Pelvic Floor Dysfunction in women and prolapse surgery

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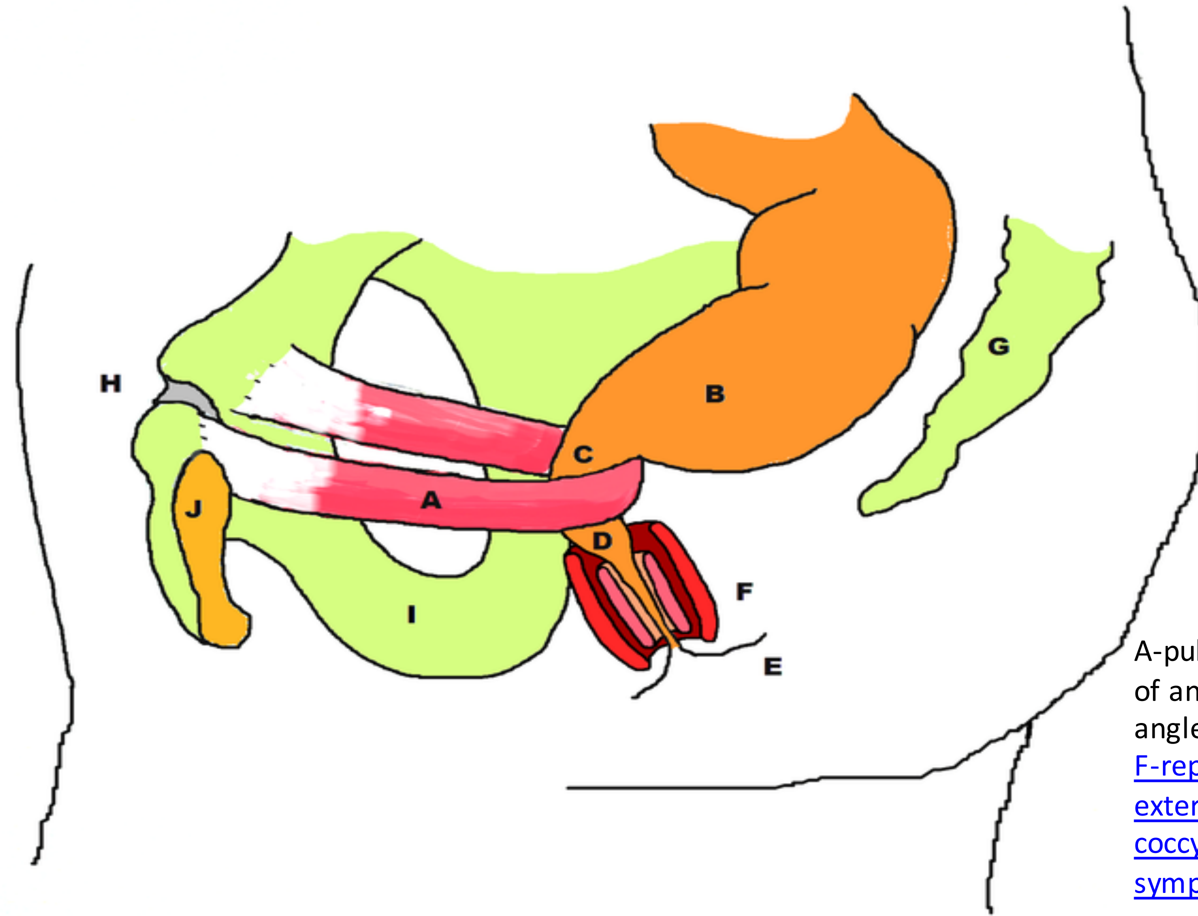
Definition

- Inability to control faeces and to expel it at a proper place and at a proper time.
- Maintenance of continence depends on the following:
  - Stool consistency
  - Colorectal function and activity
  - Harmonious Fxn of The internal and external anal Sphincters

Who Am I

- Laparoscopic Colorectal and General surgeon
- Graduated from Royal college of Surgeons in Ireland
- Higher Surgical Training in East Anglia / cambridge Rotation.
- Laparoscopic Fellowship from New Zealand

Pelvic Anatomy



A-puborectalis, B-rectum, C-level of anorectal ring and anorectal angle, D-anal canal, E-anal verge, F-representation of internal and external anal sphincters, G-coccyx & sacrum, H-pubic symphysis, I-Ischium, J-pubic bon

Continence is Multifactorial

- Physiology and anatomy are co-dependant
- Largely Autonomic control with somatic over ride
- Sensory and Motor Nerves
- Muscle structural integrity and function
- Co-function of rectum, Anus, and pelvic floor .

Sphincter Mechanism

- Internal Anal Sphincter
  - Closed Resting Anal tone 80-120 Poor 30
  - Passive Function Autonomic
  - Damaged passive Incontinence Leak
- External Anal sphincter
  - Incremental Squeeze 140-180 Poor 50
  - Active Function Pudendal nerve S2-4 Mixed
  - Damaged Active incontinence Urgency, inability to delay.

Normal Physiological Events

- As rectal pressure rises, internal spincter relaxes "Recto-anal inhibitory reflex" (RAIR)
- Relaxation of IAS
  - Allows rectal contents to touch anal mucosa
    - Vital for discrimination
- Relaxation of Puborectalis/pubococcygeus
  - Allows recto-anal angle to straighten
    - ? Significance for incontinence, more an issue of obstructive defaecation
- Relaxation of external sphincter

Risk factors

- Vaginal delivery   Forcipes, Large babies
- Anal surgery
    - Haemorrhoids, fissure, fistula
- Iirritable bowel
- Inflammatory Bowel
- Radiotherapy
- Pelvic surgery
    - Anterior resection, Hysterectomy.

Child birth and Incontinence

- Obstetric trauma most common precursor FI
- 1 in 3 vaginal delivery will cause occult sphincter injury
- Peak incidence perimenopausal years
- Incontinence could be minor eg flatus, skid marks.
- Major eg FI

Incidence

- 2007 NZ Bowel control study Identified
- Prevalence of
  - 14.4% Bowel control Problem
  - 12% Faecal incontinence at least 1-3 times a month.
  - Less than 50% spoke to health professional about it .

  - 1 in 3 vaginal delivery patients will have occult sphincter injury.

Baseline Clinical Assessment

- Onset when did it start?
- Bowel function Frequency consistency
- Urgency Straining
- Leakage and difficulty cleaning
- Bleeding, Pus, Pain, Prolapse
- Drug History Laxatives or anti-diarrhoreal
- PMH, Urogynae, Deliveries, Anal surgery

Baseline Clinical assessment

- Bristol faecal chart
- Wexner score/St Mark’s fecal incontinence grading system (FIGS)
- Quality of life score
- Is it a problem for the patient? How much of a problem is it and how can we help them so they can manage.

Examination- Educated Finger

- Inspection:
  - Perineal Descent, soiling, excoriation, prolapse
- Resting Tone IAS May indicate nerve damage
- Squeeze EAS absent, present, flicker, maintained
- Mucozal or anal cannal pathology
- Perineal body damage
- sphincter muscle integrity.

Conservative MX

- Education and Support
- Modify Diet, Meds, lifestyle, Obesity, DM
- Pelvic floor exercise
- Immodium Syrup, Glycerine, Fybogel, Movicol.
- Haemorrhidal Ligation, plication, Excision.
- Anal Plug, Rectal wahout
- Review

Specialised Investigation

- Selected patients with severe score
- Failure of conservative measures
- Will benefit from surgical intervention
- If considering nerve stimulation

Specialised Investigations

- Endo anal US
- Anorectal Manometry
- Rectal capacitance- Volume studies
- Nerve stimulation studies
- EMG

Biofeedback

- Rectal sensitivity training
  – Intra rectal baloon distension
- Sphincter strength training
  – Intra anal Emg probe
- Co-ordination Training
  – Squeez employed when RAIR is activated

Nerve Stimulation

- PTNS
  - Increasing popularity
  - Done in the area now
  - Awaiting introduction
- SNS
  - Still tertiary service provider
  - More invasive
  - Expensive.

Surgery

- Bio-injectables eg THD Gate Keeper
- Anterior sphincter repair with levatorplasty
- Rectopexy, prolapse repair.
- Stoma
- Dynamic Graciloplasty
- Artificial sphincter

Why does it happen

- Pudendal nerve injury
  - Multiparous
  - Prolonged 2nd stage of labour
  - Forceps delivery
  - Un-recognised third degree tear lead to suboptimal repair.

Obstetric Changes

- Patients after Vaginal delivery
  - Excessive Perineal descent +/- major rectal intussusception
  - Thin perineal body < 1 cm (EAS defect)
  - Pudendal neuropathy
  - Sphincter defects often occult

Perineal Tears

- First degree laceration of vaginal epithelium or perineal skin only
- 2nd degree perineal muscles involvement but not sphincters
- 3rd 3a < 50% thicknes of EAS, 3b >50%,
  - 3c internal shincter is also torn
- 4th 3rd+anal epithelium disruption.

Incontinence

BRISTOL STOOL CHART			
	Type 1	Separate hard lumps	Very constipated
	Type 2	Lumpy and sausage like	Slightly constipated
	Type 3	A sausage shape with cracks in the surface	Normal
	Type 4	Like a smooth, soft sausage or snake	Normal
	Type 5	Soft blobs with clear-cut edges	Lacking fibre
	Type 6	Mushy consistency with ragged edges	Inflammation
	Type 7	Liquid consistency with no solid pieces	Inflammation

Wexner Score

Type of Incontinence	Never	Rarely	Sometimes	Usually	Always
Solid	0	1	2	3	4
Liquid	0	1	2	3	4
Gas	0	1	2	3	4
Wear Pad	0	1	2	3	4
Lifestyle altered	0	1	2	3	4

Never - 0

Rarely - Less than once a month

Sometimes - Less than once a week or once a month

Usually - Once a day or once a week

Always - Once a day or more

SCORE:

0 PERFECT

20 COMPLETE INCONTINENCE