

FECAL INCONTINENCE: Treatment Options



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Introduction: Fecal incontinence

Definition

Recurrent uncontrolled passage of fecal material for at least one month in an individual with a developmental age of at least 4 years

Benign –debilitating disorder-imprisons both sufferer and caregiver

Incidence

1.4 - 18%

Higher in the elderly and nursing home patients - almost 50%



Incontinence

- Gas/ soft or liquid stool /solid stool
- Passive or with awareness
- Mild (soiling); moderate ; severe
- Etiology : Anatomical/Neurological/both



Assessment

- History and physical---
 - Onset, precipitating factors
 - Duration, severity, timing
 - Coexisting problems
 - Obstetric history
 - Medication
 - Evaluation of local and general health
- Severity scales : Wexner (0-61)
 - ASCRS FISI (0-20)
 - FIQL (0-16)



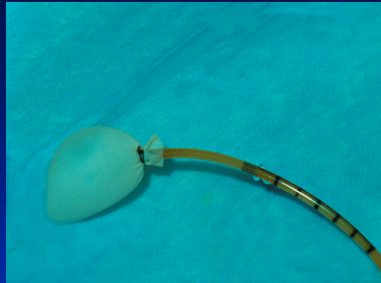
Assessment

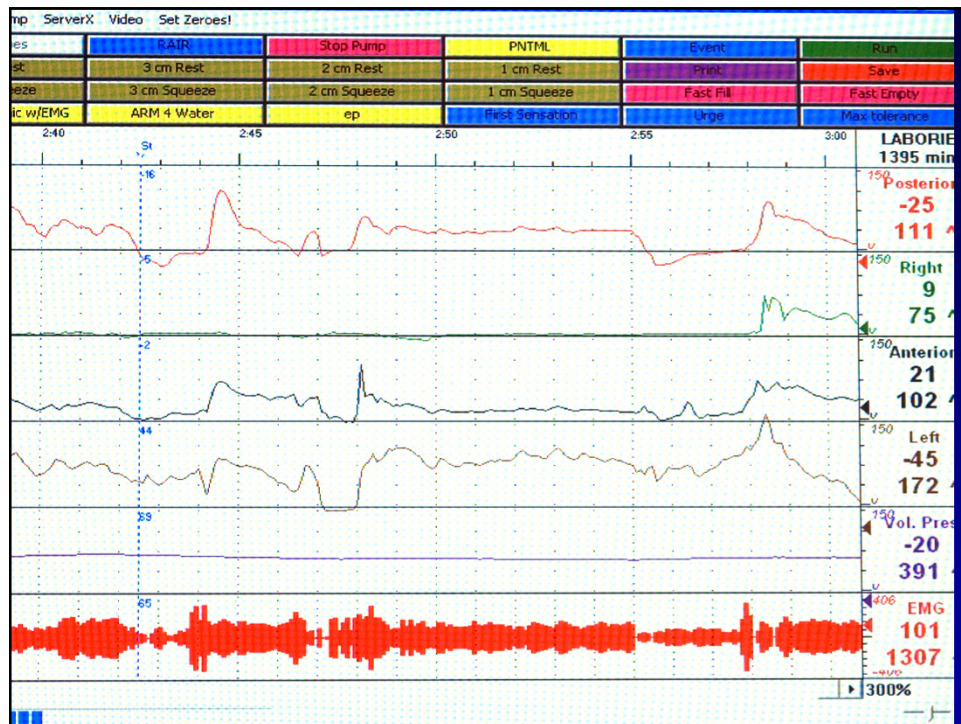
- Digital Rectal Examination
- Tests
 - Anal manometry
 - Endoanal ultrasound
 - Colonoscopy
- Bowel diary



Fecal Incontinence

- Microballoon vs water perfused vs microtransducer
- 1-12 channel catheter
- Station pull through vs continuous pull out





Pudendal nerve terminal motor latency

St Marks electrode

Stimulate pudendal
nerve rectally along
the ischium.

Unit= millisecond

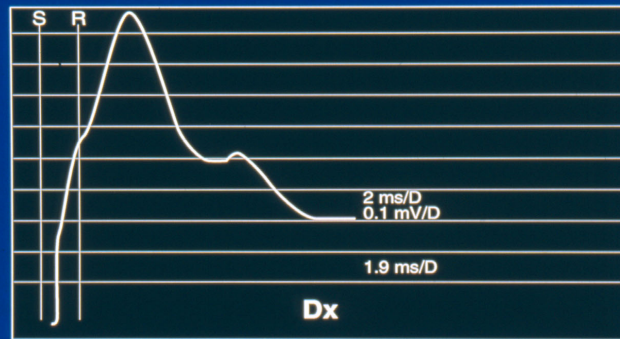
It is the time taken
from stimulation to
muscle response

Normal = 2 ms

Abnormal =
increased time



Pudendal nerve terminal motor latency



Pudendal nerve terminal motor latency. Redrawn trace from a female with normal anal function. S = stimulus; R = response; in this subject the latency of the right nerve was 1.9 ms.

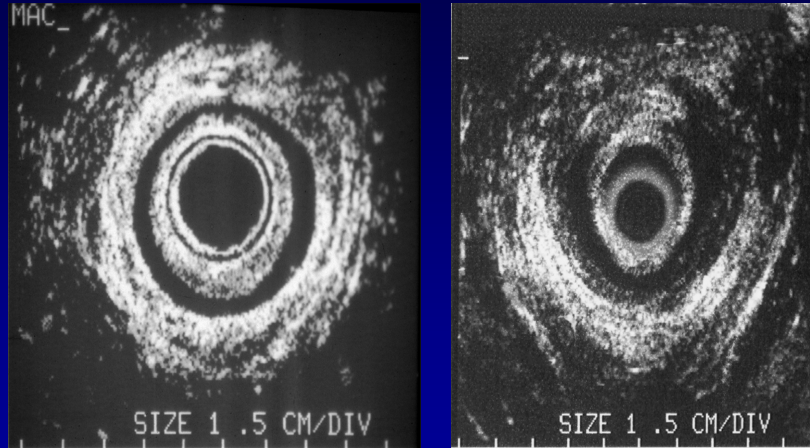


Fecal Incontinence

Anal ultrasound

- Gives a picture of the anal sphincter muscle
- 2 Donuts
- External anal sphincter
- Internal anal sphincter

Endoanal Ultrasound



Treatment

Conservative treatment

- Diet , fiber/water intake
- Allergies, caffiene
- Diarrhea control
- Bowel management : Rectal irrigation
- Skin protection - barrier creams
- Biofeedback by a therapist



Minimally invasive treatments

- Anal Plugs (only Procon-2 available)
- Injectables
- Electrical stimulation
 - Local or peripheral
- Surface sacral stimulation
- Secca



Barrier devices

- Passive devices
- Disposable
- Ease of insertion and removal
- Price



Barrier devices: Anal Plug

Peristeen Anal Plug

- Coloplast UK
- Small and large
- Soft foam surrounded by a water soluble film
- Film dissolves in 30 secs
- Plug expands 3-4 times
- Can be left for 12 hrs

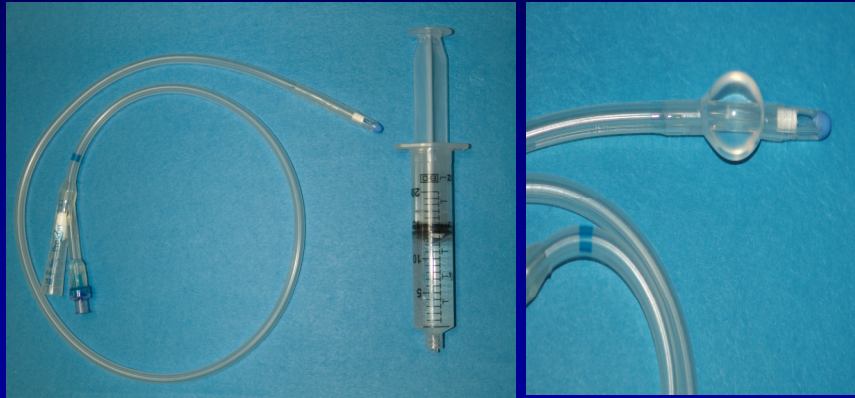


Procon -2® device

- Single use disposable balloon cuff silicone catheter with a filter at the distal end and an filter at the proximal end allowing for the escape of bloating gases
- Silicone balloon cuff
- Water filled balloon



Procon -2® device



Procon -2® device

Indication

Severe incontinence with failure of all other options

Or

Inability or un-enthusiasm towards other options

Contraindications

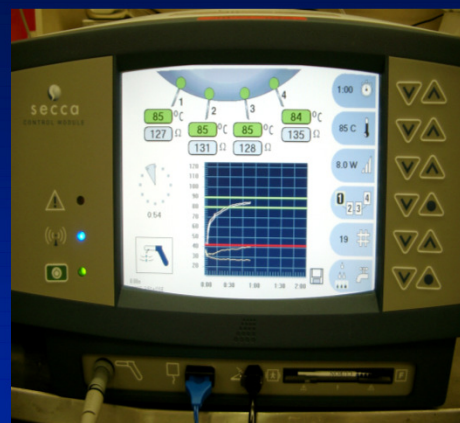
- Suture line in anal canal
- Proctitis
- Anal sepsis



Radio-Frequency Energy Delivered To Anal Canal

- Pilot study of 10 women
- No significant complications

Takahashi, et al DCR 2002

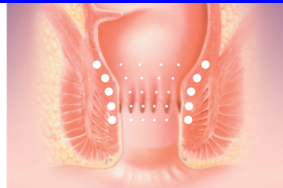


Secca Procedure

- Office procedure
- Results seen after 6 weeks
- Improvement plateaus after 6 months



CONCENTRATED
RF ENERGY
DELIVERED
TO TISSUE



MULTI-LEVEL
DENATURED
COLLAGEN
LESIONS CREATED



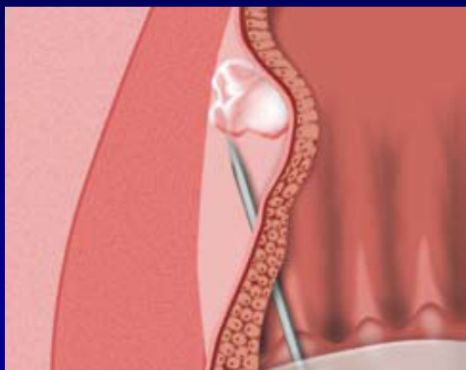
ANAL SPHINCTER
FUNCTION IS
SIGNIFICANTLY
IMPROVED

Solesta Injections

- Approved by FDA Dec 2011
- Bulking agent
- Office procedure
- Minimally invasive



Solesta Injections



- Anoscopy to the proximal anal canal
- Submucosal injection
- Four separate 1mL blebs
- No anesthesia
- Outpatient setting



Posterior Tibial Nerve Stimulation

- First work for FI from Shafik in 2003 (Eur Surg Res)
- Last 7 yr 7 other studies, all from Europe total 129 pts
- All failed conservative tx
- Heterogeneity in study pts, methodology, and outcomes



Findlay et al Int J Colorectal Dis 2011



Posterior Tibial Nerve Stimulation

- All tx protocols vary duration, timing, electrical frequency but all utilize portable external pulse generator
- Current to post tib nerve proximal to medial malleolus with needle or adhesive electrode



Findlay et al Int J Colorectal Dis 2011



Posterior Tibial Nerve Stimulation

PTNS protocols:

- Alt day 20 Hz for 30 min
- Daily 10 Hz for 20 min
- Weekly 20 Hz for 30 min
- Twice wk 20 Hz for 30 min
- Twice day ?? Hz for 20 min



Findlay et al Int J Colorectal Dis 2011



Surgery

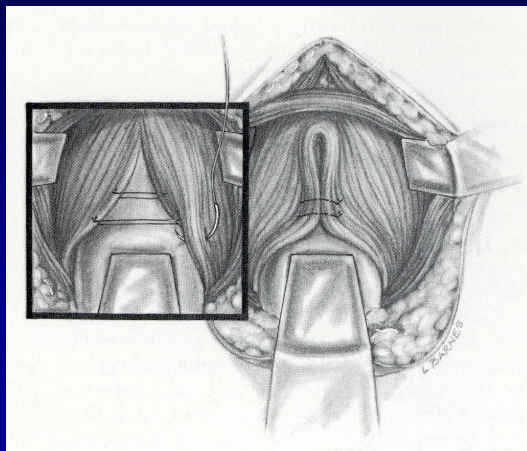
Patients with moderate incontinence with no sphincter defect

- **Post anal repair**
- **Sacral nerve stimulation**



Post anal repair

- **Devised by Parks to increase the length of the anal canal and restore the anorectal angle**
- **Promoted in past for those with intact sphincter, but could have nerve damage**
- **Long term results reported only in 30-40%,**
- **30% not improved at all.**



Surgery

Patients with moderate incontinence with a sphincter defect

- Sphincter repair
- Sacral nerve stimulation



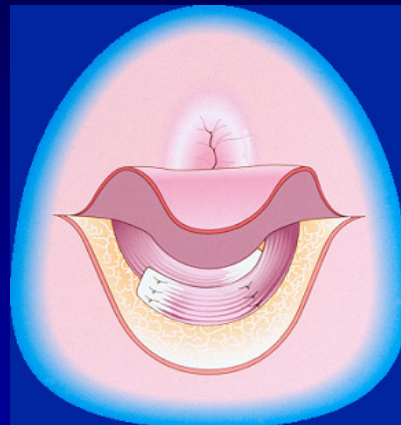
Sphincter repair

Factors predicting failure

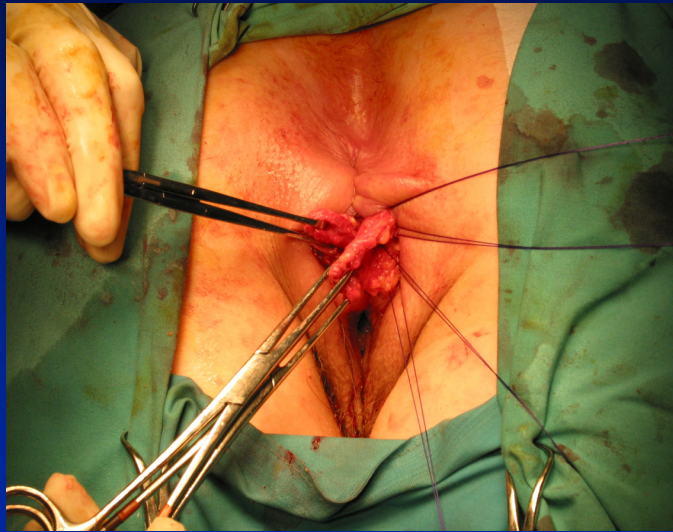
- Poor tissue
- Extensive dissection
- No movement on squeeze pre op
- Unrecognized pelvic floor issues

Results

Direct = Overlapping
Good short term results
Some individual series –good long term results

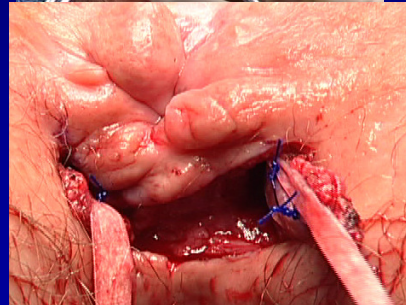
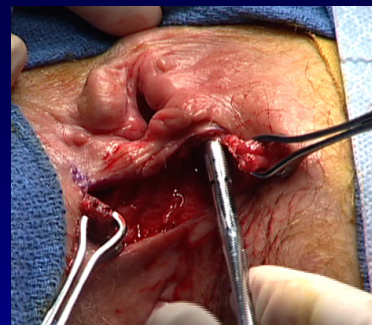
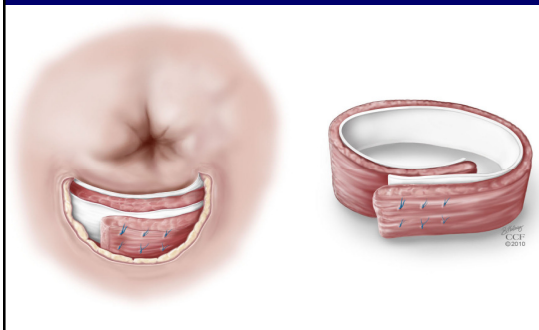


Overlapping Sphincter Repair:



Anal Encirclement

- Thiersch 1891
High complication
- AESR



Sacral Nerve Stimulation

Encouraging results

PNE : 100% Positive predictive value

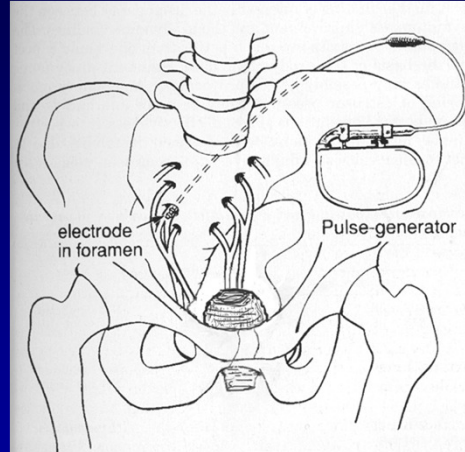
20% patients : No response to PNE

80% have > 50% improvement after PNE

Complications 5-26%

Can be used in patients with intact/non-intact sphincter

Leroi et al Colorectal Disease 2009



Surgery

Patients with severe incontinence with a sphincter defect / failed repair / failed sacral nerve stimulation

- Re-repair
- Dynamic graciloplasty
- Artificial anal sphincter
- Stoma



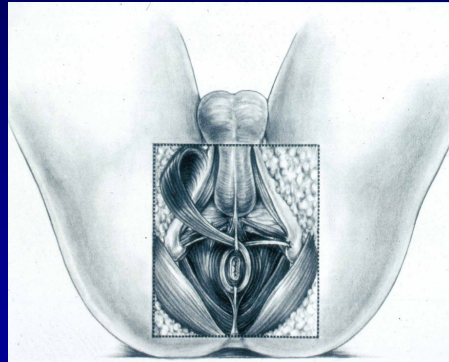
Dynamic graciloplasty

Indications

- Extensive sphincter disruption
- Severe neural damage
- Congenital disorders

Problems

- Loosening of the wrap
- Pain at stimulator site
- Displacement of leads
- Steep learning curve



Acticon™ Neosphincter

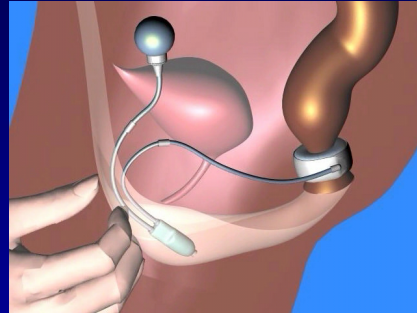


- Modification of urinary sphincter 3 parts:
 - 1) inflatable cuff around anus
 - 2) central pump (labia in Fe; scrotum in M)
 - 3) regulating balloon in Space of Retzius

Artificial Anal Sphincter

Absolute contraindications

- Active perianal sepsis
- Crohn's Disease
- Radiation proctitis
- Scarred perineum
- Anoreceptive intercourse



Stoma

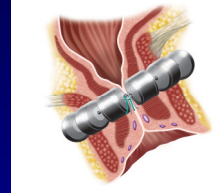
- For patients who have failed or are not candidates for other surgical repairs
- Patients with spinal injuries
- Patients deserve to be evaluated at a center which specializes in all options of evaluating and treating fecal incontinence before a stoma
- Allows opportunity to leave home, attend work, and social functions



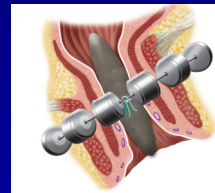
Anal sphincter Magnetic Sphincter Augmentation



- Sphincter reinforcement platform
- Self-actuating mechanism
- Titanium beads with magnetic cores coupled by titanium wires
- Healing response stabilizes device
- Permanent magnets for long term durability



Highest Resistance

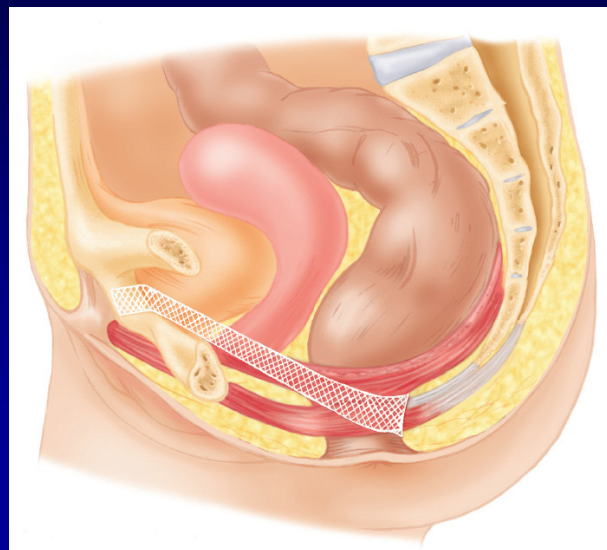


Lowest Resistance



TOPAS Sling

It provides support to the posterior pelvic floor at the level of the anorectal junction, lateral and inferior to the puborectalis muscle.



Conclusion: fecal incontinence

Complicated problem:

- Thorough H & P to determine appropriate treatment

Choice of treatment:

- Etiology of incontinence
- Sphincter anatomy
- Impact of incontinence on quality of life

Try non-surgical treatment first:

- Treat diarrhea first



Conclusion : fecal incontinence

- Be alert to perianal skin problems
- Best surgical option is sphincter repair is reflected by patient expectations
- In the last 10 years, many new treatments have been developed for fecal incontinence
- Some are still in preliminary stage, but a lot of enthusiasm toward this area





Thank you for your time

