



LA CHIRURGIA UROLOGICA ROMANA 2014
XII Corso di Aggiornamento in Chirurgia Urologica
Ospedale Sandro Pertini



L'incontinenza urinaria maschile



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Tipologie di IU maschile

- Iatrogena (chirurgia pelvica e urogenitale)
- Post-traumatica (trauma pelvico-perineale)
- Neurologica
- Iscuria paradossa
- **"Geriatrica" multifattoriale** (IPB, vescica iperattiva, diabete, alterazioni cognitive, fecaloma, farmaci...)



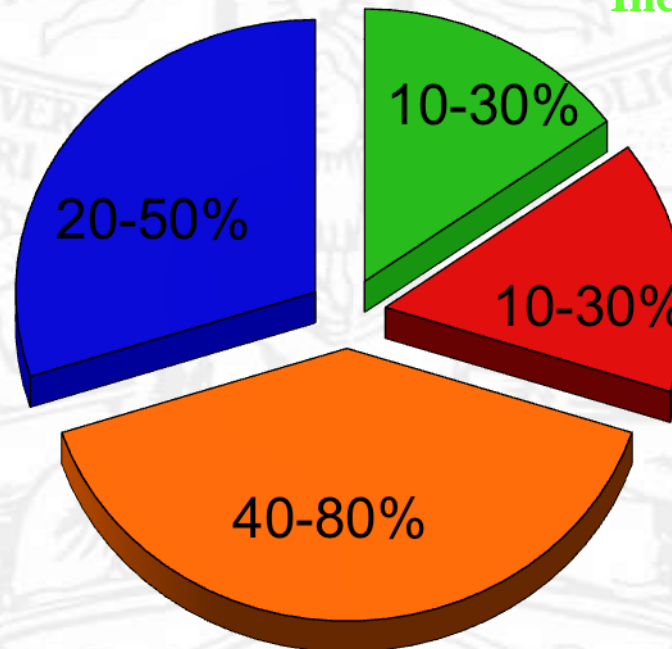
Classificazione clinica

Altro/Non
classificabile

Incontinenza mista

Stress incontinence

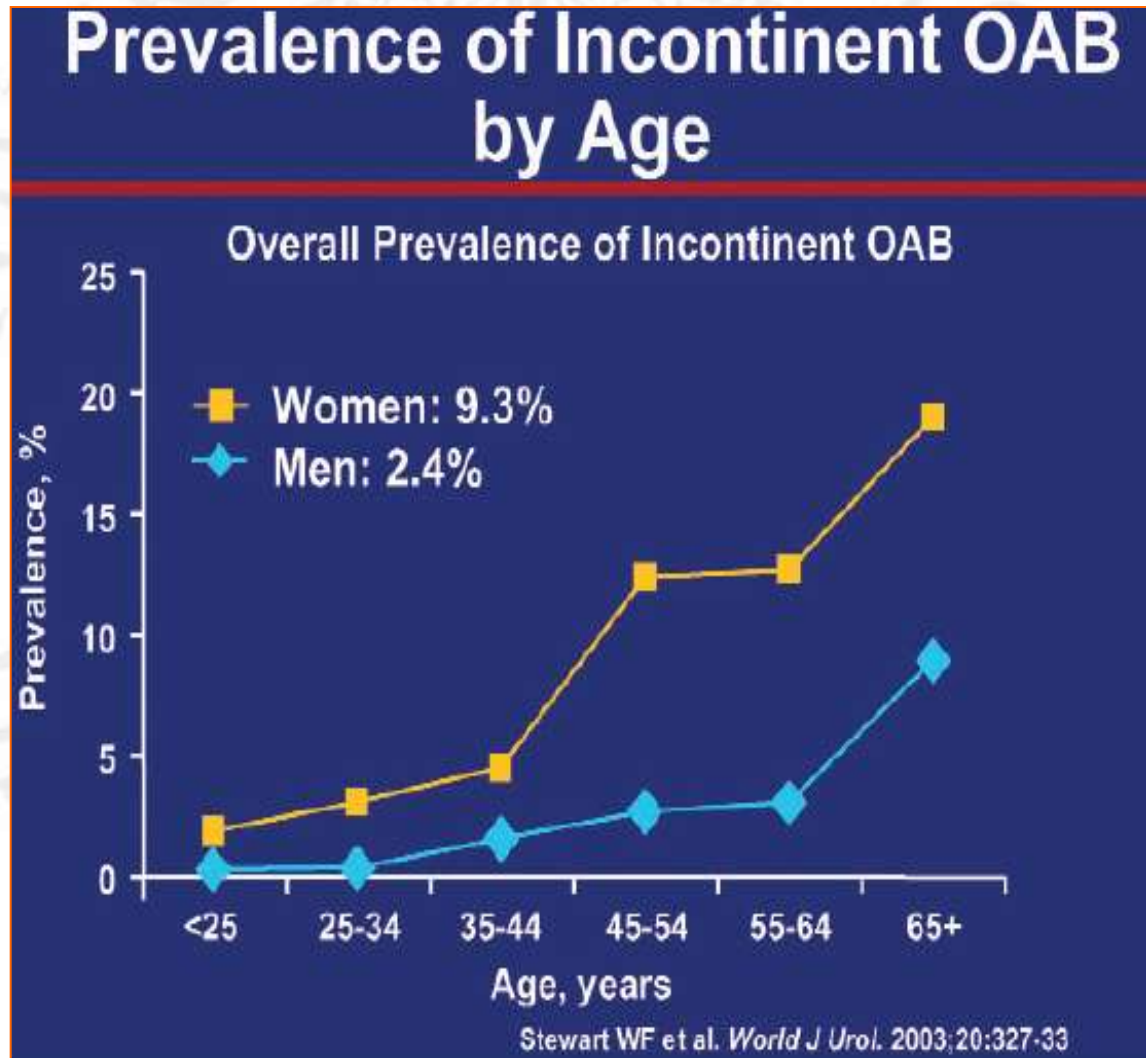
Urgency incontinence
(>prevalenza negli anziani)



Incontinenza da urgenza

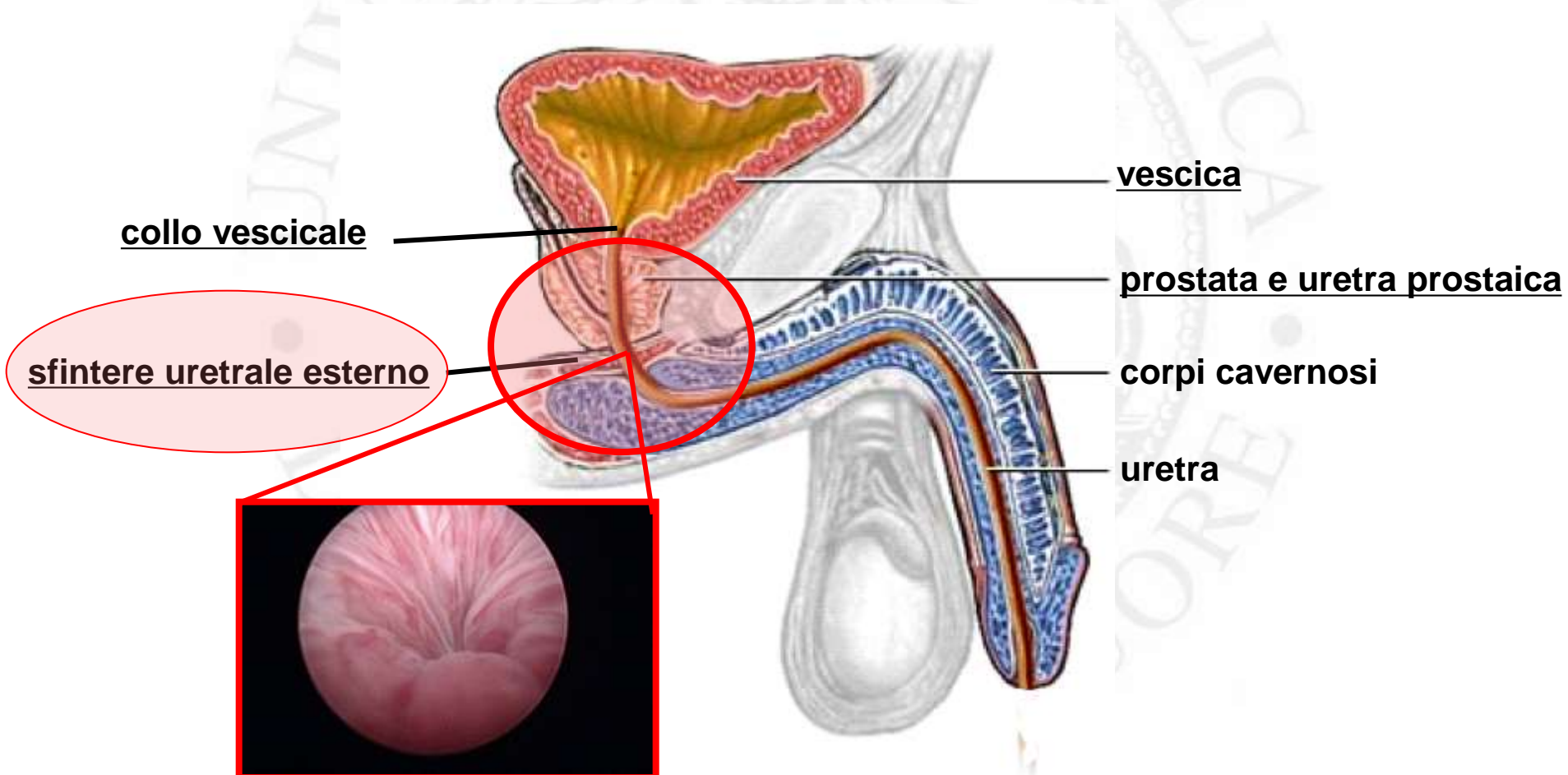


Incontinenza da urgenza



Incontinenza da sforzo

- Danno sfinterico



Incontinenza da sforzo

- Iatrogena

TURP

Prostatectomia Radicale

Radioterapia

HIFU

Adenomectomia prostatica

Cistectomia Radicale e Neovesicica ortotopica

- Post-traumatica

Traumi pavimento pelvico

Trauma prostata / uretra membranosa



Incontinenza dopo adenomectomia

Open

TURP

1.9%

2.1%

Incontinenza da Sforzo

0.5%

1.9%

Incontinenza da Urgenza

0.5%

1%

Incontinenza Totale



Incontinenza dopo Prostatectomia radicale

| Author/Ref | Procedure | N | Follow up (months) | Definition | Prevalence (%) |
|-------------------------|-----------|--------|--------------------|------------------------------|----------------|
| Demirkesen 2007 [397] | RRP | 72 | >12 | More than once a day leakage | 8 |
| Kundu 2004 [398] | RRP | 2737 | >= 18 | Use of pads | 7 |
| Salomon 2003 [399] | RRP | 205 | 12 | Use of pads | 34 |
| Moinzadeh 2003 [400] | RRP | 200 | 12-15 | Use of pads | 2 |
| Maffezzini 2003 [401] | RRP | 300 | | | 1 |
| Maffezzini 2003 [401] | RRP | 300 | | | 9 |
| Deliveliotis 2002 [402] | RRP | 149 | 12 | | 6-8 |
| Benoit 2000 [403] | RRP | 25 651 | 12 | | 8 |
| Walsh 2000 [404] | RRP | 64 | 12-18 | | 7 |
| Poon 2000 [405] | RRP | 220 | Mean >12 | | 3-7 |
| Catalona 1999 [406] | RRP | 1 870 | >12 | | 8 |
| Horie 1999 [407] | RRP | 104 | 12 | Use of pads | 22 |
| Goluboff 1998 [408] | RRP | 480 | 12 | Any UI | 57 |
| Goluboff 1998 [408] | RRP | 480 | 12 | Daily or pad use | 7 |
| Goluboff 1998 [408] | RRP | 480 | 12 | Continuous | 1 |
| Weldon 1997 [409] | RRP | 220 | 18 | | 5 |
| Lowe 1996 [410] | RRP | 180 | 12 | Any protection | 12. |
| Hu 2003 [411] | RP | 12 079 | > 36 | | 4-20 |
| Augustin 2002 [412] | RP | | 12 | Any protection | 27 |
| Sebesta 2002 [413] | RP | 674 | > 24 | Use of pads | 32 |
| Potosky 2000 [414] | RP | | 24 | | 10 |
| Arai 1999 [415] | RP | 60 | 12 | Use of pads | 3-19 |
| Bishoff 1998 [416] | RP | 907 | | | |
| Egawa 1997 [417] | RP | 94 | 18 | Use of pads | 27 |
| Gray 1999 [418] | RRP/RPP | 209 | Median 32 | | 25 |
| Olsson 2001 [419] | Lap RP | 228 | 12 | Use of pads | 21.6 |
| La Fontaine 2000 [420] | Lap RP | 522 | Mean 31 | Use of pads | 15 |
| Galli 2006 [421] | Lap RP | 150 | 12 | Use of pads | 8.3 |

10%

15%



Incontinenza dopo Prostatectomia radicale

1° causa di incontinenza da sforzo maschile

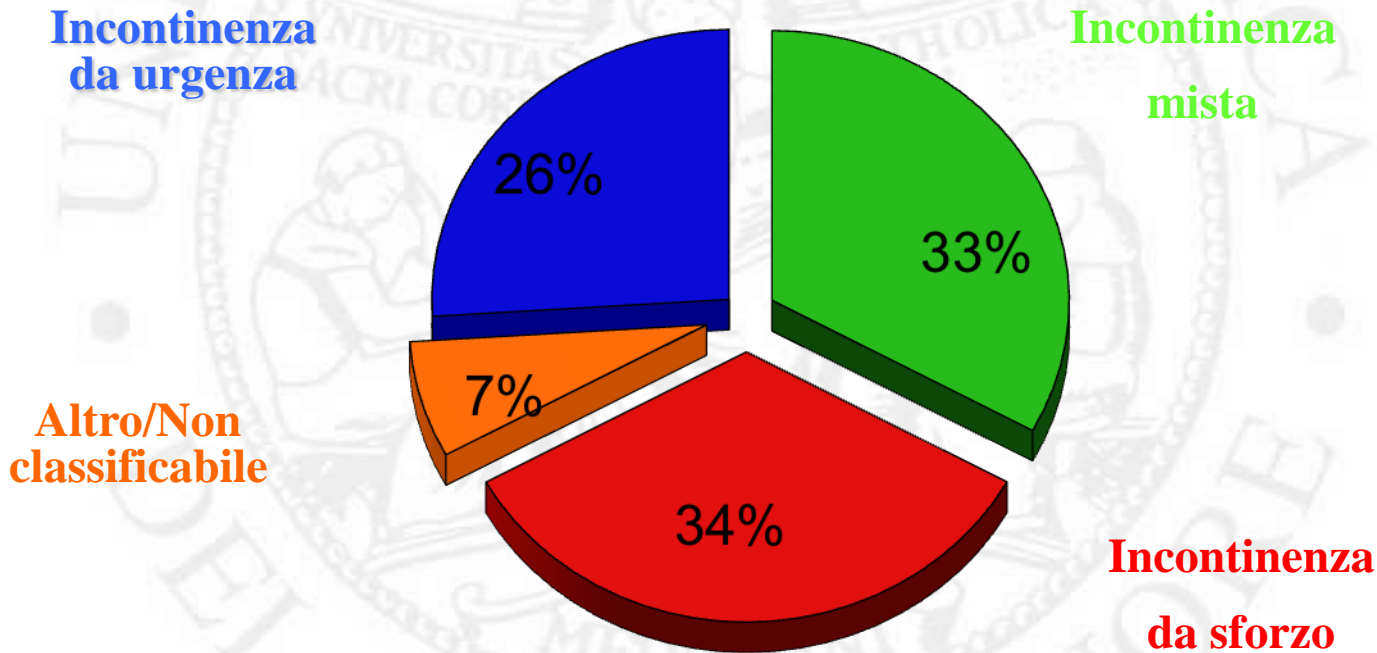
• Incidenza riportata molto variabile e dipendente da:

- Definizione di continenza
- Tecnica utilizzata
- Tempo intercorso dall'intervento
- Metodo di raccolta dati
- Esperienza del centro e del chirurgo



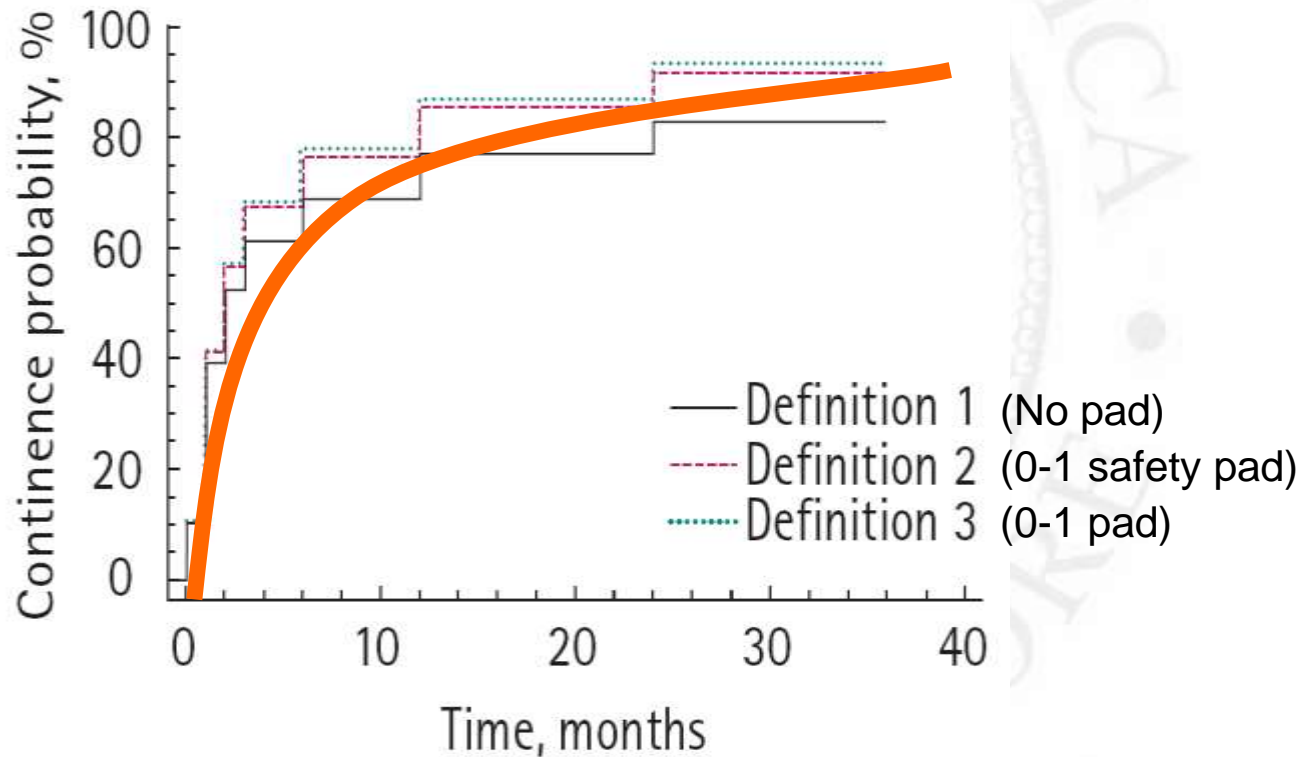
Incontinenza dopo Prostatectomia radicale

- *Tipologie cliniche*



Incontinenza dopo Prostatectomia radicale

- *Recupero postoperatorio progressivo nei primi 12-24 mesi*



Incontinenza dopo Prostatectomia radicale

- *Definizione suggerita in base all'uso di pannolini:*

C0: Nessun pannolino

C1: Pannolino di sicurezza

C2: Pannolini multipli

Incontinenza dopo Prostatectomia radicale

Prevenzione

- **Primaria:** ↓ incidenza di CaP
- **Secondaria:** - alternative terapeutiche
- selezione dei pazienti
- tecnica chirurgica
- **Terziaria:** - riabilitazione perioperatoria

Incontinenza dopo Prostatectomia radicale

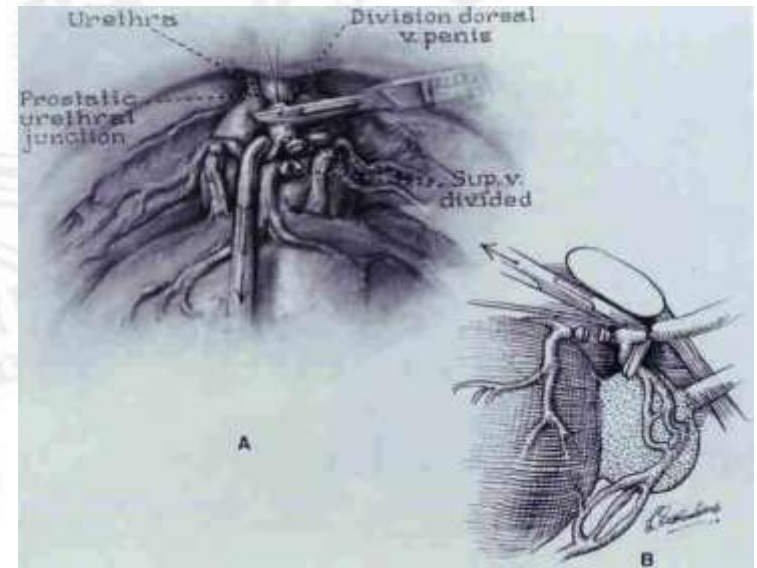
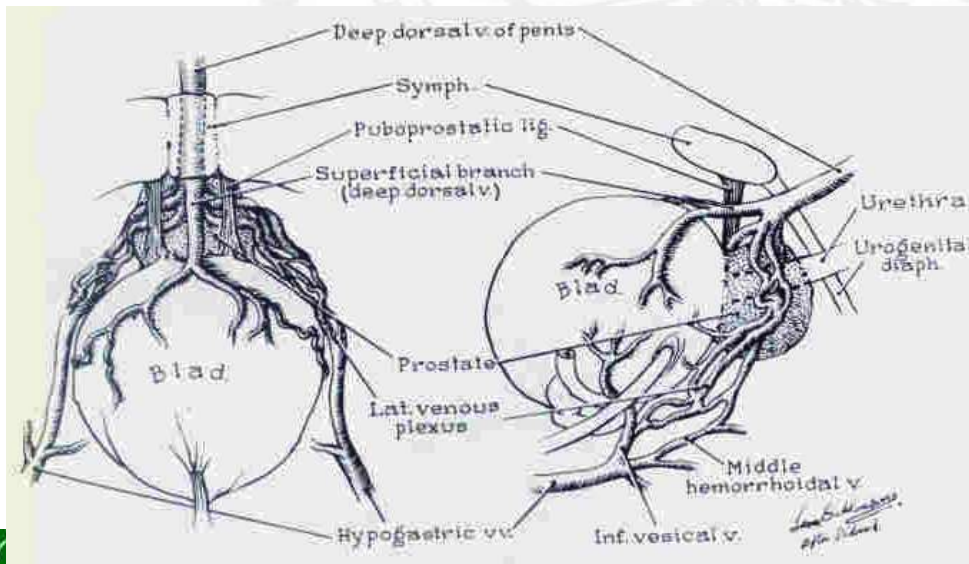
Tecnica chirurgica

The Journal of Urology

Vol. 121: 198-200; 1979

An Anatomical Approach to the Surgical Management of the Dorsal Vein and Santorini's Plexus during Radical Retropubic Surgery

William G. Reiner & Patrick C. Walsh



Incontinenza dopo Prostatectomia radicale

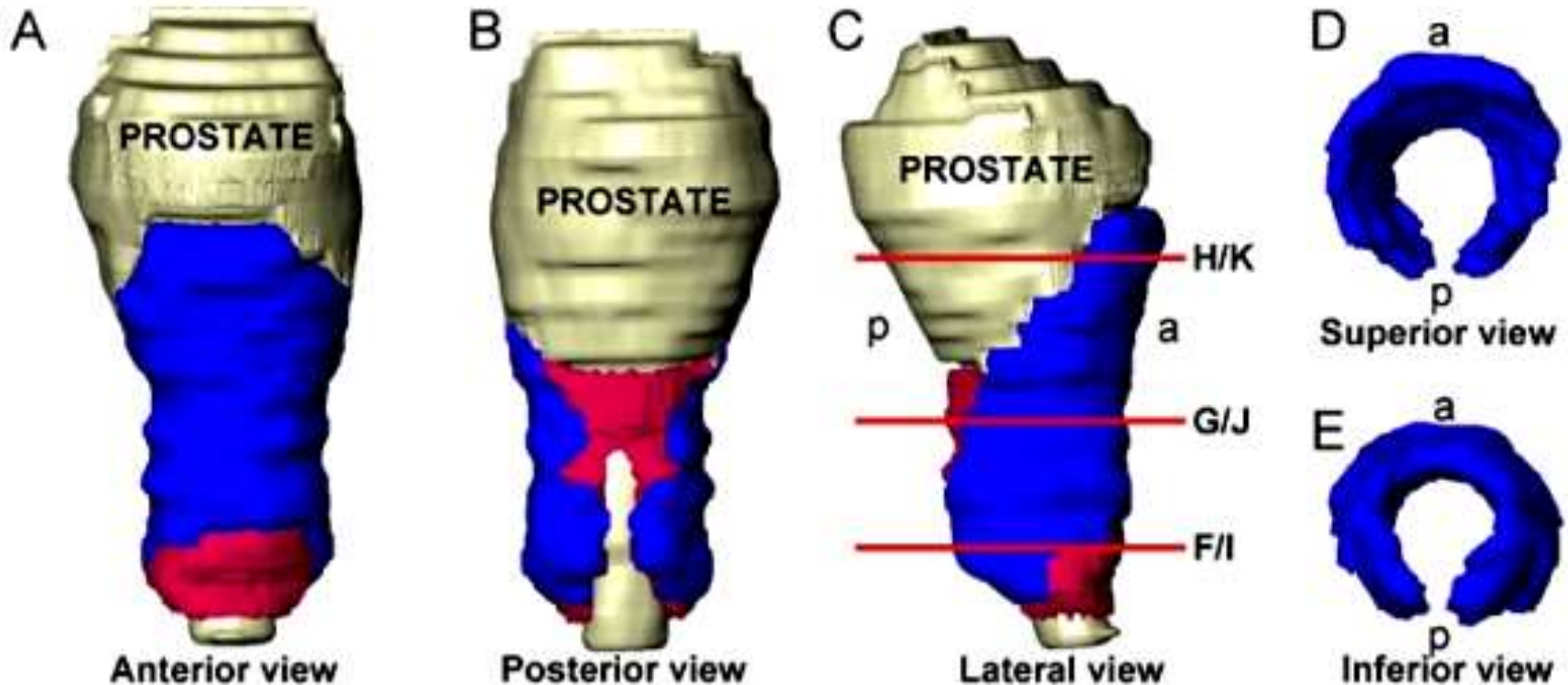
Danno sfinterico

- **Danno miogeno** da:
 - Trauma/accorciamento/sezione durante la legatura del Santorini
 - Calore
 - Suture emostatiche
 - Devascolarizzazione
 - Disassamento dell'uretra membranosa
- **Danno neurogeno** da:
 - Sezione delle banderelle NV
 - Elettrocauterio
 - Suture anastomotiche ad ore 5 e 7
- **Danno alle strutture di supporto uretrale:**
 - Disallineamento dell'uretra membranosa
 - Danno alle strutture di supporto ant. e post.



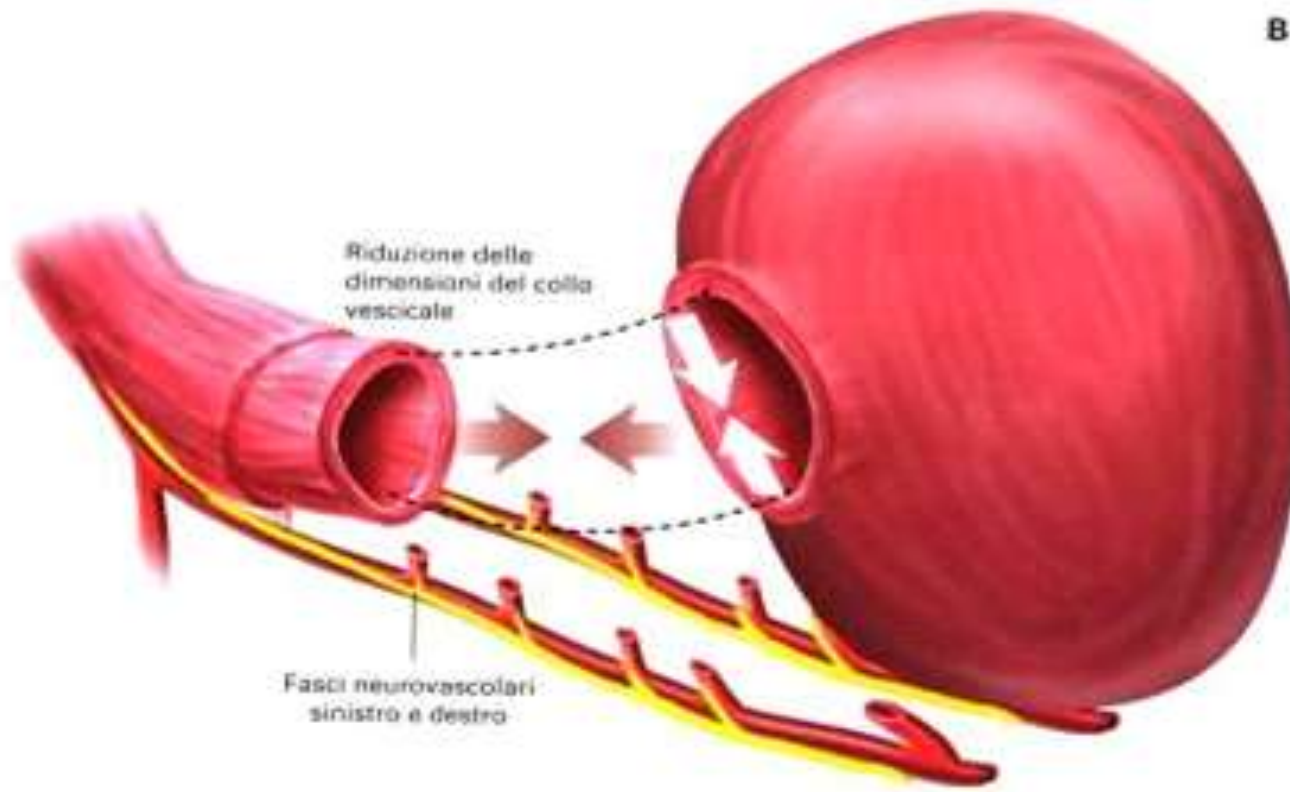
Incontinenza dopo Prostatectomia radicale

Danno miogeno



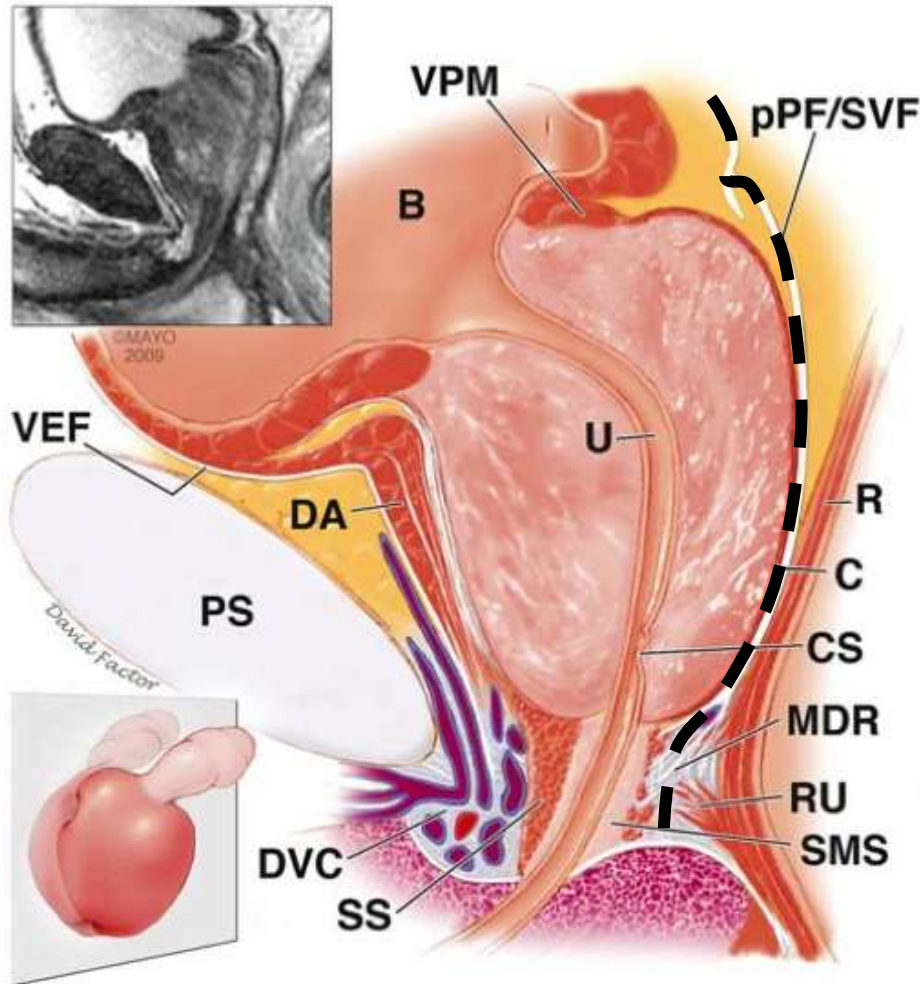
Incontinenza dopo Prostatectomia radicale

Danno neurogeno

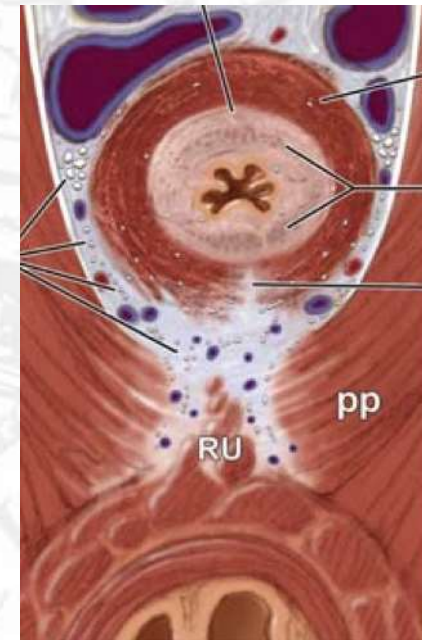


Incontinenza dopo Prostatectomia radicale

Danno alle strutture di supporto posteriori



- Fascia di Denonvilliers
- Rafe mediano dorsale
- M. Rettouretrale
- Corpo perineale



Incontinenza dopo Prostatectomia radicale

Misure preventive proposte

- **Preservazione delle BNV**

Burkhard FC et al. J Urol, 2006
Stolzenburg et al, Urology 2010

- **Ricostruzione delle strutture di sostegno posteriori –
continenza più precoce**

Rocco F. et al. Eur Urol 2007

- **Preservazione della lunghezza funzionale uretrale**

Schlomm et al. Eur Urol 2011

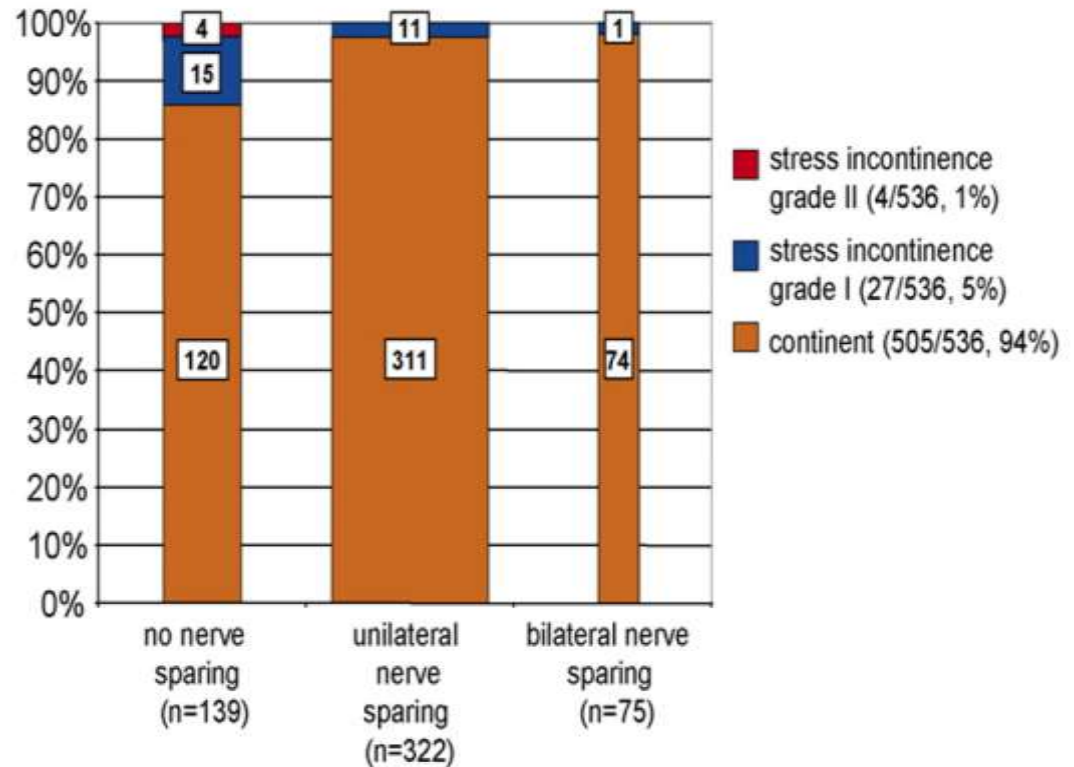
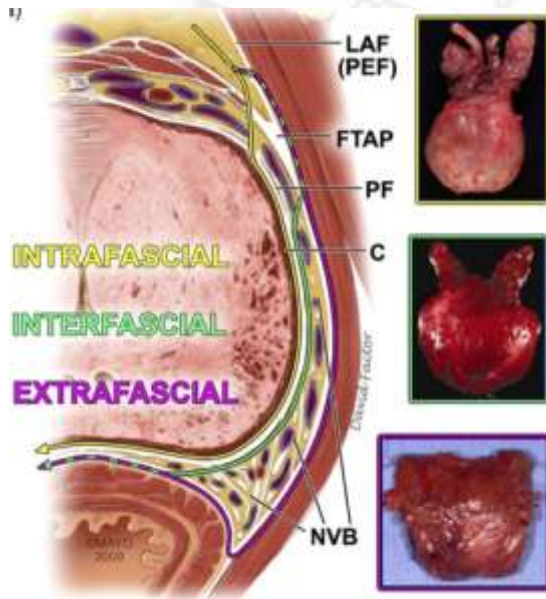
- **Preservazione delle strutture di sostegno anteriori:
- Ligamenti pubo-prostatici**

Stolzenburg et al. Eur Urol 2007



Incontinenza dopo Prostatectomia radicale

Tecnica *nerve-sparing*



Burkhard FC et al. J Uro, I 2006

Incontinenza dopo Prostatectomia radicale

Tecnica open vs. laparoscopica

- Risultati simili -

| Author | Disegn | Follow-up | open | laparosc | p Value |
|------------------|------------|-------------|------|----------|---------|
| Rassweiler, 2003 | retrospect | 12 months | 90% | 91% | NS |
| Artibani, 2003* | contemp. | > 12 months | 80% | 60% | NS |
| Roumeguere, 2003 | prospect | 12 months | 84% | 80% | NS |
| Abbou, 2003 | prospect | 12 months | 78% | 89% | NS |

Incontinenza dopo Prostatectomia radicale

Tecnica robot-assistita (RALP)

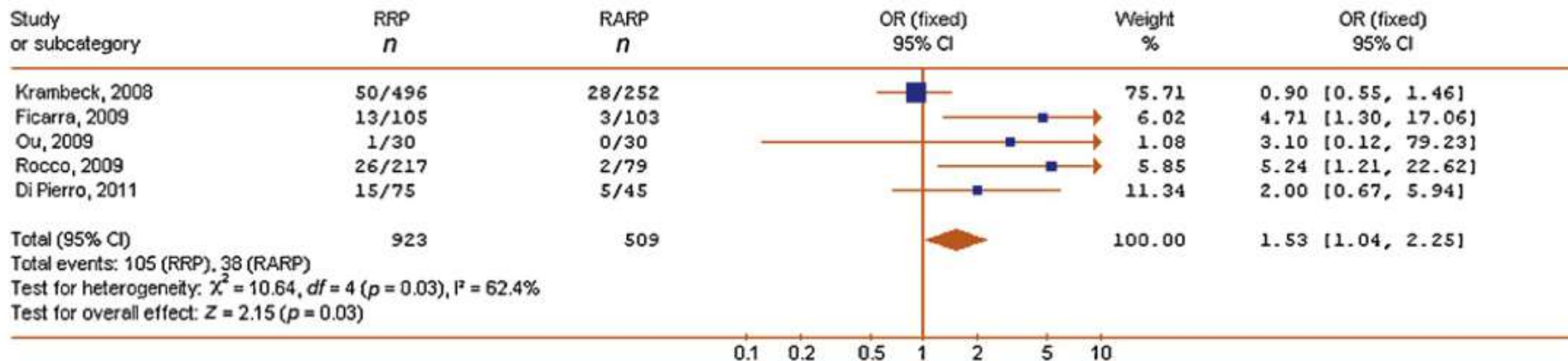


Incontinenza dopo Prostatectomia radicale

Tecnica robotica vs. open

➤ Vantaggio per la RALP a 7 e 12 mo

Review: Radical prostatectomy: comparisons of different approaches
 Comparison: 06 Continenza rate
 Outcome: 07 12-mo continence rate: RRP vs RARP

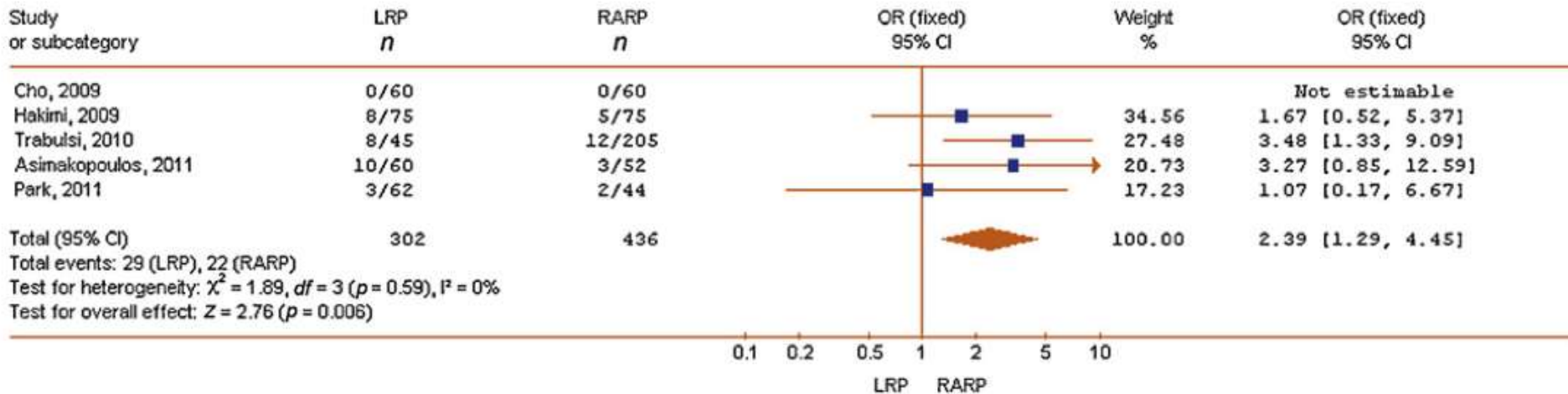


Incontinenza dopo Prostatectomia radicale

Tecnica robotica vs. laparoscopica

➤ Vantaggio per la RALP a 12 mo

Review: Radical prostatectomy: comparisons of different approaches
 Comparison: 06 Continence rate
 Outcome: 09 12-mo continence rate: LRP vs RARP

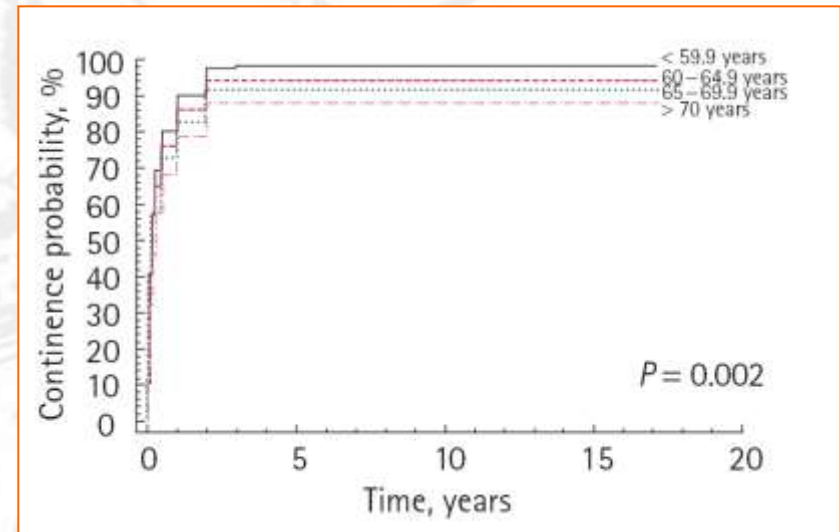


Incontinenza dopo Prostatectomia radicale

Fattori di rischio

• Assodati:

- Età →
- BMI
- TURP/adenomectomia
- Radioterapia
- Stenosi anastomotica

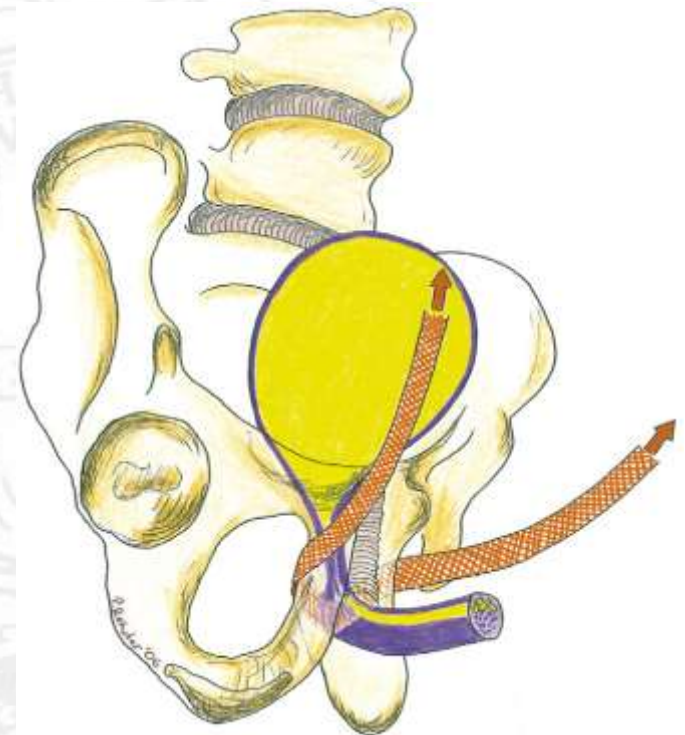
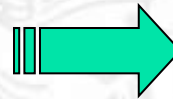


Sacco E. et al, BJUInt 2006

• Discutibili:

- Volume prostatico (>70 cm³)
- Stadio
- LUTS
- Comorbilità

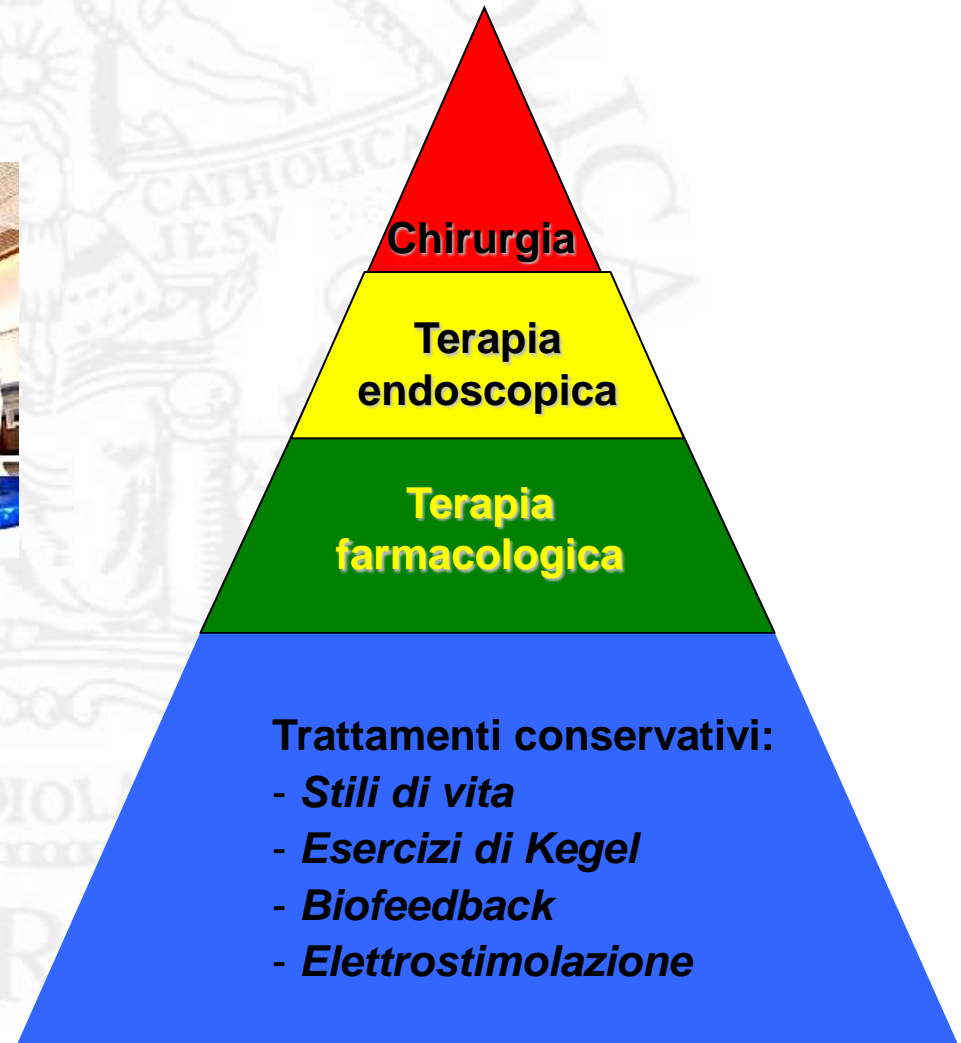
L'evoluzione del trattamento



Approccio moderno

➤ **Approccio step-by-step**

➤ **Approccio multimodale**



Trattamenti conservativi

- ❖ **Stili di vita** (calo ponderale, esercizio fisico, dieta, fumo, stipsi...)
- ❖ **Esercizi di Kegel**: efficacia confermata in RCT
- ❖ **Biofeedback**
- ❖ **Elettrostimolazione funzionale**

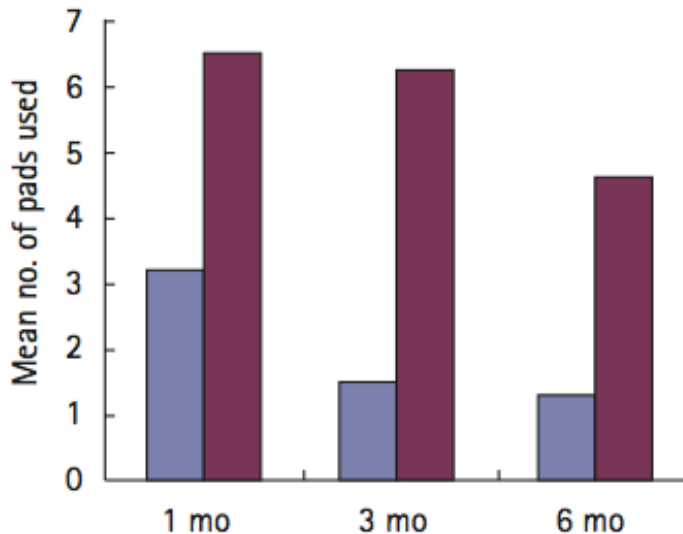


Trattamenti conservativi

Biofeedback + Esercizi di Kegel perioperatori (Clinica Urologica - Policlinico "A. Gemelli")

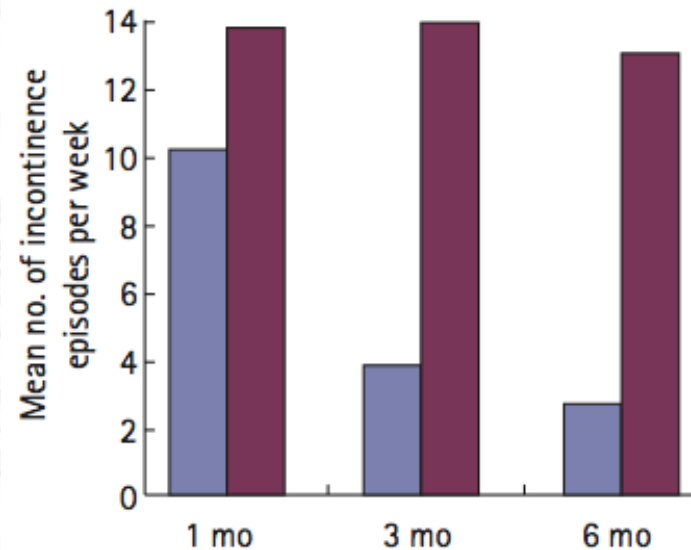
N° Pannolini/settimana

$P = \text{n.s.}$ $P = 0.005$ $P = 0.03$



Episodi di incontinenza/settimana

$P = \text{n.s.}$ $P = 0.01$ $P = 0.005$



Terapie per l'incontinenza da urgenza

- **Farmaci orali** (Anticolinergici, Beta-3 adrenergici)



- **Tossina botulinica intradetrusoriale**

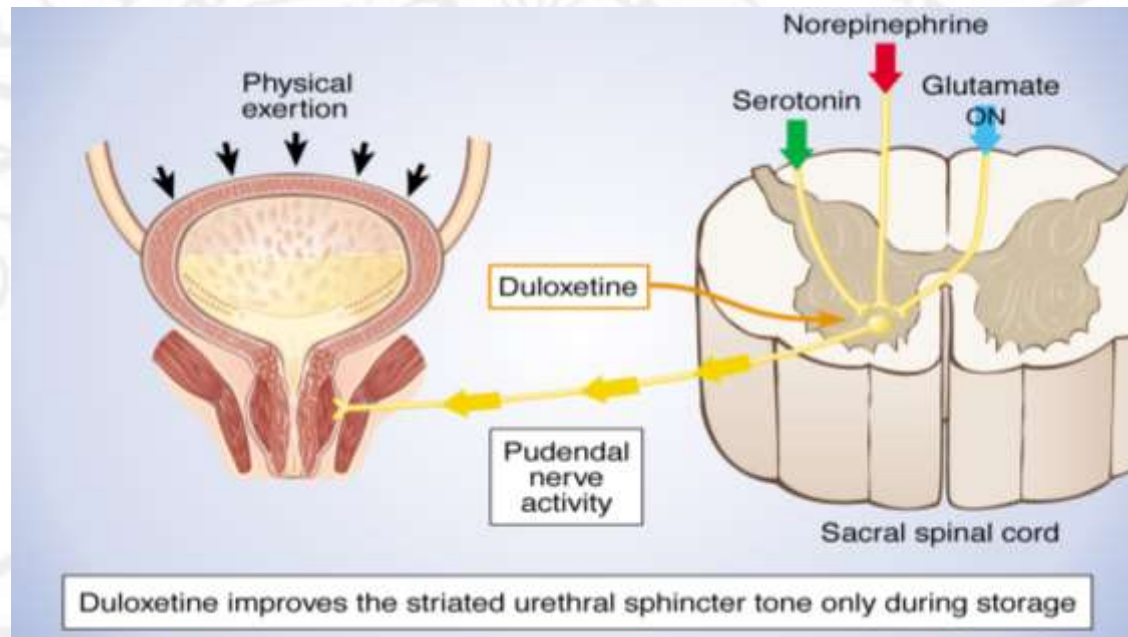


- **Neuromodulazione**
(sacrale, tibiale)



Terapie per l'incontinenza da sforzo

Duloxetina

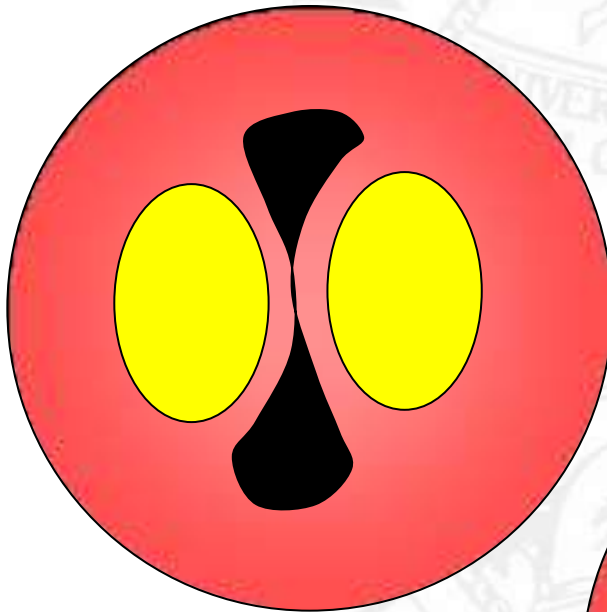


- **Effetti collaterali non trascurabili** (nausea) - ↓ compliance
- Off-label e scarsa evidenza nel maschio
- Costi elevati

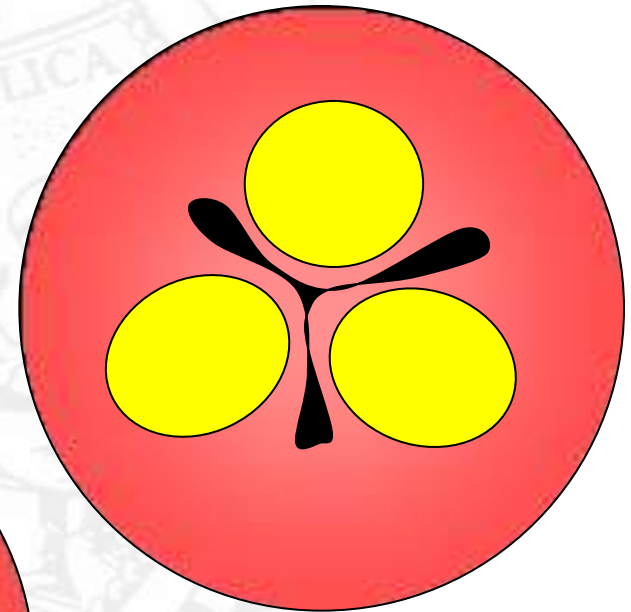
Terapie per l'incontinenza da sforzo

Agenti volumizzanti

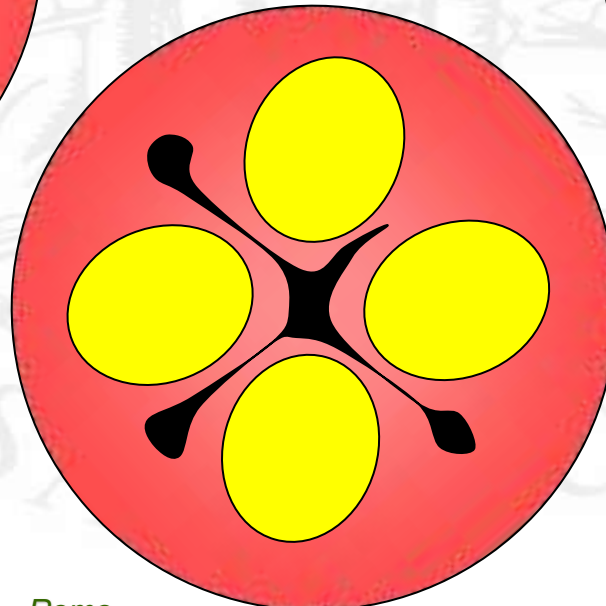
Ore 3-9



Ore 4-8-12



Ore 3-6-9-12



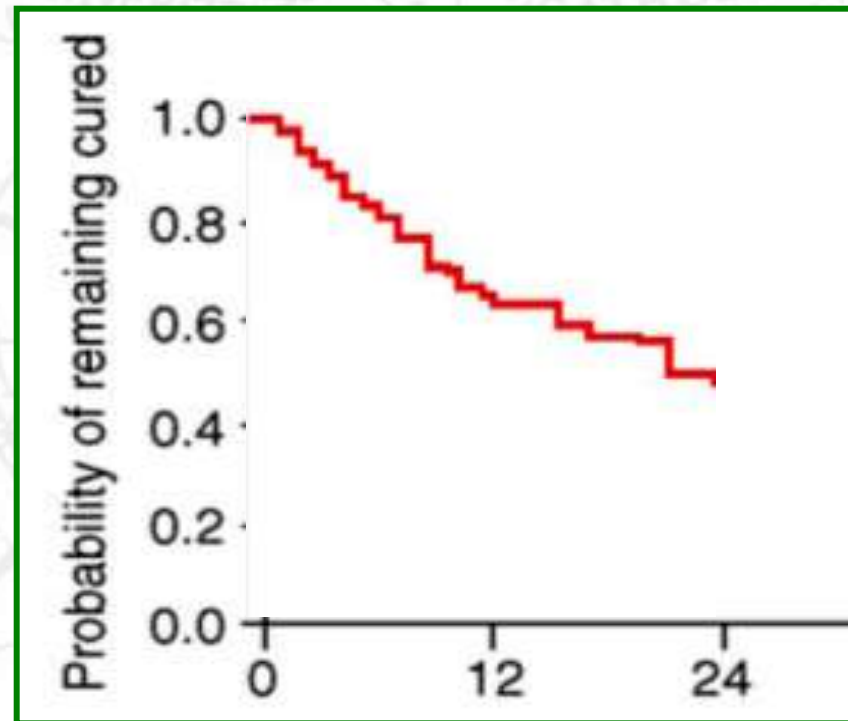
Terapie per l'incontinenza da sforzo

| <u>Agenti Volumizzanti</u> | Nome commerc. | Produttore |
|-----------------------------------------------------------------------------|-------------------------|----------------------------|
| Polietilentetrafluoroetilene (PTFE) | Teflon, Urethrin | Mentor |
| Autologous fat | | |
| Human collagen | Urologen | Collagenesis |
| Autologous cartilage | | Reprogenesis |
| Bovine cross-linked (GAX) collagen | Contigen | Bard |
| Porcine dermal implant | Permacol | TSL |
| Silicone | Macroplastique | Uroplasty |
| Calcium hydroxylapatite | Coaptite | Genesis Medical Ltd |
| Carbon-coated zirconium beads | Durasphere | Boston Scientific |
| Crosses-linked HA and dextranomer microspheres (NASHA-Dx) | Zuidex; Deflux | Q-Med |
| Ethylene vinyl alcohol (EVA) copolymers and Dimethylsulfoxyde (DMSO) | Uryx, Tegress | Genyx, Bard |
| Poliacrylamide hydrogel | Bulkamid | Gynecare-Ethicon |

Terapie per l'incontinenza da sforzo

Agenti volumizzanti

- Perdita di efficacia nel tempo -



Terapie per l'incontinenza da sforzo

Agenti volumizzanti

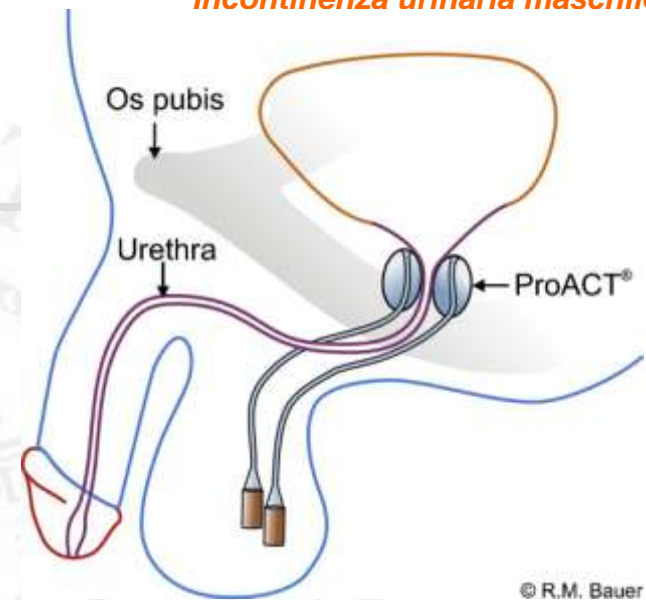
Linee guida EAU 2014

“Only offer bulking to men with mild postprostatectomy incontinence who desire temporary relief of incontinence symptoms”

“Do not offer bulking agent to men with severe post-prostatectomy incontinence”



Palloncini: ProACT



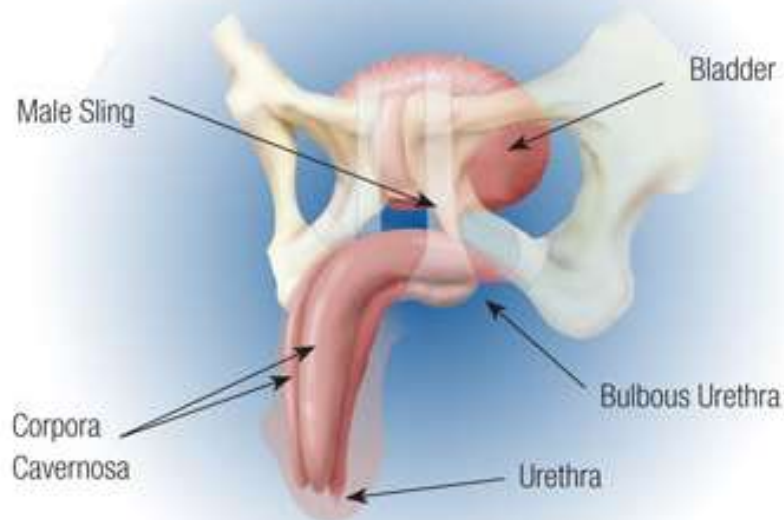
- **Necessità di multipli aggiustamenti**
- **Elevato tasso di complicanze!**
- **Grado di raccomandazione EAU: D**

| Study | No. of patients | Follow-up, mo | Cure, % | Improvement, % | Readjustments |
|-------------------------------|-----------------|---------------|------------------------------------------------------------------------|----------------|--------------------------------------------------|
| Hübner et al (2005) [88] | 117 | Mean: 13 | 67 (no pad or one security pad) | 25 | Mean: 3 (0-15) |
| Trigo Rocha et al (2008) [87] | 25 | Mean: 22.4 | 65.2 (no or one pad) | 12.8 | Mean: 4.6 (1-7) |
| Hübner et al (2007) [85] | 50 | Mean: 20 | 60 (no pad or one security pad) | 22 | Mean: 4 |
| Kocjancic et al (2007) [86] | 65 | 19.5 | 67 | 15 | Mean: 3 (0-8) |
| Lebret et al (2008) [84] | 62 | 12 | No data (Daily pad usage decreased from 4.6 pads per day to 1.06 pads) | No data | 4×: 38.7% 3×: 12.9% 2×: 24.2% 1×: 12.9% |
| Gilling et al (2008) [83] | 34 | 24 | 62 (no pads) | 19 | Mean: 3.3 (0-7) |

Fionde sottouretrali

"Slings"

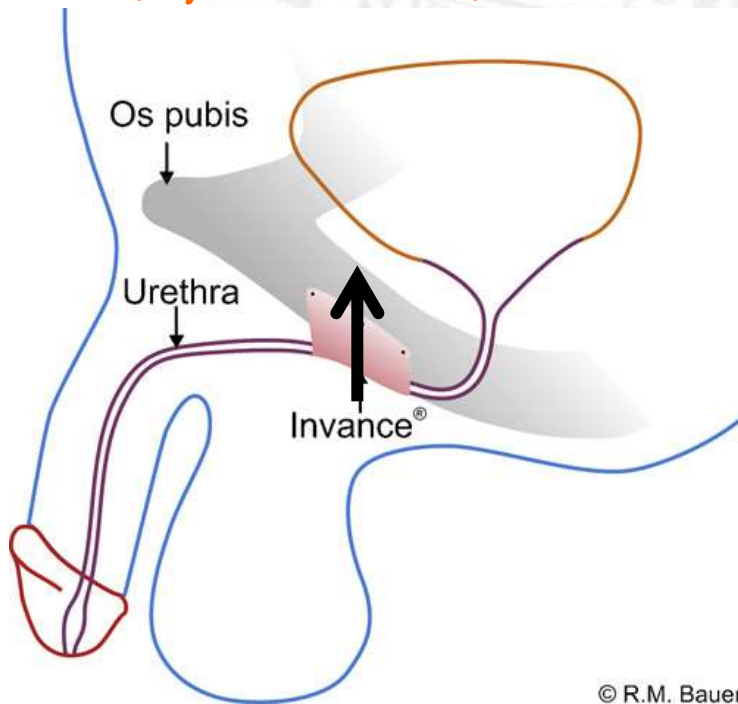
Indicazione: incontinenza lieve-moderata



Grado di raccomandazione EAU: C
Livello di evidenza: 3

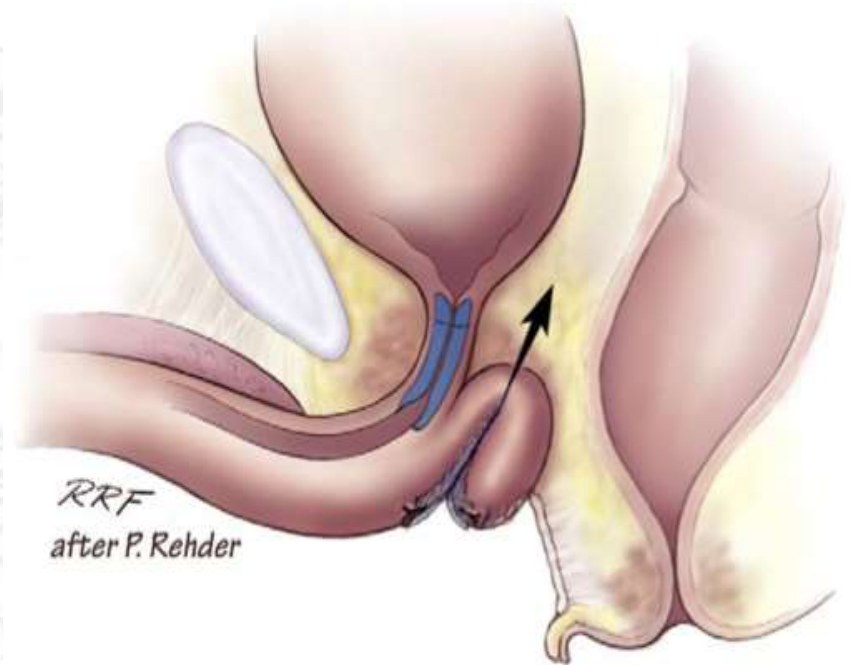
Slings - Meccanismi di azione

Compressivo (tipo InVance)



© R.M. Bauer

"Funzionale" (tipo AdVance)

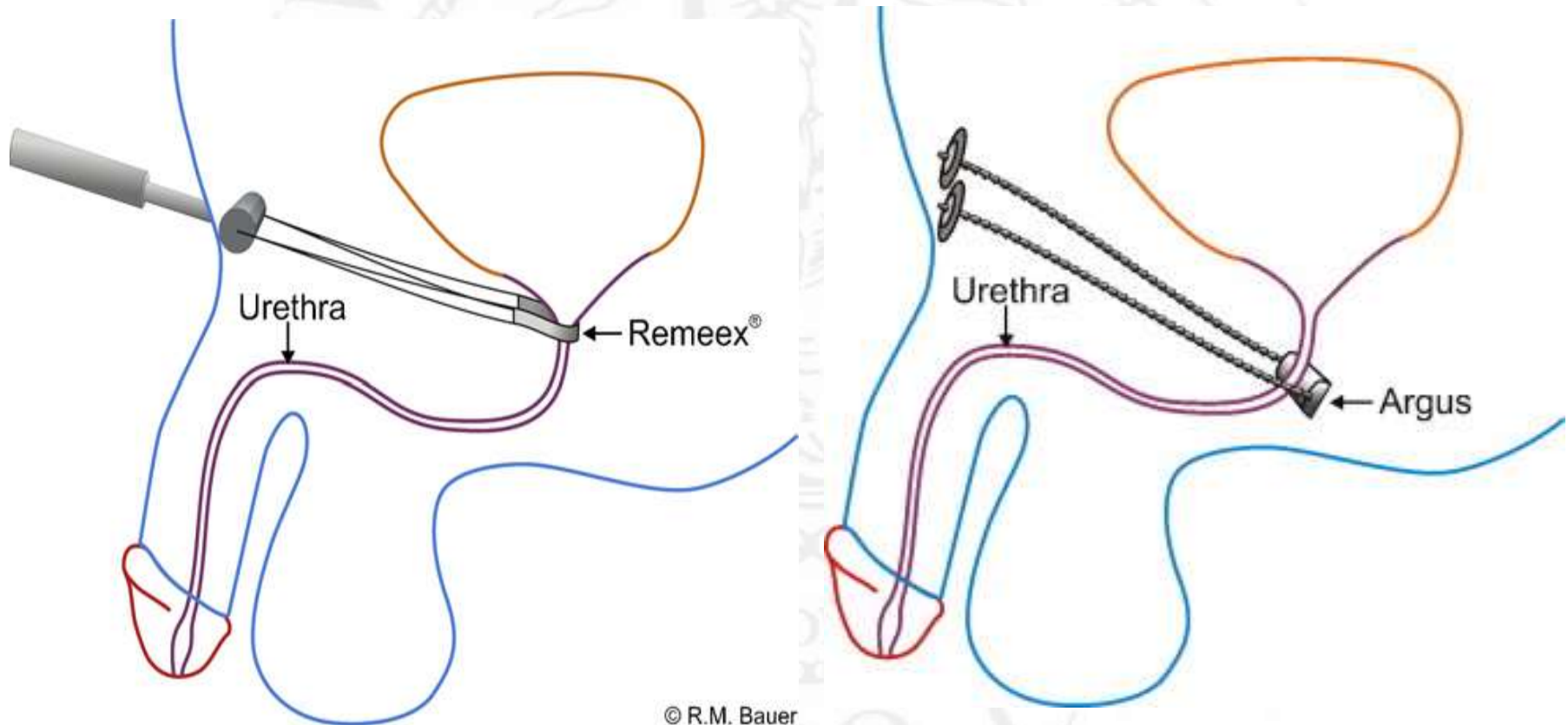


RRF
after P. Rehder

- Riallineamento uretrale
- ↑ Lunghezza funzionale

Slings retropubiche "aggiustabili"

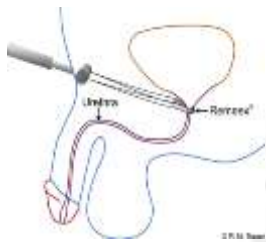
Remeex®, *Argus®*



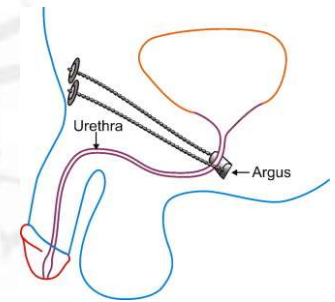
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Slings retropubiche "aggiustabili"

Remeex®, Argus®



Tassi di successo: 55-100% a
2-4 anni

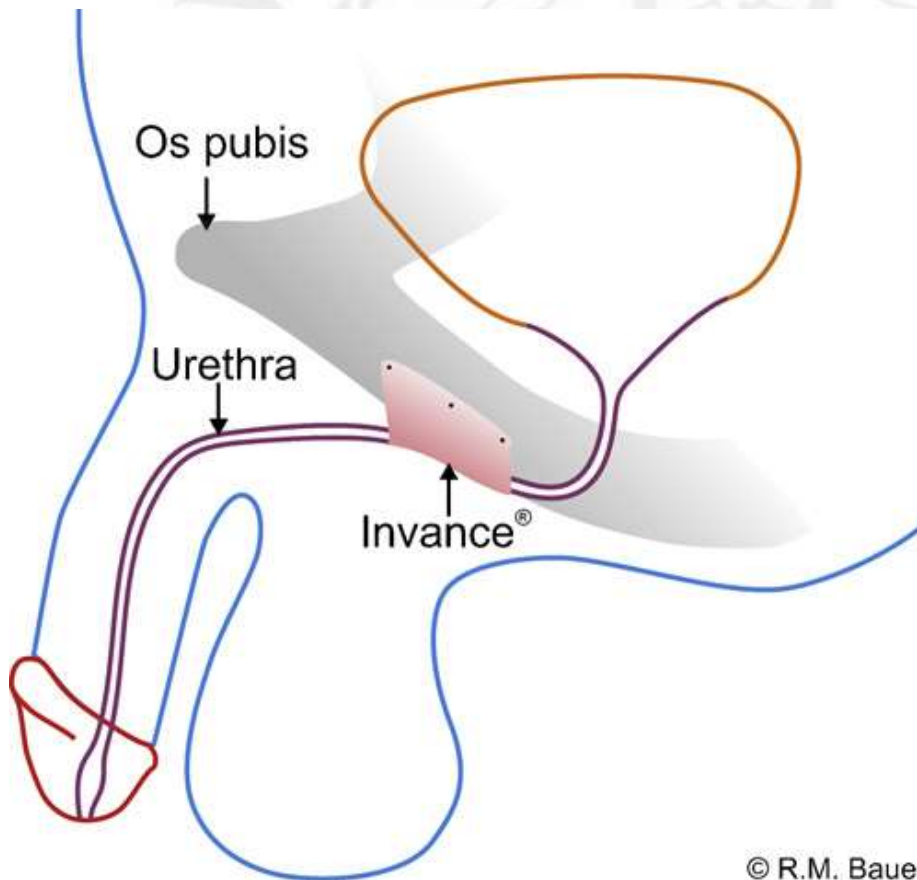


| Study | Type of sling | No. of patients | Mean follow-up, mo | Cure, % | Improvement, % | Readjustments, % |
|------------------------------------|---------------|-----------------|--------------------|------------------------------------|----------------|--------------------|
| Romano et al (2009) [67] | Argus | 48 | 45 | 66 (no pads) | 12.8 | Dry patients: 10.4 |
| Hübner et al (2011) [68] | Argus | 101 | 50.4 | 79.2 | 5.0 | 38.6 |
| Sousa-Escandon et al (2004) [71] | Remeex | 6 | 18 | 83 | 0 | Not specified |
| Campos-Fernandes et al (2006) [69] | Remeex | 18 | 26.3 | 55.5 | 11.1 | 1×: 44 |
| Sousa-Escandon et al (2007) [70] | Remeex | 51 | 32 | 64.7 (no or one small pad per day) | 19.6 | 1×: 100 >1×: 33.3 |

- **Alto tasso di complicanze (erosioni, infezioni)!**
 - **Alto tasso di rimozione!**

Slings "Bone-anchored"

InVance®



- **Tassi di successo: 36-88% a 4 anni**
- **Rischio di osteite!**

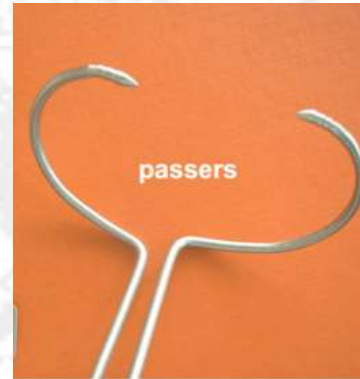


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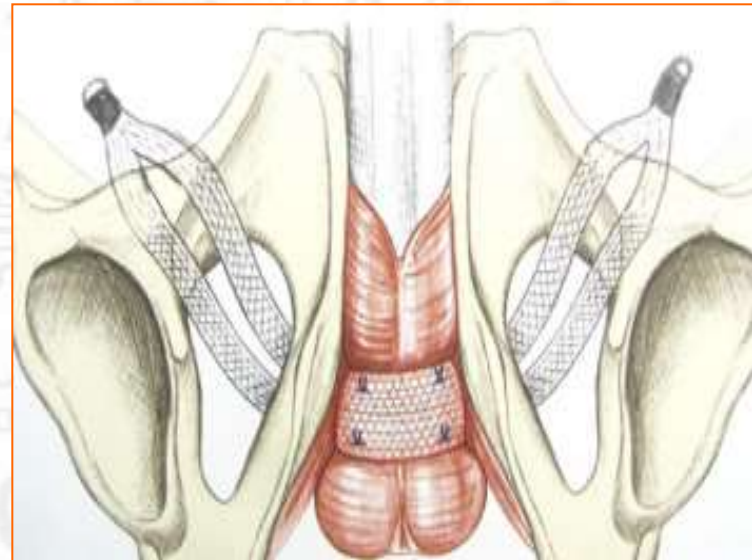
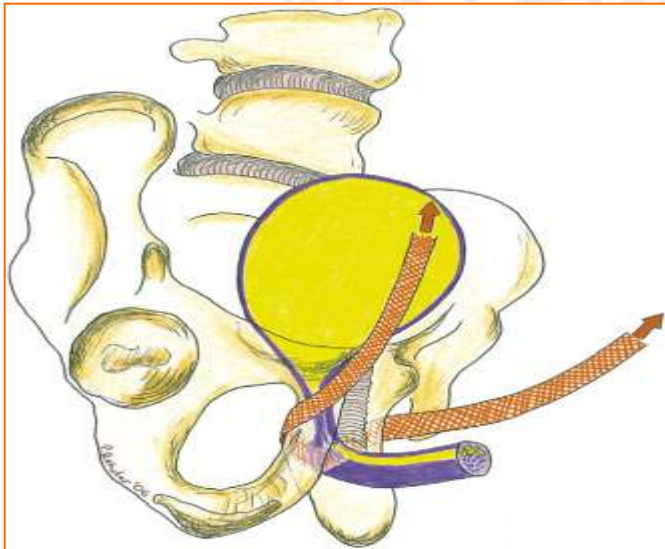
Slings transotturatorie



AdVance®



I-Stop TOMS®



Sling transotturatorie

AdVance® e I-Stop TOMS® Risultati

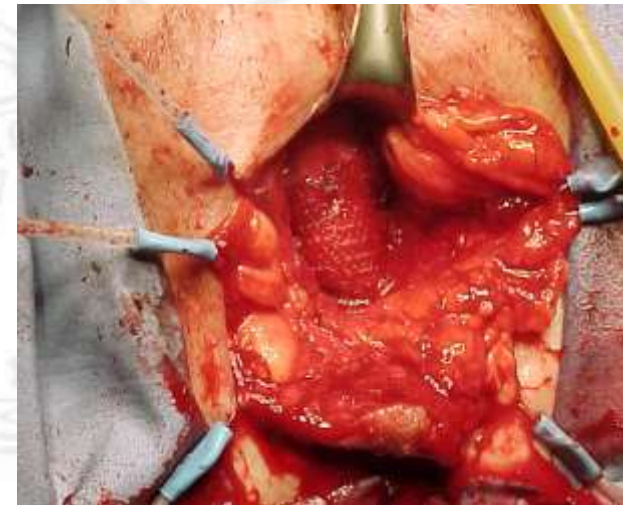
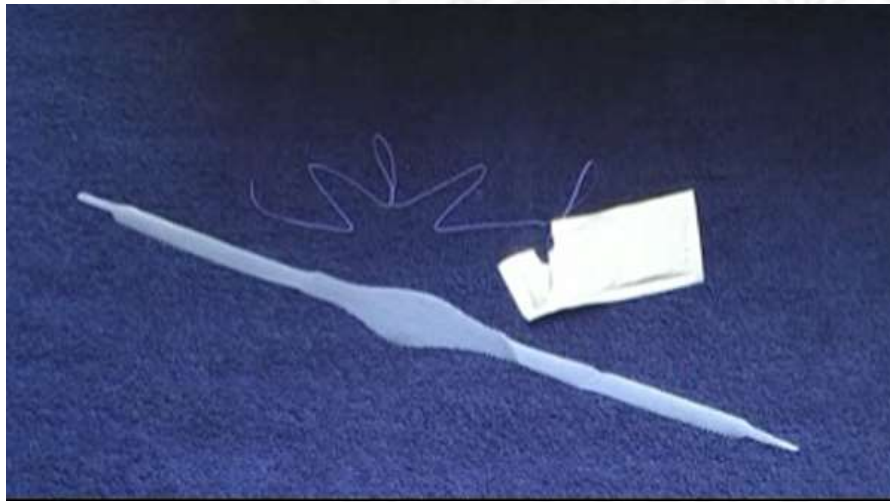
| No. of patients | With ≥ 5 pads/d, % | Cured, % | Improved, % | Definition of | | Follow-up, mo | Ref. |
|---------------------------------------------|-------------------------|----------|-------------|----------------------------------|-------------------------------------------|---------------|------|
| | | | | Cure | Improvement | | |
| Outside-in AdVance male sling | | | | | | | |
| 20 | 65 | 40 | 30 | 0 pad/d | 1 pad/d | 1.5 | [7] |
| 67 | 51 | 52 | 38 | 0 pad/d | ≤ 2 pads/d | 3 | [14] |
| 42 | NR | 17 | 55 | 0 pad/d | ≤ 2 pads/d | 23* | [13] |
| 70 | 49 | 51 | 26 | 0 or 1 dry security pad/d | ≤ 2 pads/d or $\geq 50\%$ reduction | 12 | [15] |
| 102 | 0 | 63 | 18 | 0 or 1 occasional security pad/d | ≤ 2 pads/d and $\geq 50\%$ reduction | 13* | [16] |
| 35 | 31 | 9 | 45 | 0 pad/d and pad weight < 2 g/d | $\geq 50\%$ reduction | 12 | [17] |
| 33 | NR | 60 | - | ≤ 2 pads/d | - | 4* | [18] |
| 118 | 0 | 74 | 17 | 0 or 1 occasional security pad/d | < 2 pads/d or $> 50\%$ reduction | 12 | [19] |
| 178 | 40 | NR | NR | 0 or 1 dry security pad/d | ≤ 2 pads/d or $\geq 50\%$ reduction | 21* | [20] |
| 137 | 31 | 52 | 24 | 0 or 1 dry security pad/d | ≤ 2 pads/d or $\geq 50\%$ reduction | 27* | [21] |
| 136 | 0 | 62 | 16 | 0 pad/d | $> 50\%$ reduction | 21* | [22] |
| Outside-in I-STOP TOMS | | | | | | | |
| 50 | 0 | 30 | 32 | 0 pad/d | 1 pad/d | 12 | [9] |
| Inside-out transobturator male sling | | | | | | | |
| 20 | 40 | 45 | 40 | 0 pad/d | ≤ 2 pads/d and $\geq 50\%$ reduction | 6 | [8] |
| 53 | 34 | 47 | 36 | 0 pad/d | ≤ 2 pads/d and $\geq 50\%$ reduction | 24 | [29] |

➤ Tassi di successo 70-80% a 12-24 mo



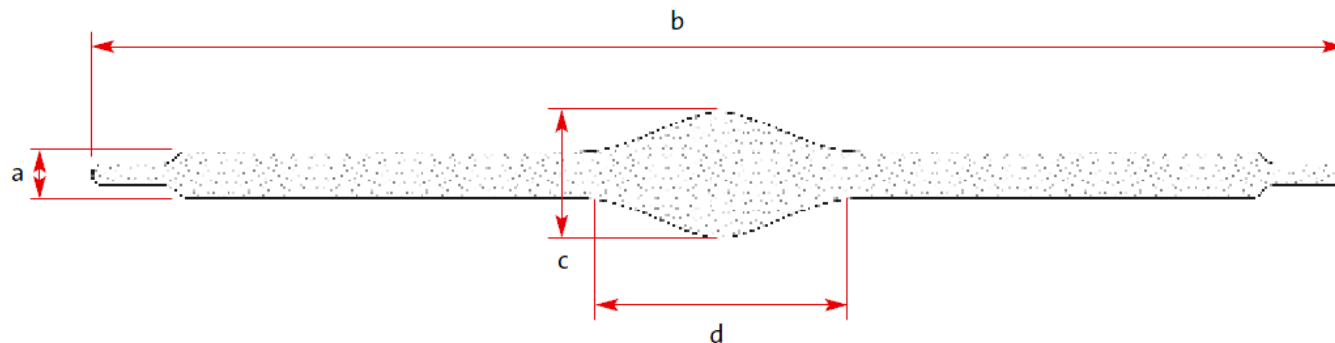
Novità - Sling rivestita di titanio

TiLoop®



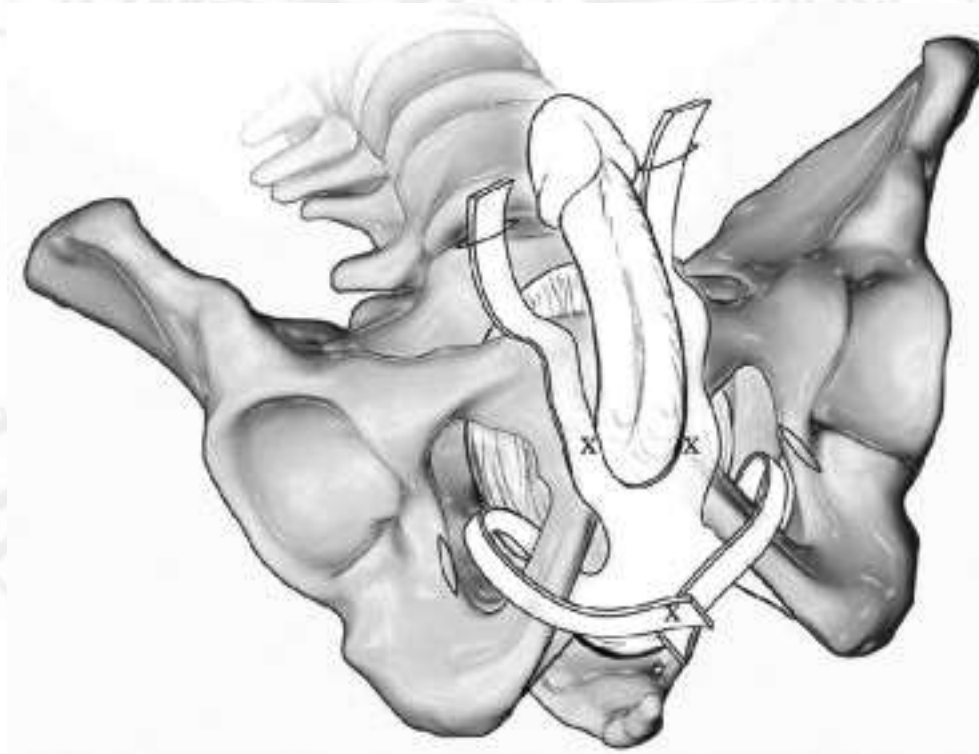
► Dimensioni:

| a | b | c | d |
|-------|--------|-------|-------|
| 15 mm | 400 mm | 40 mm | 80 mm |



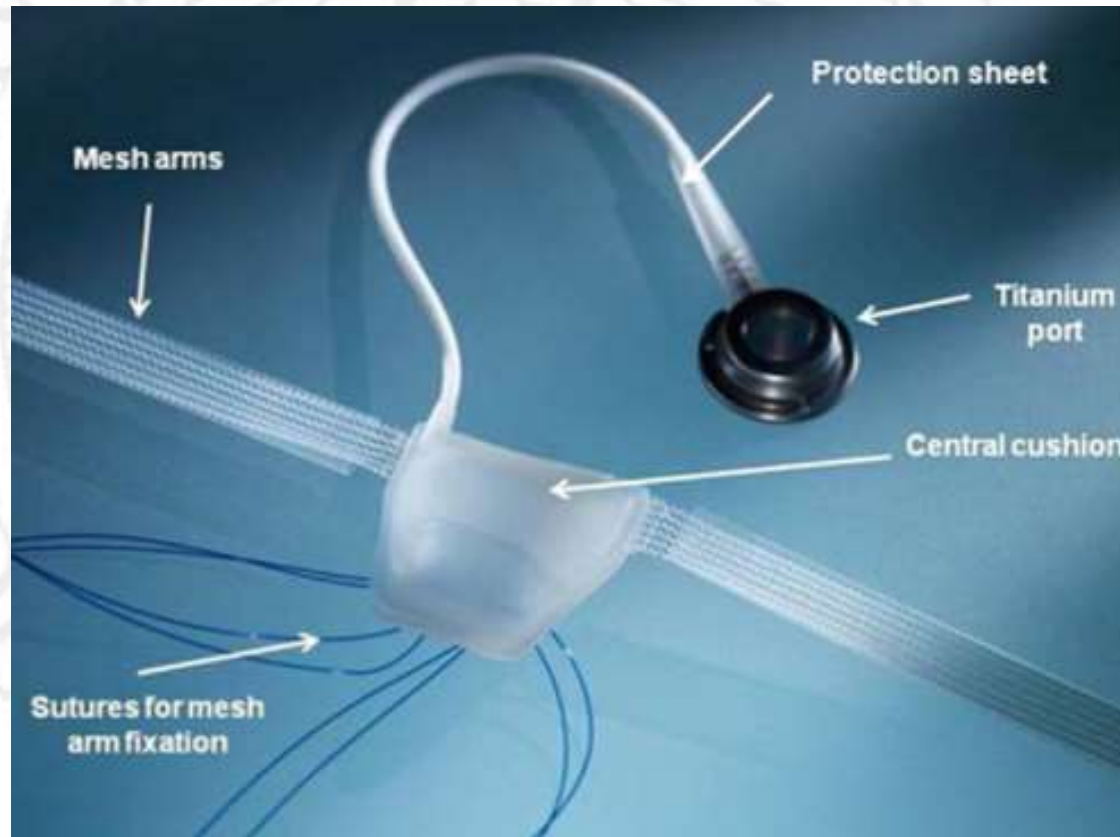
Novità - Sling quadratica

Virtue®



Novità - Sling gonfiabile

ATOMS®





Slings

Controindicazioni relative

- Incontinenza severa (>4-5 pads/die)
- Precedente radioterapia
- Iperattività detrusoriale
- Ridotta compliance vescicale
- Ipocontrattilità detrusoriale
- Stenosi uretrale ricorrente
- Sclerosi del collo vescicale

Slings

Complicanze

- Ritenzione urinaria (temporanea)
- Perforazione vescicale (5%)
- Dolore perineale (4-38%)
- Infezione (2-15%)
- Erosione (3-13%)
- De novo urgency-frequency (5-14%)



Slings

Quesiti per futuri studi

- **Risultati a lungo termine?**
- **Confronto con AMS800?**
- **Effetti a lungo termine sulla vescica?**
- **Morbilità delle reti (...FDA alert)?**
- **Rapporto costo-efficacia?**

FDA Alert!



U.S. Food and Drug Administration

Protecting and Promoting *Your* Health

Medical Devices

Home Medical Devices Medical Device Safety Safety Communications

Medical Device Safety

Safety Communications

Public Health Notifications
(Medical Devices)

FDA Public Health Notification: Serious Complications Associated with Transvaginal Placement of Surgical Mesh in Repair of Pelvic Organ Prolapse and Stress Urinary Incontinence

For updated information about Surgical Mesh for Pelvic Organ Prolapse, see: [UPDATE on Serious Complications Associated with Transvaginal Placement of Surgical Mesh for Pelvic Organ Prolapse](#), released July 13, 2011.

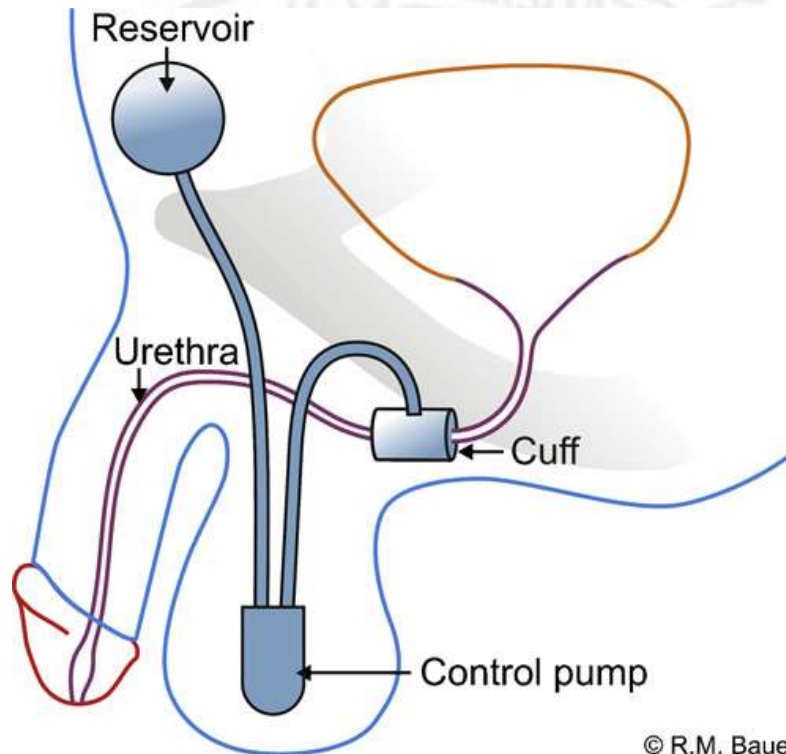
- Chirurgia protesica transvaginale rischiosa!
- Mancano evidenze solide nel trattamento del POP
- Completa informazione ai pazienti
- Segnalare le complicanze



Sfintere uretrale artificiale

AMS800® - Gold Standard

Indicazione: incontinenza moderata-severa



© R.M. Bauer

Sfintere uretrale artificiale

AMS800® - Gold Standard



- Tassi di successo: 60-91%
- Follow-up degli studi: 3-12 anni

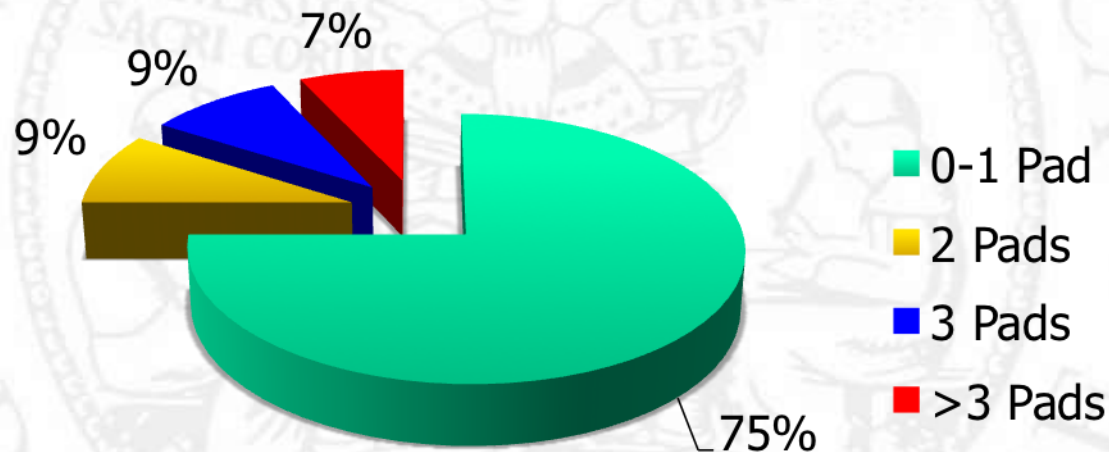
| Study | No. of patients | Mean follow-up, yr | Success, % (0-1 pad per day) | Complications, % |
|--------------------------|-----------------|--------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kim et al (2008) [42] | 124 | 6.8 | 82 | Surgical revision: 37.0 <ul style="list-style-type: none"> • Mechanical failure: 32.4 • Erosion: 8 • Infection: 5.6 |
| Gousse et al (2001) [41] | 71 | 7.7 | 60 | Surgical revision: 29 <ul style="list-style-type: none"> • Mechanical failure: 25 • Erosion: 4 • Infection: 1.4 |
| Venn et al (2000) [45] | 23 | Median: 11 | 92 | Infection and erosion: 17 |

* With a mean follow-up ≥ 5 yr, published in the last 10 yr.

Sfintere uretrale artificiale

...nelle migliori mani

Pad use



Popolazione: 50 pts (64.6 anni)

Follow-up mediano: 16.7 mesi

Tasso di revisione: 10% (in letteratura fino al 40%!)

Tasso di espunti: 11% (20% in re-do procedures!)

Sfinteri artificiali

Novità

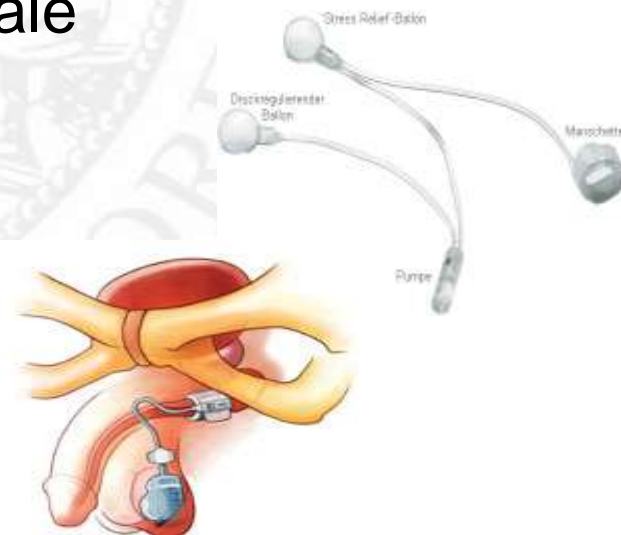
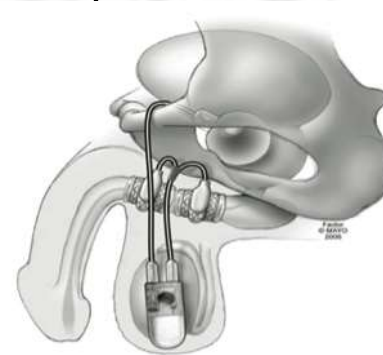
InhibiZone (impregnazione con rifampicina+minociclina di cuffia e pon

Doppia cuffia

Posizionamenti della cuffia: collo-u. membranosa – u. bulbare - transcorporale

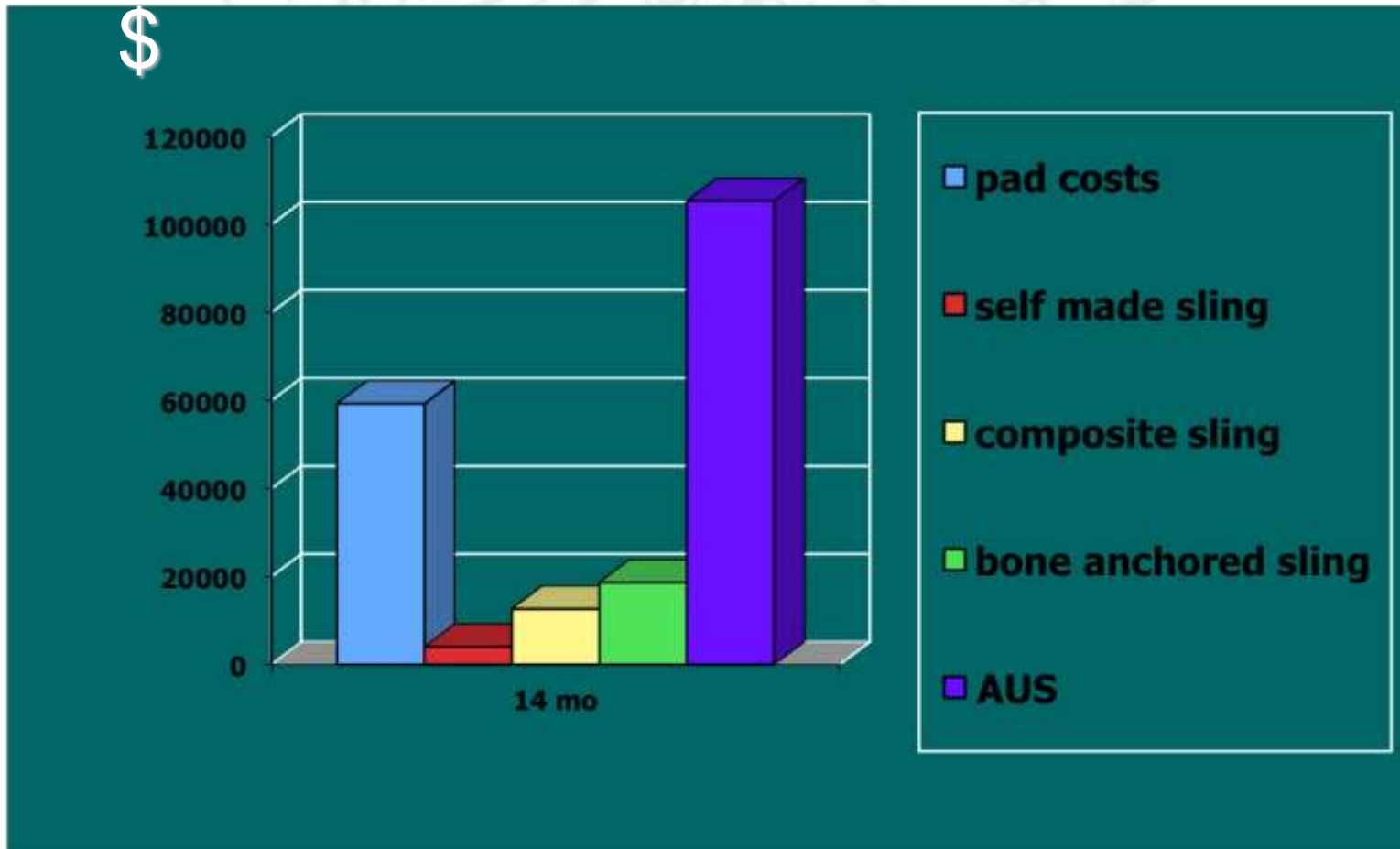
FlowSecure® (doppio serbatoio per modulazione pressoria dinamica)

Zephyr System® (monocomponente)



Costi: pannolini vs. terapia

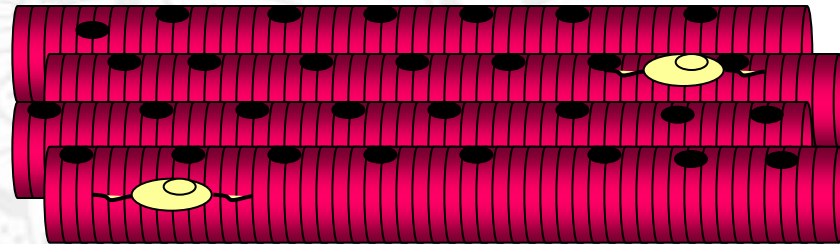
Costi cumulativi in 16 pazienti durante 14 mesi di followup



Cellule staminali adulte

Terapia sperimentale

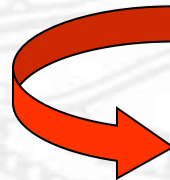
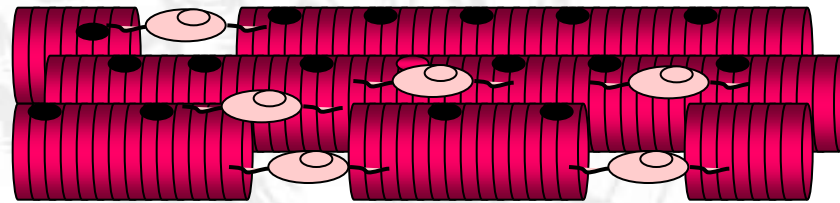
Mioblasti



Lesione

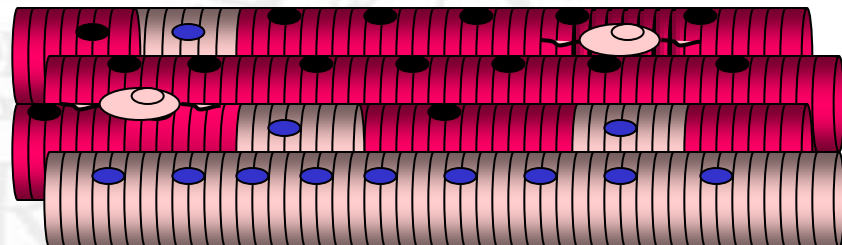


Attivazione dei mioblasti



Rigenerazione

Riparazione



Impianto di cellule staminali

