جامعة القاهرة

Kasr Al-Ainy
Colorectal Unit
K A A C R U

Anal sphincter injury post fistula in ano surgery

by

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Introduction

- fecal incontinence is the involuntary passage of liquid or solid stool.
- It is a distressing condition, resulting in physical and psychological problems.

(Norton, 2008)

Introduction

- The true prevalence of fecal incontinence in the community remains uncertain.
- There is a considerable variation in published data
- This is thought to be approximately 2% to 17%

(Johanson andLafferty, 1996) .

Introduction

- Fecal incontinence may be attributed to a disturbance of any of the mechanisms that are required to produce continence:

1. sphincter function
2. rectal sensation
3. adequate rectal capacity and compliance,
4. colonic transit time
5. stool consistency
6. cognitive and neurologic factors

(Poirier and Abcarian, 2008).

Introduction

- The initial management of fecal incontinence is conservative, concentrating on dietary, medical, and psychological modifications to attempt to improve continence and quality of life.

Introduction

- For the patients with sphincter injury and sever fecal incontinence the surgical treatment is treatment of choice

1. Sphincter repair
2. Muscle transposition
3. Injectable Bulking Agents for the Anal Sphincter
4. Postanal Pelvic Floor Repair
5. Artificial Bowel Sphincters
6. Fecal Diversion

Histroy

- proper history taking
- incontinence scor

Investigations

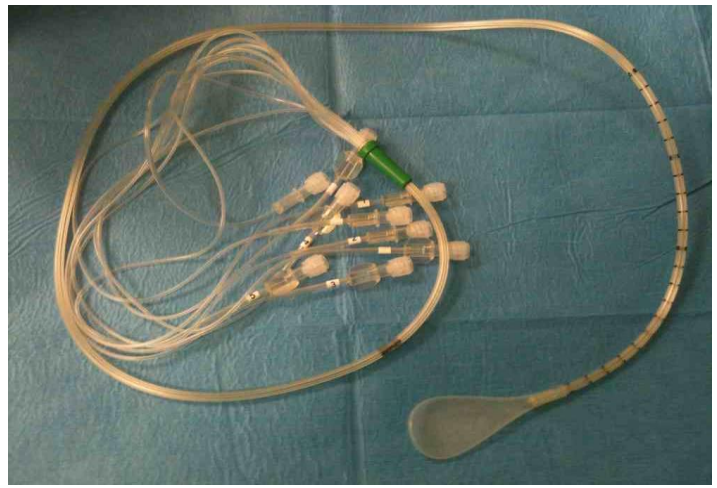
- Anorectal manometry
- Trans rectal ultrasonography
- Endo FLIP
- MRI

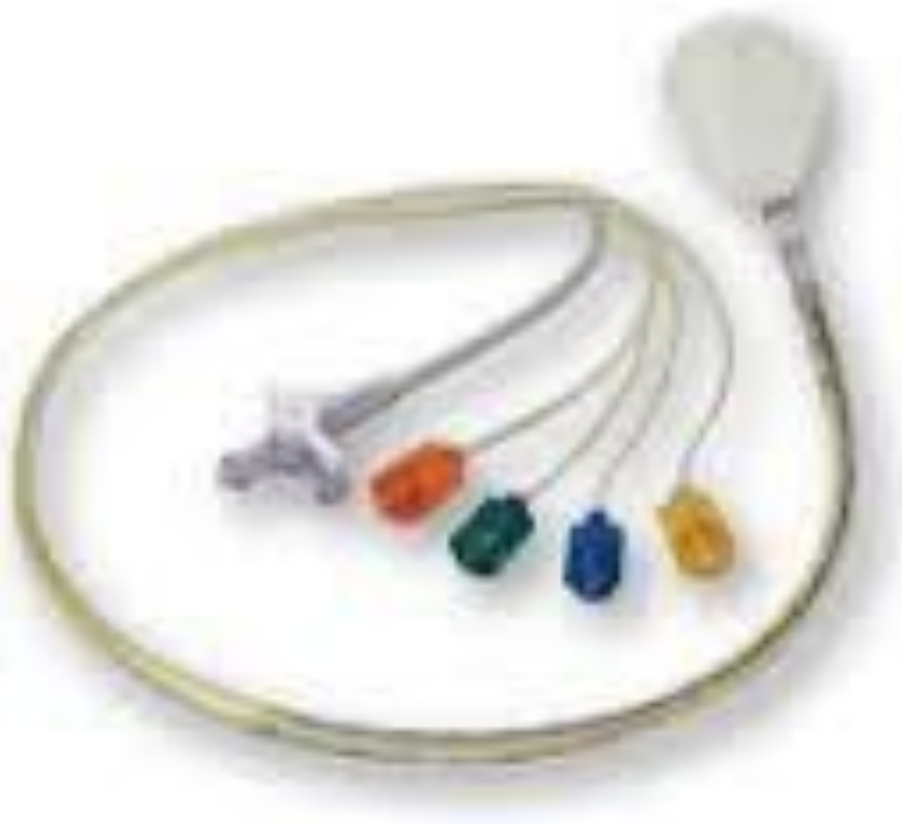
Manometry and Biofeedback device

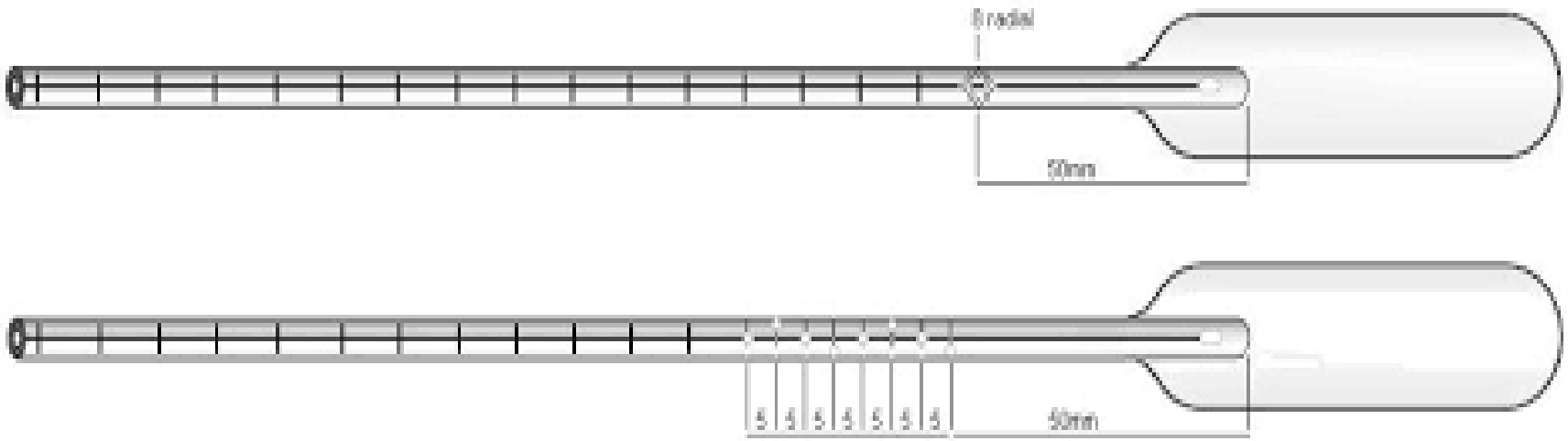
- Device used to measure anal canal pressures
- Rectal pressures
- Rectal sensations
- Rctoanal reflex
- Biofeedback therapy

- Helps in diagnosis and management of patients of anal incontinence and obstructed defecation syndrome

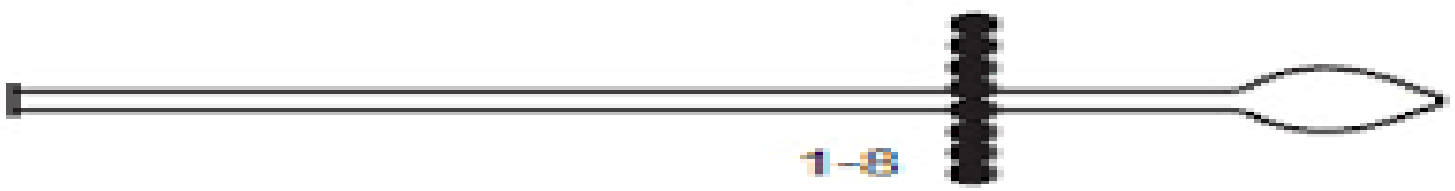

History:
Duration of
constipation (year)
1-5
5-10
10-20
>20
1
2
3
4



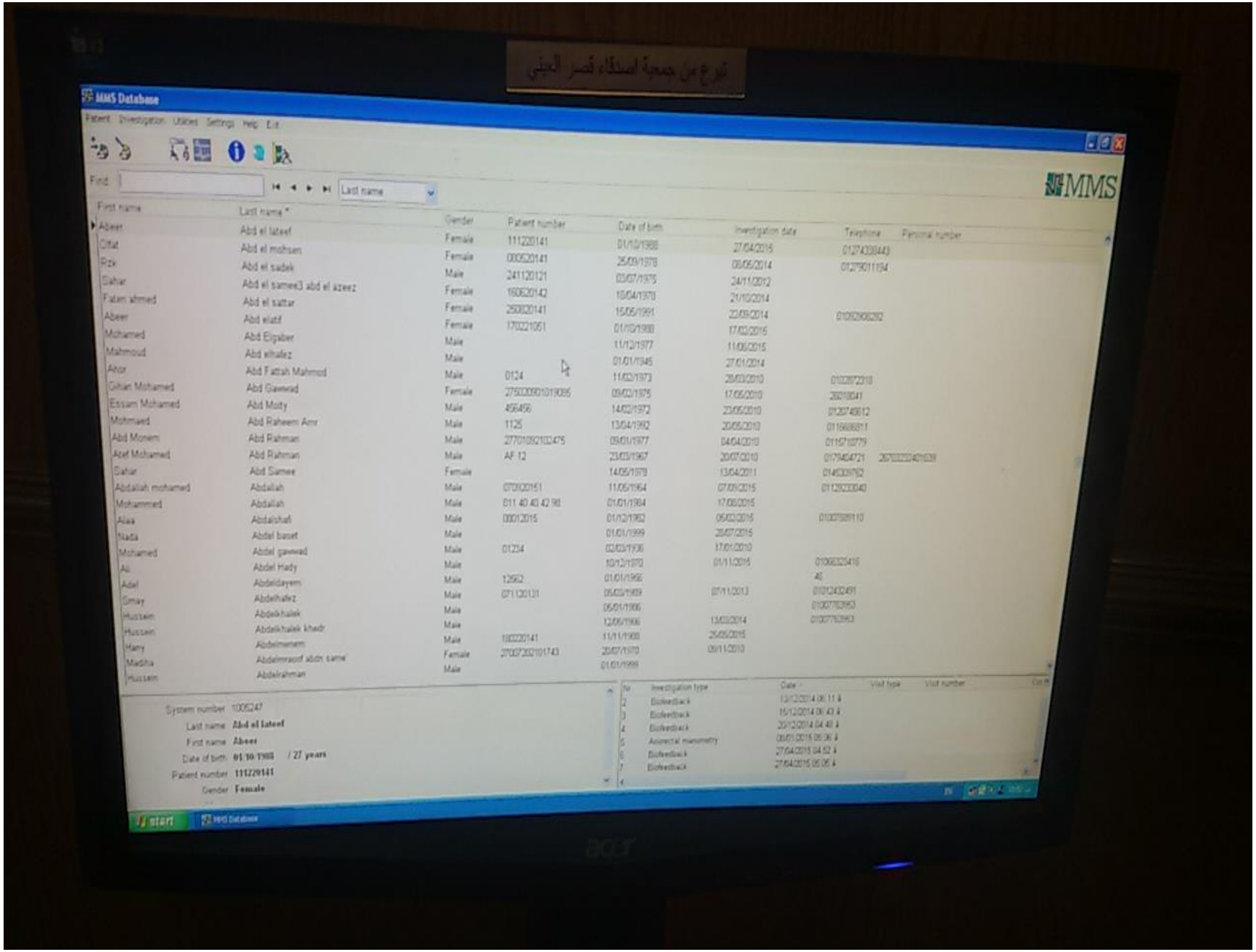


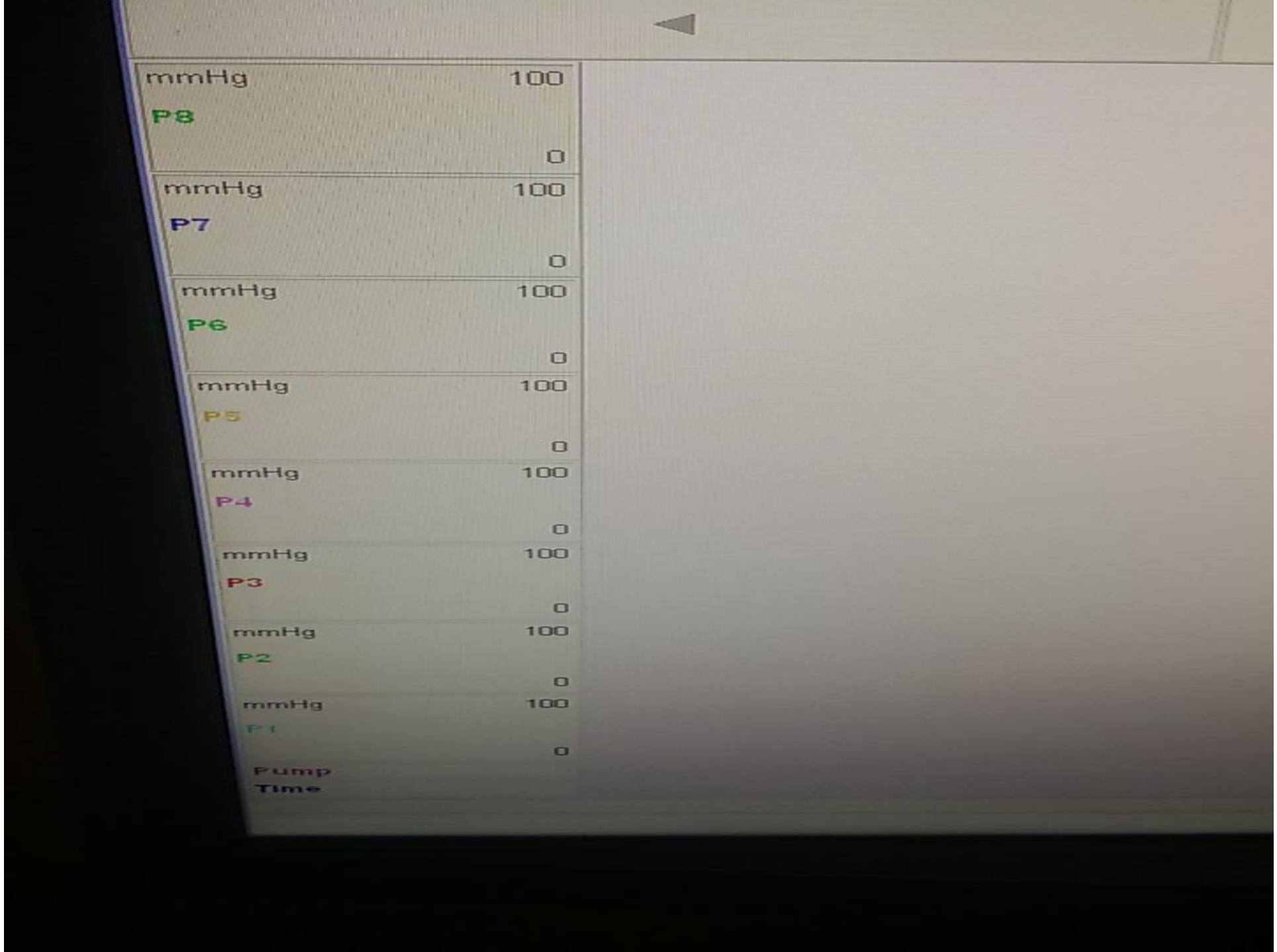


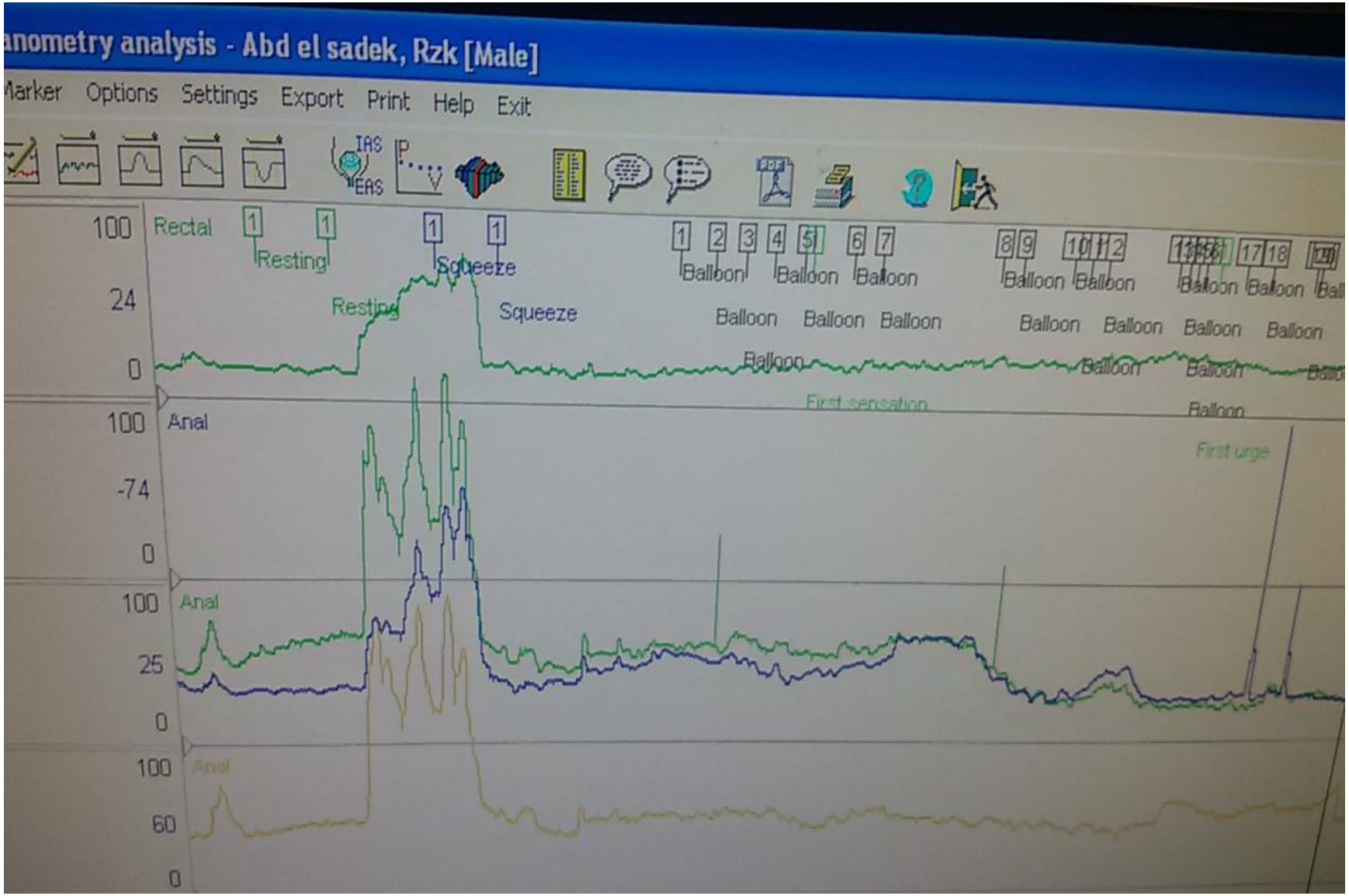
Spiral cath: (used in manomtery)



- Radial cath: (used in biofeedback)


MMS Database
Patient Investigation Utilities Settings Help Exit
Find
Last name
MMS
First name
Last name
Gender
Patient number
Date of birth
Investigation date
Telephone
Personal number
System number
Last name Abd el lateef
First name Abeer
Date of birth
Patient number
Gender Female
Investigation type
Biofeedback
Anorectal manometry
start
MMS Database


mmHg
100
P8
0
mmHg
100
P7
0
mmHg
100
P6
0
mmHg
100
P5
0
mmHg
100
P4
0
mmHg
100
P3
0
mmHg
100
P2
0
mmHg
100
P1
0
Pump
Time

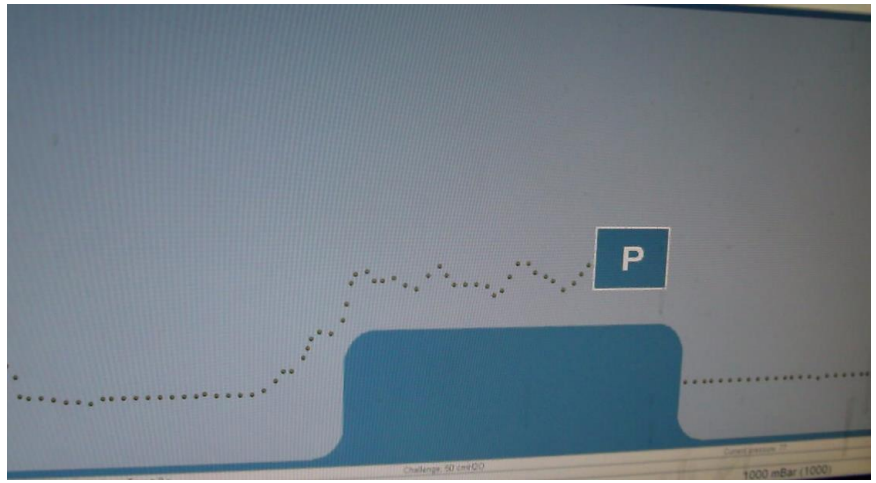

anometry analysis - Abd el sadek, Rzk [Male]
Marker Options Settings Export Print Help Exit
IAS
EAS
Rectal
100
24
0
Resting
Squeeze
Balloon
First sensation
First urge
Anal
100
-74
0
Anal
100
25
0
Anal
100
60
0

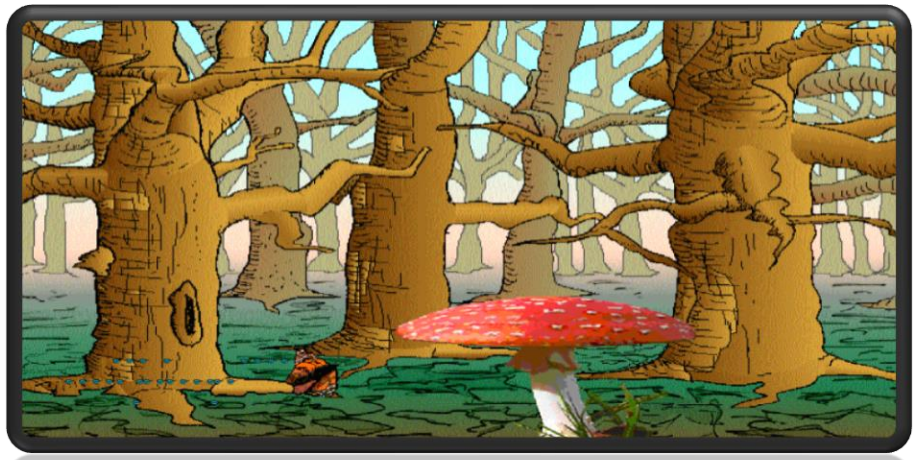
Biofeedback

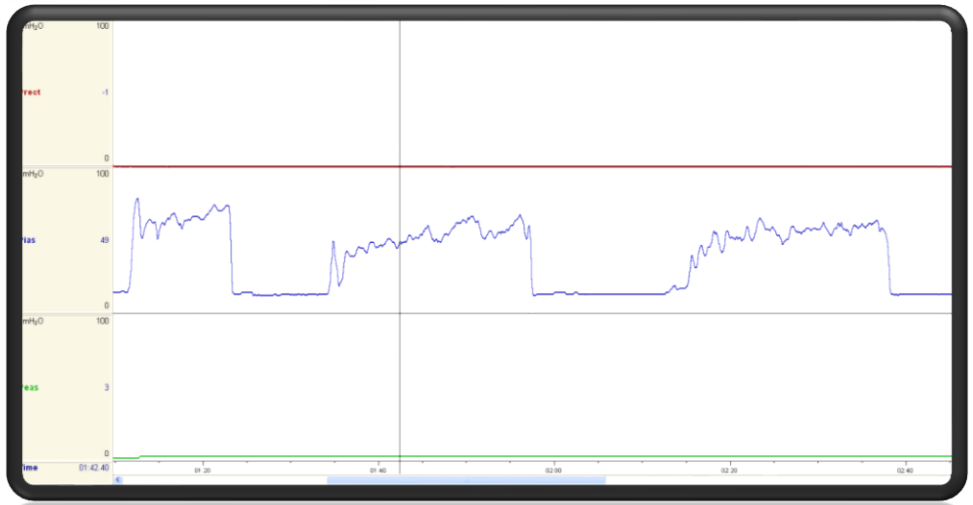
- The anorectal biofeedback therapy has effective role in management of fecal incontinence and chronic constipation.

- There is a significant effect of biofeedback therapy on anorectal manometric parameters in fecal incontinence.

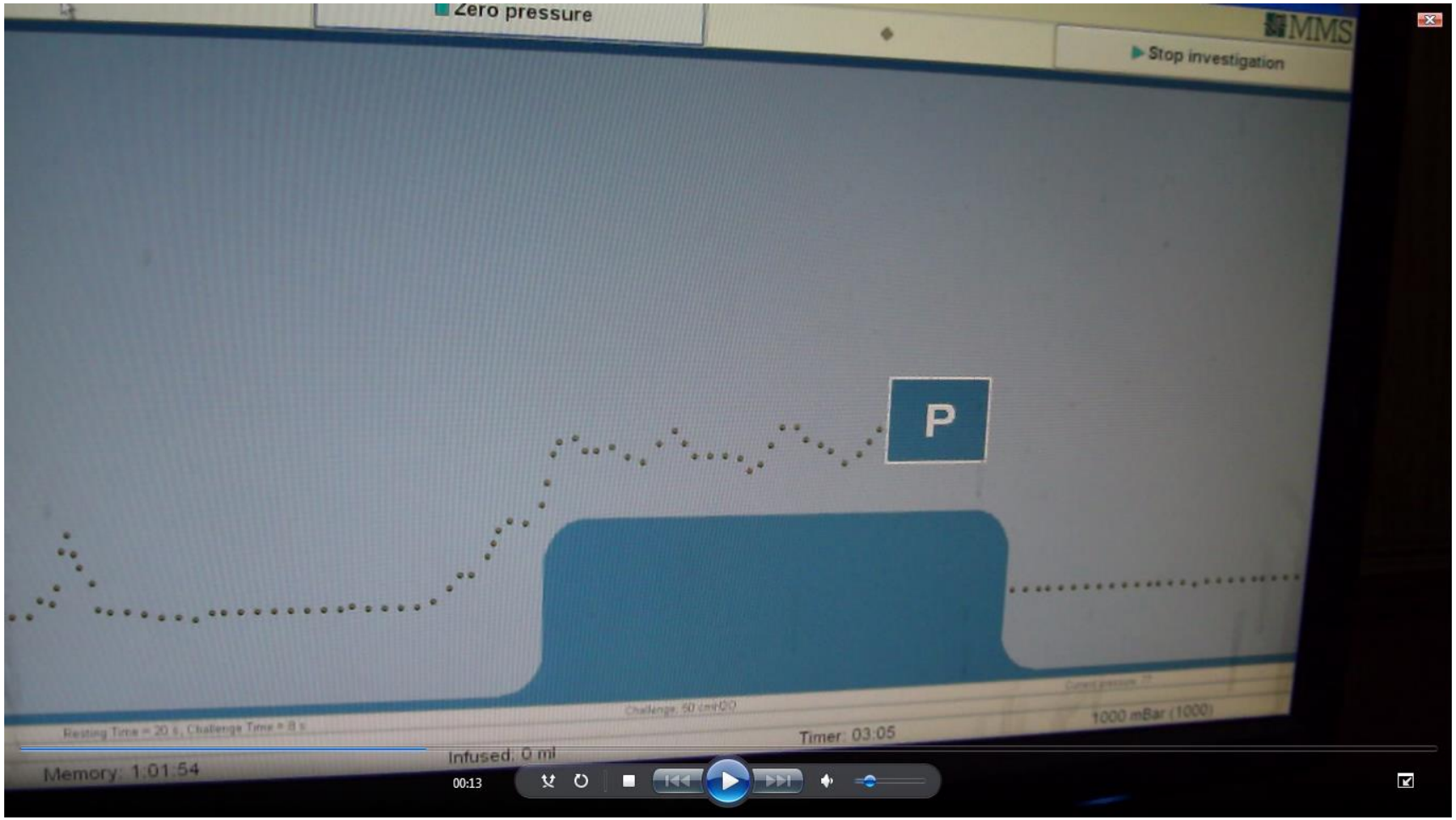
Animation styles:



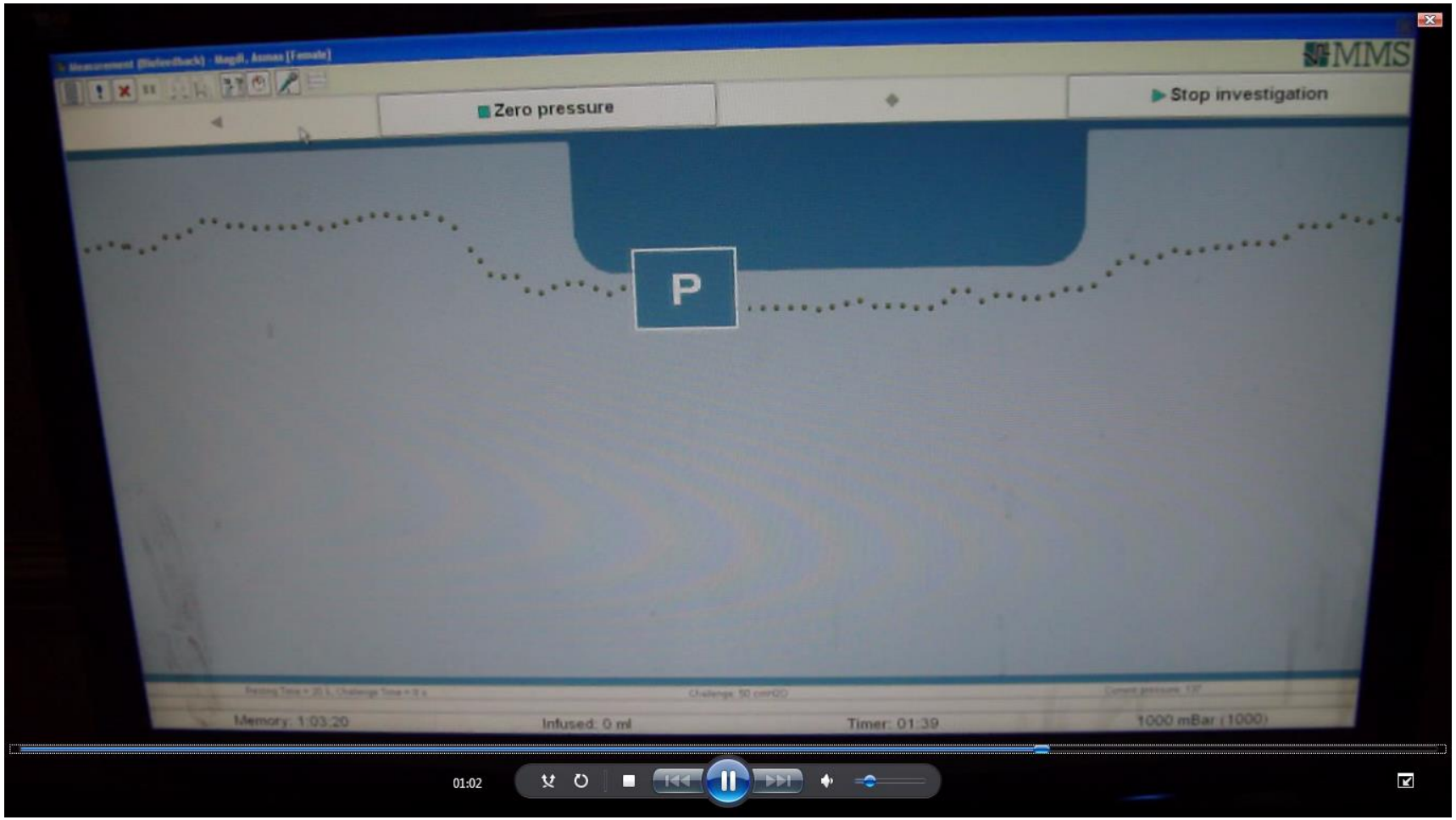




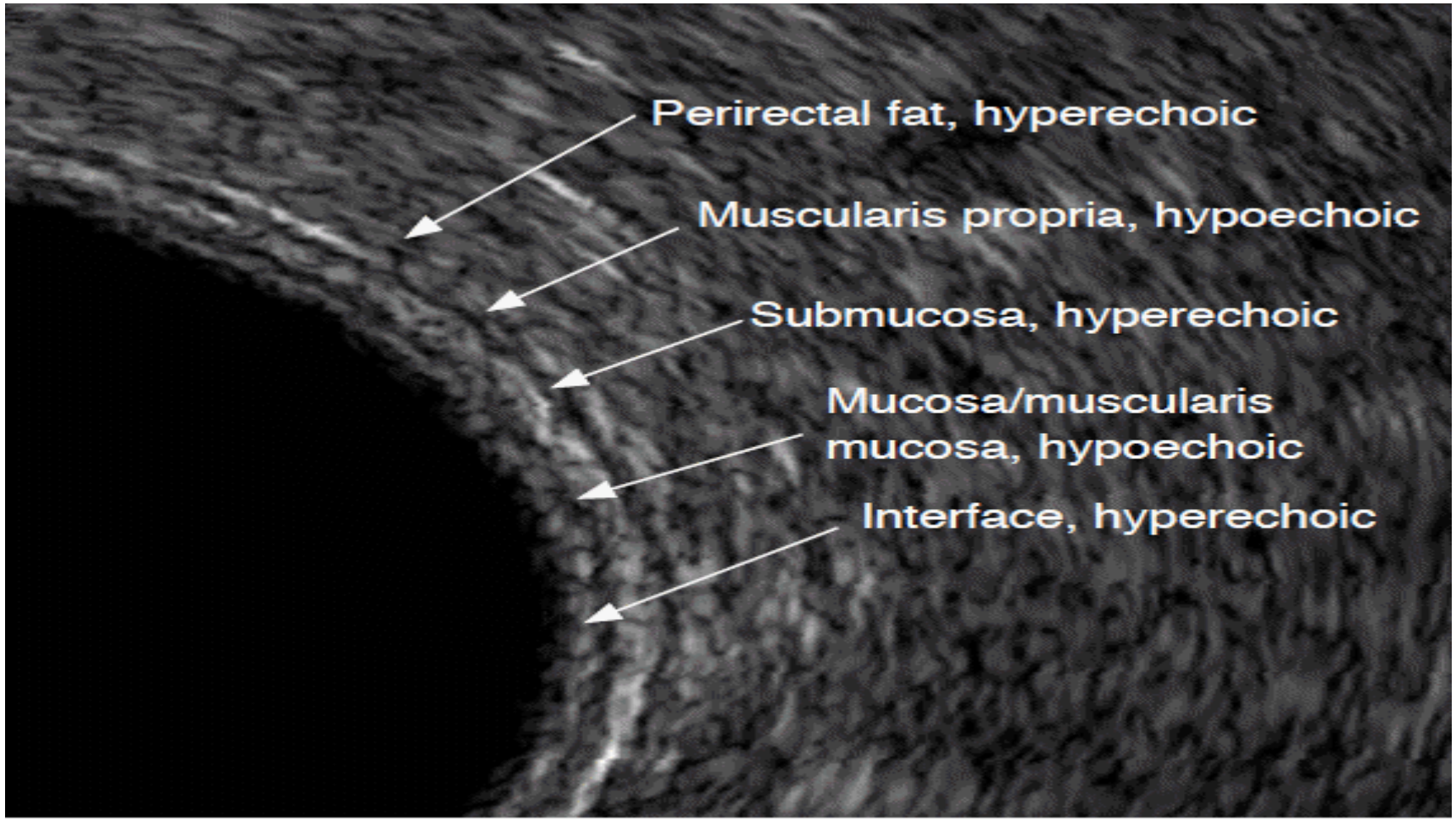
Incontinence patients

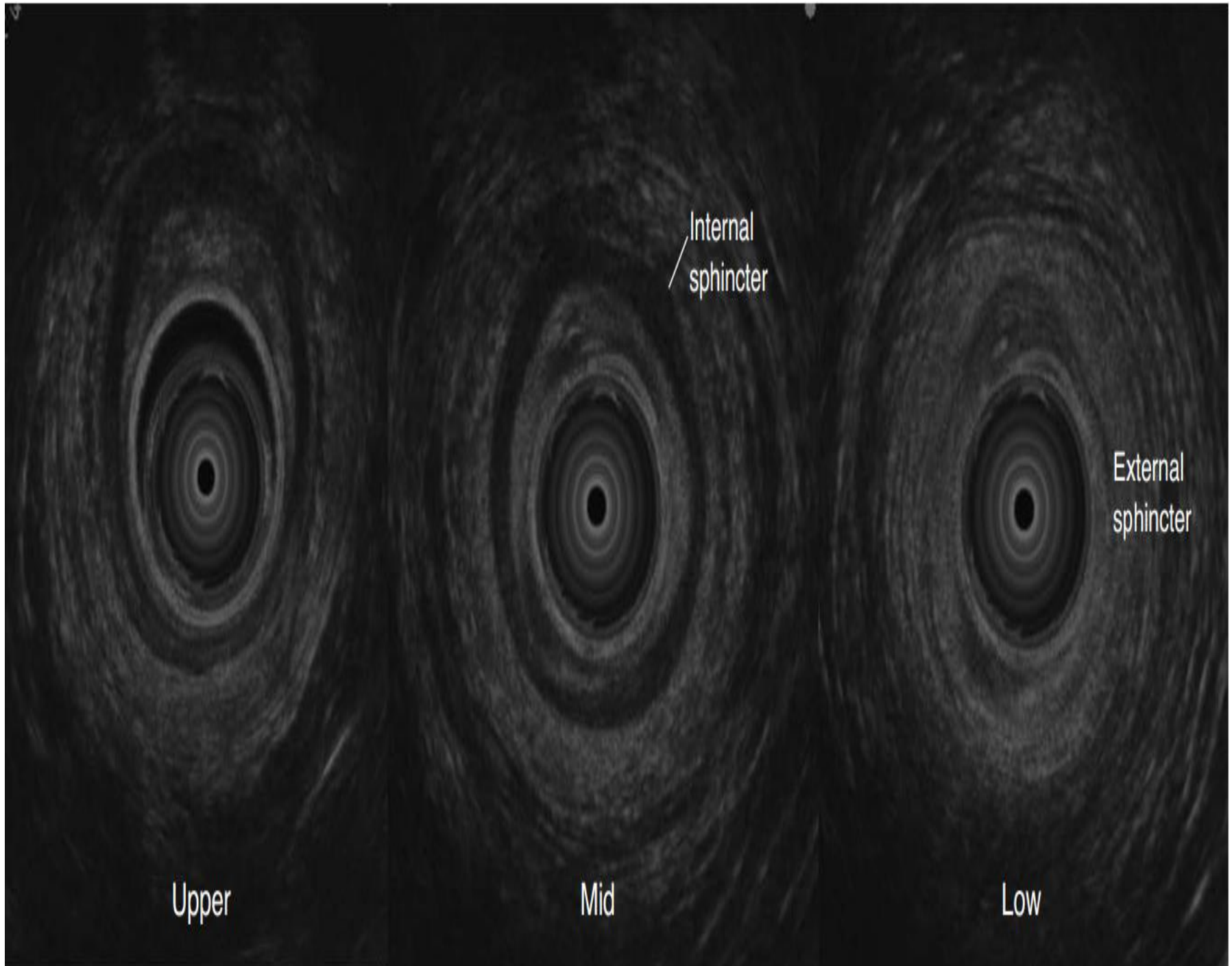


Obstructed defecation and constipation



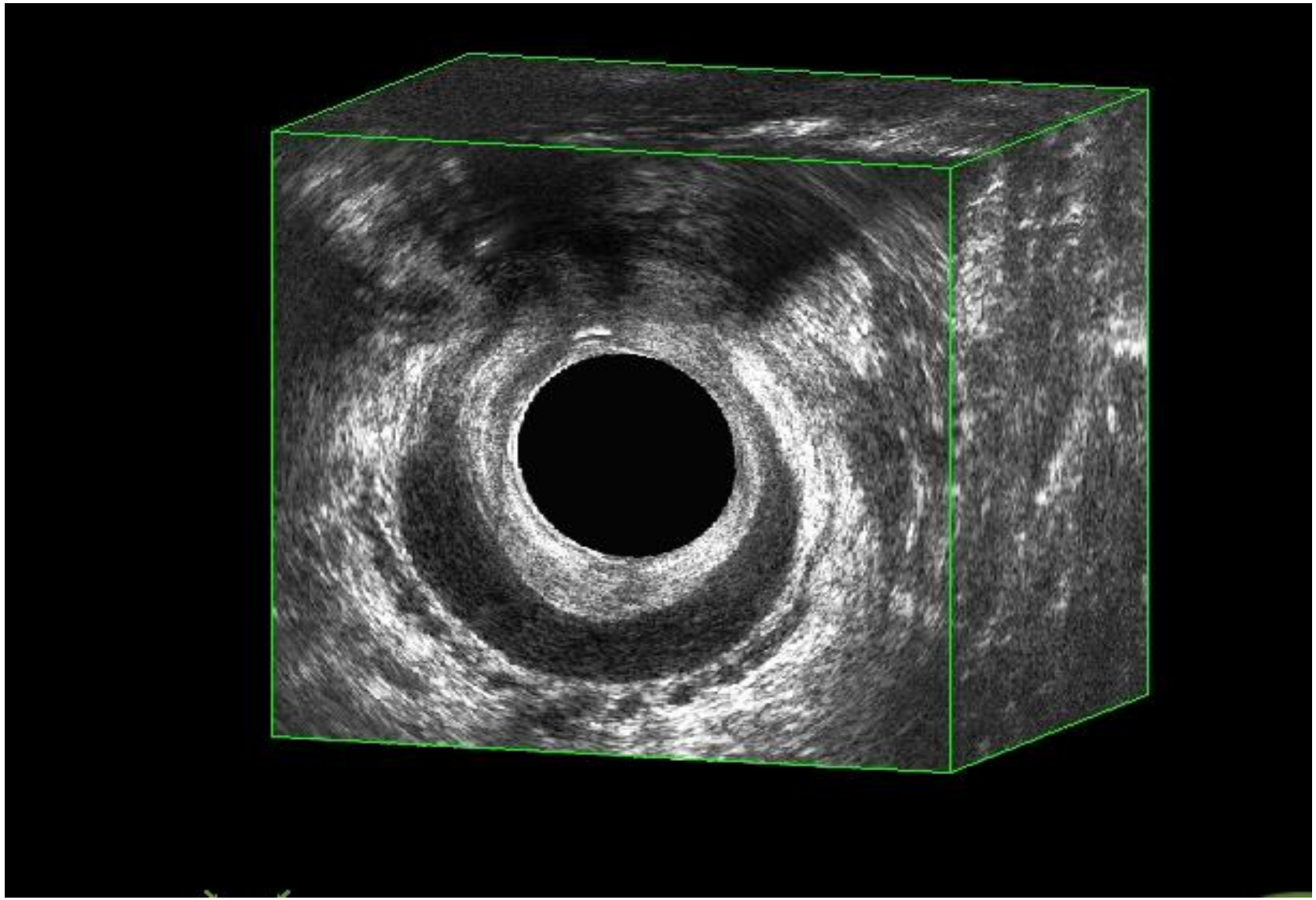
TRUS

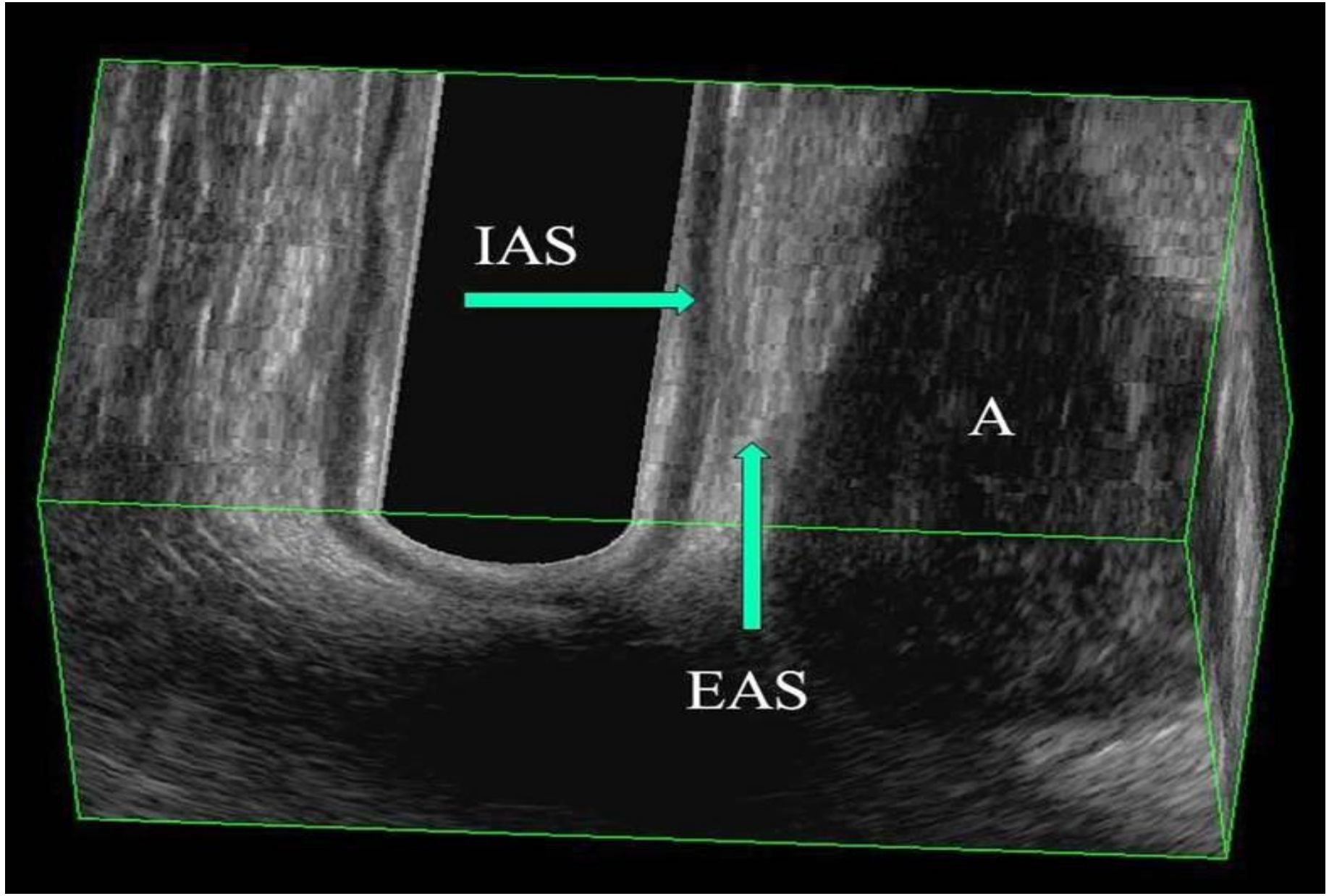

Perirectal fat, hyperechoic
Muscularis propria, hypoechoic
Submucosa, hyperechoic
Mucosa/muscularis mucosa, hypoechoic
Interface, hyperechoic


Internal
sphincter
External
sphincter
Upper
Mid
Low

- Different types of anal fistula
- H2O2 enhancement of the fistula
- Anal and rectal tumours
- Help in diagnosis of chronic anal pain (i.e. suppuration , collection etc.)

- 3D reconstructions of the images



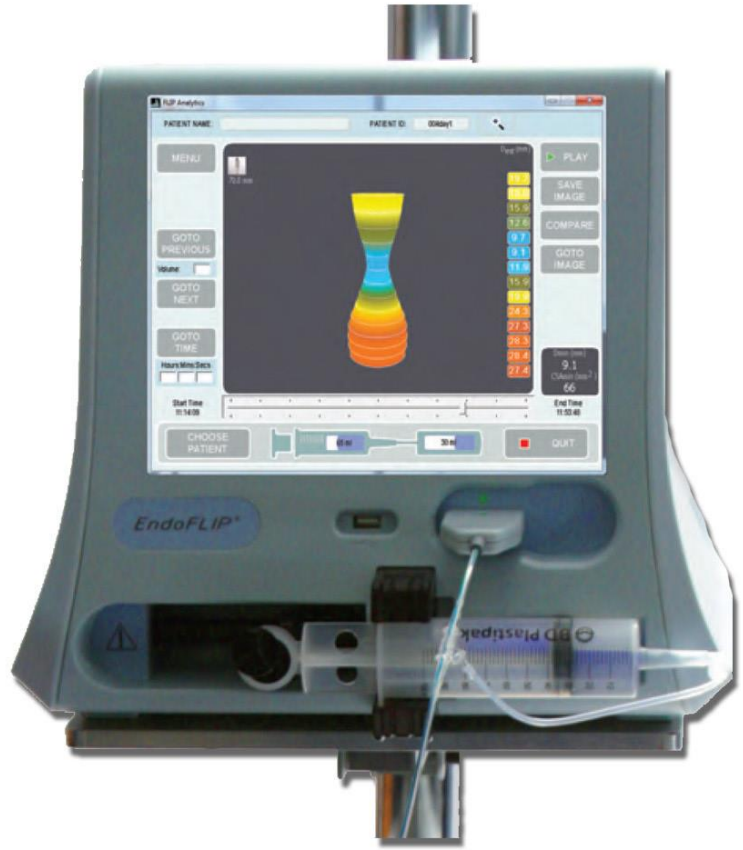

IAS
A
EAS

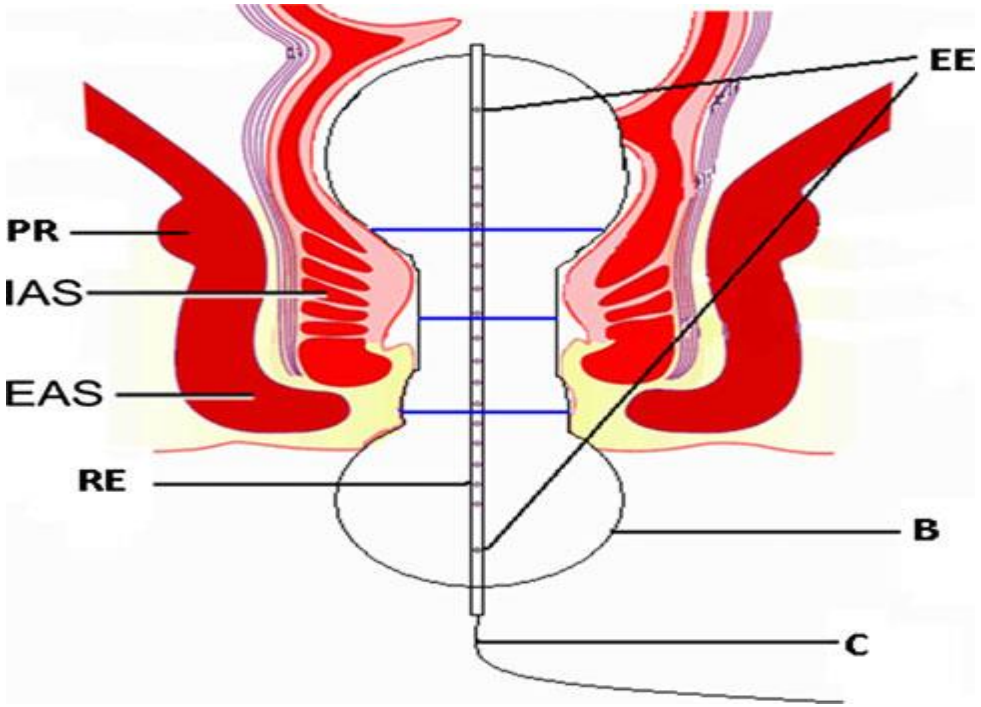
ENDOFLIP

Functional Luminal Imaging Probe (FLIP)

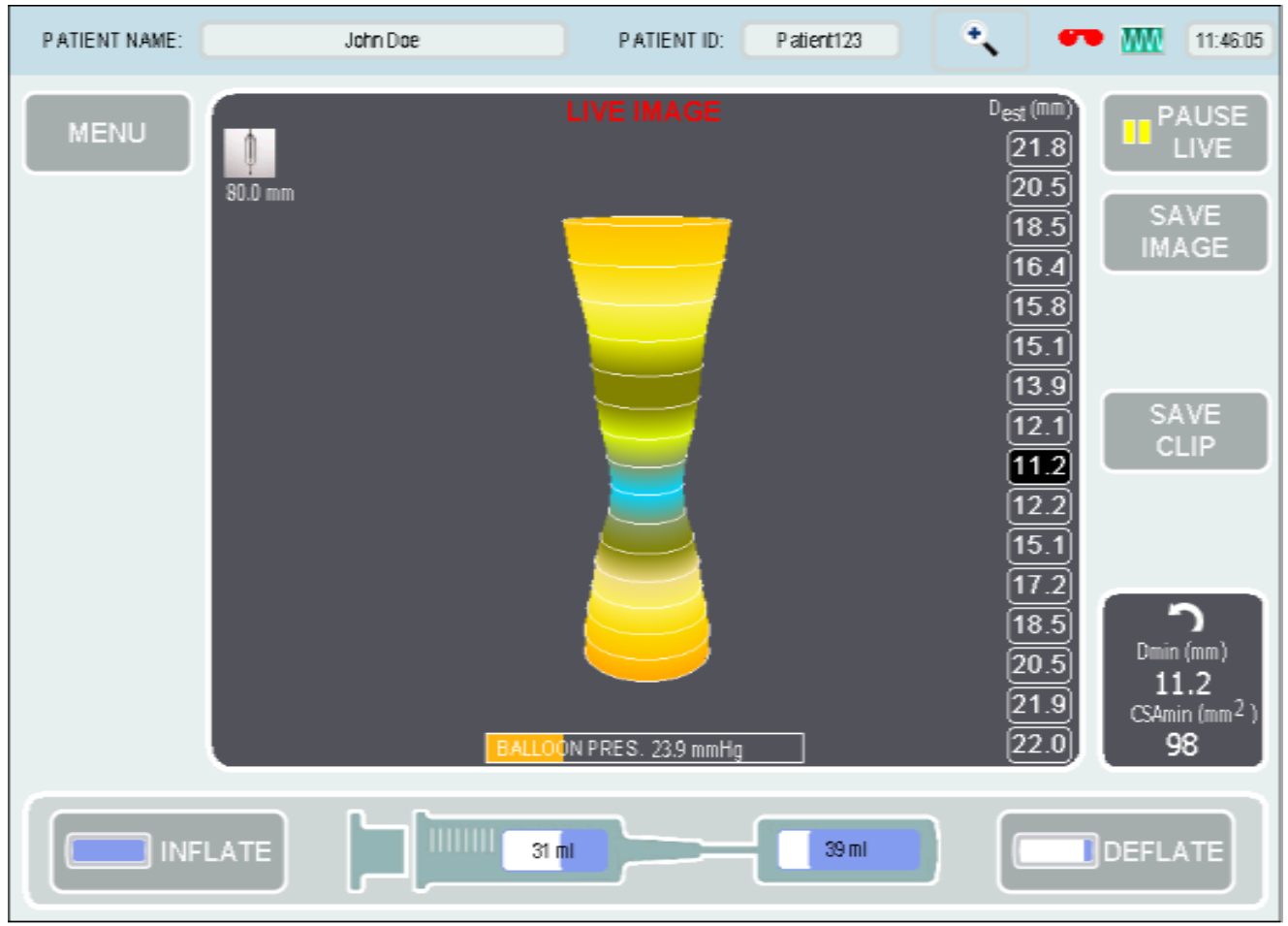
The EndoFLIP System is used in a clinical setting as a pressure and dimension measurement device.

The EndoFLIP System can measure and display diameter. The system can also measure and display balloon pressure

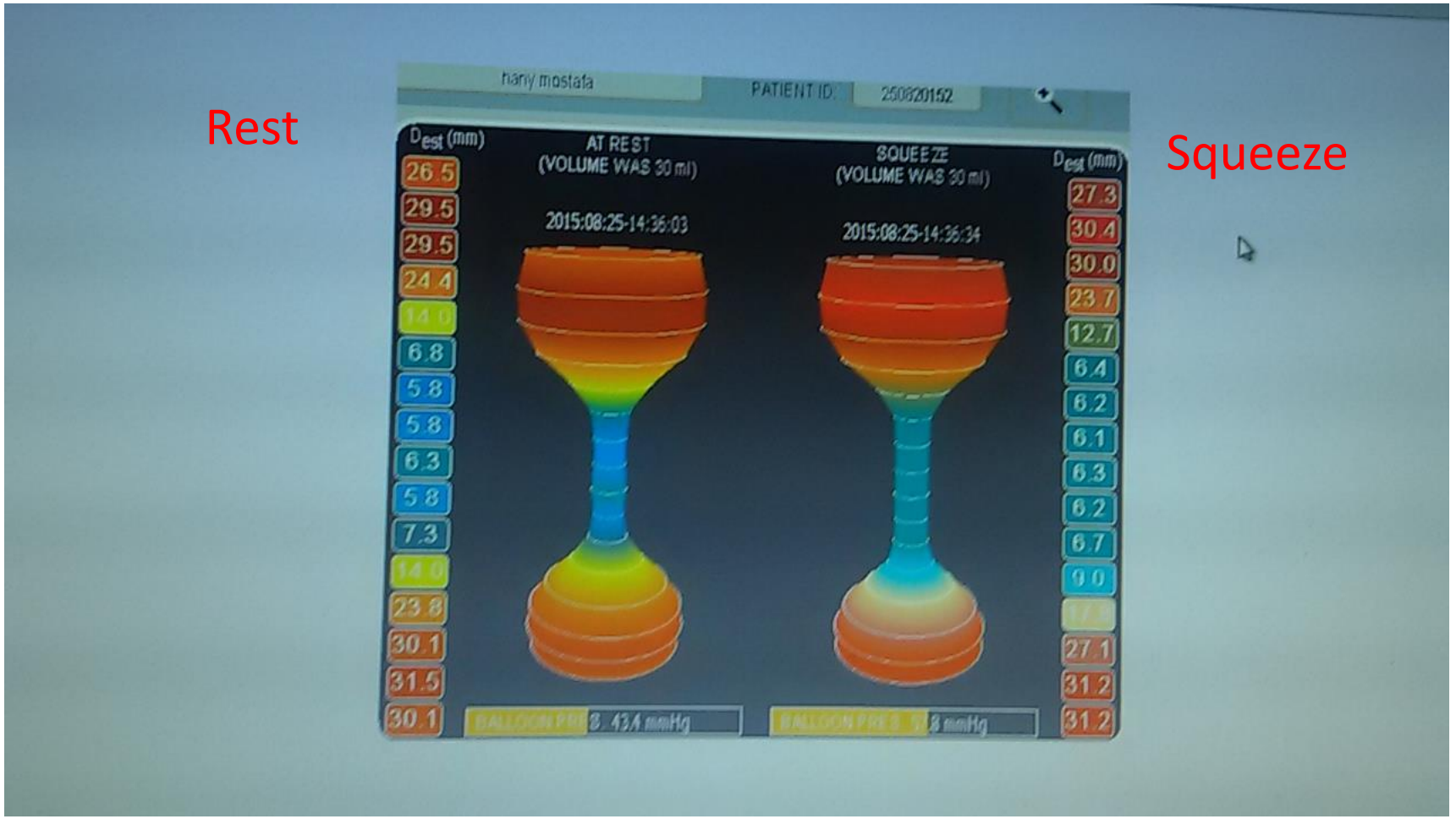

PATIENT NAME:
PATIENT ID:
MENU
PLAY
SAVE IMAGE
COMPARE
GOTO IMAGE
GOTO PREVIOUS
GOTO NEXT
GOTO TIME
CHOOSE PATIENT
QUIT
EndoFLIP



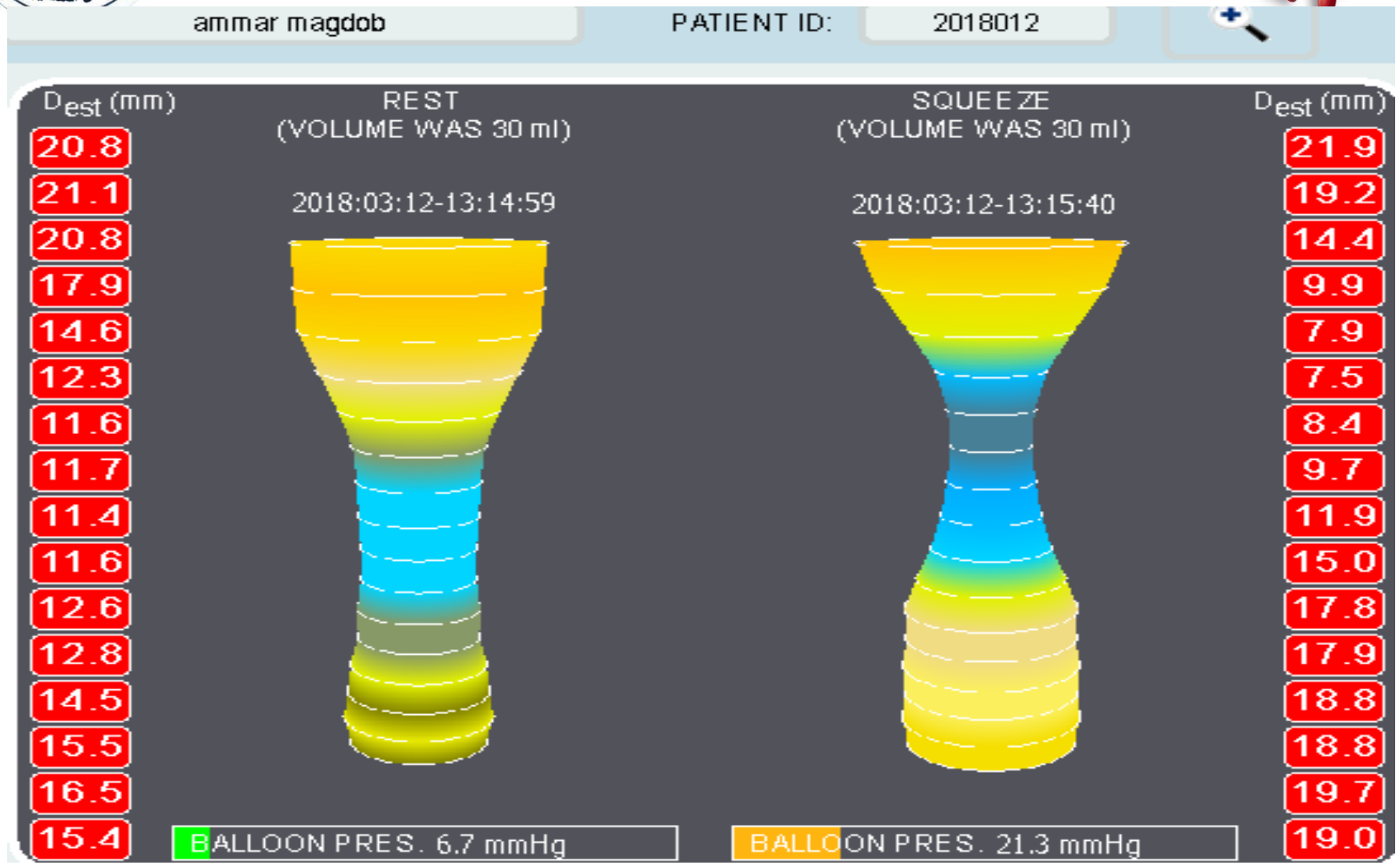
PR puborectalis, IAS internal anal sphincter, EAS external anal sphincter, EE excitation electrodes, RE recording electrodes, B bag, C catheter.


PATIENT NAME:
John Doe
PATIENT ID:
Patient123
11:46:05
MENU
LIVE IMAGE
80.0 mm
Dest (mm)
21.8
20.5
18.5
16.4
15.8
15.1
13.9
12.1
11.2
12.2
15.1
17.2
18.5
20.5
21.9
22.0
BALLOON PRES. 23.9 mmHg
PAUSE LIVE
SAVE IMAGE
SAVE CLIP
Dmin (mm)
11.2
CSAmin (mm2)
98
INFLATE
31 ml
39 ml
DEFLATE

Rest



Squeeze


ammar magdob
PATIENT ID:
2018012
Dest (mm)
REST
(VOLUME WAS 30 ml)
2018:03:12-13:14:59
SQUEEZE
(VOLUME WAS 30 ml)
2018:03:12-13:15:40
Dest (mm)
20.8
21.1
20.8
17.9
14.6
12.3
11.6
11.7
11.4
11.6
12.6
12.8
14.5
15.5
16.5
15.4
21.9
19.2
14.4
9.9
7.9
7.5
8.4
9.7
11.9
15.0
17.8
17.9
18.8
18.8
19.7
19.0
BALLOON PRES. 6.7 mmHg
BALLOON PRES. 21.3 mmHg

treatment

- physiotherapy
- biofeedback
- faradic stimulation
- sphincter repair
- muscle flap

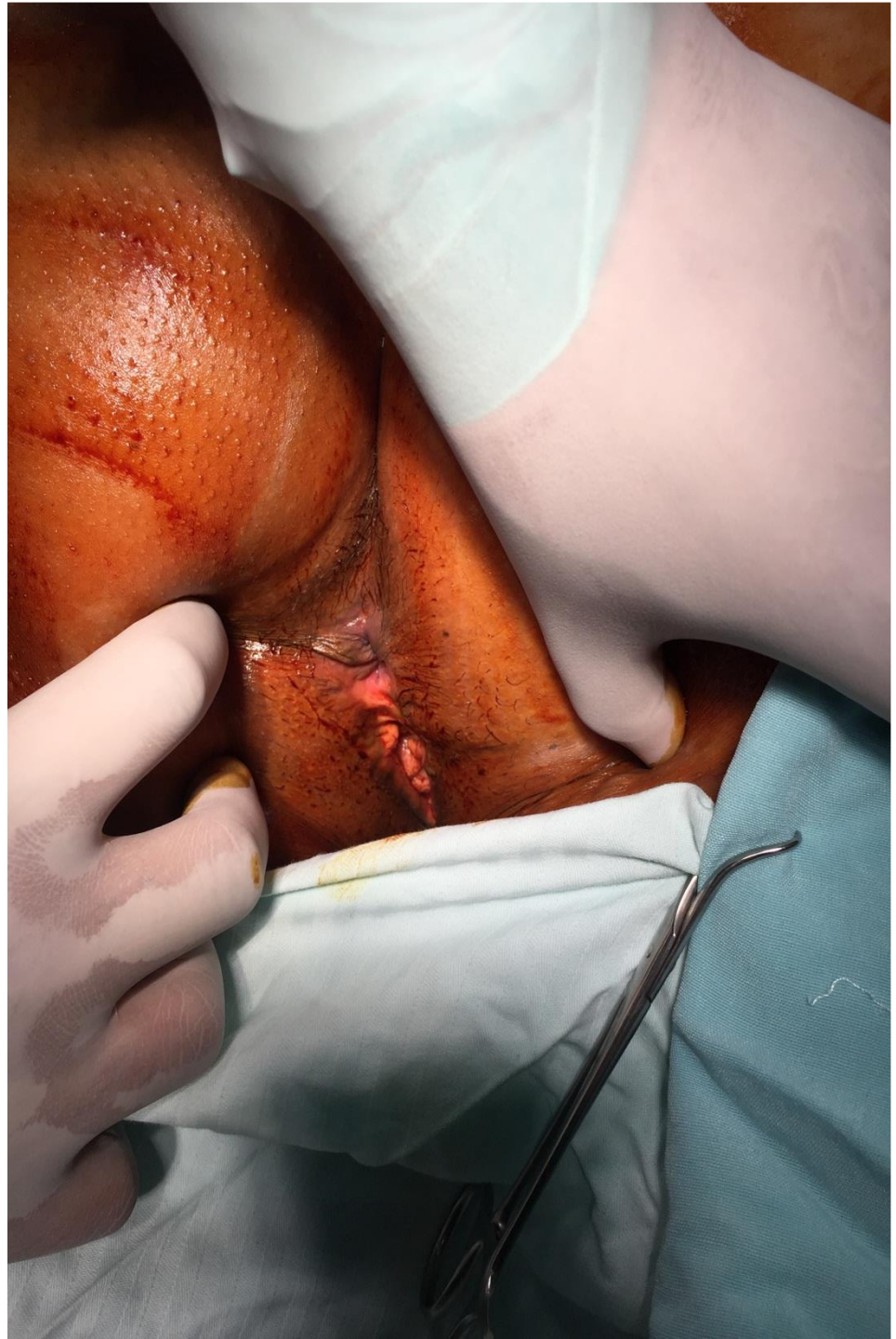
Muscle Transposition

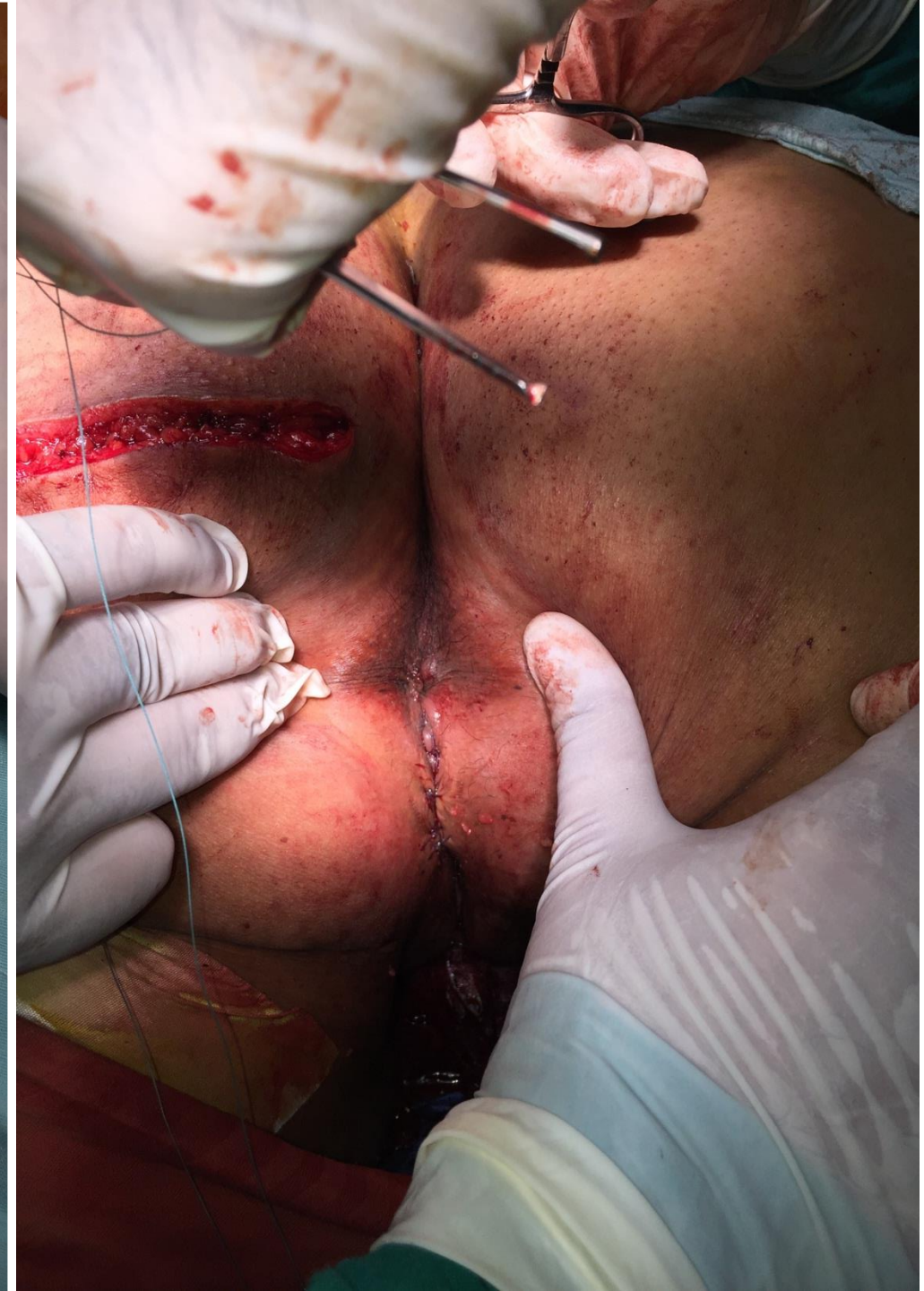
- The concept of substituting the anal sphincter was first reported by ***Chetwood*** in 1902 using the gluteus maximus muscle.
- The ideal muscle for substitution of the sphincter complex
- The muscle itself must have a reliable neurovascular bundle, not be damaged in the process of dissection.

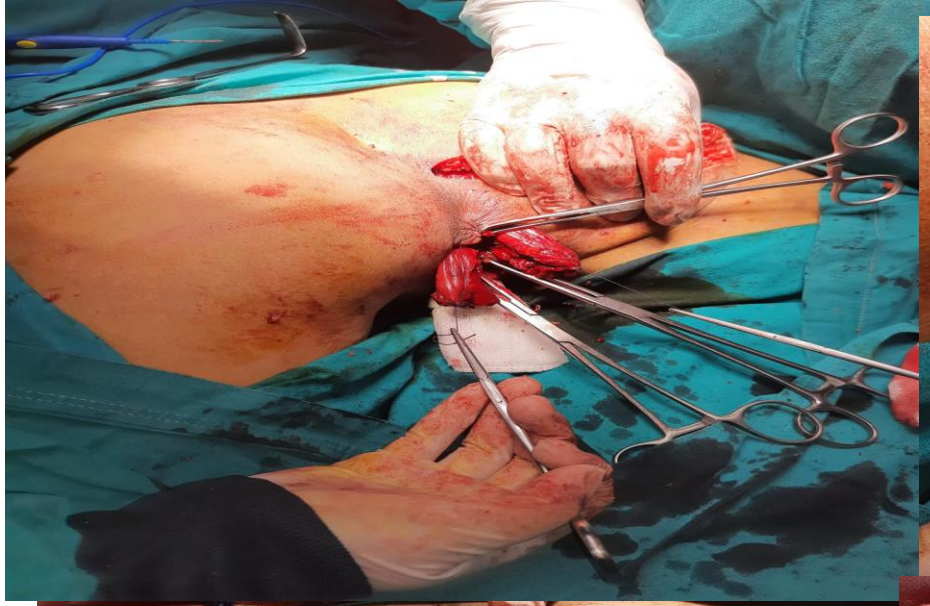
Gluteus Maximus flap

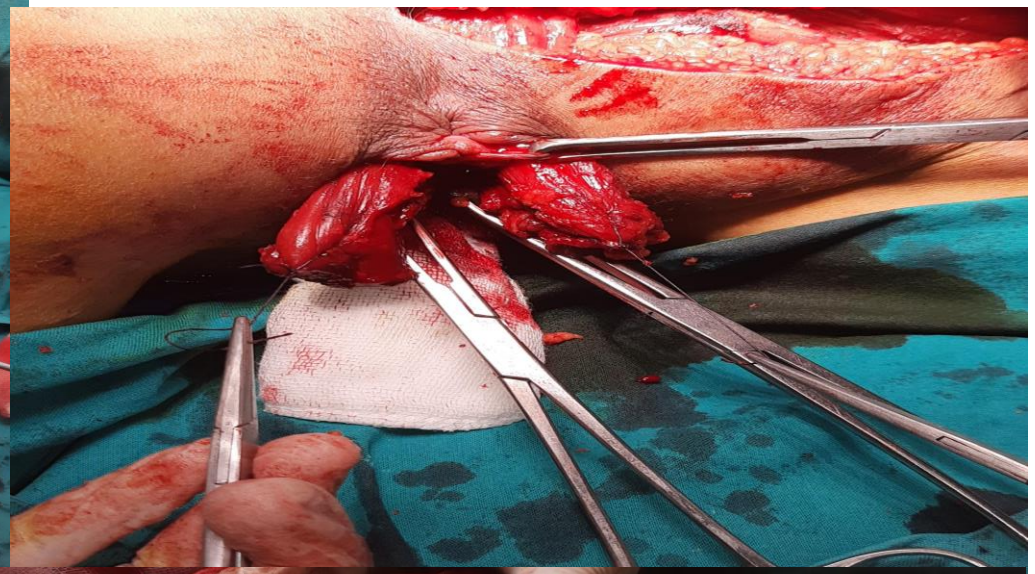
- Motor innervation is derived from the inferior gluteal nerve.
- Which is composed of nerve roots L5, S1, and S2
- Therefore, fecal incontinence secondary to spina bifida or myelomeningocele are absolute contraindications to gluteoplasty ***(Pearl et al, 1991).***

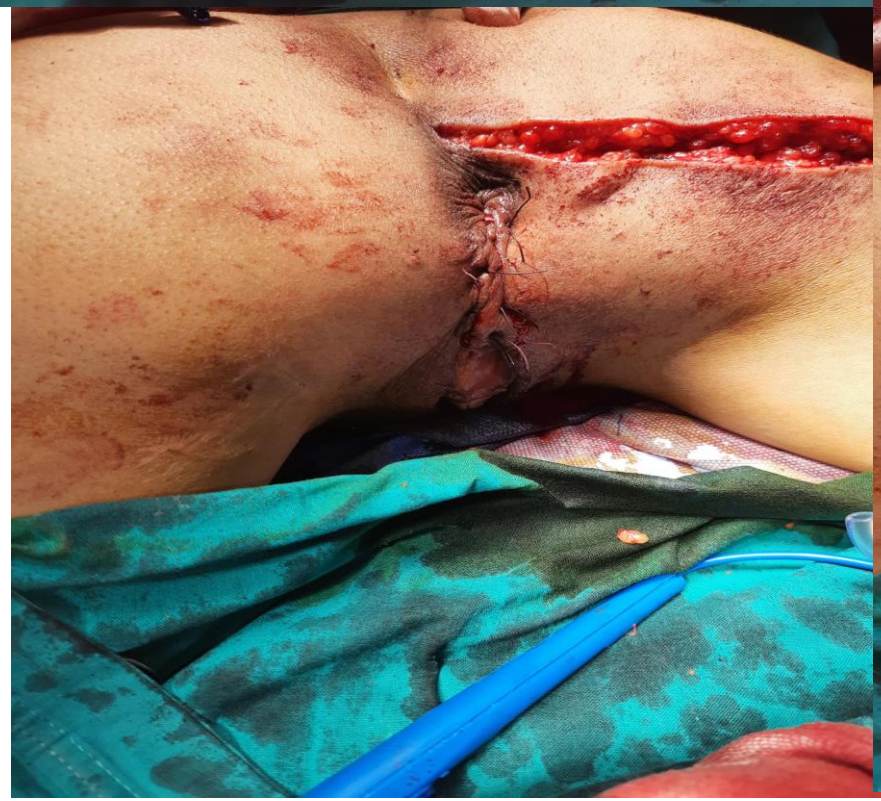

Made With
VivaVideo

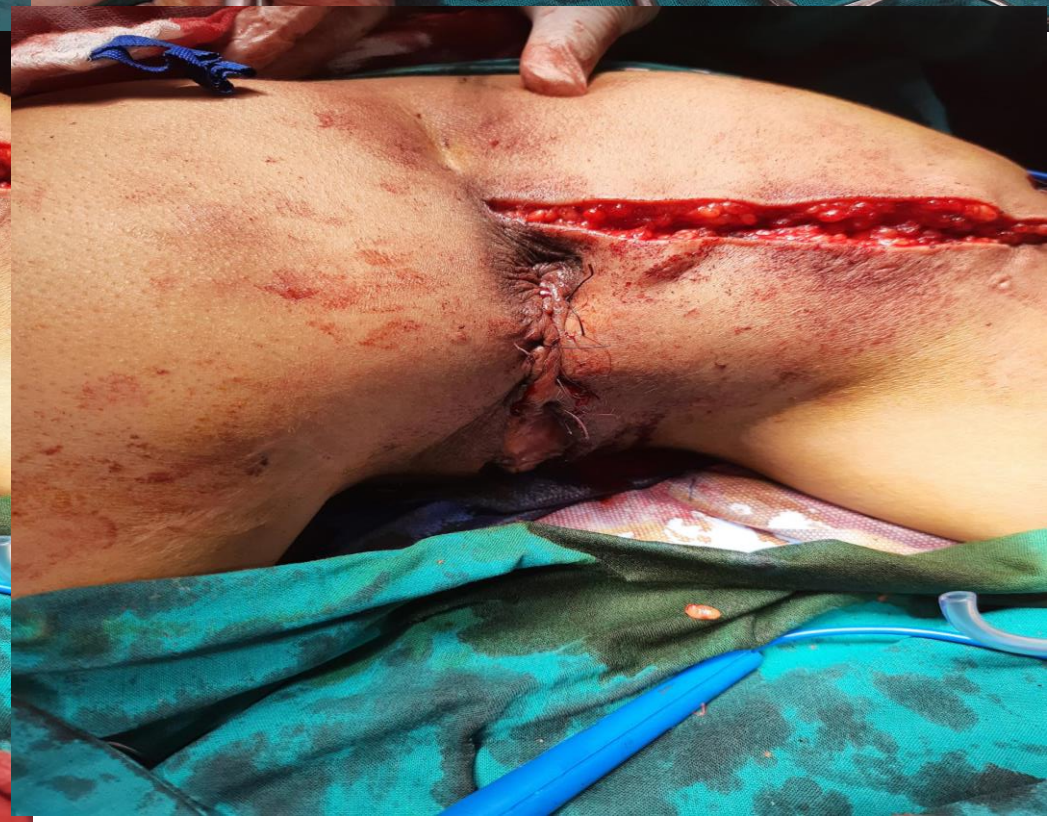












Gracilis versus Gluteus muscle flap

- Certain factors, such as anatomy and function, as well as the primary reason for fecal incontinence, dictate decision making.
- The gluteus muscle is preferred in patients who require

1. considerable muscle bulk
2. need moderate resting tones with high squeeze pressures,
3. who would benefit from a complete rectum wrap, and who have minimal rectovaginal scarring.
4. It is well vascularized,

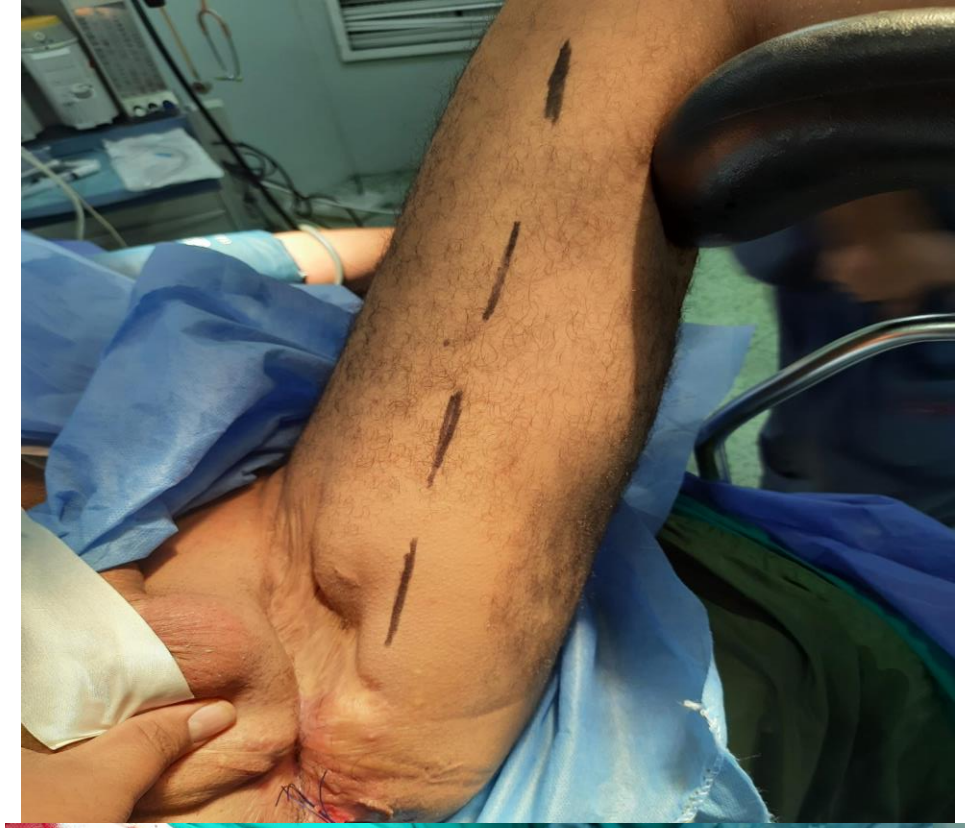
Gracilis versus Gluteus muscle flap

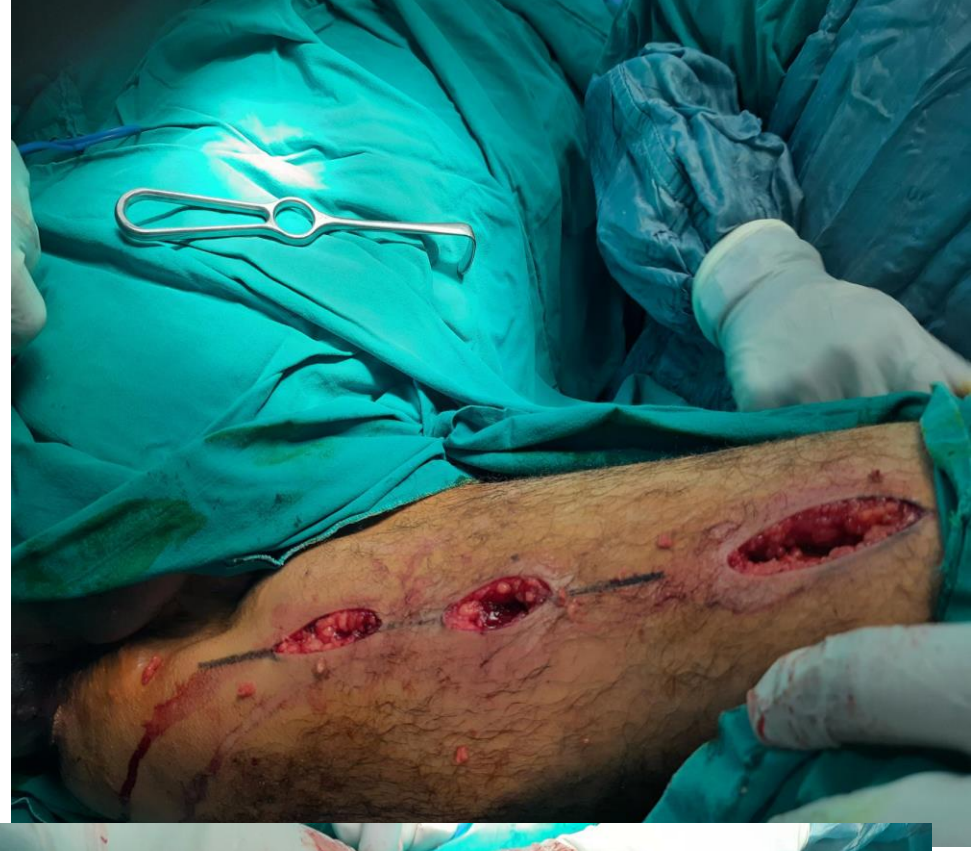
- Alternately, the gracilis muscle is chosen in patients who have a deficient perineal body, who have extensive scarring of the rectovaginal septum (requiring an anterior approach), who have *Fecal incontinence*

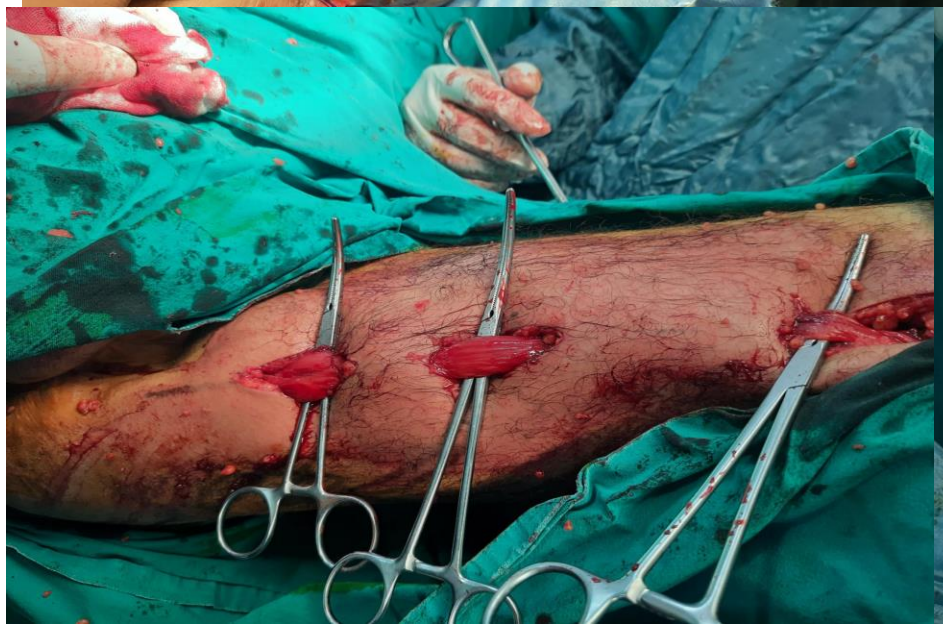
Gracilis versus Gluteus muscle flap

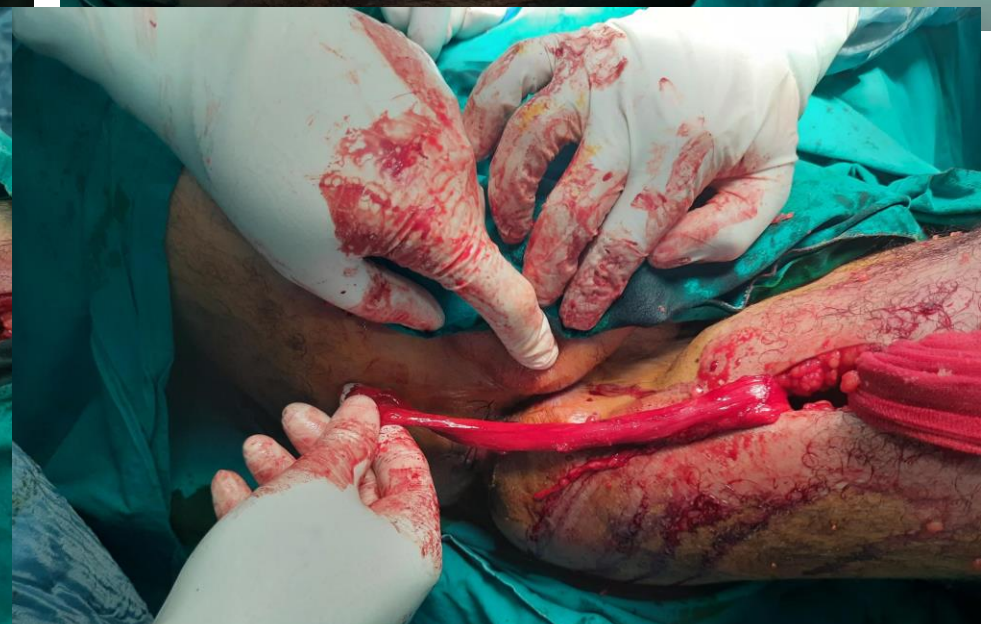
- Disadvantages of the gracilis flap include

1. early muscle fatigue
2. difficulty training
3. incomplete rectum wrap
4. inability to generate a high squeeze pressure









Conclusion and Recommendations

Unstimulated unilateral gluteus maximus transposition is a successful operation for improving continence score and anorectal physiologic

Conclusion and Recommendations

We recommend the use of unilateral gluteus maximus transposition in favour of bilateral gluteus maximus transposition in order to preserve the other side intact for its possible use in further repair in case of failure of the first operation.

Thank you