

## INDICE

la definizione di LUTS, ANLUTS e deficit ano-rettali

la patogenesi di IUS e IUU (iperattività vescicale)

le disfunzioni ano-rettali

P.O.P.

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# LUTS =

# Lower Urinary Tract SYMPTOMS

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Neurourology and Urodynamics 21:167–178 (2002)  
DOI 10.1002/nau.10052

## The Standardisation of Terminology of Lower Urinary Tract Function: Report from the Standardisation Sub-committee of the International Continence Society

Paul Abrams, Linda Cardozo, Magnus Fall, Derek Griffiths, Peter Rosier, Ulf Ulmsten,  
Philip van Kerrebroeck, Arne Victor, and Alan Wein

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Neurourology and Urodynamics 29:4–20 (2010)

REVIEW ARTICLE

## An International Urogynecological Association (IUGA)/International Continence Society (ICS) Joint Report on the Terminology for Female Pelvic Floor Dysfunction

Bernard T. Haylen,<sup>3,4,5</sup> Dirk de Ridder,<sup>2,1,5</sup> Robert M. Freeman,<sup>3,1,5</sup> Steven E. Swift,<sup>4,1,5</sup> Bary Berghmans,<sup>5,1,5</sup>  
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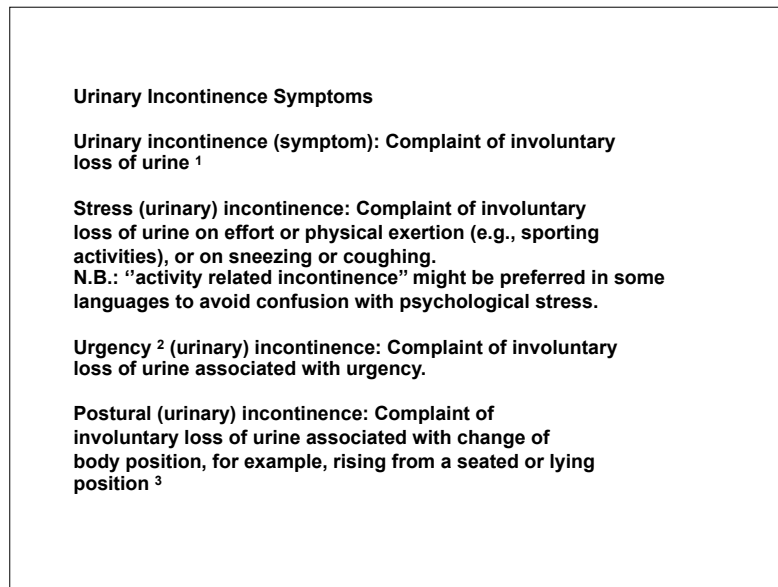
<sup>10</sup>Evanston Continence Centre, Evanston, Illinois

<sup>11</sup>Kantonsspital, Aarau, Switzerland

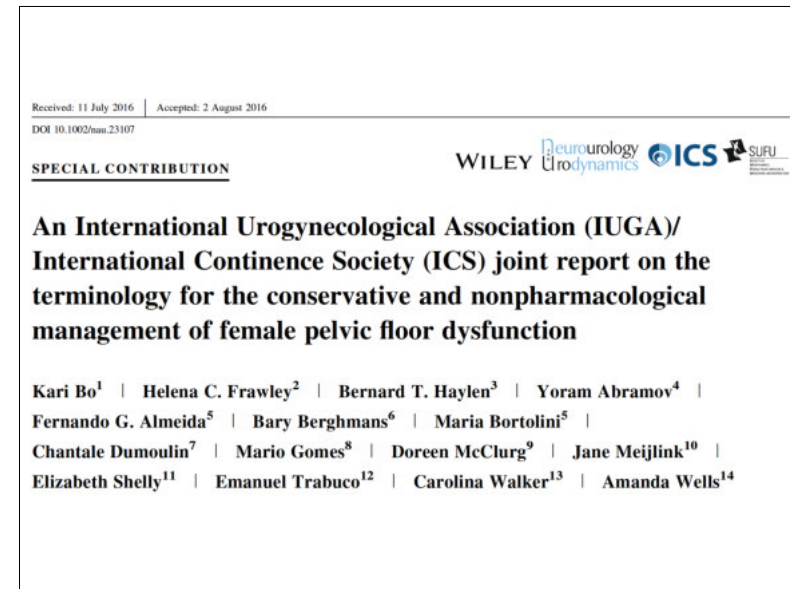
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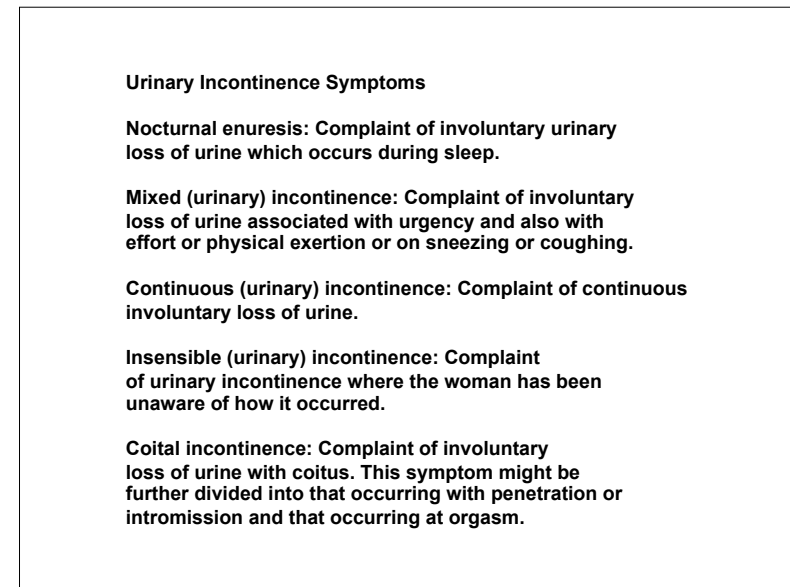
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### Bladder Storage Symptoms

**Increased daytime urinary frequency:** Complaint that micturition occurs more frequently during waking hours than previously deemed normal by the woman. iv

**Nocturia:** Complaint of interruption of sleep one or more times because of the need to micturate.3 v Each void is preceded and followed by sleep.

**Urgency:** Complaint of a sudden, compelling desire to pass urine which is difficult to defer.vi

**Overactive bladder (OAB, Urgency) syndrome:** Urinary urgency, usually accompanied by frequency and nocturia, with or without urgency urinary incontinence, in the absence of urinary tract infection (UTI) or other obvious pathology.

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## Classification of Lower Urinary Tract Symptoms (LUTS)

Storage	Voiding	Post-micturition
<ul style="list-style-type: none"><li>• Frequency</li><li>• Urgency</li><li>• Nocturia</li><li>• Incontinence</li></ul>	<ul style="list-style-type: none"><li>• Slow stream</li><li>• Splitting or spraying</li><li>• Intermittency</li><li>• Hesitancy</li><li>• Straining</li><li>• Terminal dribble</li></ul>	<ul style="list-style-type: none"><li>• Post-micturition dribble</li><li>• Feeling of incomplete emptying</li></ul>

Overactive Bladder

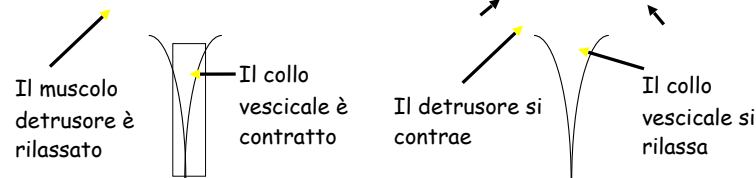
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### Riempimento e svuotamento vescicale

Il ciclo della minzione è complesso e richiede il coordinamento del sistema vescico-sfintero-perineale

#### Riempimento

#### Svuotamento



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### Sensory Symptoms

A departure from normal sensation or function, experienced by the woman during bladder filling.

Normally, the individual is aware of increasing sensation with bladder filling up to a strong desire to void.

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### **Sensory Symptoms**

**Increased bladder sensation:** Complaint that the desire to void during bladder filling occurs earlier or is more persistent to that previously experienced.  
**N.B.:** This differs from urgency by the fact that micturition can be postponed despite the desire to void.

**Reduced bladder sensation:** Complaint that the definite desire to void occurs later to that previously experienced despite an awareness that the bladder is filling.

**Absent bladder sensation:** Complaint of both the absence of the sensation of bladder filling and a definite desire to void.

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### **Voiding and Postmicturition Symptoms**

**A departure from normal sensation or function,** experienced by the woman during or following the act of micturition.

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### **Voiding and Postmicturition Symptoms**

**Hesitancy:** Complaint of a delay in initiating micturition.

**Slow stream:** Complaint of a urinary stream perceived as slower compared to previous performance or in comparison with others.

**Intermittency:** Complaint of urine flow that stops and starts on one or more occasions during voiding.

**Straining to void:** Complaint of the need to make an intensive effort (by abdominal straining, Valsalva or suprapubic pressure) to either initiate, maintain, or improve the urinary stream.

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### **Voiding and Postmicturition Symptoms**

**Spraying (splitting) of urinary stream:** Complaint that the urine passage is a spray or split rather than a single discrete stream.

**Feeling of incomplete (bladder) emptying:** Complaint that the bladder does not feel empty after micturition.

**Need to immediately re-void:** Complaint that further micturition is necessary soon after passing urine.

**Postmicturition leakage:** Complaint of a further involuntary passage of urine following the completion of micturition.

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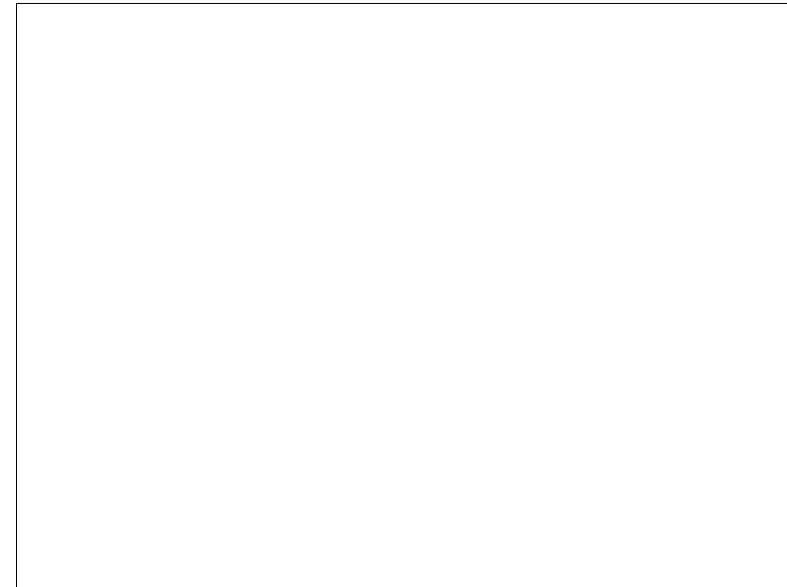
### Voiding and Postmicturition Symptoms

**Position-dependent micturition:** Complaint of having to take specific positions to be able to micturate spontaneously or to improve bladder emptying, foreexample, leaning forwards or backwards on the toilet seat or voiding in the semi-standing position.

**Dysuria:** Complaint of burning or other discomfort during micturition. Discomfort may be intrinsic to the lower urinary tract or external (vulvar dysuria).

**(Urinary) retention:** Complaint of the inability to pass urine despite persistent effort.

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SOUNDING BOARD

WILEY    

### An International Continence Society (ICS) report on the terminology for adult neurogenic lower urinary tract dysfunction (ANLUTD)

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### ANLUTD SYMPTOMS:

Any morbid phenomenon or departure from the normal in structure, function, or sensation, experienced by individual and indicative of disease or a health problem.

Symptoms are either volunteered by, or elicited from the individual or may be described by the patient's caregiver.

LUTS are classified as neurogenic in the presence of a relevant neurological disease ONLY. Symptoms are a subjective indicator of, or change in disease as perceived by the patient, carer, or partner that may lead the patient to seek help from healthcare professionals.

They are usually qualitative. In general, LUTS cannot be used to make a definitive diagnosis. LUTS in people with neurological disease can also indicate pathologies other than NLUTD, such as urinary infection.

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#### **ANLUTD SIGNS**

Any abnormality indicative of disease or a health problem, discoverable on examination of the patient. Signs are observed by the physician including simple means to verify symptoms and quantify them.

Measuring the frequency, severity and impact of lower urinary tract symptoms by asking the patient to record micturitions and symptoms for a period of days provides invaluable information. The recording of “micturition events” can be in three main forms.\*\*

**Micturition Time Chart:** this records only the times of micturitions, day and night, for at least 24 h.

**Frequency Volume Chart (FVC):** this records the volumes voided as well as the time of each micturition, day and night, for at least 24 h.

**Bladder Diary:** this records the times of micturitions and voided volumes, incontinence episodes, pad usage, and other information such as fluid intake, the degree of urgency, and the degree of incontinence. ††

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#### **Detrusor function during filling cystometry**

**Neurogenic detrusor overactivity** is an urodynamic observation characterized by involuntary detrusor contractions during the filling phase which may be spontaneous or provoked in the setting of a clinically relevant neurologic disease. ||||

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#### **Pressure Flow Study Definitions**

**Detrusor function during the voiding phase** in people that can initiate voluntary voiding

**Normal detrusor function** is a voluntarily initiated continuous detrusor contraction that leads to complete bladder emptying within a normal time span, and in the absence of obstruction. For a given detrusor contraction, magnitude of the recorded pressure rise will depend on the degree of outlet resistance.

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#### **Pressure Flow Study Definitions**

**Neurogenic detrusor underactivity** is defined as a contraction of reduced strength and/or duration, resulting in prolonged bladder emptying and/or a failure to achieve complete bladder emptying within a normal time span in the setting of a clinically relevant neurologic disorder.

**Neurogenic acontractile detrusor** is one that cannot be demonstrated to contract during urodynamic studies in the setting of a clinically relevant neurologic lesion.

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**Sphincter function during pressure flow studies**

**Detrusor-Sphincter Dyssynergia (DSD):** describes a detrusor contraction concurrent with an involuntary contraction of the urethral and/or periurethral striated muscle. Occasionally flow may be prevented altogether.|||||

**Non-relaxing urethral sphincter** is characterized by a non-relaxing, obstructing urethral sphincter resulting in reduced urine flow.¶¶¶¶

**Delayed relaxation of the urethral sphincter** is characterized by impaired and hindered relaxation of the sphincter during voiding attempt resulting in delay of urine flow.##

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#### **ANLUTD CLINICAL DIAGNOSES**

**Spinal Shock Phase** is usually temporary following acute neurologic insult or SCI that is characterized by loss of sensory, motor and reflex activity below the level of injury. NLUTD in Spinal Shock: is usually a temporary complete painless urinary retention.

**Suprapontine Lesion (SPL)** is a neurological lesion above the pons (forebrain or midbrain). NLUTD in SPL: there is a reflex contraction of the detrusor with impaired cerebral regulation and central inhibition and usually synergistic voiding/bladder emptying\*\*\*\*

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#### **ANLUTD CLINICAL DIAGNOSES**

**Suprasacral spinal cord/pontine lesion (SSL)** is a neurological lesion in suprasacral spine and/or pons. NLUTD in SSL: Detrusor overactivity (DO) and DO incontinence are common, with or without detrusor-urethral sphincter dyssynergia (DSD), often resulting in a significant post void residual (PVR) and "high pressure" bladder.††††

**Sacral Spinal Cord Lesion (SSCL)** is a neurological lesion in the sacral spinal cord. NLUTD in SSCL; findings include acontractile detrusor with or without decreased bladder compliance and usually with impaired sphincter activity.‡‡‡‡

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#### **ANLUTD CLINICAL DIAGNOSES**

**Sacral Spinal Cord Lesion (SSCL)** is a neurological lesion in the sacral spinal cord. NLUTD in SSCL; findings include acontractile detrusor with or without decreased bladder compliance and usually with impaired sphincter activity.‡‡‡‡

**Infrasacral (cauda equina and peripheral nerves) Lesion (CEPNL)** is a neurological lesion affecting the cauda equina and/or peripheral nerves. NLUTD in CEPNL: acontractile detrusor and/or SUI may be present. In diabetic neuropathy, detrusor overactivity can be seen in combination with the above. §§§§

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#### **ANLUTD CLINICAL DIAGNOSES**

**Autonomic Dysreflexia is a syndrome resulting from upper thoracic or cervical spinal cord injury above T6, elicited by a stimulus in the field of distribution of the autonomous sympathetic nucleus, characterized by unregulated sympathetic function below the lesion and compensatory autonomic responses.|||||||**

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**Neurogenic Overactive Bladder is characterized by urgency, with or without urgency urinary incontinence, usually with increased daytime frequency and nocturia in the setting of a clinically relevant neurologic disorder with at least partially preserved sensation.####**

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**Complete urinary retention is an inability to empty any amount of bladder volume (or the requirement for use of a catheter, consciously or unconsciously due to anatomical or functional bladder outlet obstruction, detrusor underactivity or both.**

**Incomplete urinary retention is impaired bladder emptying due to anatomical or functional bladder outlet obstruction, detrusor underactivity or both, when the voided volume is smaller than Post Void Residual.**

**Post void residual (PVR) is defined as the volume of urine left in the bladder at the end of micturition.4**

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#### **ANLUTD TREATMENTS DEFINITIONS**

**Bladder Reflex Triggering comprises various manoeuvres performed by the patient or the therapist to elicit reflex bladder emptying by exteroceptive stimuli (relating to, being, or activated by stimuli received from outside of the bladder).\$\$\$\$\$**

**Bladder Expression refers to various compression manoeuvres aimed at increasing intravesical pressure to facilitate bladder emptying with or without obvious sensation from the bladder.|||||||**

**Catheterization is a technique for bladder emptying employing a catheter to drain the bladder or a urinary reservoir.**

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#### **ANLUTD TREATMENTS DEFINITIONS**

**Intermittent Catheterization (IC) is defined as drainage of the bladder or a urinary reservoir with subsequent removal of the catheter mostly at regular intervals.**

**Clean IC (CIC): use of a clean technique. This implies ordinary hand and genitals washing techniques and use of disposable or cleansed reusable catheters.**

**No-touch technique IC: This was introduced as an easier way for the patient to perform self-intermittent catheterization with a ready-to-use catheter (pre-lubricated catheter, usually a hydrophilic catheter). A pull-in aid or special packages are used to handle the catheter without directly touching the sliding surface of the hydrophilic catheter.\*\*\*\*\***

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**pag 515 ICS per valutazione**

**+ messelink draft per valutazione + bo 2017**

**per posteriore sultan 2017!**

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## Standardization of Terminology of Pelvic Floor Muscle Function and Dysfunction: Report From the Pelvic Floor Clinical Assessment Group of the International Continence Society

Bert Messelink,<sup>1,8</sup> Thomas Benson,<sup>2</sup> Bary Berghmans,<sup>3</sup> Kari Bø,<sup>4</sup> Jacques Corcos,<sup>5</sup> Clare Fowler,<sup>6</sup> Jo Laycock,<sup>7</sup> Peter Huat-Chye Lim,<sup>8</sup> Rik van Lunsen,<sup>9</sup> Guus Lycklama à Nijeholt,<sup>10</sup> John Pemberton,<sup>11</sup> Alex Wang,<sup>12</sup> Alain Watier,<sup>13</sup> and Philip Van Kerrebroeck<sup>14</sup>

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REVIEW ARTICLE

## Fourth International Consultation on Incontinence Recommendations of the International Scientific Committee: Evaluation and Treatment of Urinary Incontinence, Pelvic Organ Prolapse, and Fecal Incontinence

P. Abrams, K.E. Andersson, L. Bird, L. Brubaker, L. Cardozo, C. Chapple, A. Cottenden, W. Davila, D. de Ridder, R. Dmochowski, M. Drake, C. DuBeau, C. Fry, P. Hanno, J. Hay Smith, S. Herschorn, G. Hosker, C. Kelleher, H. Koelbl, S. Khoury, R. Madoff, I. Milsom, K. Moore, D. Newman, V. Nitti, C. Norton, I. Nygaard, C. Payne, A. Smith, D. Staskin, S. Tekgul, J. Thuroff, A. Tubaro, D. Vodusek, A. Wein, and J.J. Wyndaele and the Members of the Committees

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SPECIAL CONTRIBUTION

WILEY Neurourology Urodynamics ICS SUJF

## An International Urogynecological Association (IUGA)/ International Continence Society (ICS) joint report on the terminology for the conservative and nonpharmacological management of female pelvic floor dysfunction

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Elizabeth Shelly<sup>11</sup> | Emanuel Trabuco<sup>12</sup> | Carolina Walker<sup>13</sup> | Amanda Wells<sup>14</sup>

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## INCONTINENCE

6th Edition 2017

EDITORS

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ADRIAN WAGG - ALAN WEIN



6<sup>th</sup> International Consultation on Incontinence,  
Tokyo, September 2016

ICS

ICUD

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**An International Urogynecological Association (IUGA)/  
International Continence Society (ICS) Joint Report on the  
Terminology for Female Anorectal Dysfunction**

Abdul H. Sultan,<sup>1a\*</sup> Ash Monga,<sup>2a,b</sup> Joseph Lee,<sup>3a,c</sup> Anton Emmanuel,<sup>4a</sup> Christine Norton,<sup>5a</sup> Giulio Santoro,<sup>6a</sup>  
Tracy Hull,<sup>7a</sup> Bary Berghmans,<sup>8a,b</sup> Stuart Brody,<sup>9a</sup> and Bernard T. Haylen<sup>10a,c</sup>  
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**alla "digital palpation" .....**

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**Normal pelvic floor muscles: Pelvic floor muscles  
which can voluntarily and involuntarily contract and  
relax.**

**Overactive (non relaxing) pelvic floor muscles: Pelvic floor  
muscles  
which do not relax, or may even contract when  
relaxation is functionally needed, for example, during  
micturition or defaecation.**

**Underactive (non contracting) pelvic floor muscles: Pelvic floor  
muscles  
which cannot voluntarily contract when this is appropriate.**

**Non-functioning (a-functional) pelvic floor muscles: Pelvic floor  
muscles where there is no action palpable.**

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**non contracting pelvic floor ...**

**Incontinenza urinaria da sforzo, da  
urgenza**

**Incontinenza anale**

**Prolasso organi pelvici**

**Sindrome perineo discendente-disceso**

**Lombalgia**

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## non relaxing pelvic floor ...

Incontinenza urinaria, spesso mista  
Sindrome della vescica iperattiva  
Bladder pain syndrome  
Disturbo dello svuotamento vescicale da aumento delle resistenze uretrali o inibizione vescicale  
Stipsi da ostruita defecazione  
Anismo  
Vaginismo, dispareunia  
Dolore pelvico cronico

Lombalgia

LAMBERTI

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LAMBERTI

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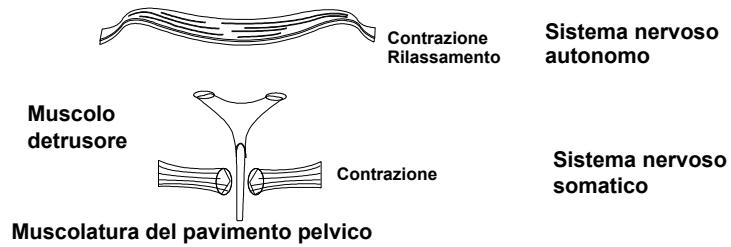
## Incontinenza da urgenza

◆ Accompagnata o immediatamente preceduta dalla sensazione di urgenza o impellenza minzionale



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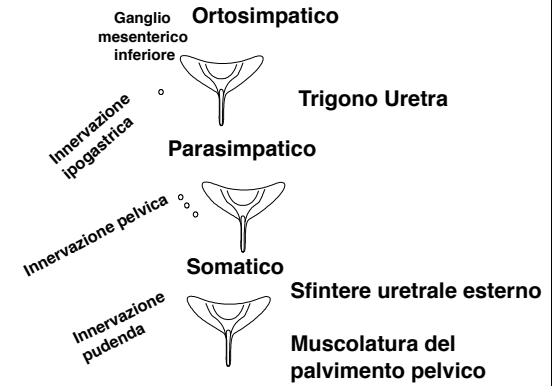
## Regolazione del ciclo minzionale



edi-ermes Dr. GF. Lamberti

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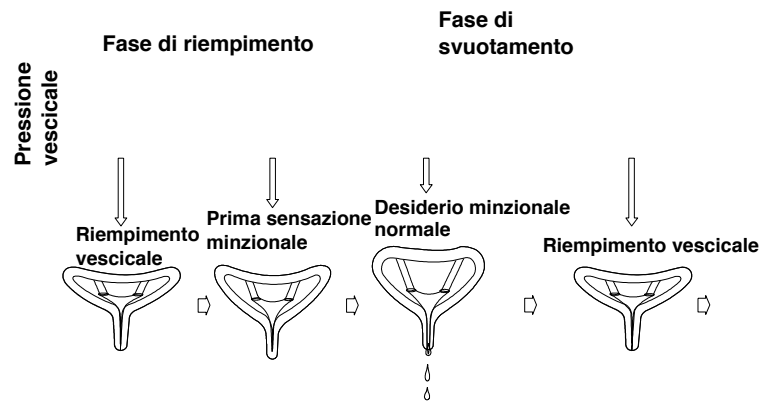
## Innervazione Basso Tratto Urinario



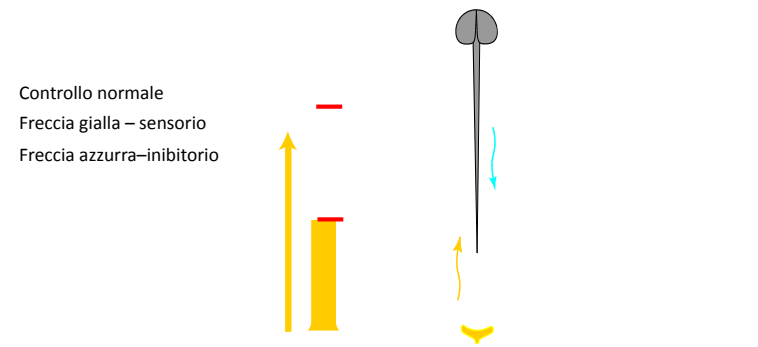
Abrams P, Wein AJ. *The Overactive Bladder—A Widespread and Treatable Condition*. 1998.

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## Il ciclo minzionale

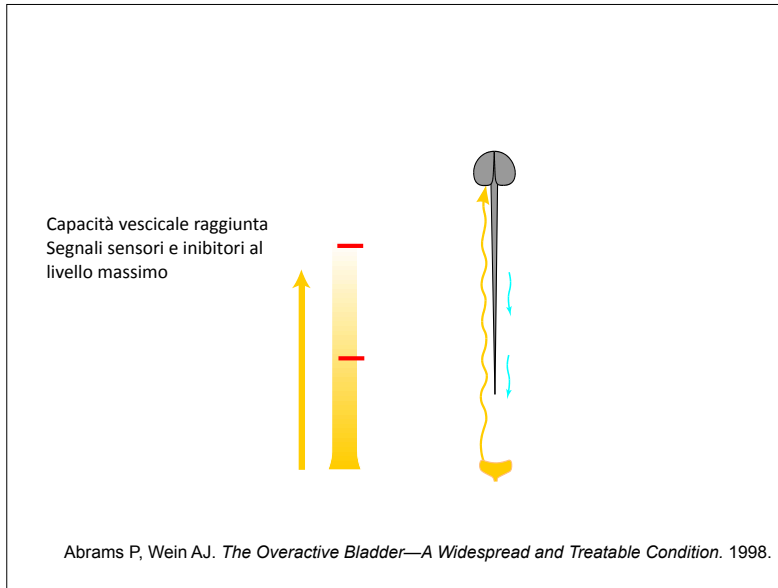


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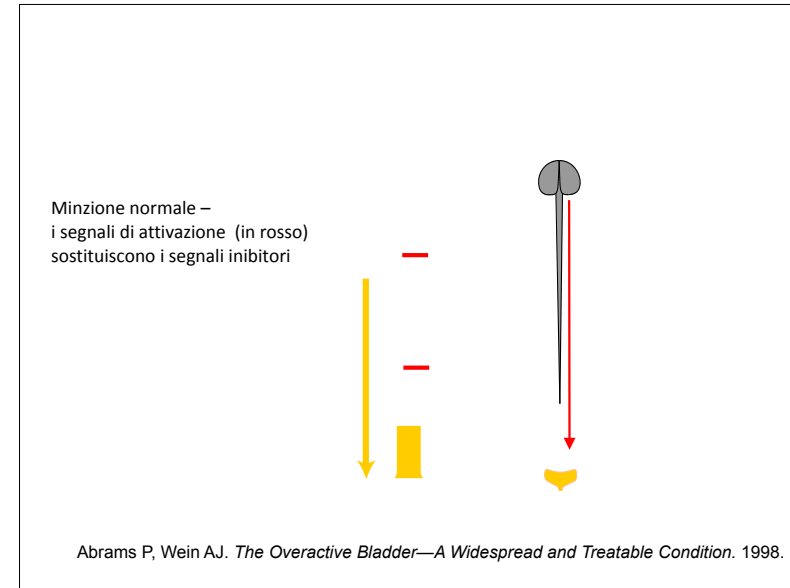


Abrams P, Wein AJ. *The Overactive Bladder—A Widespread and Treatable Condition*. 1998.

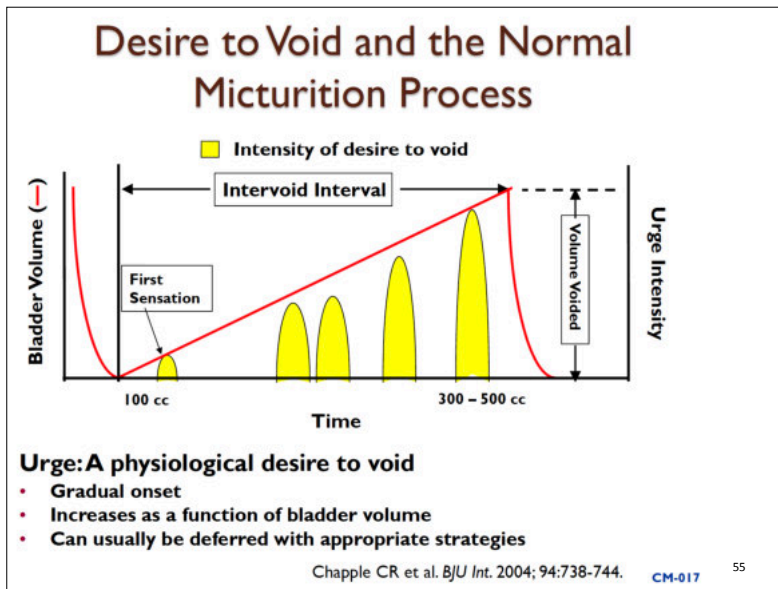
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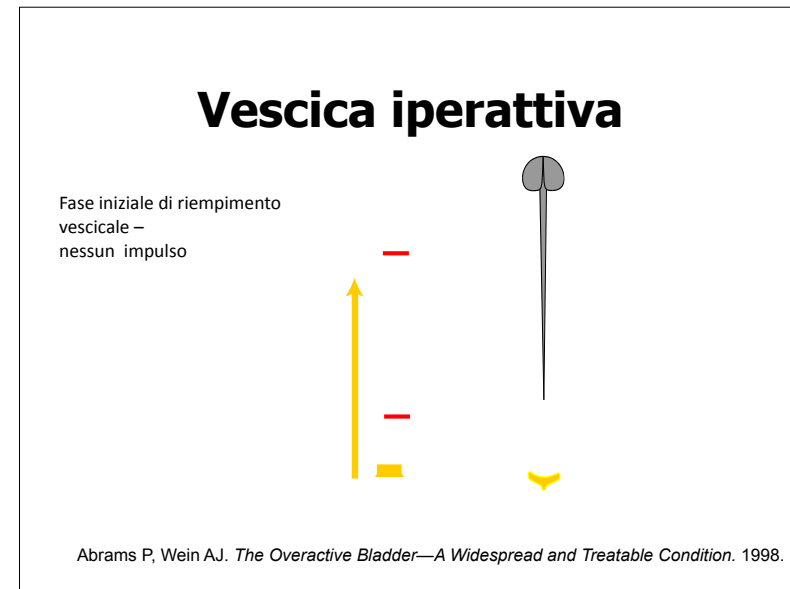
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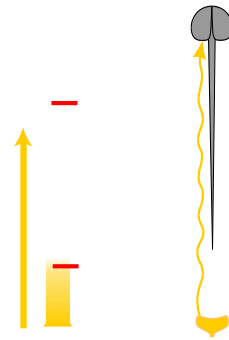
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## Vescica iperattiva

Il desiderio improvviso di urinare insorge generalmente a bassi volumi (freccia gialla)

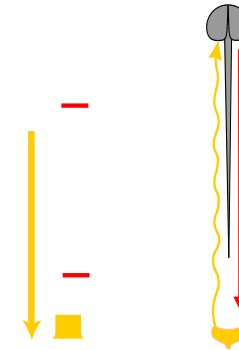


Abrams P, Wein AJ. *The Overactive Bladder—A Widespread and Treatable Condition*. 1998.

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## Vescica iperattiva

Il paziente è/non è in grado di inibire la minzione – può verificarsi uno svuotamento involontario (freccia rossa – segnale di attivazione)



Abrams P, Wein AJ. *The Overactive Bladder—A Widespread and Treatable Condition*. 1998.

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## Urgency Definition

Urgency is an *abnormal, or inappropriate* sudden, compelling desire to pass urine, which is *very difficult or impossible* to defer *for fear of leakage*



Abrams P et al. *Neurourol Urodyn*. 2006; 25: 293-294

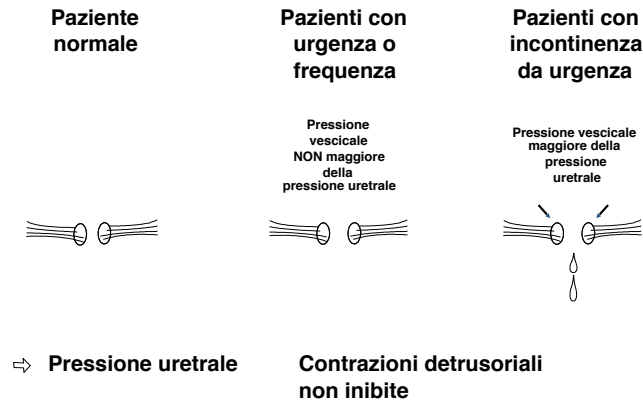
Cardozo L et al. *BJU Int*. 2005; 95:591-596 **CM-014**

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La sindrome da iperattività vescicale è definita dalla presenza di urgenza, con o senza incontinenza da urgenza, solitamente accompagnata dall'incremento della frequenza minzionale diurna e da nocturia, in assenza di processi settici o di altra evidente patogenesi

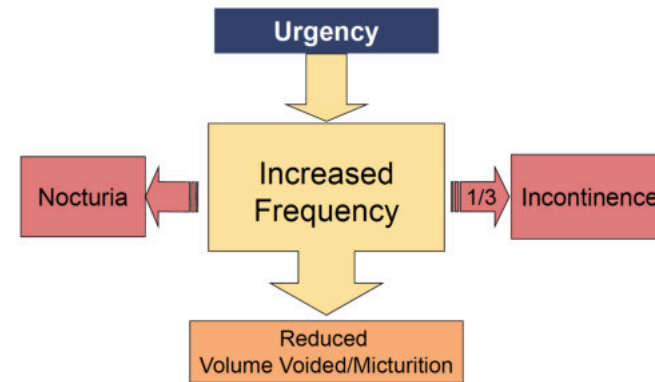
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### Vescica iperattiva: contrazioni incontrollate del muscolo vescicale



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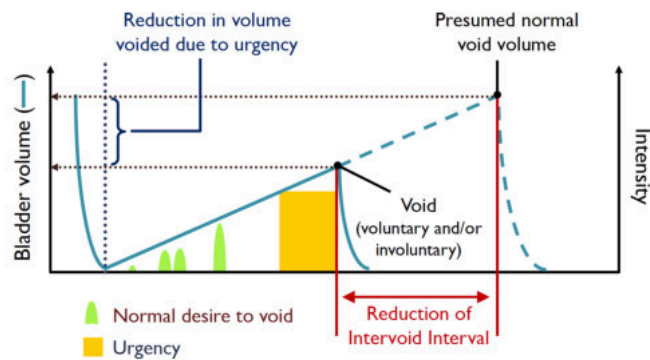
### OAB Syndrome: A Symptomatic Sequence



Chapple CR, et al. BJU Int 2005;95:335-40 CM-015

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### The Micturition Cycle in OAB Effect of Urgency



Chapple CR, et al. BJU Int 2005;95:335-40

CM-018

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Elemento cardine della sindrome da iperattività vescicale è quindi l'urgenza. La fisiopatologia della sindrome da iperattività vescicale non è completamente nota ad oggi ma molto probabilmente si deve fare riferimento ad una genesi multifattoriale; si definisce sindrome da iperattività vescicale neurogena in presenza di una rilevante condizione clinica patologica neurologica.

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Due possono essere le cause di origine dei sintomi riferibili a sindrome da iperattività vescicale:

- La ridotta capacità di elaborazione delle afferenze cerebrali
- L'incremento anomalo delle afferenze stesse a partenza vescicale e/o uretrale

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#### Meccanismi di alterata elaborazione delle afferenze cerebrali

L'ipotesi neurogenica suggerisce che l'anomala elaborazione delle afferenze possa determinare un'incontinenza urinaria da urgenza. Le immagini che possono essere ottenute con la risonanza magnetica funzionale dimostrano una mancata attivazione del grigio periacqueduttale (PAG) in caso di IUU. Le donne affette da IUU manifestano una ridotta attivazione della corteccia prefrontale (PFC) ed un incremento dell'attività nella corteccia cingolata anteriore (ACC) e nell'area supplementare motoria (SMA)

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Meccanismi di incremento anomalo delle afferenze  
In questo caso sono state ipotizzate due teorie:

- a partenza dall'urotelio, per cui modificazioni della funzione dei recettori uroteliali ed il rilascio di neurotrasmettitori porta all'incremento di contrazioni detrusoriali involontarie

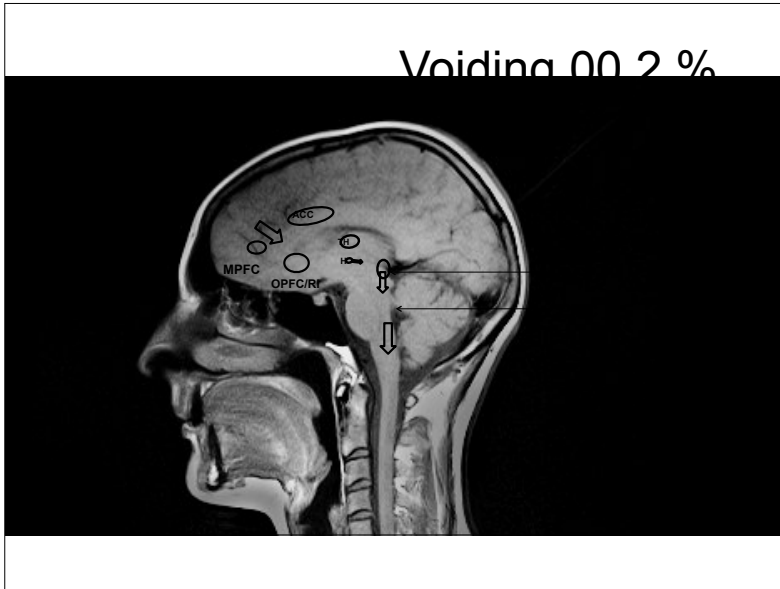
A partenza muscolare, ove modificazioni dell'eccitabilità delle fibrocellule muscolari lisce, dei miociti e/o delle cellule interstiziali determinano l'insorgenza di contrazioni non inibite

66

Lesioni delle vie centrali inibitorie o meccanismi di sensibilizzazione centrale possono facilitare la slatentizzazione di riflessi di svuotamento arcaici che possono loro volta indurre contrazioni detrusoriali involontarie e condizioni patologiche periferiche possono determinare una sensibilizzazione delle fibre C, normalmente silenti, slatentizzando un riflesso di svuotamento "C-mediato".

68

Voiding 00 2 %



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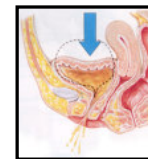
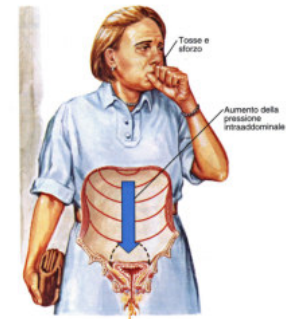
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## Incontinenza da sforzo

◆ In occasione di aumento della pressione addominale (colpi di tosse, starnuti, ponzamento)



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Le condizioni necessarie perché l'uretra possa rimanere serrata a riposo e durante gli aumenti della pressione intra-addominale sono stati ben determinati, anche se non sono ad oggi completamente chiariti le relazioni fra i diversi fattori causali. Questi ultimi sono rappresentati da:

- Un complesso sfinteriale funzionalmente valido dal punto di vista muscolare e normalmente innervato
- Un urotelio ed una sottomucosa uretrale ben vascolarizzati
- Una muscolatura liscia uretrale funzionalmente valida
- L'integrità delle strutture di sostegno vaginali

73

Nel passato si è data grande importanza nella patogenesi dell'incontinenza da sforzo alla modificazione del corretto posizionamento intrapelvico dei visceri.

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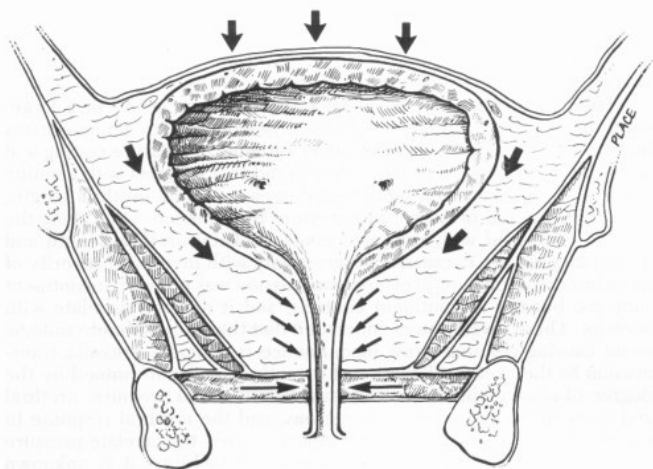
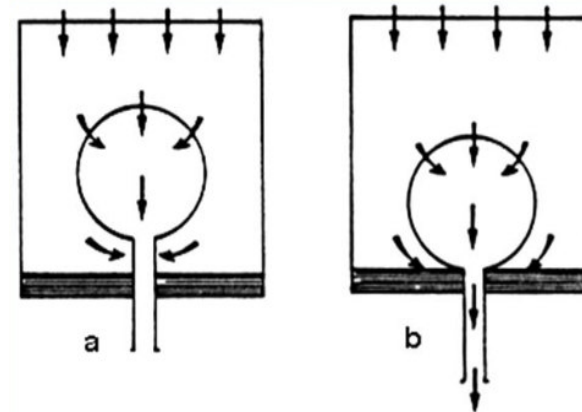


Figure 2. Proposed mechanisms of urethral pressure augmentation with increases in intra-abdominal pressure.

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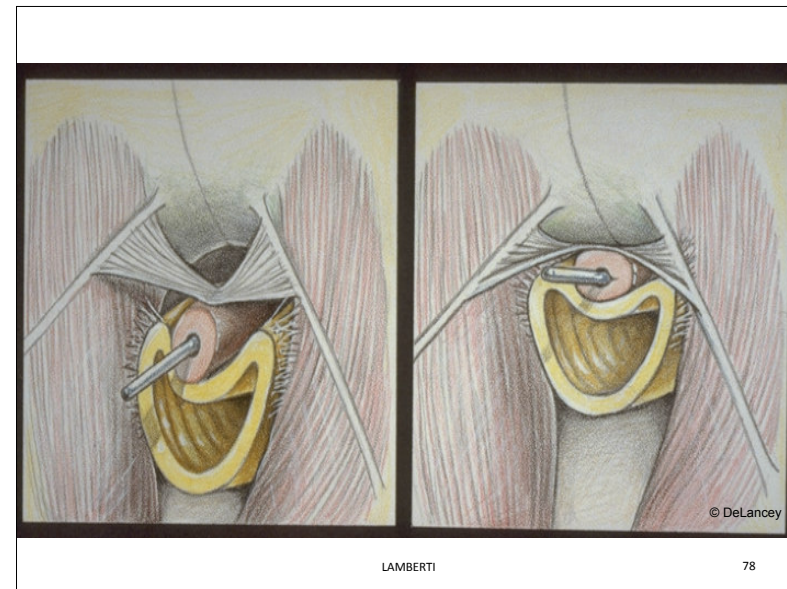
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È stato suggerito che alla discesa dell'uretra rispetto la sua posizione intra-addominale non fosse più possibile il meccanismo di chiusura dell'uretra stessa agli aumenti di pressione. Questo concetto è ripreso come "ipotesi dell'amaca", sostituendo all'idea del solo "mantenimento" della posizione dell'uretra, l'idea del "supporto dinamico" determinato dalla contrazione della muscolatura pelvi-perineale

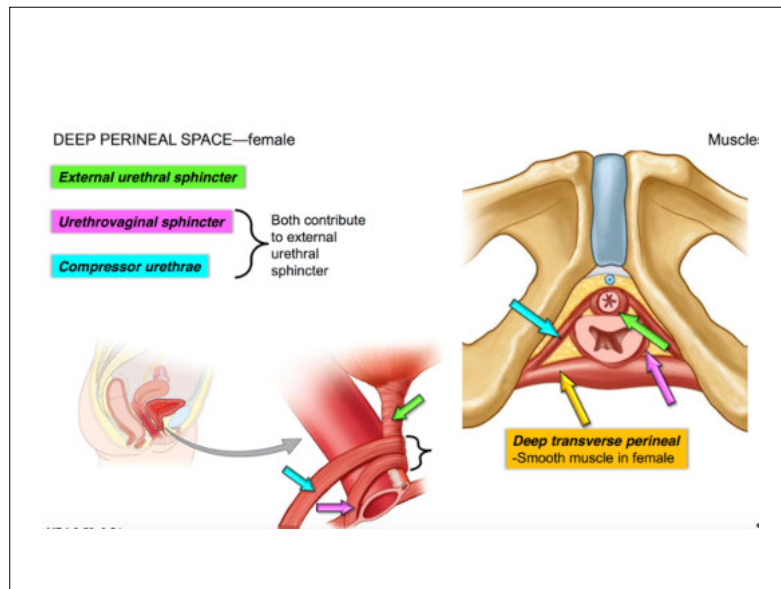
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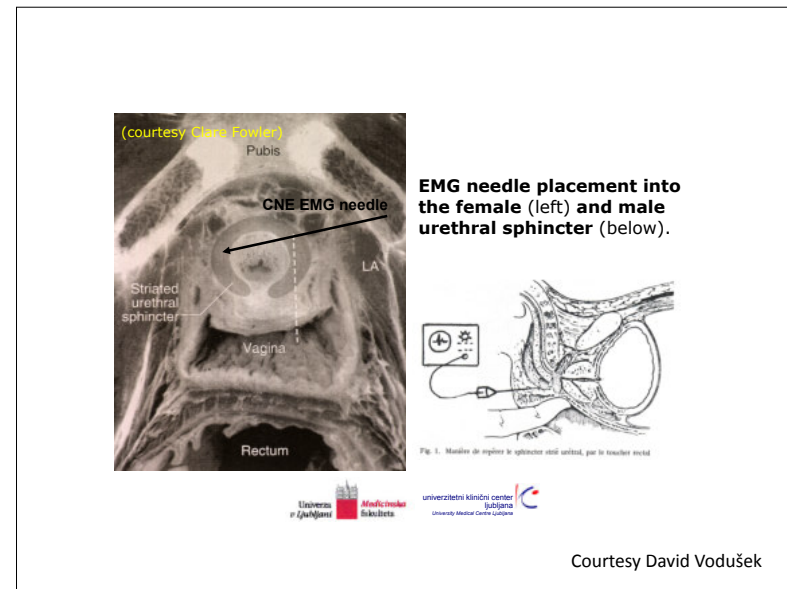
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**EMG needle placement into the female (left) and male urethral sphincter (below).**

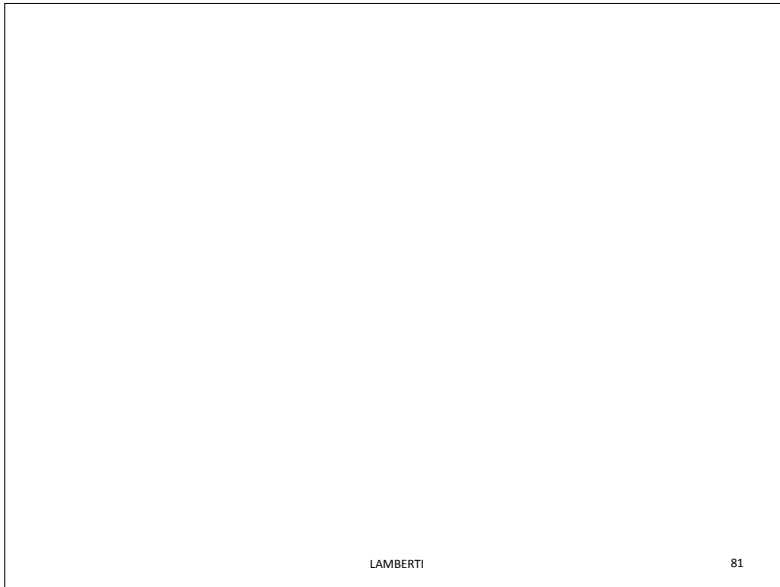
Fig. 1. Manovre de explorer le sphincter strié urothral, par le trousseur électrode

Universita di Zadar  
Alfred Crnković  
Fakulteta

univerziteti klinički centar  
Subotica  
Univerziteti Medicinski Centar Urologia

Courtesy David Vodušek

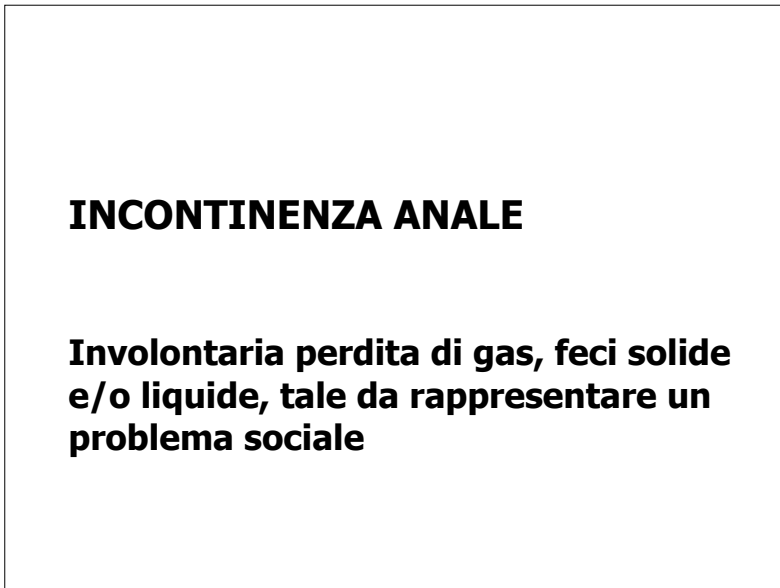
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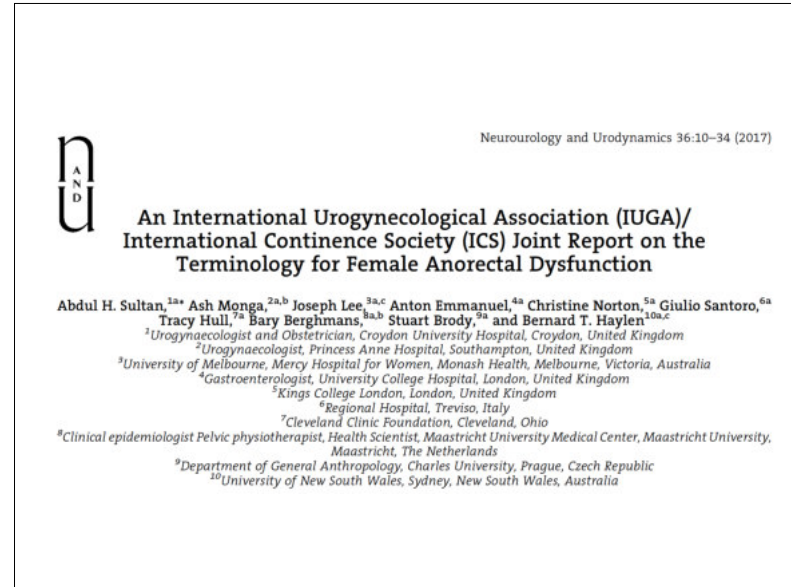
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## **INCONTINENZA ANALE**

**Involontaria perdita di gas, feci solide e/o liquide, tale da rappresentare un problema sociale**

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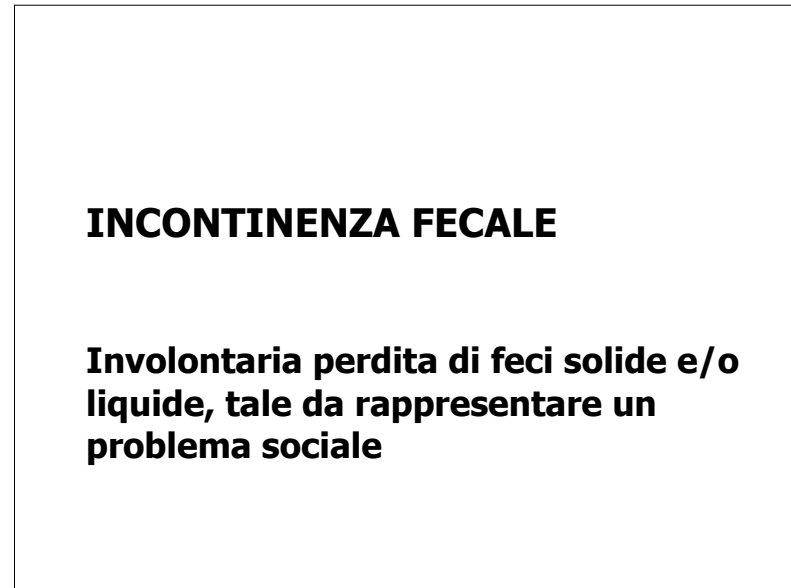
Neurourology and Urodynamics 36:10–34 (2017)



## **An International Urogynecological Association (IUGA)/ International Continence Society (ICS) Joint Report on the Terminology for Female Anorectal Dysfunction**

Abdul H. Sultan,<sup>1a\*</sup> Ash Monga,<sup>2a,b</sup> Joseph Lee,<sup>3a,c</sup> Anton Emmanuel,<sup>4a</sup> Christine Norton,<sup>5a</sup> Giulio Santoro,<sup>6a</sup>  
Tracy Hull,<sup>7a</sup> Bary Berghmans,<sup>8a,b</sup> Stuart Brody,<sup>9a</sup> and Bernard T. Haylen<sup>10a,c</sup>  
<sup>1</sup>Urogynaecologist and Obstetrician, Croydon University Hospital, Croydon, United Kingdom  
<sup>2</sup>Urogynaecologist, Princess Anne Hospital, Southampton, United Kingdom  
<sup>3</sup>University of Melbourne, Mercy Hospital for Women, Monash Health, Melbourne, Victoria, Australia  
<sup>4</sup>Gastroenterologist, University College Hospital, London, United Kingdom  
<sup>5</sup>Kings College London, London, United Kingdom  
<sup>6</sup>Regional Hospital, Treviso, Italy  
<sup>7</sup>Cleveland Clinic Foundation, Cleveland, Ohio  
<sup>8</sup>Clinical epidemiologist Pelvic physiotherapist, Health Scientist, Maastricht University Medical Center, Maastricht University, Maastricht, The Netherlands  
<sup>9</sup>Department of General Anthropology, Charles University, Prague, Czech Republic  
<sup>10</sup>University of New South Wales, Sydney, New South Wales, Australia

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## **INCONTINENZA FECALE**

**Involontaria perdita di feci solide e/o liquide, tale da rappresentare un problema sociale**

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**A systematic review found a range of solid and liquid anal incontinence of 0-15.2% for solid and liquid faeces, with an average across both genders and all age groups of 4.3%**

Pretlove 2006

**AI incidence rates varied widely from 0% to 30%**

Perry 2002

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I.C.I. Parigi 2008

**Mode of delivery does not seem to be a significant factor in the development of obstetric anal incontinence, i.e., AI develops after Caesarean delivery as often as after vaginal delivery (LE 2).**

**Obesity is perhaps the most modifiable risk factor for AI (LE 2).**

**As populations age, co-morbid disease becomes a significant component of fecal incontinence risk. Surgery, neurological diseases, and stroke are examples.**

**Cognitive and ADL impairment are associated with fecal incontinence.**

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**Table 3. Pathophysiologic mechanisms underlying faecal incontinence**

CATEGORY	CAUSE	MECHANISTIC EFFECT
<b>Structural</b>		
Anal sphincter muscle	Haemorrhoidectomy, anal dilatation	Loss of sampling reflex due to neuropathy
Rectum	Inflammation, IBD/ radiation; Prolapse; aging; IBS	Lost accommodation and sensation; hypersensitivity
Puborectalis	Excessive perineal descent; aging; trauma	Obtuse anorectal angle sphincter weakness
Pudendal Nerve	Obstetrical/surgical injury excessive straining	Sphincter weakness sensory loss/impairment, perineal descent
CNS, Spinal cord, ANS	Head or spinal cord injury, Back surgery, MS, DM, stroke, avulsion	Lost sensation/reflexes secondary myopathy, loss of accommodation

I.C.I. Parigi 2008

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**Functional**

Anorectal sensation	Obstet, CNS, ANS injury	Loss of stool awareness, Rectoanal agnosia
Faecal impaction	Dyssynergic defecation	Faecal retention and overflow; Impaired sensation

**Stool characteristics**

Volume and consistency	Infection, IBD, IBS, drugs, metabolic abnormalities	Diarrhoea and urgency Rapid stool transport Impaired accommodation
Irritants	Bile salt malabsorption/ laxatives	Diarrhoea
Hard stool/Retention	Dyssynergia/drugs	Faecal retention and overflow

**Miscellaneous**

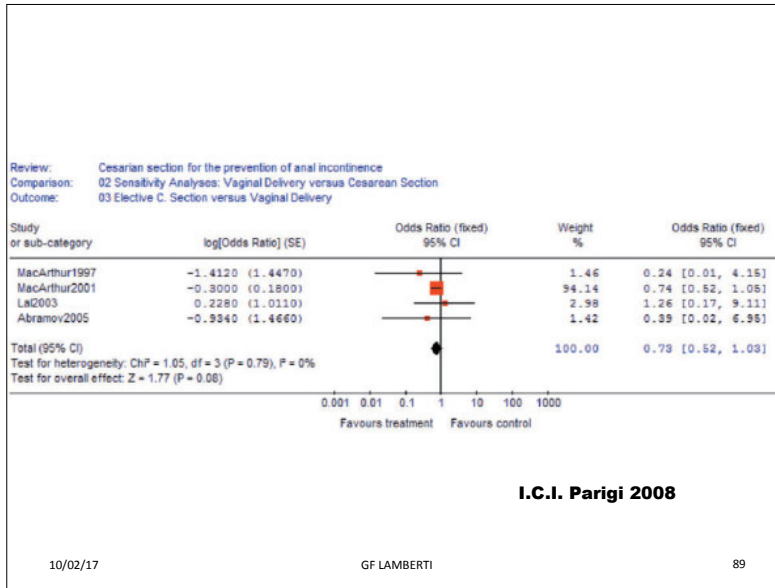
Mobility/cognition	Aging, dementia, disability	Multifactorial changes
Psychosis	Willful soiling	Multifactorial changes
Drugs	Anticholinergics; Laxatives Antidepressants Caffeine/muscle relaxants	Constipation Diarrhoea Altered sensation/constipation Relaxed sphincter tone
Food intolerance	Lactose, fructose, sorbitol	Diarrhoea/flatul malabsorption

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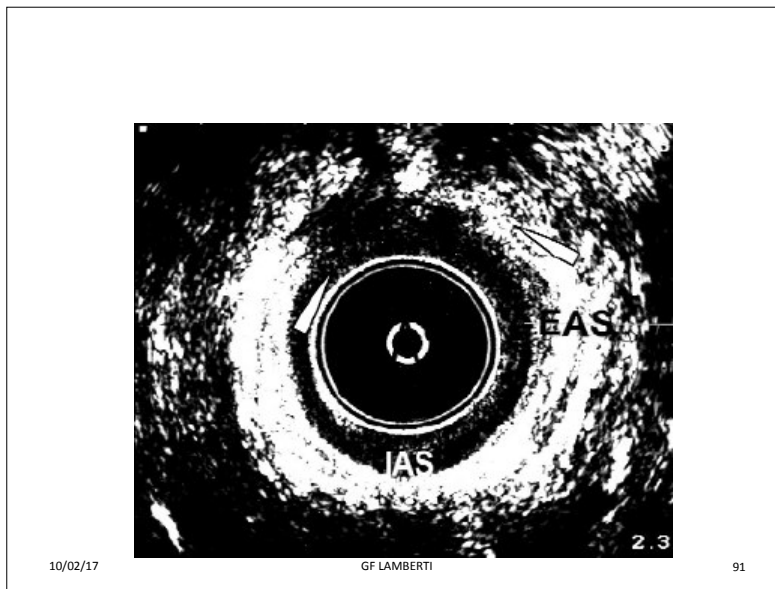
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**Table 4. Prospective studies before and after vaginal delivery of "occult" anal sphincter injury and anal incontinence but excluding faecal urgency.**

Study	Parity	Vaginal delivery Numbers	FU in weeks postpartum	Sphincter Defects	Anal incontinence
Sultan et al 93 [465]	Primi Multi	79 48	6 6	33% 44%	5% 19%
*Donnelly et al 98 [540]	Primi	168	6	35%	25%
Rieger et al 98 [550]	Primi	37	6	41%	8%
Zetterstrom et al 99 [551]	Primi	38	9	20%	18%
*Fynes et al 99 [545]	Multi	59	6-12	37%	17%
Abramowitz et al 00 [542]	Primi Multi	202 including multi	8	26% 13%	15% 10%
Chalaha et al 01 [536]	Primi	130	12	19%	13%
Belmonte-Montes et al 01 [548]	Primi	78	6	13%	?
Nazir et al 02 [547]	Primi	73	20	19%	25%
Willis et al 02 [546]	Primi +Multi	42	12	10%	5%
<b>MEAN (excluding Willis et al)</b>	Primi Multi			28% 31%	16% 15%

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Dig Dis Sci  
 DOI 10.1097/10920-017-4825-2

ORIGINAL ARTICLE

**Prevalence of Fecal Incontinence in Adults with Cystic Fibrosis**

Alban Benezech<sup>1,2</sup> · Nadine Desmazes-Dufeu<sup>3</sup> · Karine Baumstarck<sup>4</sup> · Michel Bouvier<sup>1,2</sup> · Bérengère Colley<sup>5</sup> · Martine Reynaud-Gaubert<sup>1,5</sup> · Véronique Vitton<sup>1,2</sup>

three patients (47%) were lung transplanted. Forty patients (25.8%) reported FI with a mean St Mark's score of 4.9 ± 2. Thirty-five patients (22.6%) reported UI. Eighteen patients (11.6%) reported both FI and UI. FI was significantly more frequent in older patients (34.27 vs. 29.54 years, p = 0.03) and in patients with associated UI (p = 0.001). No relationship was found between respiratory, bacterial, nutritional status, transplantation, pancreatic status, practice of physiotherapy, delivery history, and FI. Conclusion: The high prevalence of FI in CF and its

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Fig. 10. 561  
DOI: 10.1007/s00037-017-1423-2

ORIGINAL ARTICLE

Prevalence of Fecal Incontinence in Adults with Cystic Fibrosis

Alban Bounie<sup>1,2</sup>, Nadine Domergo-Dubé<sup>1</sup>, Karine Bonnamy<sup>1,2</sup>, Michel Bouché<sup>1,2</sup>, Rémy Caby<sup>1</sup>, Marine Reynaud-Gaubert<sup>1,2</sup>, Yannick Vitton<sup>1,2</sup>

FI was reported in CF children population and seemed to be higher in males than females (12.5 vs. 4.7%).

Our results in CF adult population were sensibly higher with a FI prevalence of 25.8%.

Indeed, in the study of Faltin et al. conducted in the general population, less than 25% of patients with FI report it to their physician despite a significant impact on their quality of life.

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Fig. 10. 561  
DOI: 10.1007/s00037-017-1423-2

ORIGINAL ARTICLE

Prevalence of Fecal Incontinence in Adults with Cystic Fibrosis

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Similarly, the other mechanisms involved in diarrhea in CF patients, such as small intestinal overgrowth, bile acid malabsorption, antibiotic action on the colonic microbiota and the fat absorption, or alteration of anal sphincter muscle tone, were not recorded due to the need for additional investigations in this young population suffering from this disabling disease. These data will be of importance in further studies. Although data on stool consistency were indirect, the prevalence of FI and its associated factors in our study mention the existence of pathophysiological mechanisms specific to cystic fibrosis patients.

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Fig. 10. 561  
DOI: 10.1007/s00037-017-1423-2

ORIGINAL ARTICLE

Prevalence of Fecal Incontinence in Adults with Cystic Fibrosis

Alban Bounie<sup>1,2</sup>, Nadine Domergo-Dubé<sup>1</sup>, Karine Bonnamy<sup>1,2</sup>, Michel Bouché<sup>1,2</sup>, Rémy Caby<sup>1</sup>, Marine Reynaud-Gaubert<sup>1,2</sup>, Yannick Vitton<sup>1,2</sup>

The contraction force of perineal muscles seems proportional to increasing intra-abdominal pressure. This intricate reflex was altered in patients with cystic fibrosis and urinary incontinence, firstly with a delayed activation of the pelvic floor muscles, and secondly with a failure in the modulation of the contractile force depending on the intensity of coughing. Dodd et al. discussed several hypotheses to explain this dysfunction in cystic fibrosis: a quantitative and/or qualitative muscular alteration, an impairment of muscle contractility caused by pro-inflammatory cytokines, especially during acute pulmonary exacerbation, or an autonomic dysfunction can be involved in the activation of the perineal muscles. Besides, even if muscle functions are entirely preserved, pelvis floor muscles are often solicited in CF patient.

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Fig. 10. 561  
DOI: 10.1007/s00037-017-1423-2

ORIGINAL ARTICLE

Prevalence of Fecal Incontinence in Adults with Cystic Fibrosis

Alban Bounie<sup>1,2</sup>, Nadine Domergo-Dubé<sup>1</sup>, Karine Bonnamy<sup>1,2</sup>, Michel Bouché<sup>1,2</sup>, Rémy Caby<sup>1</sup>, Marine Reynaud-Gaubert<sup>1,2</sup>, Yannick Vitton<sup>1,2</sup>

Indeed, coughing is associated with an important increase in intra-abdominal pressure, from 16.7 to 107.6 mmHg in healthy subject. In CF patient, median cough rate was 27 coughs/hour with values up to 41 coughs/hour when patients are awake. This frequent coughing associated with the high level of intra-abdominal pressure during the cough could exhaust perineal muscles and put in danger fecal continence. Thus, fecal continence is closely related to pelvic floor muscles. Their important solicitation and their dysfunction, demonstrated in urinary incontinence, could be major factors that could explain the high prevalence of FI in patients with CF

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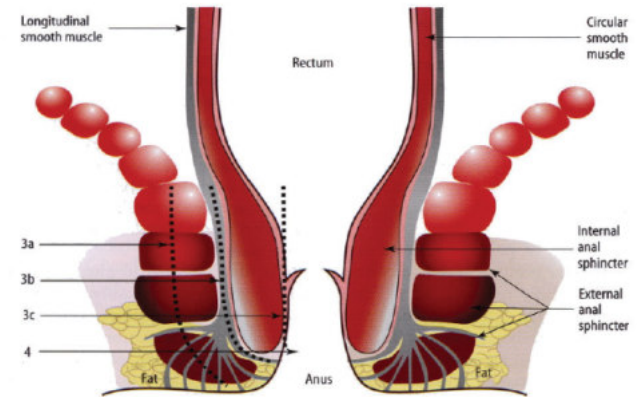


### Prevalence of Fecal Incontinence in Adults with Cystic Fibrosis

Alban Bonaventura<sup>1,2</sup>, Nadine Domingo-Duhalde<sup>1</sup>, Karim Bouamary<sup>1,2</sup>,  
Mikael Bouchard<sup>1,2</sup>, Alexandre Calvez<sup>1</sup>, Martin Reynaud-Gaubert<sup>1,2</sup>,  
Yves-Louis Villan<sup>1,2</sup>

Unfortunately, the respiratory exercises based on clearance airway and training of lung function are essential in the management of cystic fibrosis. The limitation of this treatment caused by fear of urinary or fecal leakage episodes could deteriorate more precociously respiratory functions of the patient. Moreover, unlike urinary incontinence seemed to be improved after lung transplantation (69% of patients vs. 31%, respectively), the prevalence of FI was not affected by transplanting (16.7 vs. 13.5%, respectively). Irreversibility of FI and its negative impact on the chronic lung disease and the quality of life of patients need to prevent the onset of symptoms, to screen for and to treat early.

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**First degree: laceration of the vaginal epithelium or perineal skin only.**

**Second degree: involvement of the perineal muscles but not the anal sphincter.**

**Third degree: disruption of the anal sphincter muscles and this should be further subdivided into:**

**3a: <50% thickness of external sphincter torn.**

**3b: >50% thickness of external sphincter torn.**

**3c: internal sphincter torn also.**

**Fourth degree: Third degrees tear with disruption of the anal epithelium.**

Royal College of Obstetricians and Gynaecologists (RCOG) 1999

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## DISFUNZIONI PELVICHE: APPROCCIO CLINICO

### La diagnosi Precoce

### Cosa e con quali strumenti cercare?

### Alterazioni funzionali del

### compartimento posteriore del

### pavimento pelvico

- Alterazioni del meccanismo della continenza
- Alterazioni del meccanismo della defecazione



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## Ecografia endoanale

Immagine ecografica SAE e ASI



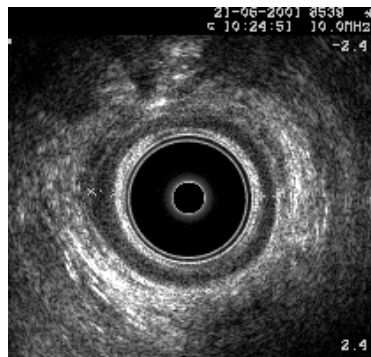
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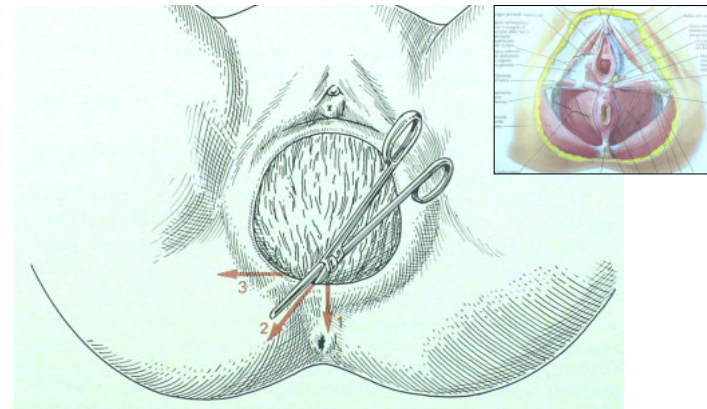


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Difetto SAE



## EPISIOTOMIA



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## Fattori di rischio

**A meta-analysis of published reports that assessed anal sphincter integrity after vaginal delivery and correlated this with continence stated that 77%-83% (depending on parity) of anal incontinence in parous women was due to sphincter disruption.**

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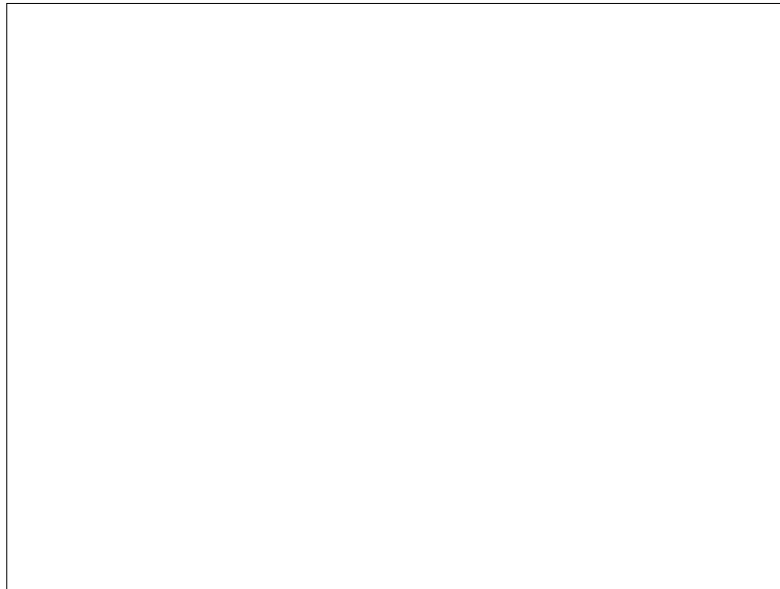
**Seventeen reports have been found eligible for inclusion in the review, encompassing 16,036 women having had 3,101 Caesarean deliveries and 12,935 vaginal births as the index event prior to anal continence assessment. None of these reports demonstrated a significant benefit of Caesarean section in the preservation of anal continence. The greater the quality of the report, the closer its Odds ration approached 1.0. There was no difference in continence preservation in women have emergency versus elective Caesarean section.**

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### Classificazione del prolasso genitale

Classifica il prolasso a seconda dell'organo coinvolto nel descensus (1968)

ORGANO	NOME PROLASSO
Uretra	Uretrocele
Vescica	Cistocele
Utero versus cupola	Isterocele versus prolasso di cupola
Douglas	Enteroccele
Retto	Rettocele

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### Classificazione sec Baden e Walker

GRADO 0	Non prolasso
GRADO 1	Protrusione a metà strada tra spine ischiatiche e imene
GRADO 2	Protrusione che raggiunge l'imene
GRADO 3	Protrusione oltre l'imene
GRADO 4	Protrusione totale

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### Classificazione del prolasso genitale sec. ICS: il POP-Q

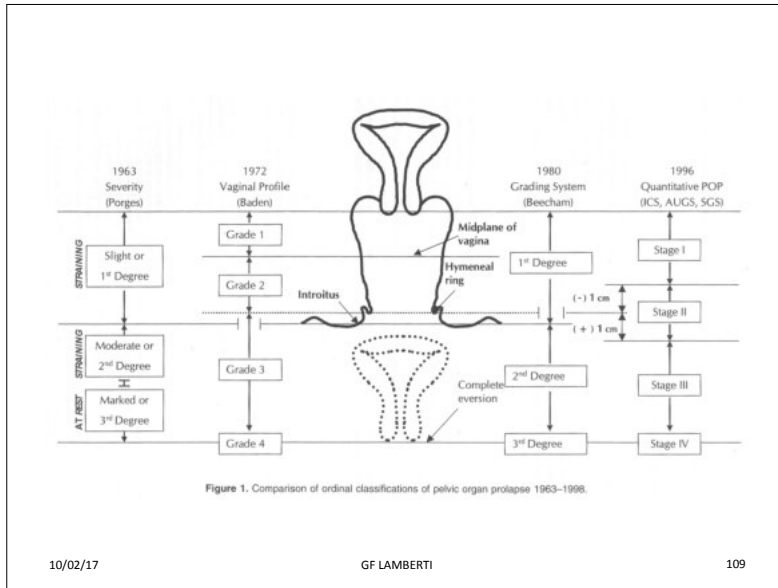
The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction

Richard C. Bump, MD, Anders Mattiasson, MD, Kari Bo, PhD, Linda P. Brubaker, MD, John O.L. DeLancey, MD, Peter Klarskov, MD, PhD, Bob L. Shull, MD, and Anthony R.B. Smith, MD

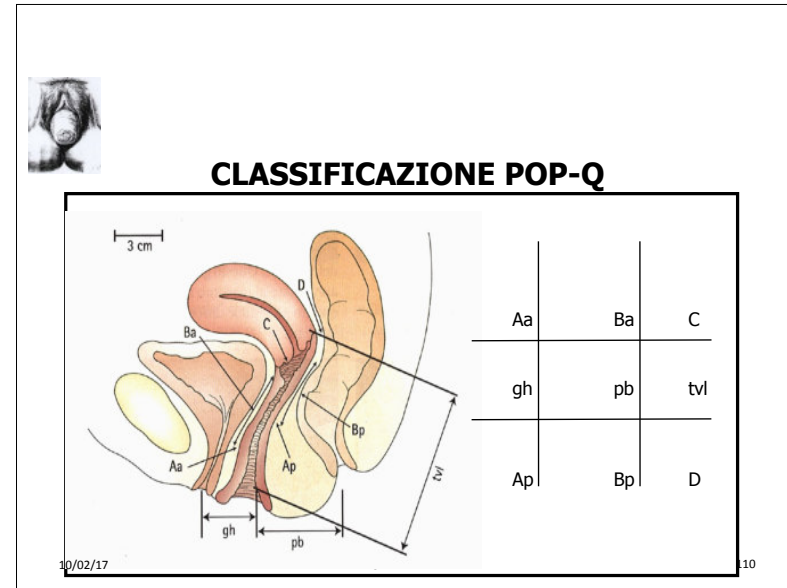
American Journal of Obstetrics and Gynecology 1996

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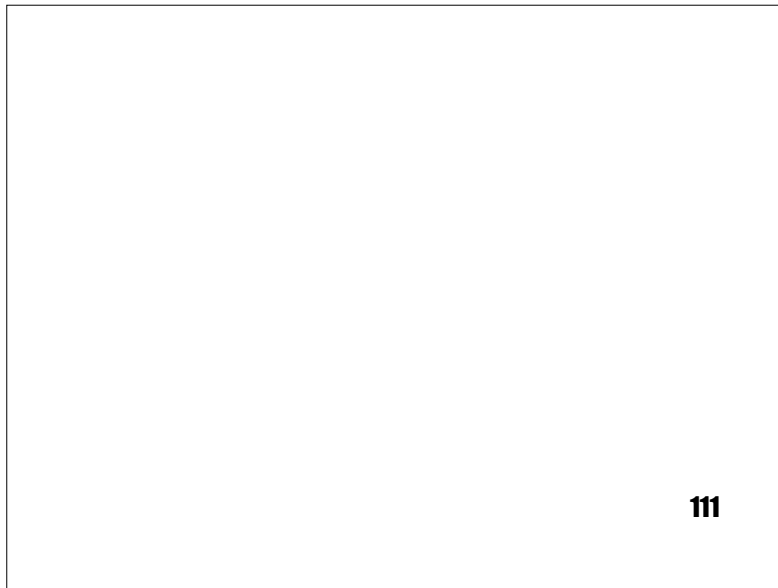
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## OSTRUITA DEFECAZIONE

**Per ostruita defecazione (OD) si intende un'ampia varietà di condizioni cliniche associate ad incapacità di espellere il contenuto del retto**

Il disturbo è definito in modi diversi:

- Contrazione puborettale paradossa
- Disturbo all'espulsione
- Anismo
- Dissinergia del pavimento pelvico
- Sindrome del pavimento pelvico spastico
- Sindrome del puborettale spastico
- Dischezia

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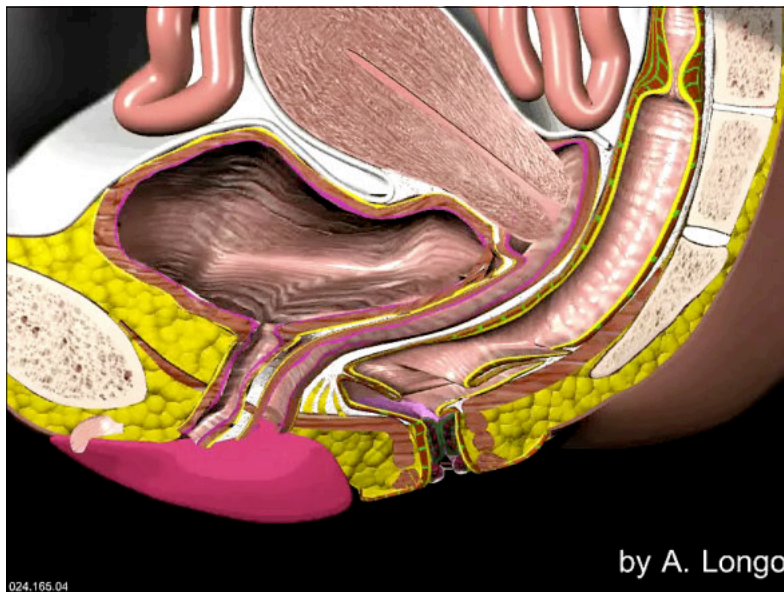
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## OSTRUITA DEFECAZIONE

L'ostruita defecazione consegue ad alterazioni funzionali, metaboliche, meccaniche ed anatomiche che interessano i meccanismi evacuatori retto-anali

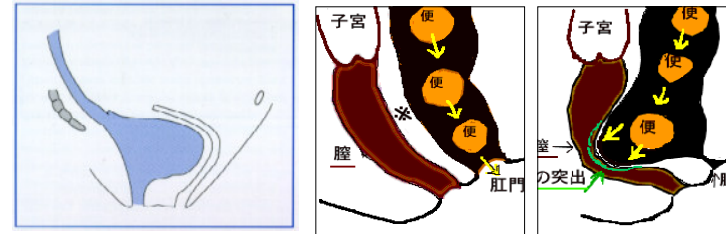
*D'Hoore, Colorect Dis, 2003*

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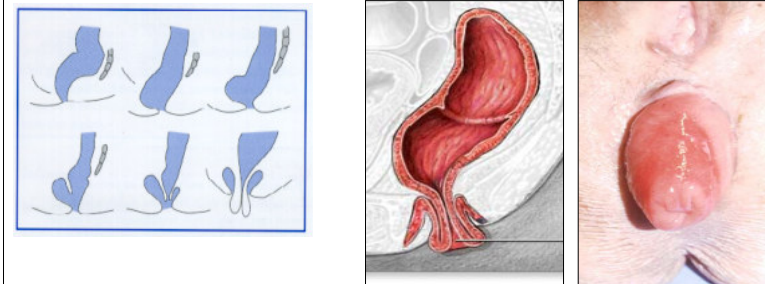
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## OSTRUITA DEFECAZIONE Causa meccanica RETTOCELE



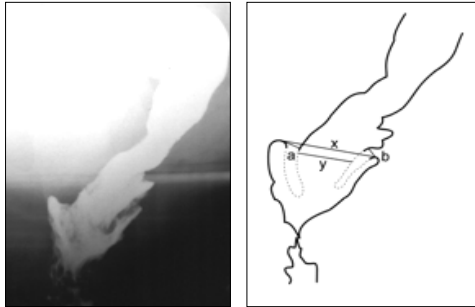
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## OSTRUITA DEFECAZIONE Causa meccanica PROLASSO RETTALE

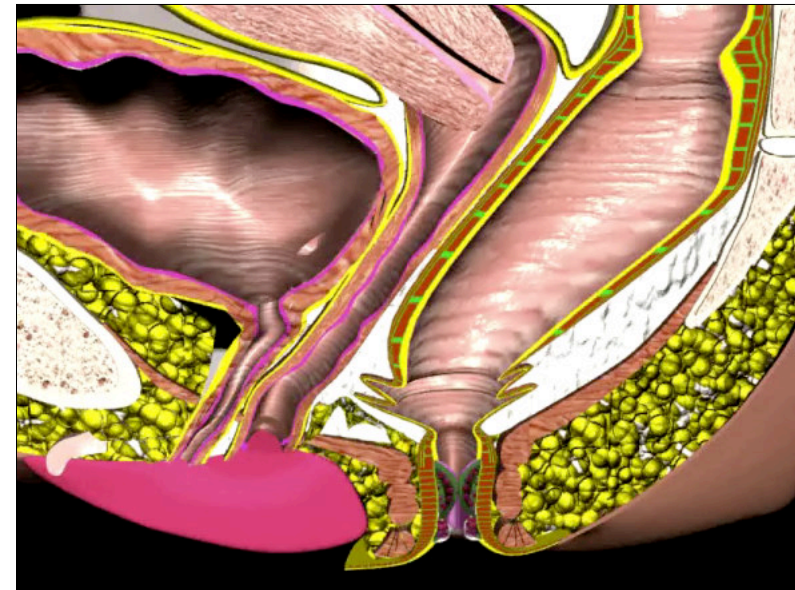


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**OSTRUITA DEFECAZIONE  
Causa meccanica  
INTUSSUSCEZIONE**

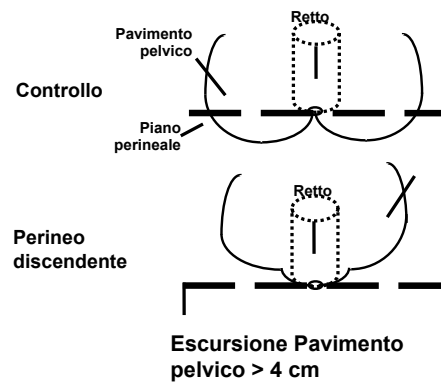
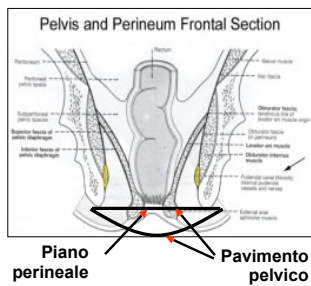


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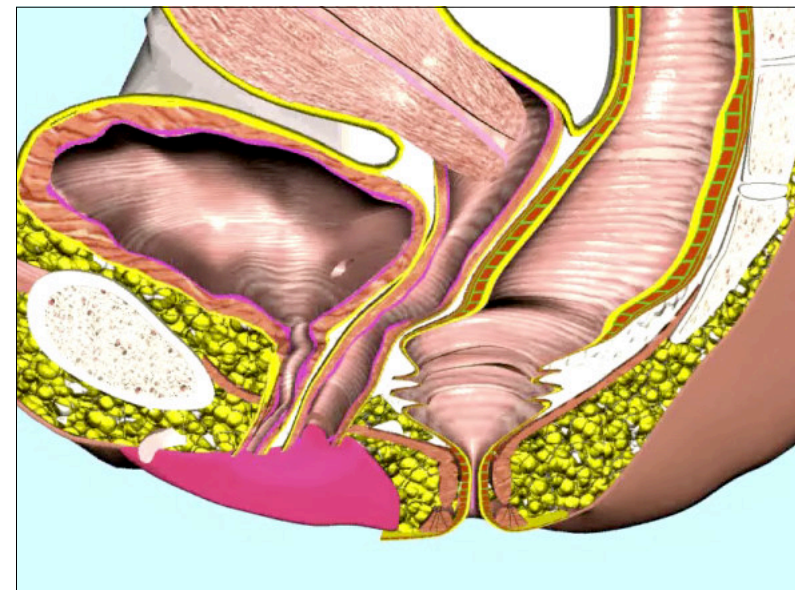


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**OSTRUITA DEFECAZIONE  
Causa funzionale  
Sindrome del perineo discendente**

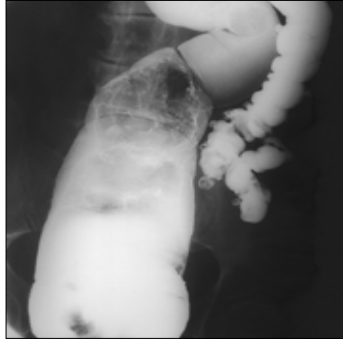


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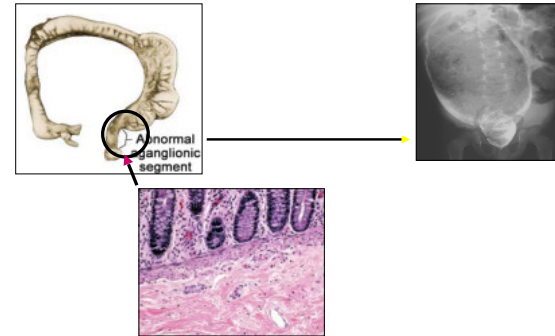
120

**OSTRUITA DEFECAZIONE**  
Causa funzionale  
**MEGARETTO**



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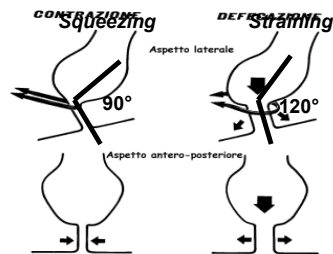
**OSTRUITA DEFECAZIONE**  
Causa funzionale  
**M. Di Hirshprung**



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**OSTRUITA DEFECAZIONE - Cause funzionali**  
**DISSINERGIA DEL PAVIMENTO PELVICO O ANISMO**

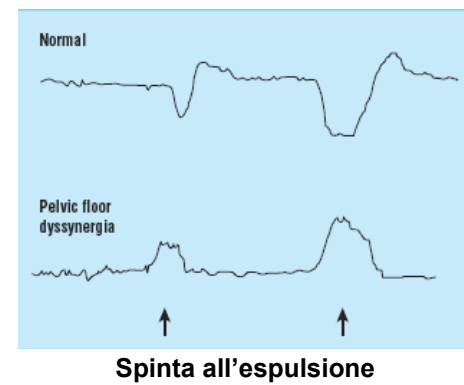
**Iper tono sfinteriale con incompleto rilasciamento muscolare**  
**Contrazioni paradosse del pavimento pelvico e dello sfintere anale durante la defecazione**



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**OSTRUITA DEFECAZIONE**

**Dissinergia pelvica: aspetti manometrici**



Bassotti G, BMJ, 2004

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**Dissinergia pelvica : sequenza di defecografia**



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