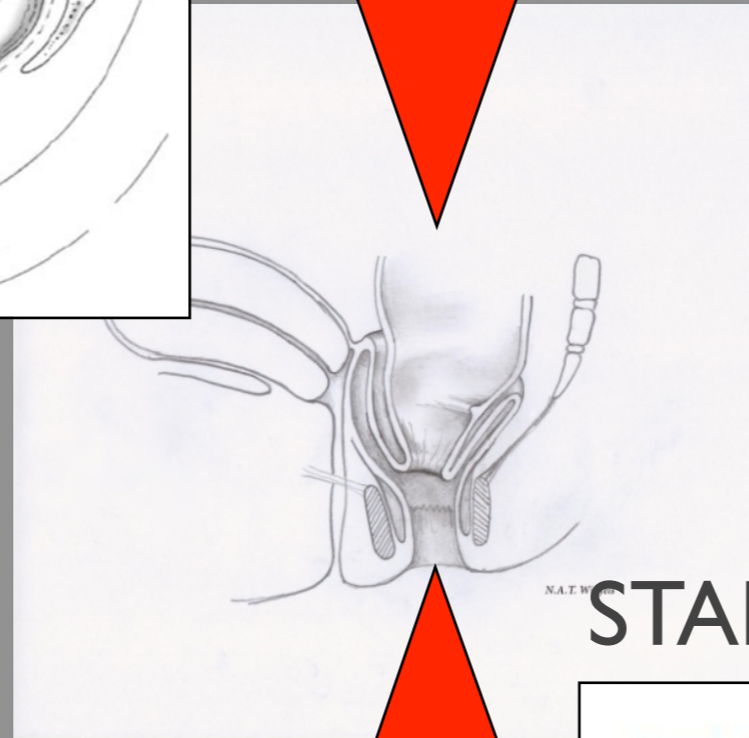


# IRP

## Operatief: „Derop of deronder”

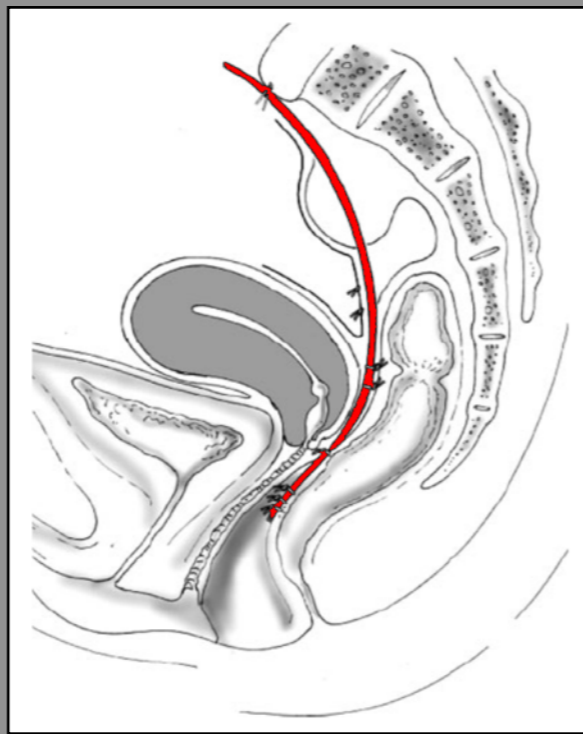


LVR



STARR/ Transtar

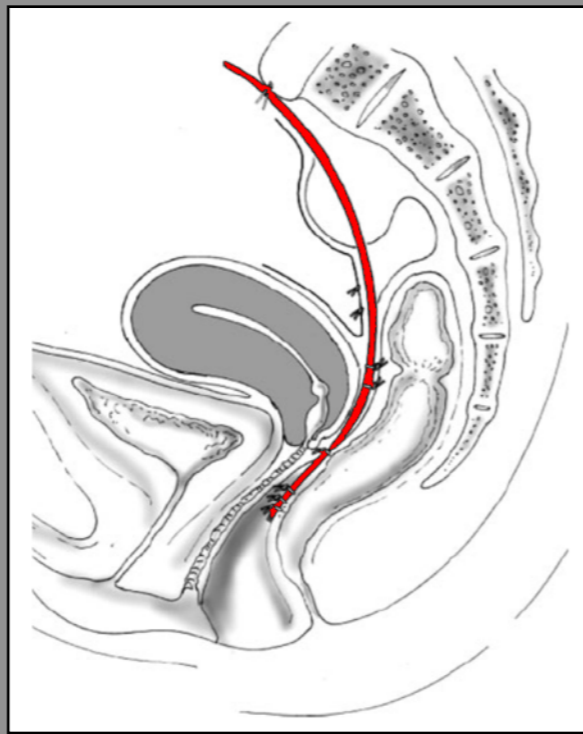




- Introductie +/- 2004 D'Hoore
- Concept:  
Correctie middelste en achterste compartiment
- Aanvankelijk voor ERP
- Correctie IRP/EC/RC
- Eerste resultaten voor IRP 2008

- Introductie +/- 2000 Longo
- Concept:  
Excisie „overtollig” prolaberend rectum-wand
- Correctie IRP/RC
- Eerste publicatie resultaten ODS 2004





### Voordelen

- Blijvend herstel?
- Goede funct. resultaten mbt FI
- Corrigeert ook EC

### Nadelen

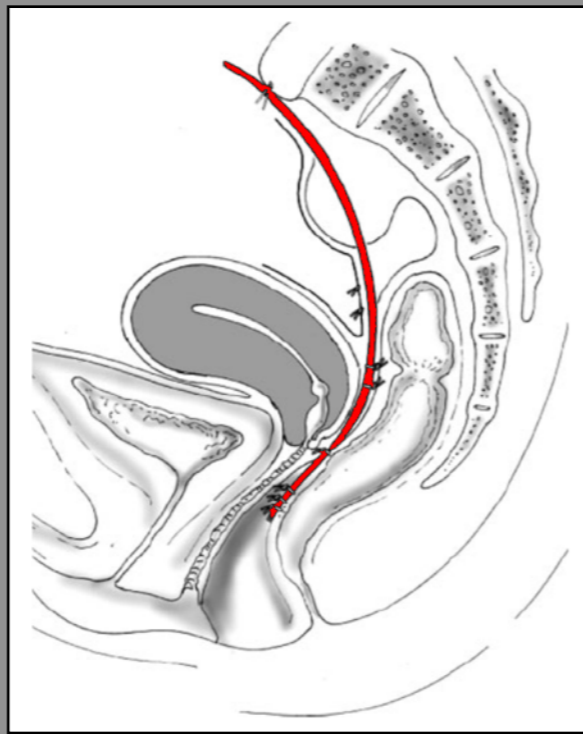
- Vreemd lichaam (publ. opinie)
- Dyspareunie?

### Voordelen

- Minder lange leercurve?
- Simult. correctie an./heam. prolaps
- Operatie tijd

### Nadelen

- Urge klachten / FI
- Meer complicaties?
- Lange termijns-resultaten?



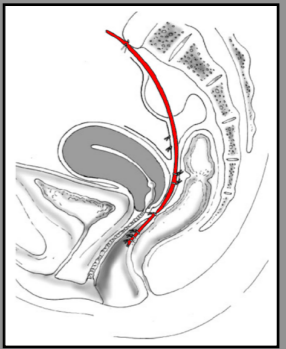
## Contra-indicaties

- Dikke mannen
- Mannen in het algemeen?

## Contra-indicaties

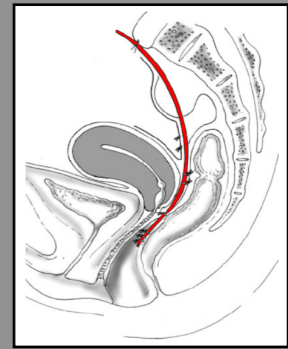
- EC
- Urgency/ FI

# Dyspareunie



	n ptn	de novo	pre- vs. postop.
Wong et al	84	0%	72 > 17 ptn
Abet et al	41	0%	13 > 6 ptn
Hagen et al	27	1 (4%)	8 > 2 ptn

# Mat-gerelateerde complicaties

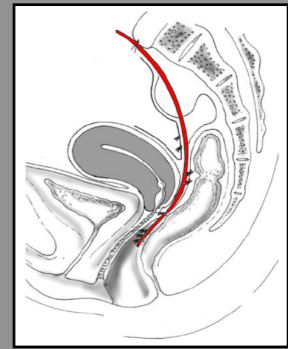


**Table 1** Summary of studies reporting laparoscopic ventral mesh rectopexy with synthetic mesh insertion.

First author	Year	Type of mesh	No. of patients	Median follow-up (months)	Mesh complications	Recurrence of POP /ERP
D'Hoore [18]	2006	Polypropylene	109	n/a	0 0%	4 4%
Verdaasdonk [19]	2006	Polypropylene	14	7	0 0%	2 15%
Slawik [20]	2008	Polypropylene	80	54	0 0%	0 0%
van den Esschert [21]	2008	Goretex or polypropylene	17	38	1 6%	0 0%
Collinson [22]	2009	Polypropylene	75	12	0 0%	4 5%
Boons [23]	2010	Polypropylene	65	19	0 0%	1 2%
Wijffels [24]	2011	Polypropylene or polyester	80	23	0 0%	5 6%
Wong [25]	2011	Polyester	84	29	1 1%	6 7%
Wong [26]	2011	Polyester	41	12	0 0%	2 4%
Faucheron [27]	2012	Polyester	175	74	1 0,6%	2 1%
van der Hagen [28]	2012	Polypropylene	27	12	1 4%	0 0%
<b>Total</b>			<b>767</b>		<b>4 0,5%</b>	<b>28 3.6%</b>

D'Hoore [18]			109		0	4
van der Hagen [28]	2012	Polypropylene	27	12	1	0
Faucheron [27]	2012	Polyester	175	74	1	2
Wong [25]	2011	Polyester	84	29	1	6
Wong [26]	2011	Polyester	41	12	0	2

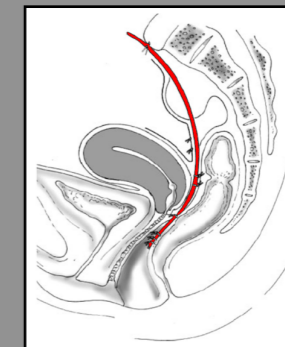
# Biologische mat



**Table 2** Summary of studies reporting laparoscopic ventral mesh rectopexy with biological mesh insertion.

First Author	Year	Type of mesh	No. of patients	Median follow-up (months)	Mesh complications	Recurrence of POP
Wahed [29]	2011	Permacol	65	12	0	2
Sileri [30]	2012	Permacol	34	12	0	2
Total			99		0	4

# Complicaties



## Resultaten LVR “IRP”

	v/d Esschert	Collinson	Whong	Seleri	v/d Hagen	Formijne Jonkers
Indicatie	ODS	IRP	rectocele	IRP	rectocele	IRP/rectocele
n	17	75	84	34	27	157
Mediane FU	38	24	29	12	12	30
Mortaliteit/ Major Morb.	0/18%	0%	0%	0%	0%	0/2,5%
Minor Morb.	29%	4%	5%	24%	7%	2,5%
Recurrence	?	5%	0%	6%	?	?
Mediane LOS	6	2	3	2	3	5
Verbetering OD	?	86%	83>46%	82%	ODS 19>6*	CCCS 51>17
Verslechtering OD	?	0%	0%	0%		0,5%
Verbetering FI	ng	85%	20>16%	73%	CCIS 12>8*	CCIS 59>20*
Verslechtering FI	ng	0%	0%	0%		2%

# Recidief ODS na STARR/transtar



	n ptn		median FU	recidief
Khaled et al	64/64	STARR	42 mnd	13%
Kohler et al	62/80	STARR	39 mnd	18.7%
Meurette et al	25/30	STARR	58 mnd	16%
Goede et al	149/344	STARR	24 mnd	4,9%
Ommer et al	14/14	STARR	68 mnd	7,1%
Zehler et al	20/20	STARR	60 mnd	5%
Madbouly et al	46/46	STARR	42 mnd	13%
Bock et al	67/70	transtar	32 mnd	ODS:16-3-8

## Urgency / FI



tot 70 % (8wkn) urgency po, tot 5% 1,5 jaar po

tot 13 % de novo FI po



# Andere complicaties



Isbert et al.  
STARR

2224/2838 ptn, 12 mnd FU

totale morbiditeit: 36%

persist. pijnklachten 7,1%

Urineretentie: 6,9%

Bloedingen: 5%

Sept. compl.:4,4%

Dehiscentie: 3,5%

## Conclusie

IRP als onderdeel van het ,descending perineum syndrome' is niet alleen geassocieerd met OD(S) maar is waarschijnlijk een belangrijke oorzaak door veranderde anatomie.

Veel patiënten zijn met conservatieve therapie tevreden te stellen.

Zowel de LVR als STARR/Transtar operatie hebben specifieke voor- en nadelen waarbij lange termijns-resultaten doorslaggevend zullen zijn voor hun bestaansrecht.