W9: Pelvic floor defecatory dysfunction: Management or cure?
Workshop Chair: Alexis Schizas, United Kingdom
13 September 2016 13:30 - 16:30

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Aims of course/workshop
Aim:
The aim of this course is to learn how to evaluate and manage pelvic floor defecatory dysfunction (PFDD).

Objectives:
At the end of the workshop the participants should be able to:
- Understand the pathophysiology of pelvic floor defecatory dysfunction (PFDD)
- Recognise and classify types of PFDD
- How to evaluate PFDD
- Understand the role of imaging in patients with PFDD
- Understand the impact of PFDD in urinary and sexual function and what to do if patients present to a Urogynaecology or Urology clinic and when to liaise with the Colorectal team
- Understand the role of biofeedback in the management of PFDD
- Learn how to use Rectal Irrigation as part of the management of PFDD
- Understand the pharmacological man

Learning Outcomes
At the end of the workshop the participants should be able to:
- Identify Pelvic floor disorders that affect defecation
- Understand the assessment of pelvic floor defecatory dysfunction and the necessity before embarking onto any treatment
- Urologists and Urogynaecologists need to be aware of PFDD when these patients present to their clinics with urinary and/or sexual symptoms
- Identify Biofeedback as first line management in patients with PFDD and be able to provide basic advice
- Able to understands the principle of Rectal Irrigation use in patients with PFDD
- Understand the pharmacological treatment of PFDD and how to escalate the different medication of PFDD
- Understand that surgery should be considered for management of PFDD but only when the underlying pathophysiological dysfunction has been corrected
- Understand the impact of mental health and the relationship to bowel dysfunction and when to refer to a specialist
- At the end of the workshop, the speakers will do a quiz where the participants should be able to demonstrate the newly acquired knowledge

Target Audience
Colorectal Surgeons, Urogynaecologist, Urologists, Nurses, Physiotherapists, Clinical Psychologists

Advanced/Basic
Advanced

Suggested Learning before workshop attendance
- Anatomy and physiology of the pelvic floor complex, including the pelvic floor muscles, the external and internal anal sphincters and the endopelvic fascia
- Normal bowel function and defecation dynamics
Alexis Schizas

Introduction to the Workshop
Defecatory dysfunction of the pelvic floor includes both mechanical and functional anorectal disorders. This workshop will not only evaluate the most up-to-date evidence regarding the recognition of pelvic floor defecatory dysfunction (PFDD), the assessment and treatment of PFDD, but the importance of collaborative work amongst the multidisciplinary team. We hope that you will find this workshop stimulating and that it will add to your clinical practice ensuring a safe and effective assessment and treatment of this group of patients.

Biofeedback
Biofeedback should be the first line management for pelvic floor defecatory dysfunction due to the minimal risk and the higher rate of success with completion of therapy. Biofeedback is based on behavior modification by using “operant conditioning techniques” to restore a normal pattern of defecation. The government principle is that any behavior when reinforced repeatedly can be learned and perfected.

Biofeedback retraining usually involves correcting the underlying pelvic floor dyssynergia by teaching patient to defecate effectively using bracing of the abdominal wall muscles and effective relaxation of the pelvic floor muscles with or without attempts to improve rectal sensory perception. There are three main methods of monitoring the function of the anus and providing biofeedback to patients. These methods include electromyography (EMG) biofeedback, manometry biofeedback and balloon sensory training.

During biofeedback sessions patients may also be given instruction on gut, rectal and pelvic floor muscle anatomy and function, as well as behavioral advice about frequency and length of toilet visits, posture on the toilet, increasing fiber and fluid intake and physical activity.

Pelvic floor muscle rehabilitation has become also an integral part of the treatment of these patients due to the higher incidence of other pelvic floor disorders associated with PFDD such as urinary incontinence and pelvic organ prolapse.

As an adjunct to Biofeedback, rectal irrigation has become rapidly an effective intervention in nearly half of the patients with pelvic floor defecatory dysfunction.

Although there is some debate in the literature about the degree of effectiveness of biofeedback, success rates range between 30 and 90% and preferred to by patients when compared to chronic laxative use. Poor prognosis of biofeedback includes those patients with eating disorders and untreated mental health disorders and they should be identified during initial evaluation, and referred to a psychologist or psychiatrist.

Take home message
- Biofeedback and/or conservative measures should be first line management in patients with PFDD
- Biofeedback is an established intervention for patients with PFDD that helps 30 to 90% of patients with PFDD

Pathophysiology of PFDD
PFDD occur in about 18% of the population and have a considerable impact on health costs and quality of life. PFDD encompasses both functional and mechanical causes. Before defaecation occurs the rectum dispense and the somatic sensation leads to a relaxation of the internal anal sphincter and if it is an appropriate time defaecation occurs. If it is not an appropriate time there is voluntary contraction of the external anal sphincter and pelvic floor muscles until the sensation to defecate passes and an appropriate time. In order to defecate the recto-anal angel straightens by squatting and correct defecatory dynamics are required (using the abdominal muscles and diaphragm).

Pelvic floor defecatory dysfunction is the difficulty in evacuation of the rectum. It can be classified into several groups:
1. Functional outlet obstruction (Inefficient relaxation of the anal sphincters, Internal anal sphincter, External anal sphincter and pelvic floor muscles, Neurological causes)
2. Mechanical outlet obstruction (Intrarectal intussusception/rectal prolapse, Enterocoele)
3. Defaecatory force and direction (Rectocoele, Perineal descent, Poor propulsive effort)
4. Colorectal Compliance (Mega rectum, Rectal hyposensitivity, Slow transit)

Patients with defecatory difficulties complain of symptoms of straining, feeling of incomplete evacuation, pain, digital assistance during defecation and unsuccessful attempts. They may also send an extended time on the toilet, have decreased bowel frequency; complain of post defecation soiling and fragmented defecation. They often complain of concomitant urinary and/or sexual symptoms.
Surgical management of PFDD
Conservative treatment is the initial treatment for defecatory dysfunction and correct defecatory technique is essential following surgery to prevent recurrence of symptoms and pathology.

Surgery can assist in correcting anatomical pathology and several surgical procedures are available.

1. Rectal prolapse surgery:
   - Transvaginal rectocele repair and levatoplasty
   - Ventral mesh rectopexy
   - Stapled transanal resection of rectum

2. Full thickness rectal prolapse
   - Perineal procedures – Delorme’s/ Altemeier’s
   - Abdominal procedures – ventral mesh rectopexy, posterior mesh rectopexy, resection rectopexy, sutured rectopexy.

3. Intussusception
   - Ventral mesh rectopexy
   - Stapled transanal resection of rectum

4. Enterocoele
   - Transvaginal rectocele repair, enterocoele repair and levatoplasty
   - Ventral mesh rectopexy

Complications of surgery must be fully discussed and all patient’s symptoms may not be corrected by surgery. Correcting anatomical abnormalities may not necessarily correct symptoms. Unfortunately, surgery can sometimes make pelvic floor symptoms worse.

Often rectal anatomical abnormalities are not found in isolation, patient may often have symptoms and pathology in the middle and anterior pelvic floor compartments.

A full pelvic floor assessment is required a combined colorectal/urology/urogynaecology approach may be required to achieve the best results for patients.

Take home message
A clear understanding of pathology is required to make an appropriate decision with each patient if any surgical options are available and which will be the most appropriate for their symptoms.

Alison Hainsworth
Evaluation and Imaging of Pelvic Floor Defaecatory Dysfunction
Robust assessment is required for optimal treatment planning of PFDD. There is no gold standard assessment tool but a combination of clinical, physiological and radiological tools are used.

Clinical Assessment
Pelvic floor defecatory dysfunction includes incomplete evacuation, post defecatory soiling, faecal urgency and incontinence. These may occur in those with malignancy, which must be excluded first. Incomplete evacuation, incontinence, constipation and symptoms attributable to anterior and middle compartmental dysfunction often co-exist and so it is difficult to diagnose pathology based on symptoms alone. Moreover, the association between symptoms and anatomical abnormalities is not absolute.

Treatment aims to reduce the ‘bother’ of symptoms and therefore a series of standardised questionnaires exist to objectively measure ‘bother’, quality of life and treatment outcomes. The obstructed defaecation syndrome (ODS) score is the only scoring system designed specifically for use with patients with pure outlet obstruction.

Examination includes digital rectal examination and vaginal examination.

Anorectal Physiology
The function of the anal canal and rectum is assessed by a catheter and includes rest and squeeze anal pressures; vectograms; first, urge and maximal sensation; rectal compliance and balloon evacuation. There is conflicting evidence on the association of rectal compliance with obstructive defaecation. Some demonstrate normal compliance and sensation in all subjects (with/without a rectocele) whilst others show reduced rectal compliance and impaired sensation.

Defaecation Proctography
Defaecation Proctography is a dynamic investigation of rectal emptying involving the voluntary expulsion of barium paste recorded on cineradiography or fluororadiography. It is regarded as gold standard for the morphological assessment of posterior compartment pelvic floor disorders with the advantages of assessing defecatory dynamics. It provides structural and functional assessment of; rectocele, intussusception, rectal prolapse, enterocoele, sigmoidocele, perineal descent and the anorectal angle.
along with anismus and evacuation. Pathological findings in asymptomatic volunteers have thrown into question proctographic parameters.

**Defaecation MRI**

Numerous techniques for MR defecography are described including the use of closed configuration magnets in the supine position or vertically open configuration magnets in the sitting position. MRI can distinguish between enterocele, sigmoidocoele and peritoneocoele without additional contrast but supine imaging underestimates pathology and open configuration magnets are inaccessible.

**Integrated Total Pelvic Floor Ultrasound (endoanal, transvaginal, transperineal)**

Endoanal, transvaginal and transperineal ultrasound are routinely used for anterior and middle compartmental assessment and the integrity of the anal sphincters. Its’ use in the assessment of enterocele, rectocele, intussusception, rectal prolapse and anismus are being explored.

Endoanal ultrasound assesses the integrity of the internal and external sphincters and associated defects, sepsis, obstetric trauma or sphincter thickening.

Transperineal ultrasound is more likely that defaecation Proctography to make multiple diagnoses. It has a high positive predictive value and low negative predictive value for abnormalities compared to defaecation Proctography. It may provide a suitable screening tool for symptomatic patients though there remains insufficient evidence to adopt this as routine practice.

**Take home message**

Physiologic tests such as anorectal manometry and imaging such as Proctography and MRI play a key role in objective diagnosis and may assist in planning treatment for this group of patients.

**Heidi Brown**

**Pelvic floor defecatory dysfunction: The Urogynecologist’s Perspective**

The urologist or urogynecologist’s approach to defecatory dysfunction is similar to that of the colorectal surgeon but also often includes evaluation and investigation of concomitant urinary symptoms. Complaints of urinary urgency, frequency, or sensation of incomplete bladder emptying often prompt further investigation of bowel symptoms. Our approach to defecatory dysfunction includes: (1) clarification of patient symptoms; (2) consideration of underlying causes; (3) recommendation of conservative management as first-line therapy; and (4) pursuit of surgical repair when it is likely to improve symptoms.

According to ICS/IUGA terminology, **straining to defecate** refers to a patient’s complaint of the need to make an intensive effort (by abdominal straining or Valsalva) to initiate, maintain, or improve defecation. **Feeling of incomplete (bowel) evacuation** is the complaint that the rectum does not feel empty after defecation, while **diminished rectal sensation** refers to diminished or absent sensation in the rectum. **Constipation** incorporates the Rome II criteria and encompasses complaints that bowel movements are infrequent and/or incomplete and/or there is a need for frequent straining or manual assistance to defecate [2]. **Splinting** refers to the need to digitally replace vaginal prolapse or otherwise apply manual pressure to the vagina or perineum, while **manual evacuation** refers to placement of fingers in the rectum to evacuate stool.

The pathophysiology of defecatory dysfunction is covered elsewhere in this workshop, but referral to a gastroenterologist may be helpful if you suspect systemic or motility disorders contributing to symptoms. The Pelvic Organ Prolapse Quantification (POP-Q) system [3] is used to quantify support defects in the posterior compartment, which may result in prolapse of the anterior rectal and posterior vaginal wall into the lumen of the vagina (‘rectocele,’) prolapse of the small bowel into the lumen of the vagina (‘enterocele,’) or perineal descent (perineum descending greater than or equal to 2 cm below the level of the ischiial tuberosities at rest or at straining). Posterior compartment prolapse may be associated with splinting or manual evacuation symptoms, but most studies do not show a correlation between prolapse stage and defecatory symptoms.

First line management includes optimization of stool consistency through adjustments in fluid and fiber intake with additional pharmacologic therapy if necessary and referral to pelvic floor physiotherapy for muscle coordination, biofeedback, and behavioural coaching, including toileting behaviours. If symptoms persist following conservative management, surgical intervention is considered. Urogynecologists often approach posterior compartment prolapse with native tissue vaginal posterior repair with or without levator plication, which has success rates for anatomic restoration of 76–98% for traditional posterior colporrhaphy and 56–100% for site-specific repairs. Existing literature does not support the placement of biological or synthetic grafts in the posterior compartment, as they do not improve anatomic and symptomatic outcomes. If underlying concomitant reasons for defecatory dysfunctions are not addressed prior to surgical repair, prolapse is likely to recur due to persistent straining. Transanal and transabdominal approaches to correct anatomic defects are more commonly performed by our colleagues in colorectal surgery.

**Take home message**
Many women that present to the Urogynaecology/Urology clinics with urinary symptoms will have concomitant bowel dysfunction so an understanding of investigations, treatment options and when to seek further opinion once simple measures have failed is important.

A multidisciplinary approach including dietetics, physiotherapy, gastroenterology, colorectal surgery, and urogynaecology is preferred to ensure patients receive individualized and appropriate therapy.

Anton Emmanuel

Psychological evaluation

Patients with functional colorectal problems often have symptoms related to other aspects of pelvic floor function. In addition, they often have non-pelvic comorbidity in the form of other functional disorders (such as fibromyalgia, chronic back pain). The multiplicity of symptoms, and the nature of symptoms being often related to intimate or taboo functions mean that there is often an associated psychological dimension to be considered. In turn, these psychological symptoms can cause exacerbation of pelvic floor dysfunction.

The spectrum of psychological morbidity ranges from low-grade anxiety to fullblown mood disorder. As such it is little surprise that purely focussing on the surgical aspects of management of pelvic dysfunction is likely to result in poor outcomes for the patient. Psychological evaluation is key to optimising treatment outcomes with other modalities, but also key to help explain the complexity of symptoms to patients and validate why they may have emotional complaints alongside the physical. The family drawing test has been used in children and adults to assess cognitive, interpersonal and psychological functioning. It has been investigated in patients with pelvic floor dysfunction and may be an alternative to obtaining a formal psychiatric or psychological opinion. This is a test for somatisation which can also be assessed by the PHQ-15 or the modified for GI patients PHQ-12. In terms of clinic assessment without needing referral to a psychological service, anxiety and depression can be identified by use of the HAD questionnaire and there is an extensive literature of this instrument being used to identify cases as well as reflect progress with therapies. Pain questionnaires and maintaining a bowel diary are also helpful assessment tools, which can aid by pointing to possible trigger factors and cyclical patterns.

Ultimately there will be a small group of patients who may be suffering with significant psychiatric disease. This includes, but is not limited to, atypical eating disorders. The clinician needs to keep an open mind and keen eye and ear to detect language and features that point to this. It is critical to identify these patients early and not subject them to both intrusive and surgical therapies or to behavioural therapies, which are not likely to succeed and rather defer the patient’s access to correct psychiatric therapies.

Pharmacological therapy

Drug therapy of pelvic floor dysfunction mostly relates to managing bowel function. Optimising bowel frequency and consistency is a key component of behavioural or surgical therapies in this patient group.

In terms of constipation there is a rational approach to laxatives and rectal therapies that needs to be developed. These are potent drugs and they are not mutually interchangeable. Rather it is important that the clinician understands how to choose the right agent according to the particular symptom profile of the patient. Equally it is important to understand how laxatives may need to be used in terms of regular or as required use in order to get the best effect of these medications. Such an understanding arises from understanding the differing mechanisms of actions of laxatives. Newer generation prokinetic and secretagogue agents have emerged which offer an effective option for a proportion of patients who are refractory to laxatives.

For diarrhoea the standard has been to use non-centrally acting opioid agonists in titrated fashion. Tricks of optimising this therapy can help some patients in order to avoid the adverse effects of agents that have adverse brain and dependence effects. New agents are emerging for such patients with diarrhoea, but a key part of the clinical work up of patients is to look for common (and overlooked) comorbidities, which may be causing diarrhoea (such as bile acid malabsorption, pancreatic insufficiency and coeliac diseases).

Finally there is a role of managing pain in many patients with pelvic floor dysfunction and the role of tricyclic agents and anti-epileptics is central to this.

Take home message

- Occasionally there is an underlying psychological problem that needs to be addressed when treating PFDD
- Managing stool consistency and bowel frequency as well as treating pain when necessary is a key component of managing this group of patients
References

• Wyndaele M, De Winter BY, Pelckmans PA, et al. (2014) Exploring associations between lower urinary tract symptoms (LUTS) and gastrointestinal (GI) problems in women: A study in women with urological and GI problems vs a control population. BJU Int.
Pelvic floor defaecatory dysfunction: Management or cure?

46th ICS Annual Scientific Meeting
Tuesday 13th September 2016
Tokyo, Japan

Welcome! Kon'nichiwa!

Thank you for attending our workshop

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Pelvic floor defaecatory dysfunction: Management or cure?

Aim: The aim of this course is to learn how to evaluate and manage pelvic floor defaecatory dysfunction (PFDD)

The objectives for this workshop are:
- Pathophysiology
- Recognise and classify types
- Learn how to evaluate
- Understand the role of imaging

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<td>Discussion</td>
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Pelvic floor defaecatory dysfunction: Management or cure?

- Understand the impact of PFDD
  - urinary and sexual function
- Present to a Urogynaecology or Urology
  - when to liaise with the Colorectal team
- Role of biofeedback
- Rectal irrigation
- Pharmacological management
- Surgical management
- Importance of psychological assessment

At the end of the workshop the participants should be able to:

- Identify pelvic floor disorders that affect defecation
- Awareness of PFDD
- Biofeedback
- Provide basic advice
- Pharmacological treatment
- Escalation of the different medications
- Surgery should be considered after underlying pathophysiological dysfunction has been corrected
- Impact of mental health

Pathophysiology of PFDD

Alexis Schizas
Consultant Colorectal Surgeon

PFDD occur in about 18% of the population

Considerable impact on health costs

Quality of life

Functional and mechanical causes

Before defaecation occurs

- rectum dispense and the somatic sensation
- relaxation of the internal anal sphincter
- if it is an appropriate time sphincter
- if not there is voluntary contraction
  - until the sensation to defecate passes

Affiliations to disclose:

The equipment utilised as part of this presentation has been kindly donated by the following companies:
- Coloplast
- Qufora
- BBraun

Funding for speaker to attend:

X Self-funded
X Institution (non-industry) funded

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Pathophysiology of PFDD

- To defecate
  - the recto-anal angle straightens by squatting
  - correct defaecatory dynamics are required
  - abdominal muscles and diaphragm

PFDD

- PFDD is the difficulty in evacuation of the rectum

  - Classified into several groups:
    - Functional outlet obstruction
      - (inefficient relaxation of the anal sphincters, paradoxical sphincter contraction (anismus), neurological causes)
    - Mechanical outlet obstruction
      - (intrarectal intussusception/rectal prolapse, enterocoele)
    - Defaecatory force and direction
      - (rectocele, perineal descent, poor propulsive effort)
    - Colorectal Compliance
      - (mega rectum, rectal hyposensitivity, slow transit)
    - Pelvic pain syndromes
      - (levator syndrome, coccygodynia, proctalgia fugax, pudendal neuralgia)
PFDD

• Classified into several groups:
  • Defaecatory force and direction
    • rectocele
    • perineal descent
    • poor propulsive effort

PFDD

• Classified into several groups:
  • Colorectal Compliance
    • mega rectum
    • rectal hyposensitivity
    • slow transit

PFDD

• Classified into several groups:
  • Pelvic pain syndromes
    • levator syndrome
    • coccygodynia
    • proctalgia fugax
    • pudendal neuralgia

PFDD

• Causes of Constipation
  • Dietary
    • Low fibre, dieting, dementia, depression, anorexia, fluid depletion
  • Metabolic
    • Diabetes mellitus, hypercalcaemia, hypokalaemia, hypothyroidism, porphyria
  • Neurological
    • Parkinson’s disease, spinal cord pathology, multiple sclerosis
  • Iatrogenic
    • Antacids that contain aluminium, iron, anticholinergics, antidepressants, opiates for analgesia
  • Post-operative
    • Painful anorectal conditions
    • Anal fissure, haemorrhoids, abscess, fistula
    • Toilet avoidance

PFDD

• Complex problem of rectal evacuation
• Severity variable
• Symptoms difficult to describe
• Defined by a combination of symptoms
• Pathophysiology not clear
  • Widening of the pelvic floor hiatus
  • Descent of pelvic
    • obesity
    • menopause
    • pregnancy
    • childbirth
    • inherited collagen deficiency
    • congenitally weak connective tissue

Affiliations to disclose:\n
† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Alison Hainsworth

BK Medical

Funding for speaker to attend:

☐ Self-funded
☒ Institution (non-industry) funded
☒ Sponsored by: BK Medical
Evaluation and Imaging of PFDD

Alison Hainsworth
Colorectal Surgical Registrar/ Research Fellow

Clinical History

- Rule out organic disease
- Symptoms
difficulty initiating rectal emptying incomplete evacuation, a feeling of obstruction pelvic pressure digitation (rectal/ vaginal) straining rectal pain/ bleeding post defaecatory soiling faecal incontinence

Questionnaires - Symptom Scoring

- Symptom severity, treatment outcomes
- The International Consultations on Incontinence (ICI)
  - universally applicable questionnaires, international populations
  - clinical practice and research
  - bowel, urinary, bladder, sexual,
  - quality of life (1)
- Obstructed defaecation syndrome (ODS) score
  - pure outlet obstruction
  - statistically validated
  - clustering of symptoms associated with different subtypes (2)


Questionnaires - Symptom Scoring

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<td>ICIQ – UI Short form</td>
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<td>Symptom</td>
<td>Reliable</td>
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<td>Cleveland Constipation Score</td>
<td>Treatment</td>
<td>Repeatable</td>
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<td>The Knowles Ecclesley Scott Symptom (KESS) score - constipation</td>
<td>Diagnosis</td>
<td>Correlates</td>
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<tr>
<td>Patient Assessment of Constipation Symptom (PAC – SYM)</td>
<td>Subgroup</td>
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<td>Patient Assessment of Constipation Quality of Life (PAC – QOL)</td>
<td>Burden</td>
<td>Consistent, reproducible, valid, responsive</td>
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<td>Wexner Continence Grading Scale</td>
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<td>St Marks’ Faecal Incontinence score</td>
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<td>Bladder control self-assessment questionnaire (B-SAQ)</td>
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</table>

Clinical Examination

- Inspection
- Digital Rectal Examination
  - Muscle tone
  - Ask patient to expel the examining finger
    - Anismus (sensitivity 77%, specificity 87%)
    - Intussusception (detects a third of intussusception)
- Vaginal Examination

Anorectal Physiology

The function of the anal canal & rectum is assessed

Anorectal manometry –
- rest
- squeeze
- push

RAIR

Sensory testing –
- Balloon inflation

Balloon evacuation –
- Timing & ability

Barostat
- Compliance & capacity

Anorectal Physiology and Anismus

Dyssynergy has four patterns during anorectal manometry:

1. Normal relaxation on pushing
2. Paradoxical contractions on pushing

- Type I: Paradoxical ↓ Adequate ↑
- Type II: Paradoxical ↓ No adequate ↑
- Type III: Failure to ↓ Adequate ↑
- Type IV: Failure to ↓ No adequate ↑

Little agreement on optimal method of diagnosis

- Anorectal manometry

  - Gosselink et al.
    170 women, functional constipation vs age matched controls
    90% of healthy volunteers had an ‘abnormal’ pattern

- Spincter electromyography (EMG) during voiding

- Balloon expulsion (timing and ability) during voiding

Conflicting evidence

- Reduced rectal compliance Impaired sensation
- Rectal compliance unaltered after rectocele repair
- Normal compliance and sensation in all with/without rectocele
- Vaginal Examination

Barostat

- Rectal compliance & capacity
- Not routine practice
Radiology

• Colonic Transit Studies
• Defaecatory Imaging
• Integrated Total Pelvic Floor Ultrasound

Fluoroscopic Defaecation Proctography

• Fluoroscopic defaecation proctography/ evacuatory proctography/ defaecography
• Dynamic investigation - rectal emptying
• Structural & functional
• Multi-compartmental

What is normal?

• Shorvon et al.
  • 47 volunteers
  • Rectocele - 17/20 nulliparous women
  • Intussusception – over half ≥ grade IV(1)

• Palit et al.
  • 46 volunteers
  • Rectocele - up to 3.9cm may be asymptomatic
  • Intussusception – ≥ 20% grade III(2)

• Debate
  • Is barium trapping truly associated with symptoms?(2)
  • More complete evacuation after evacuation in private(3)
  • No association - barium trapping & response to surgery(4)
  • Response of vaginal splinting may predict clinical significance(5)

4) Stojkovic SG, Balfour L, Burke D, Finan PJ, Sagar PM. Does the need to self-digitate or the presence of a large or nonemptying rectocele on proctography influence the outcome of transanal rectocele repair? Colorectal Dis 2003 Mar;5(2):169-72.
Intussusception and constipation

- Dvorkin et al.
- 896 patients
- no symptoms predict obstructing intussusception on proctogram

Intussusception and faecal incontinence

- Hawkins et al.
- 147 patients
- ↑ grade of intussusception - ↑ severity of incontinence

Dynamic conditions or expulsion of USS gel

Sitting or supine

Structural and functional assessment of

- Anterior
- Middle
- Posterior

NB: Levator plate, anal sphincter complex if necessary

Defaecation MRI vs Defaecation Proctography

<table>
<thead>
<tr>
<th>Author</th>
<th>In</th>
<th>Position</th>
<th>Rectal evacuation</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilkinson et al.</td>
<td>42</td>
<td>Supine</td>
<td>Yes</td>
<td>MRI ↓ intussusception; ↑ anismus</td>
</tr>
<tr>
<td>Pannu et al.</td>
<td>82</td>
<td>Supine</td>
<td>Yes (35)</td>
<td>With contrast - similar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No (47)</td>
<td>Without contrast – MRI ↓ abnormalities</td>
</tr>
<tr>
<td>Salvin et al.</td>
<td>10</td>
<td>Supine</td>
<td>Yes</td>
<td>Similar detection rates – prolapse</td>
</tr>
<tr>
<td>Vanbeekervort et al.</td>
<td>35</td>
<td>Supine</td>
<td>No</td>
<td>MRI lower sensitivity</td>
</tr>
<tr>
<td>Schenkenberger et al.</td>
<td>15</td>
<td>Sitting</td>
<td>Yes</td>
<td>MRI superior</td>
</tr>
<tr>
<td>Healy et al. a</td>
<td>24</td>
<td>Supine</td>
<td>No</td>
<td>MRI more organ decent</td>
</tr>
<tr>
<td>Healy et al. b</td>
<td>10</td>
<td>Supine</td>
<td>No</td>
<td>MRI no rectal intussusception/ prolapse</td>
</tr>
<tr>
<td>Lieuemann et al.</td>
<td>44</td>
<td>Supine</td>
<td>Yes</td>
<td>MRI more accurate prolapse &amp; descent</td>
</tr>
<tr>
<td>Delemarre et al.</td>
<td>51</td>
<td>Prone</td>
<td>No</td>
<td>Examination for rectoceele corresponds with defaecation proctography but not MRI</td>
</tr>
</tbody>
</table>

- MRI underestimates posterior pathology
- Contrast expulsion is the key to detection of pathology
- Reason for underestimation probably difficulty evacuating contrast when supine
Defaecation MRI

What is normal?
(asymptomatic subjects – rectocele, pelvic floor hypermobility[2]).

Decision making
Small studies - has clinical impact

| Rentsch et al. | 20 patients | 77.3% - confirmed clinical diagnoses |
|               |            | 34% - revealed combined pelvic floor disorders[3] |

Kaufman et al. | 22 patients | 43% - changed operative plan[4] |

Integrated Total Pelvic Floor Ultrasound

Endoanal, transperineal and transvaginal ultrasound

Routine
• anterior/ middle dysfunction
• endoanal - anal sphincters

Posterior dysfunction not routine

Transperineal Ultrasound vs Defaecation Proctography

Author | n | Findings
--- | --- | ---
Beer Gabel et al. | 595 | Sensitivity good/excellent & specificity high for rectocele, intussusception, enterocoele, rectal prolapse.
Martello et al. | 94 | Agreement substantial/ perfect for rectocele, intussusception, enterocoele
Reemtsma et al. | 75 | Agreement moderate/good - rectocele/ enterocoele, far - intussusception.
Beek Gabel et al. | 62 | Both methods accurate for cul-de-sac hernia
Perniola et al. | 97 | High positive predictive value for rectocele, intussusception, rectal prolapse
Graus et al. | 43 | Moderate agreement for rectocele, excellent agreement for intussusception, excellent concordance for PPA training / rest ratio
Breusciante et al. | 544 | High specificity - intussusception and rectocele.
Beer Gabel et al. | 43 | Ultrasound more likely to make multiple diagnoses

Ultrasound is a suitable screening tool for defaecatory dysfunction

Fluoroscopic Defaecation Proctography

Advantages | Useful in diagnosis of... | Disadvantages | Unhelpful in diagnosis of...
--- | --- | --- | ---
Available, practical | • Posterior compartmental dysfunction | • No consistency in technique
Cost | • Barium trapping in a rectocele | • Delay
Functional & anatomical assessment of defaecatory dynamics | • Effect of vaginal sphincter & correct defaecatory techniques | • Normal parameters
Sitting | • Ultrasound is a suitable screening tool for defaecatory dysfunction | • Implications of findings
Explant contrast | • Multiple compartmental assessment — contrast | • Radiation
Visual feedback | • Anterior and middle compartmental prolapse (unless contraindicated) |

Anorectal Physiology

Advantages | Useful in diagnosis of... | Disadvantages | Unhelpful in diagnosis of...
--- | --- | --- | ---
Bedside test | • Muscle tone, sphincter injury, fuitures | • Structural problems
Minimally invasive | • Anorectal measurement of defaecatory dynamics
Physiology and function | • Sitting
Biofeedback tool | • Explant contrast

Rectocoele, pelvic floor hypermobility

Sensitivity good/excellent
Left lateral
Available, practical

Barium trapping in a sacculus recti.

Anterior and middle dysfunction

Posterior dysfunction not routine

Improved rectal compliance

Rectocoele

Rectocoele, intussusception, rectal prolapse.

Ultrasound is a suitable screening tool for defaecatory dysfunction

Good agreement for rectocoele, intussusception, rectal prolapse.

Ultrasound is a suitable screening tool for defaecatory dysfunction

Unhelpful in diagnosis of...


Increased rectal capacity

Useful in diagnosis of...

Variable agreement moderate/good

Sitting position

Sitting position

Rectocoele, intussusception, rectal prolapse.

Ultrasound is a suitable screening tool for defaecatory dysfunction

Good agreement for rectocoele, intussusception, rectal prolapse.

Ultrasound is a suitable screening tool for defaecatory dysfunction

Unhelpful in diagnosis of...


High specificity

- rectocele

Large studies

Rectocoele, intussusception, enterocoele


Defaecography

- rectocele

Defaecography

- rectocele


Defaecation MRI

**Advantages**
- Functional & anatomical assessment of defaecatory dynamics
- Open configuration magnets – sitting
- Expulsion of contrast
- Multicompartmental
- Soft tissue
- No radiation

**Disadvantages**
- Expense
- Limited access to open configuration magnets
- Pathology may be underestimated due to; Supine
- No expulsion of rectal contrast
- No rectal expulsion intussusception

**Useful in diagnosis of:**
- Functional & anatomical assessment of defaecatory dynamics
- Expulsion of contrast
- Multicompartmental
- Soft tissue
- No radiation

**Unhelpful in diagnosis of:**
- Expense
- Limited access to open configuration magnets
- Pathology may be underestimated due to; Supine
- No expulsion of rectal contrast

---

Integrated Total Pelvic Floor Ultrasound

**Advantages**
- Dynamic multicompartmental assessment without contrast
- Safe, cheap, portable, One stop clinic
- Visual biofeedback
- Screening tool

**Disadvantages**
- User dependent, training, experience
- Gynaecological/ left lateral position
- Expulsion of rectal gel not routine
- May underestimate pathology
- Splinting effects of probe ?distort anatomy/ prevent Valsalva

**Useful in diagnosis of:**
- Dynamic multicompartmental assessment
- Screening tool for obstructed defaecation

**Unhelpful in diagnosis of:**
- User dependent, training, experience
- Gynaecological/ left lateral position
- Expulsion of rectal gel not routine
- May underestimate pathology
- Splinting effects of probe ?distort anatomy/ prevent Valsalva

---

Summary

No one perfect assessment tool

Combination
- **clinical review**
- physiological examination
- radiological investigation

determine pathophysiology, treatment planning

MDT

Future developments - ? imaging with simultaneous physiological assessment.

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Psychological Evaluation of PFDD

Anton Emmanuel

---

Biofeedback in Pelvic Floor Defaecatory Dysfunction

Doreen McClurg

---

Heidi Wendell Brown, MD, MAS

Affiliations to disclose:
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- [ ] Self-funded
- [x] Institution (non-industry) funded
- [ ] Sponsored by:

*All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation.
Urology / urogynaecology perspective

Overview
• Definitions
• Concomitant Symptoms
• Evaluation (POP-Q)
• Treatment Recommendations

Joint Terminology
• Straining to defecate: need to make intensive effort (by abdominal straining or Valsalva) to initiate, maintain, or improve defecation
• Splinting: need to digitally replace vaginal prolapse / apply manual pressure to vagina / perineum
• Manual evacuation: placement of fingers in the rectum to evacuate stool
• Feeling of incomplete evacuation: rectum does not feel empty after defecation
• Diminished rectal sensation: decreased / absent sensation of contents in the rectum

Functional Constipation (Rome III)
1. ≥2 symptoms w/ > 25% of defecations over last 3 mo:
   • Straining
   • Lumpy or hard stools
   • Sensation of incomplete evacuation
   • Sensation of anorectal obstruction / blockage
   • Manual maneuvering required (vaginal or rectal)
   • Fewer than 3 defecations / week
2. Loose stools rarely present without use of laxatives
3. Insufficient criteria for irritable bowel syndrome

When you have a hammer...
• Urinary incontinence
• Urinary urgency
• Urinary frequency
• Urinary retention
• Fecal incontinence
• Pelvic organ prolapse

Concomitant Symptoms

Urinary Symptoms & Bowel Dysfunction
• Stool in rectum can press on bladder ➔ urgency, frequency
• Incontinence can be related to pressure, retention, loss of pelvic floor muscle coordination
• Retention from urethral occlusion or underlying nerve dysfunction


http://www.iuga.org

http://www.mountnittany.org/articles/healthsheets/11940

Roommates in a small apartment

http://www.mountnittany.org/british/healthsheet/11888

http://www.umc.edu/ci/icu/2016/08/02/urn-i20422085.pdf
Fecal Incontinence and Defecatory Dysfunction

Posterior or apical vaginal support defects can cause defecatory dysfunction.

Rectocele
Enterocoele

Defecatory dysfunction and prolapse

Chronic straining damages pelvic floor support and can lead to pelvic organ prolapse in any compartment.

Urogynecologist’s Evaluation

- History
  - Duration, bother, mediators and triggers
  - Prior therapies and results
  - Alarm symptoms → referral
- Validated Instruments
  - Pelvic Floor Distress Inventory (PFDI)
  - Pelvic Floor Impact Questionnaire (PFIQ)
  - Bristol Stool Scale
- Physical Exam

Pelvic Floor Distress Inventory

Pelvic Floor Impact Questionnaire (PFIQ):

A validated, condition-specific Quality of Life instrument
Assessment of Stool Consistency

**Bristol Stool Chart**

Type 1: Lumps of hard, dry stool
Type 2: Bologna-shaped but lumpy
Type 3: Pile of soft stool
Type 4: Like a sausage or snake, smooth and soft
Type 5: Soft stools with clear-cut edges (smooth edges)
Type 6: Pasty stool
Type 7: Watery or semi-solid stool, liquid

Urogyn Physical Exam: POP-Q

- **Anterior / cystocele**
- **Posterior / rectocele**
- **Apical / uterine**

Prolapse Reduction Cough Stress Test

If bulge, reduce with large Q-tip(s)
Have patient valsalva x 3
Have patient cough x 3
Enterocele and rectocele can be preventing urine leakage.

POP-Q Helpful Hints

1. Inside the hymen, measurements are negative
2. Outside the hymen, measurements are positive
3. At the hymen, measurement is 0
4. If symptoms are out of proportion to exam findings, have patient STAND and observe prolapse with valsalva in standing position.

POP-Q Measurement Sites

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
<th>Range of Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aa</td>
<td>Anterior vaginal wall 3 cm proximal to the hymen</td>
<td>-3 cm to +3 cm</td>
</tr>
<tr>
<td>Ba</td>
<td>Most distal position of the remaining upper vaginal wall</td>
<td>-3 cm to +/- tvl</td>
</tr>
<tr>
<td>C</td>
<td>Most distal edge of cervix or vaginal cuff scar</td>
<td>+/- tvl to +/- tvl</td>
</tr>
<tr>
<td>D</td>
<td>Posterior fornix (N/A if post hysterectomy)</td>
<td>+/- tvl</td>
</tr>
<tr>
<td>Ap</td>
<td>Posterior vaginal wall 3 cm proximal to the hymen</td>
<td>-3 cm to +3 cm</td>
</tr>
<tr>
<td>Bp</td>
<td>Most distal position of the remaining upper posterior vaginal wall</td>
<td>-3 cm to +/- tvl</td>
</tr>
</tbody>
</table>

Additional Measurements:
- **Genital hiatus (gh)** - Measured from middle of external urethral meatus to posterior midline hymen
- **Perineal body (pb)** - Measured from posterior margin of gh to middle of anal opening
- **Total vaginal length (tvl)** - Depth of vagina when point D or C is reduced to normal position

[http://www.bardmedical.com/POPQ](http://www.bardmedical.com/POPQ)
**POP-Q Staging Criteria**

<table>
<thead>
<tr>
<th>Stage</th>
<th>POP-Q measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0</td>
<td>Aa, Ap, Bo, Bp = -3 cm and C or D ≤ -(TVL - 2) cm</td>
</tr>
<tr>
<td>Stage I</td>
<td>Stage 0 criteria not met and leading edge &lt; -1 cm</td>
</tr>
<tr>
<td>Stage II</td>
<td>Leading edge ≥ -1 cm but ≤ +1 cm</td>
</tr>
<tr>
<td>Stage III</td>
<td>Leading edge &gt; +1 cm but &lt; + (TVL - 2) cm</td>
</tr>
<tr>
<td>Stage IV</td>
<td>Leading edge ≥ + (TVL - 2) cm</td>
</tr>
</tbody>
</table>

**Baden-Walker Halfway System**

**About the Baden-Walker Halfway System**

The Baden-Walker Halfway System is designed to measure the most distal portion of the prolapse site in relationship to the hymen. The halfway system does not require site specific measurements of the vagina and the perineal body in relation to the hymen.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Position of most distal prolapse site</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No prolapse</td>
</tr>
<tr>
<td>1</td>
<td>Halfway to hymen</td>
</tr>
<tr>
<td>2</td>
<td>To hymen</td>
</tr>
<tr>
<td>3</td>
<td>Halfway past hymen</td>
</tr>
<tr>
<td>4</td>
<td>Maximum descent</td>
</tr>
</tbody>
</table>

References:

http://www.bardmedical.com/POPQ

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**Physical Exam**

**Bimanual exam:**
- Uterine size, position, mobility, tenderness
- Adnexal masses / tenderness

**Levator spasm / tenderness (pain)**

Brink Scale to assess pelvic floor strength

**Rectal exam — r/o masses, assess sphincter**
- Anal sphincter tone at rest and with squeeze
- Intact anal sphincter? (place thumb in vagina while index finger is in rectum and palpate muscle)

**Physical exam: Brink Scale (3-12)**

**Vaginal pressure or muscle force**
- 1 - no response
- 2 - weak squeeze
- 3 - moderate squeeze
- 4 - strong squeeze

**Elevation/vertical displacement of examiner’s fingers**
- 1 – none
- 2 – fingertip moves anteriorly
- 3 – whole length of fingers move anteriorly
- 4 – whole fingers move anteriorly, are gripped and pulled in

**Duration of contraction**
- 1 - none
- 2 - <1 second
- 3 - 1-3 seconds
- 4 - >3 seconds

---

**Defecography if symptoms ≠ exam**

**Prior to defecation**

- Black arrow: vagina
- White arrow: rectum

**With attempt to defecate:**

- Rectocele


---

**Urogyn Management: First Line**

- If alarm signs: referral to GI
- Optimization of stool consistency through adjustments in fluid and fiber intake with additional pharmacologic therapy if necessary (referral to dietitian / nutrition)
- Referral to pelvic floor physiotherapy for muscle coordination, biofeedback, and behavioural coaching, including toileting behaviours
- Re-evaluate symptoms in 3 months
Urogyn Treatment Options

If not bothered: Nothing!
If bothered: Knee injury analogy
  • Physical therapy
  • Brace (pessary)
  • Surgery

50% success with PT
Can always do surgery

Eclipse vaginal bowel control system

• N = 61 subjects fitted / 110 enrolled
• 6 episodes / week → 1 episode per week (1 month)
• No device-related serious adverse events
• Pelvic cramping and discomfort (esp during fitting)


Surgical repair

1. Offered if symptoms persist after other treatments fail.
2. Posterior compartment prolapse with native tissue vaginal posterior repair has success rates for anatomic restoration of 76–98% for traditional posterior colporrhaphy and 56–100% for site-specific repairs.
3. No role for biological or synthetic grafts in the posterior compartment.

Post-op: avoid constipation / straining

http://www.evidentlycochrane.net/feet-up-constipation/

Conclusions & Recommendations

• Symptom tracking enables self-directed, personalized effort and evaluation of results
• Best outcomes involve multidisciplinary approach to optimize various mechanisms contributing to symptoms

Affiliations to disclose†:
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- Qufora
- BBraun

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- Institution (non-industry) funded
- Sponsored by:
Trans-anal Irrigation Therapy (TAI)

By Carlene Igbedioh
Clinical Nurse Specialist

Aims of this presentation

• What is Trans-anal Irrigation Therapy?
• How does it work? And Benefits
• Indications and Contraindications
• Complications of TAI
• When should TAI be considered?
• Patient selection/investigations required/initiating treatment
• What does the literature say?
• Rectal Irrigation systems
• Rectal Irrigation – Decision Matrix
• Trouble shooting

Trans-anal Irrigation Therapy

• Trans-anal irrigation therapy (TAI), commonly known as Rectal irrigation, involves facilitation of bowel evacuation by instilling water into the rectum via the anus, using either a balloon catheter or cone delivery system.


History of TAI

• The 17th century known as the age of the enema and the use of syringes for “internal washing or lavament”
  • Reached the height of fashion during the years of the reign of Louis XIV (1618-1715) who is reported to have over 2000 ‘Clysters or enemas’
  • Regnier De Graaf was the first one to describe the use of enemas with syringes in his treatise De Clysteribus published in 1668.

• In a 1917 edition of the Journal of American Medical Association (JAMA) Dr. Kellog reported that in over forty thousand gastrointestinal disease cases, he had used surgery in only twenty cases. The rest were helped as a result of cleansing the bowels, diet and exercise.
  • He advertised that his sanitarium had rooms “devoted to rectal and bowel applications.”

History of TAI

• 1500 B.C., the ‘Ebers Papyrus’, an ancient Egyptian medical document, described the many benefits of colon cleansing.
  • It was designed to counteract the effects of “auto-intoxication”
• Later the Greeks and the Romans used it to treat “fevers and intestinal worms”.
• Dr Ardene (English surgeon; 1307-1390) advocated that “each person should be purged 3 to 4 times a year to maintain good health”.

TAI in modern medicine

• Reintroduced into modern medicine in the 1980’s as a treatment of neurological bowel dysfunction (Spina Bifida, MS, …)
• And more recently (early 2000’s) to treat Pelvic floor defecatory dysfunction (functional bowel dysfunction)!
How does TAI work?

• TAI assists bowel evacuation by introducing warm water into the rectum and colon via the anus and using a balloon catheter and/or cone system;
• The balloon catheter or cone delivery system is attached via a plastic tube to an irrigation bag holding up to 1.5 liters of water although typically only 0.5–1 liter is required;
• Alternatively a low-volume system consisting of a hand pump and a cone may be employed. This will normally deliver up to 80mls of water;
• The water is subsequently evacuated into the toilet with the content of the descending colon, sigmoid colon and rectum.

![Image](https://vimeo.com/50975672)


Benefits of TAI

The regular use of TAI allows to re-establish and control bowel function in patients with bowel dysfunction. This enables patients to develop a bowel routine by choosing the time and place of evacuation.

In patients with PFDD, regular evacuation of the rectosigmoid region can accelerate transit through the entire colon and therefore helps to prevent blockages.

改善信心和生活质量在患者身上！


Indications of TAI

• Pelvic floor defecatory dysfunction: Obstructed defecation syndrome (ODS), Functional defecation disorder (FDD), Chronic idiopathic constipation (CIC), and Constipation-predominant irritable bowel syndrome (IBS-C).
• Idiopathic Post-traumatic Constipation
• Neurological Bowel dysfunction (MS, SCI, Spina bifida...)


Contraindications

**Absolute contraindications:**
• Anal or rectal stricture
• Active inflammatory bowel disease
• Acute diverticulitis
• Colorectal cancer
• Within 3 months of rectal surgery
• Within 4 weeks after endoscopic polypectomy
• Ischaemic colitis

**Relative contraindications/Precautions:**
• Severe diverticulosis
• Long-term steroid medication
• Radiotherapy to the pelvis
• Prior rectal surgery
• Faecal impaction
• Painful anorectal conditions
• Current or planned pregnancy
• Bleeding diathesis or anticoagulant therapy
• Severe autonomic dysreflexia
• Change of bowel habit
• The use of rectal medication
• Children below 3 years of age
• Severe heart/liver disease

Complications – Bowel perforation

• Bowel perforation is a rare complication of TAI
  • DRE/Patient evaluation is mandatory pre TAI!

• The patient usually experiences:
  • Severe/sustained pain in the abdomen/back
  • Severe anal bleeding
  • Patient should be advised to seek immediate medical help!

• In order to minimize the risk:
  • Training the patient!
  • Discuss symptoms of bowel perforation
  • Regular contact + contact details of the health professional that provided the TAI system


When should TAI be considered?

Patient selection and work up!

• The patient should be known to the health care professional initiating TAI
  • Pathophysiology and clinical indication of TAI

• The escalation of treatment pre TAI is an important part of deciding which method of TAI
  • Complying with clinical guidance and clinical governance
  • Psyche and Motivation!
  • Patient’s manual dexterity


Maybe the patient has already designed her/his own TAI system!!!

Picture taken with patient’s permission.

Patient assessment pre TAI

• Review bowel management and ensure that the appropriate escalation of treatment has been completed!

• Assessment by a clinically competent TAI health care professional:
  • Symptoms up to date and comparison to the first visit with an appropriate outcome measure
  • Review PMH, DHx and SurgHx=check contraindications!
  • Impact on QoL/ADL’s
  • DRE±VE±Abdominal palpation
  • Bowel diary
  • ‘Home made treatments’ (coffee enemas, colonic irrigation, etc...)
Does the patient require any investigations pre TAI?

- Necessary to exclude RED FLAGS!
  - Triage clinic in our unit
- Depending on primary referrer
  - GP/Family doctor versus Colorectal Surgeon
- Bowel investigations:
  - Colonoscopy?
  - Flexible sigmoidoscopy?
  - Anorectal physiology?
  - Endoanal/Pelvic floor ultrasound?
  - Transit studies?

Initiating treatment

- PRACTICE-PRACTICE-PRACTICE-!!!
- Patient training
  - Explain rationale and procedure for the use of TAI
    - “Make it personal”: correlation of the benefit of using TAI with the patient’s symptoms and the alternative of not using TAI
    - Ensure the patient provides consent!
  - The patient should demonstrate “competence in clinic”
  - Establish a routine for the patient
    - Is there a better time? What about making use of the gastrocolic reflex?
  - Discuss frequency of TAI
    - Ideally, daily use and decrease to alternate days when patient confident with the use and experienced benefit of TAI (individual to each patient)
  - Further encouragement of an appropriate diet and fluid intake with a reminder of defecation dynamics

Ongoing support/adherence to the TAI

- Follow up in person or via a telephone appointment
- Is there a specific timeframe?
  - AT GSTT, patient is contacted at two weeks via telephone and in the long term access to a group session.
- Discuss use of water and number of pumps required with each TAI system
- Set up realistic expectations
  - It may take a few weeks for an optimum benefit of TAI
- Discuss expected complications with the TAI system and how to resolve them
- Discuss the use of laxatives as an adjunct to TAI depending on initial diagnosis and indication of TAI

What does the literature say?

Transanal irrigation for disordered defecation: A systematic review

In patients with chronic idiopathic constipation, defecation disturbances after anorectal surgery or miscellaneous functional bowel problems, transanal irrigation can be attempted as a simple and reversible treatment, but whether it is superior to other nonsurgical procedures remains to be studied. However, it seems reasonable to offer transanal irrigation before irreversible surgical procedures are considered.

Key Words: Constipation, Anorectal disturbance, anus, faecal incontinence, neurogenic bowel dysfunction, review, randomized trials

Results of long-term patients

Conclusions: RC is a moderately effective long-term alternative in patients who do not respond to medical therapy and biofeedback exercises. There is a high dropout rate in the first months, but a moderate rate of continuation in the period thereafter. No predictive factors for continuation were found in medical history or function tests. Those who continued RC performed better on the SF-36 subscale energy/fatigue.
Enough with the overview, lets get our hands dirty now!

**TAI systems**
- Peristeen – Coloplast
  - [Video](https://www.youtube.com/watch?v=M89WHE3Taza)

**Qufora**
- IrriSedo Cone Guide
  - [Video](https://www.youtube.com/watch?v=4YLg8RDE_I)
- Balloon Irrigation system
  - [Video](https://www.youtube.com/watch?v=4YLSg8RDE_I)
- Balloon Irrigation system
  - [Video](https://www.youtube.com/watch?v=XV6H-AEib8)
- IrriSedo Mini Guide
  - [Video](https://www.youtube.com/watch?v=Ar4BAwIbVlK)
- Irypump® S Rectal Irrigation with Cone
  - [Video](https://www.youtube.com/watch?v=uOsfrGqZzk)
**Trouble-shooting**

Consensus review of best practice of transanal irrigation in adults


**Bleeding**

A small amount of bleeding is to be expected from removal of irrigating balloon during insertion. More blood than expected is a sign of retained balloon and should be removed immediately. If bleeding continues, then other measures may be required.

**Pain**

If constipation or diarrhea occurs while instilling the irrigation, change medication. If pain occurs andcontact your doctor and inform hospital immediately.

**Autonomic dysreflexia and autonomic symptoms during irrigation (sweating, palpitations and diastasis)**

Check for autonomic symptoms andadvice should midway through irrigation. If symptoms are bothersome, ensure the patient is not alone when irrigating and that other measures are available.

**Digital rectal check and removal of stool if present**

Increase frequency and/or volume of transanal irrigation to ensure evacuation is adequate.

---

**FAcinal incontinence (It can also happen in patients with PFDD) between uses of transanal irrigation**

Ensure patient allows sufficient time on toilet following transanal irrigation. Encourage use of adjutant measures to encourage emptying. Reduce or decrease amount of water instilled. Split the irrigation into two consecutive episodes, 10–15 min between episodes, using half the irrigant each time. An Anal Plug (Easiplast) can be tried if problem persists.

---

**TAI – Decision Matrix**

<table>
<thead>
<tr>
<th>Rectal Balloon System</th>
<th>Cone Shape System</th>
<th>Pump System</th>
<th>Evidence</th>
<th>Available on prescription (UK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peristeen®</td>
<td>✔</td>
<td>✔</td>
<td>RCT &amp; Observational</td>
<td>Yes</td>
</tr>
<tr>
<td>Quoora Cone Toilet®</td>
<td>✔</td>
<td>✔</td>
<td>Observational</td>
<td>Yes</td>
</tr>
<tr>
<td>Quoora Balloon System®</td>
<td>✔</td>
<td>✔</td>
<td>Observational</td>
<td>Yes</td>
</tr>
<tr>
<td>Quoora Mini System®</td>
<td>✔</td>
<td>✔</td>
<td>Observational</td>
<td>Yes</td>
</tr>
<tr>
<td>Irypump®</td>
<td>✔</td>
<td>✔</td>
<td>Observational</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

**Leakage of water between irrigations**

Ensure patient allows sufficient time on toilet following transanal irrigation. Encourage use of adjutant measures to encourage emptying. Reduce or decrease amount of water instilled. Split the irrigation into two consecutive episodes, 10–15 min between episodes, using half the irrigant each time. An Anal Plug (Easiplast) can be tried if problem persists.

---

**TAI – Decision Matrix**

<table>
<thead>
<tr>
<th>Clinical Indication</th>
<th>Why</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to use system</td>
<td>Due to pain, leakage of irrigation</td>
<td>Cannot recommend one system over another! Most of the time depends on clinicians clinical experience + competence with TAI systems!</td>
</tr>
</tbody>
</table>

---

**Conclusion**

- TAI is a beneficial and effective intervention for patients with PFDD
- Escalation of the appropriate treatment and an appropriate assessment (QoL/Symptoms) pre TAI is essential in order to adhere with clinical guidelines/governance
- Patient selection is the number 1 factor for a successful intervention!
- Patient’s support is the key for the success of the intervention in the short and the long term
- Ongoing liaison with the rest of the team is essential for the ultimate benefit of the patient!!

---

**Leakage of water around the catheter/cone**

Ensure patient allows sufficient time on toilet following transanal irrigation. Encourage use of adjutant measures to encourage emptying. Reduce or decrease amount of water instilled. Split the irrigation into two consecutive episodes, 10–15 min between episodes, using half the irrigant each time. An Anal Plug (Easiplast) can be tried if problem persists.

---

**>**


Pharmacological treatment of PFDD
Anton Emmanuel

Surgical treatment of PFDD
Alexis Schizas
Consultant Colorectal Surgeon

Conservative
- maximal medical treatment
- biofeedback or pelvic floor retraining, rectal irrigation

Surgery
- failed conservative treatments
- underlying structural abnormality – e.g. rectocele
- vaginal, transanal, abdominal or laparoscopic
- Significant recurrence and complication rates

Surgery for Rectocele

- Transvaginal
  - Posterior repair
  - +/- Levathorplasty
  - Site-specific repair
- Transanal
  - Delormes
- Perineal
  - Transperineal rectocele repair
- Anal
  - Prolapse repair
  - STARR
  - Abdominal or laparoscopic
    - Prolapse repair
    - Ventral mesh rectopexy

Trans-vaginal Rectocele Repair

Transvaginal Rectocele Repair
- +/- Levathorplasty
- Site-specific repair
- Posterior repair
- +/- Ventral mesh rectopexy
- +/- Sphincteroplasty / repair
- Excision / reduction of redundant tissue
- Buttressing the V/V septum
Trans-vaginal Rectocele Repair

Results of Rectocele Repair

<table>
<thead>
<tr>
<th>Author</th>
<th>n</th>
<th>Improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khubchandani et al (1983)</td>
<td>59</td>
<td>63%</td>
</tr>
<tr>
<td>Siproudhis et al (1993)</td>
<td>26</td>
<td>76%</td>
</tr>
<tr>
<td>Janssen &amp; van Dijke (1994)</td>
<td>76</td>
<td>50%</td>
</tr>
<tr>
<td>Melgren et al (1995)</td>
<td>28</td>
<td>52%</td>
</tr>
<tr>
<td>Van Dam et al (1996)</td>
<td>35</td>
<td>71%</td>
</tr>
<tr>
<td>Karlsson et al (1996)</td>
<td>34</td>
<td>79%</td>
</tr>
<tr>
<td>Khubchandani et al (1997)</td>
<td>105</td>
<td>82%</td>
</tr>
<tr>
<td>Van Laarhoven et al (1999)</td>
<td>22</td>
<td>75%</td>
</tr>
<tr>
<td>Lamoh et al (2001)</td>
<td>24</td>
<td>75%</td>
</tr>
<tr>
<td>Bocasanta et al (2002)</td>
<td>30</td>
<td>80%</td>
</tr>
<tr>
<td>Murthy et al (1996)</td>
<td>31</td>
<td>92%</td>
</tr>
<tr>
<td>(Selective policy)</td>
<td></td>
<td>73%</td>
</tr>
</tbody>
</table>

Overall Improved: 73%
Ventral Mesh Rectopexy

- External rectal prolapse
- Internal organ prolapse / descent
- Intra rectal intussusception
  - ? Incontinence
  - ? SRUS
  - ? Pelvic pain
VMR

- Rectocoele
  - Improvement in vaginal discomfort 66%
- Reduction in ODS score 40%
  - 86% patients improvement
- Ext Rectal Prolapse
  - Recurrence 2% - 4%
- Resolution / Improvement constipation 72% - 84%
- New Constipation 2%

Prolapse Surgery

- Abdominal procedure
  - Ventral Mesh Rectopexy
  - Sutured Rectopexy
  - Resection Rectopexy
- Perianal procedures
  - Delorme’s procedure
  - Altmeier’s

Types of prolapse

Full Thickness External Prolapse
- Low Take Off
- High Take Off
  (external protrusion of intra-rectal intussusception)

Intra-rectal Intussusception

Rectal wall prolapse (rectocoele)

Perineal approaches

<table>
<thead>
<tr>
<th>Delorme’s operation</th>
<th>Perineal proctosigmoidectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Described in 1900</td>
<td>1933 Miles</td>
</tr>
<tr>
<td>Resection of sleeve of mucosa with plication of remaining muscle and suture of bowel mucosa to anal mucosa</td>
<td>1971 Altmeier</td>
</tr>
<tr>
<td>Full thickness excision of rectum and portion of sigmoid colon</td>
<td></td>
</tr>
</tbody>
</table>

Delorme’s procedure

<table>
<thead>
<tr>
<th>No. of studies (1979-2003)</th>
<th>No. pts</th>
<th>Recurrence (%)</th>
<th>Continence improved (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>487</td>
<td>21</td>
<td>71</td>
</tr>
</tbody>
</table>

Perineal proctosigmoidectomy (Altmeier’s)

<table>
<thead>
<tr>
<th>No. of studies (1971-1999)</th>
<th>No. pts</th>
<th>Recurrence (%)</th>
<th>Continence improved (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>558</td>
<td>17</td>
<td>61</td>
</tr>
</tbody>
</table>
STARR - Indications

STARR: symptomatic patients with abnormality

Anatomical changes
• STARR (surgery) corrects anatomical abnormality
• in presence of symptoms

Exclusion Criteria

External full-thickness rectal prolapse
Perineal infection (abscess, fistula)
Recto-vaginal fistula
Inflammatory bowel disease (including proctitis)
Radiation proctitis
Anal incontinence (Cleveland Clinic Florida; Wexner Score > 7)
Anal stenosis precluding insertion of the stapling device
Enterocele at rest

Significant gynaecological or urinary pelvic floor abnormality requiring combined treatment
Presence of foreign material adjacent to the rectum (e.g. mesh)
Absence of anatomical or physiological abnormality associated with ODS
Intra-operative technical factors which preclude the safe execution of the operation
Significant rectal or peri-rectal fibrosis
Prior rectal anastomosis

STARR - Outcome

Improvement ODS and structure in >90% of patients

European STARR registry
• 2,224 patients, 12-month follow-up
• significant improvement
  • obstructive defaecation score (15.8 vs. 5.8, P<0.001)
  • symptom severity score (15.1 vs. 3.6, P<0.001)
  • quality of life

STARR - Complications

Overall - 36%
  • Urgency 20%
  • Bleeding 5%
  • Sepsis 4.4%
  • Staple line complications 3.5%
  • Incontinence 1.8%
  • Pain <2%
  • rectal necrosis <1%
  • rectovaginal fistula <1%

Surgical treatment of PFDD
Surgical treatment of PFDD

• Clear understanding of pathology
• Appropriate decision with each patient
• If any surgical options are available
• Most appropriate for their symptoms

Thank you!

Any questions?
Aims of this presentation

- What is Biofeedback Therapy?
- What does the literature say?
- Assessment pre Biofeedback
- Biofeedback therapy techniques
- Outcome of Biofeedback
- Conclusion

What is Biofeedback?

‘The technique by which information about a normally unconscious physiologic process is presented to the patient and/or therapist as a visual, auditory or tactile signal.’
What is Biofeedback?

- Biofeedback (BFB) therapy is an instrument-based learning process that is based on “operant conditioning” techniques.
- The governing principal is that any behavior when reinforced its likelihood of being repeated and perfected increases several fold.


What is Biofeedback Therapy nowadays?

Biofeedback Therapy

A combination of all of these therapies will help the patient to defecate effectively. Also, evacuating regularly may also stimulate gut transit.


Goals of Biofeedback

- To restore a normal pattern of defecation
- To correct the dyssynergia or incoordination of the abdominal, rectal, puborectalis and anal sphincter muscles
- To enhance rectal sensory perception in patients with impaired rectal sensation
- To strengthen the pelvic floor musculature


What does the literature say?

- Currently there is insufficient regarding the efficacy and safety of biofeedback for the management of people with pelvic floor defecatory dysfunction (PFDD).
- There is low or very low quality evidence from single studies to support the effectiveness of biofeedback for the management of PFDD.
- However, the majority of trials are of poor methodological quality and subject to bias.
- Further well-designed RCT’s with adequate sample sizes, validated outcome measures and long-term follow-up are required to allow definitive conclusions to be drawn.

What does the literature say?

- Biofeedback therapy is recommended:
  - For the short term and long term treatment of constipation with dyssynergic defecation (Level I, Grade A).
- Biofeedback therapy may be useful in:
  - The short-term treatment of Levator Ani Syndrome with dyssynergic defecation (Level II, Grade B), and solitary rectal ulcer syndrome with dyssynergic defecation (Level III, Grade C), but the evidence is fair.
What does the literature say?

Rao et al. (2016) Gastroenterology 150:1430–1442

75% Improvement in symptoms

Assessment pre BFB

- History taking
  - Standardized assessment tools
  - Outcome measures
  - Bowel diary
- Observation and Physical examination
  - Sensitivity of 75% for detecting dyssynergia
  - Specificity of 87% for detecting dyssynergia
  - Pelvic floor muscle assessment via PV or PR
  - PERFECT Scheme
  - International Continence Society Pelvic Floor Score
  - PFML assessment scheme
- Further tests and investigations
  - When basic treatment has failed e.g. education, fluid and fibre intake, review of medication, etc...

Sphincter assessment: PERFECT scale and modified Oxford grade -

- Observe inappropriate muscle activity e.g. breath holding
- Ask patient to 'bear down'
- Assess any paradoxical contraction of puborectalis.
- Finger in the anal canal – EAS assessment Modified Oxford Scale

Defaecation mechanisms

Ask patient bear down, assess for:
- Paradoxical contraction PR and EAS
- Relaxation of anal canal (normal response)
- Propulsive effort (feeling of downward pressure and the examining digit being expelled)

What are the main symptoms to treat in BFB?

- Straining
- Incomplete evacuation
- Urinary and/or sexual symptoms

Biofeedback Therapy

- Education
- Defecation dynamics
- Dietary advice
- Physical Activity
- Medication
- Pelvic floor Rehabilitation
- Neuromuscular electrical stimulation
- EMG Biofeedback
- Rectal sensation and balloon expulsion training
- Perineal splinting/support
- Abdominal muscle rehabilitation
- Correct diaphragmatic breathing patterns
- Abdominal massage
- Emotional support and Behavioural Therapy
Education is the key to success!!!

- Discussion of digestive tract, function and the defecation process
  - If possible with models/pictures
- Normalize bowel frequency according to patient’s symptoms and pathology
  - Demystify the myth of the ‘once a day rule’
- Discuss previous treatments and failures
- Discuss results of investigations and the relationship to patients’ symptoms

Defecation dynamics: what should happen?

- Defecation technique:
  - Aim for most functional position
  - Puborectalis (anorectal angle) release, ‘paying out’
  - Other PFM activity (rectal support)
  - Forward lean position with forearm support
  - Neutral spine / foot support for lumbar stability
  - Co-ordination between diaphragm and abdominals
  - Co-contraction pelvic floor/abdominals
  - Waist widens and braces
  - Abdominal bulging (Sapsford et al., 1996)

Squatty potty

Bowel training

- Regular attempt following breakfast (stimulation of gastro-colic reflex) or after exercise
- Privacy and time
- Avoid ignoring the urge to defecate
- Strain for no more than 5 minutes
- During attempted defecation, they must be instructed to push at a level of 5 to 7, assuming level 10 as their maximum effort of straining

Dietary Advice

- Trials evaluating the effect of increased liquid intake in patients with PFDD are lacking, and there is no evidence that bowel evacuation difficulties can be improved by increasing oral fluid intake, unless the patient is dehydrated.
- Recent studies concluded that psyllium, a natural fiber supplement increases stool frequency and gave this compound a grade B recommendation, but there was insufficient data to make a recommendation for the synthetic polysaccharide methylcellulose, or calcium polycarbophil or bran in patients with bowel evacuation difficulties.
- Any eating disorder should be managed accordingly
Physical Activity

• Physical activity can increase colonic transit time and reduce bowel evacuation symptoms in elderly subjects

However...

• Despite the recommendation to patients with PFDD of regular physical activity there is no evidence that bowel evacuation difficulties can be improved by an increased in physical activity.


Medication

• Laxatives
  • Stool softeners, stimulant laxatives, osmotic compounds such as polyethylene glycol, magnesium compounds and lactulose and a chloride channel activator such as lubiprostone
  • Good adjuncts in the initial management of patients when regularizing their bowel habit and establishing a bowel regimen.
  • IDEALLY THEY SHOULD BE DISCONTINUED!!
  • Review medication that may aggravate bowel dysfunction (e.g. pain medication/narcotics)

• Medication such as glycerin or bisacodyl suppositories can be used as an evacuatory aid.

• Initial stages of biofeedback therapy the use of glycerin or bisacodyl suppositories can be used as an evacuatory aid.


Pelvic floor muscle training

• Chronic straining → Pudendal Neuropathy → Pelvic floor weakness
• PFMT should involve fast and slow twitch muscle fibres and be performed in a variety of positions
• Exercise programs should follow the principles of:
  - Specificity, Overload, Progression, Maintenance and reversibility
• For a minimum of 5 months
• Include strategies to adhere to the exercise regime

Bø et al (2007) Evidence-Based Physical Therapy for the Pelvic Floor

Neuromuscular Electrical Stimulation (NMES)

• NMES is aimed at training the pelvic floor and external anal sphincter muscles by producing a series of electrically induced contractions, to improve strength, sensation and function
• NMES is a treatment for women who demonstrate a grade 0, 1 on the modified Oxford scale and would otherwise be unable to re-educate their pelvic floor muscles
• Patients should join in with the electrically induced contraction.


Rectal balloon filling

• Insert balloon into rectum
  • (via anal canal - 3 – 4cm)

• Slowly inflate balloon to ‘onset’ of sensation
• Teach patient to ‘defer’ urgency
• Gradually increase amount of air

Rectal balloon filling

With permission PO GP
Rectal Sensation testing

Balloon expulsion training

Anorectal Manometry Biofeedback

EMG Biofeedback

Abdominal Massage: Cochrane Review

- 9 RCTS with 12 comparisons
- ‘Chronic constipation’
- Neurological, cancer and non-comorbid conditions populations were heterogeneous
- 427 participants
- Excluded 24 studies
- Abdominal massage V Control (n=5)
- Abdominal massage V other massage (n=2)

Type 1: Here, the patient can generate an adequate pushing force, (rise in intra abdominal pressure) along with a paradoxical increase in anal sphincter pressure.
Type 2: Here, the patient is unable to generate an adequate pushing force (no increase in intrarectal pressure) but can exhibit a paradoxical anal contraction.
Type 3: Here, the patient can generate an adequate pushing force (increase in intrarectal pressure) but, either has absent or incomplete (<20%) sphincter relaxation (i.e. no decrease in anal sphincter pressure).
Type 4: The patient is unable to generate an adequate pushing force and demonstrates an absent or incomplete anal sphincter relaxation.
Cochrane Review: Results

Abdominal massage

- Mechanism of action – unknown
- More effective on delayed transit time
- Up to two-thirds of patients with a defecation disorder also have delayed colonic transit. Rao 2016

Video

Perineal splinting/support: Femmeze

- No literature available regarding the effectiveness of this gadget
- Anecdotal information suggests that patients have mixed feelings about using it when PFDD is present

Can we predict outcome of BFB?

Biofeedback Benefits Only Patients With Outlet Dysfunction, Not Patients With Isolated Slow Transit Constipation

GILSPE M. CHAPERON, LARA SADANISSI, AND WILLIAM E. WHITEHEAD

Background & Aim: Biofeedback is reported to be an effective for slow transit constipation as for pelvic floor dyspareunia and no more effective than education. We aimed to test the hypothesis that biofeedback benefits only patients with pelvic floor dyspareunia, describe the physiologic mechanism of treatment, and identify predictors of success. Methods: Fifty-two patients (47 reduced numbers of high-amplitude propagating contractions) associated with decreased numbers of interstitial cells of Cajal. Diagnosis is based on transit studies showing abnormally prolonged transit of esophageal matter or radioisotopes through the colon. Outlet dysmotility-type constipation often is diff...
Factors That Predict Outcome of Biofeedback Therapy in Constipation With Dyssynergic Defecation (DD)

Patcharatrakul et al (2016) AGA Abstract

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Gender (M/F)</th>
<th>Bowel satisfaction score (VAS 0-100), mm</th>
<th>Digital maneuvers to facilitate defection, n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>62±13</td>
<td>0.73</td>
<td>91(1-31)</td>
<td>9(10)</td>
</tr>
</tbody>
</table>

Conclusions: Five biofeedback sessions are more effective than continuous polyethylene glycol for treating PFD, and benefits last at least 2 years. Biofeedback should become the treatment of choice for this common and easily diagnosed type of constipation.

Biofeedback therapy is a labor-intensive approach but has NO ADVERSE EFFECTS

Identification of patients is the key to success of BFB

Only offered in a few centers around the world

We should aim for a standardization of protocols and equipment

"There is marked variation in practice, training and supervision of BFB therapists in the UK"


Etherton et al. (2016) Frontline Gastroenterology. 0:1–6
Pharmacological treatment of the patient with pelvic floor dysfunction

Anton Emmanuel
ICS, September 2016

Treatment approach

- Symptom-based
  - Constipation
  - Diarrhoea
  - Pain

- Severity considered
  - Mild – Moderate - Severe

- Co-morbidity -considered

Constipation: the role of laxatives

- 16–40% of those with constipation use laxatives
- Symptoms persist despite laxative use
  - Use laxative
  - Do not use laxative

Laxatives for chronic constipation: Luminal mechanism of action

- Salts, Sugars and Osmotic agents
- Fibre and Bulking agents
- Docusate and Stool softeners
- Senna and Stimulant agents

Bulking agents

- Decreased total gut transit time after 1 month of psyllium in patients with dyssynergic defaecation
  - P<0.05

- Increased stool frequency after 2 months of psyllium in patients with normal transit constipation
  - P<0.05
Stimulants

More frequent bowel movements with bisacodyl vs placebo in patients with "occasional missed days".


P<0.05

More frequent bowel movements with sennoside plus bulk laxative vs lactulose in elderly patients (n=30)

CSBM, complete spontaneous bowel movement

More frequent bowel movements with bisacodyl vs placebo in patients with "occasional missed days".


P<0.05

Less straining with PEG vs lactulose after 1 month: elderly

Osmotic agents: macrocol

More frequent bowel movements with bisacodyl vs placebo in patients with "occasional missed days".


P<0.0001 vs placebo

P<0.005

Less straining with PEG vs lactulose after 1 month: elderly

Constipation: tailor laxatives to dominant symptoms

If no improvement:

• Increase dose

• Rational combination e.g. stool softener and stimulant laxative or bulking agent

Osmotic agents: macrogl

Episodic hard stool

Episodic reduced frequency

Slow transit constipation

Difficulty evacuating

Megarectum or megacolon

If no improvement:

• Increase dose

• Rational combination e.g. stool softener and stimulant laxative or bulking agent

Number of SCBMs/week during the run-in

50% of the patients have 0 SCBMs at baseline

80% of the patients have a mean of ≤ 1 SCBM/week

Average # of SCBM/week

Efficacy in chronic constipation:

≥3 SCBM/week (primary endpoint)

SCBM = spontaneous complete bowel movement

***p≤0.001 vs placebo

**p≤0.01 vs placebo

0% improvement

3 SCBM/week
Lubiprostone in chronic constipation

RCT 24mcg lubiprostone versus placebo twice daily x 4 weeks
242 patients with chronic constipation

Results
"Responders" (>3SBMs/wk) at 4 weeks = 58 v 28%
NNT= 3.3

Adverse events
Lubiprostone vs placebo
Nausea 32% v 3%
Headache 12% v 6%
Discontinued 8% v 1%

FDA statement
“Although the treatment effect is small, lack of a currently available therapy for this condition makes it important to have a treatment option available to patients...”

Johanson et al  Am J Gastroenterol 2008; 103(1):170-177

Opioid induced constipation

Minimise dose and range of opioids
Laxatives...
FDA has approved lubiprostone
PAMORAs

OIBD occurs frequently, despite the use of laxatives, in individuals taking daily oral opioids for chronic pain

Diarrhoea - Drug treatment

Loperamide
Smooth muscle and secretion/absorption effect
Effective in >80% long-term
No dependence or opioid activity
Titratable dosing and prophylactic usage
Syrup formulation
2-16mg

Lomotil, codeine – less effective, less well tolerated

Amitriptyline – minor evidence in FI

NICE Clinical Guidance 2008
Diarrhoea – use of Ondansetron

Median dose 4mg
Time to respond 7 days

Management of Faecal Soiling

The Anal Plug

14 patients with spinal injury
All 14 incontinent weekly at least
13/14 stopped liquid leak
11/14 controlled gas incontinence
Well tolerated in 11
All had attenuated anal sensation


Causes of peri-anal pain

Muscular causes

Structural causes with a lump
- levator ani syndrome
- proctalgia fugax
- myofascial syndrome
- coccygodynia

Structural causes without a lump
- thrombosed haemorrhoid
- anal abscess (may be with a fistula)
- sentinel tag (with anal fissure)
- condyloma

Rectal causes
- anal fissure
- anal fistula

Pruritus ani

Structural causes with a lump
- proctalgia fugax
- myofascial syndrome
- coccygodynia

Structural causes without a lump
- anal fissure
- anal fistula

Rectal causes
- rectal prolapse
- proctitis

Pruritus ani

Itch-scratch cycle
Perianal hygiene and avoid irritants
Sedating histamine (hydroxyzine)
Topical hydrocortisone

Topical capsaicin (0.0006% in white paraffin)
Biopsy?

Pruritus ani

Treat cause

<table>
<thead>
<tr>
<th>Dermatological condition</th>
<th>Malignancy</th>
<th>Irritants</th>
<th>Neurogenic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatitis</td>
<td>Squamous cancer</td>
<td>Deodorants</td>
<td>Lumbosacral radiculopathy</td>
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<tr>
<td>Lichen planus</td>
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<td>Lichen sclerosis</td>
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<td>Psoriasis</td>
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<td>Hydradenitis</td>
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<td>Systemic disease</td>
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<td>Anaemia</td>
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<td>Diabetes</td>
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<td>Leukaemia</td>
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Dietary triggers
- Caffeine
- Pinworm
- Beer
- Candida
- Chilli
- STD
- Abscess

Infection
- Fissure/fistula
- Anal abscess
- Haemorrhoids/skin tags
- Anal abscess
- Anal fistula
- Rectal prolapse
- Proctitis

Pruritus ani

Dermatitis
- Incontinence
- Pinworm
- Caffeine
- Pinworm

Lichen planus
- Incontinence
- Fissure/fistula
- Anal abscess
- Haemorrhoids/skin tags
- Anal abscess
- Anal fistula
- Rectal prolapse
- Proctitis
**Anal fissure**

Acute vs chronic
Midline vs off-centre

Stool softeners + topical treatment
Topical GTN 0.2% / diltiazem 2%
Botox 20iu:
92% vs 70% healing (Botox vs GTN)
Brindica et al BJS 2007

**Physician-Patient interaction: the Placebo Response**

Patel et al, NGM 2005

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**Levator ani syndrome**

Very treatable

- Digital massage by reducing anal pressure
- Hot baths (40°C)
- Electrogalvanic treatment – partial or complete relief 43%
- Pelvic floor biofeedback – 35% relief, unrelated to pelvic manometry
- Local injection triamcinolone – relief 40%
- Muscle relaxants anecdotal
- Anxiolytics / analgesics evidence