Anal sphincter damage after childbirth is the most important ethiological factor in the pathogenesis of anal incontinence in women.

Swash M. Faecal Incontinence BMJ 1993; 307: 636-637
Gastrocolic Reflex

Passage of the feces from the sigmoid to the rectum.
**Sensation of need**

Dilation of the rectum by the arrival of feces.

**Recto Rectal Reflex**

Rectum contraction, closure of the recto sigmoid jonction and descent of the rectal contents to the pectinée line.
Recto Anal Inhibitor Reflex

Rectal contents discrimination at the pectinée line level.

Recto Striated Sphincter Reflex

Striated sphincter contraction which makes the saddles going back in the rectum.
Phase of accommodation

The rectal compliance entail the loss of the saddles sensation in the rectum.

Recto Colic Reflex

The saddles transit in the anal canal during the défécation favors the rectum contraction and also the sigmoide contraction.
BIBLIOGRAPHY

All this présentation is based on my experience since more than thirty years in the périnéale and ano-rectal reeducation but also with Guy VALANCOCNE and Pol DUMONT studies and publications.

Fecal Incontinence

- anal origin
  - ANAL HYPOTONIE (SMOOTH)
  - INSUFFICIENCY OF STRIATED SPHINCTER
  - DEFECT OF THE RECTO STRIATED SPHINTER REFLEX
  - DENERVATION
- rectal origin
  - SMALL RECTAL VOLUME
ASSESSMENT

- Examination

ASSESSMENT

- Manual evaluation

1. E S S - under cutaneous
2. E S S - médian
3. Pubo Rectal
ASSESSMENT
- Electromyographic evaluation

Perineal way

ASSESSMENT
- Electromyographic evaluation

Abdominal way
ASSESSMENT

- Electromyographic evaluation

Tonic fibers

ASSESSMENT

- Electromyographic evaluation

Phasic fibers
ASSESSMENT

- Electromyographic evaluation

Reflex cough test

Test in the effort
ASSESSMENT

- Manometric evaluation
  
  Recording anal and rectal pressure

- Recto Striated Sphincter Reflex

- Rectal reservoir
  - Sensibilities
  - Volume
  - Small rectum
  - Big rectum

- Rectal evacuation
Recto Striated Sphincter Reflex

- Position the anal balloon on the zone of the EAS (Verify if the pressure < 64 cmH₂O)
- Hold the probe
- Inflate first time at 20 ml, then increase if needed step by step by 10 ml returning every time to zero
- You have to observe an increase of pressure of the level of the anal balloon which translates to a closure of the low canal: more the volume is important, more the amplitude of the reflex must be big

Rectal reservoir

Rectal Sensibility
- Only the rectal balloon is used
- With the syringe inflate gradually the air in the balloon
- Ask the patient when he feel the first need: 20ml < N < 30 ml
Rectal reservoir

- Tolerable Maximal Volume
  - Only the rectal balloon is used
  - With the syringe inflate gradually the air in the balloon
  - Ask the patient when the volume is not tolerable: $200 \text{ ml} < N < 240 \text{ ml}$

Rectal evacuation

- Attempt of Exemption and Control of the Anal Relaxation
  - The two balloons are used
  - With the syringe inflate $60 \text{ ml}$ in the rectal balloon
  - Ask the patient to make an attempt of exemption and visualize an rise of the piston of the syringe and a relaxation of the anal sphincter
Connexion physique :

Connecter le manomètre 3 voies sur le POD Universel

Connecter la voie 1 (verte) sur le ballonnet du canal anal
Régler le robinet de la voie 1 (verte) de manière à faire passer uniquement l’air du ballonnet vers le manomètre.

Connecter la voie 2 (jaune) sur le ballonnet rectal

Connecter la voie 3 (bleu) sur la pédale
Régler le robinet de la voie 3 (bleu) de manière à faire passer uniquement l’air de la pédale vers le manomètre.

Connecter la seringue sur la voie 2 (jaune) du manomètre
Régler le robinet de la voie 2 (jaune) de manière à faire passer l’air du ballonnet et de la seringue vers le manomètre.

Rehabilitation

Manual
REHABILITATION

Electrostimulation

<table>
<thead>
<tr>
<th>Fibres I</th>
<th>Fibres IIA</th>
<th>Fibres IIB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lentes Oxydatives Toniques</td>
<td>Intermédiaires Oxydatives glycolytiques Tonico-phasiques</td>
<td>Rapides Glycolytiques Phasiques</td>
</tr>
<tr>
<td>Fatigabilité</td>
<td>Tps R = Tps W</td>
<td>Tps R = 2xTps W</td>
</tr>
<tr>
<td>Force développée</td>
<td>2 g</td>
<td>10 g</td>
</tr>
<tr>
<td>Temps de secousse</td>
<td>100 ms</td>
<td>50 ms</td>
</tr>
<tr>
<td>Vitesse de conduction nerv.</td>
<td>60 – 80 m/s</td>
<td>80 – 100 m/s</td>
</tr>
<tr>
<td>Fréquence mini</td>
<td>8 Hz</td>
<td>20 Hz</td>
</tr>
<tr>
<td>Fréquence tétanique</td>
<td>33 Hz</td>
<td>40-50 Hz</td>
</tr>
<tr>
<td>Capillarité</td>
<td>+++</td>
<td>+</td>
</tr>
<tr>
<td>Travail aérobique</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td>Travail anaérobie</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td>Chronaxie</td>
<td>320 – 740 µs</td>
<td>160 – 320 µs</td>
</tr>
</tbody>
</table>

Biofeedback

- Visual back control
- Anal probe - EMG - Pressure
- 2 Ways - Périnéal - Abdominal
- Proprioception
- Muscular strengthening (FI – FII)
Biofeedback

Tonic fibers work

Biofeedback

Phasic fibers work
**REHABILITATION**

**Balloon**

- **IN VOLUNTARY**
  - Series: inflate 1 second
  - go down 2 seconds
- **VOLUNTARY**
  - Rest: 15 seconds

**Maximal volume of départure**

- Increase of 5 cc for 2 seconds
- Increase of 5 cc for 4 seconds
- Preservation of the volume during 1 minute

**REHABILITATION**

**Balloons by landing**

- Small rectum

**Maximal volume of départure**

- Increase of 5 cc for 2 seconds
- Preservation of the volume during 1 minute
Never forget to direct the patient to a dietitian for the food advice.

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CONCLUSION

THANKS