

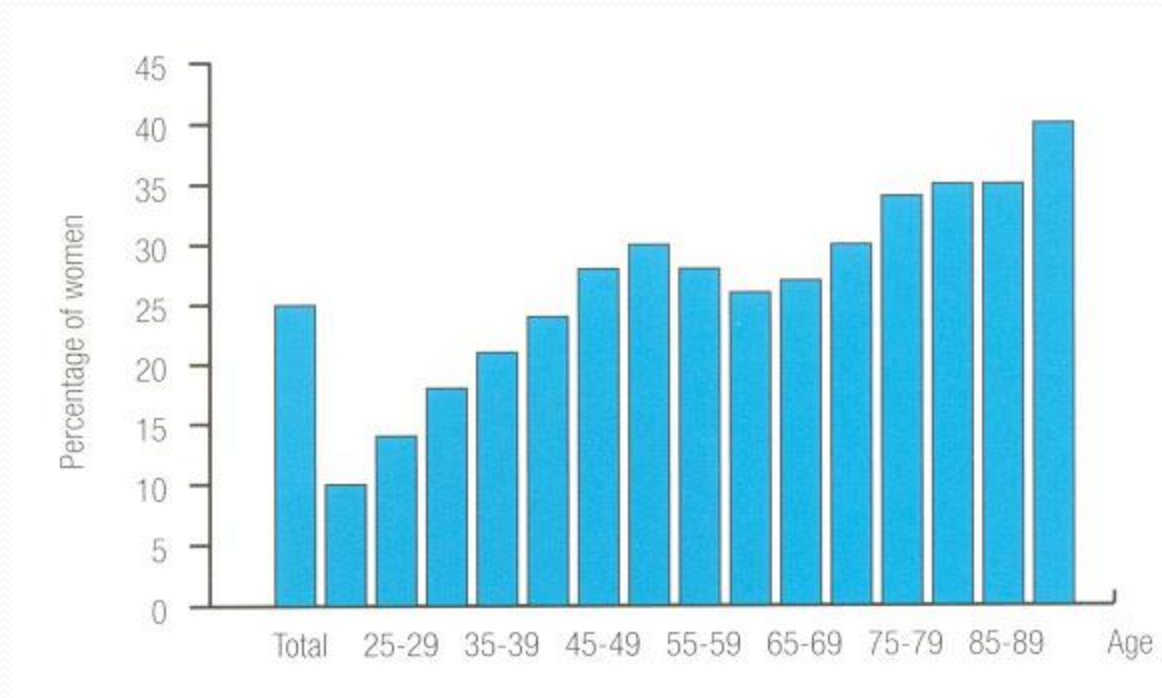
Urinary incontinence in women

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INTRODUCTION

- Approximately 13⁰% of population affected by SUI (Hannestad, Epincont Study 2000)
- Lifetime risk for surgical treatment for SUI in women: 4⁰% (Olsen 1997)
- Conservative management avoids the risks / complications of invasive procedures
- Modern procedures 'minimally invasive' with minimal complications

Prevalence



Epidemiology of urinary incontinence in Jordanian women.
Shakhatreh FM ... Saudi Med J. 2005 May.

- Sample from south of JORDAN.
- Age 50-65 years.
- Number (182).
- Results: 1/3 had urinary incontinence.
 - 23.1% had stress UI.
 - 26.4% had urge UI.
 - 18.1% had mixed type.
 - If parity >543.5%
 - If Menopause....39.7%
 - If obese..... 39.3%

Incidence of Incontinence by Type

Genuine

stress
Urge

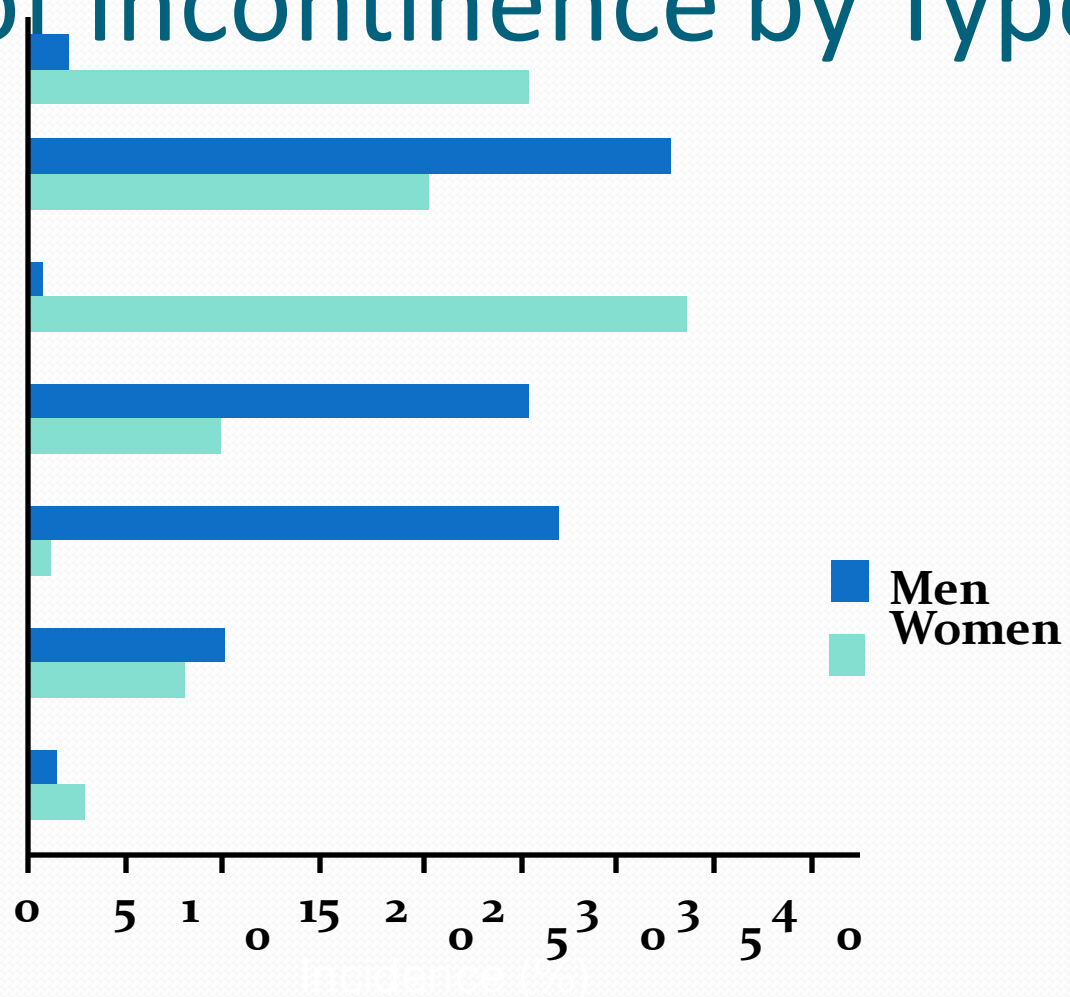
Mixed

Nighttime

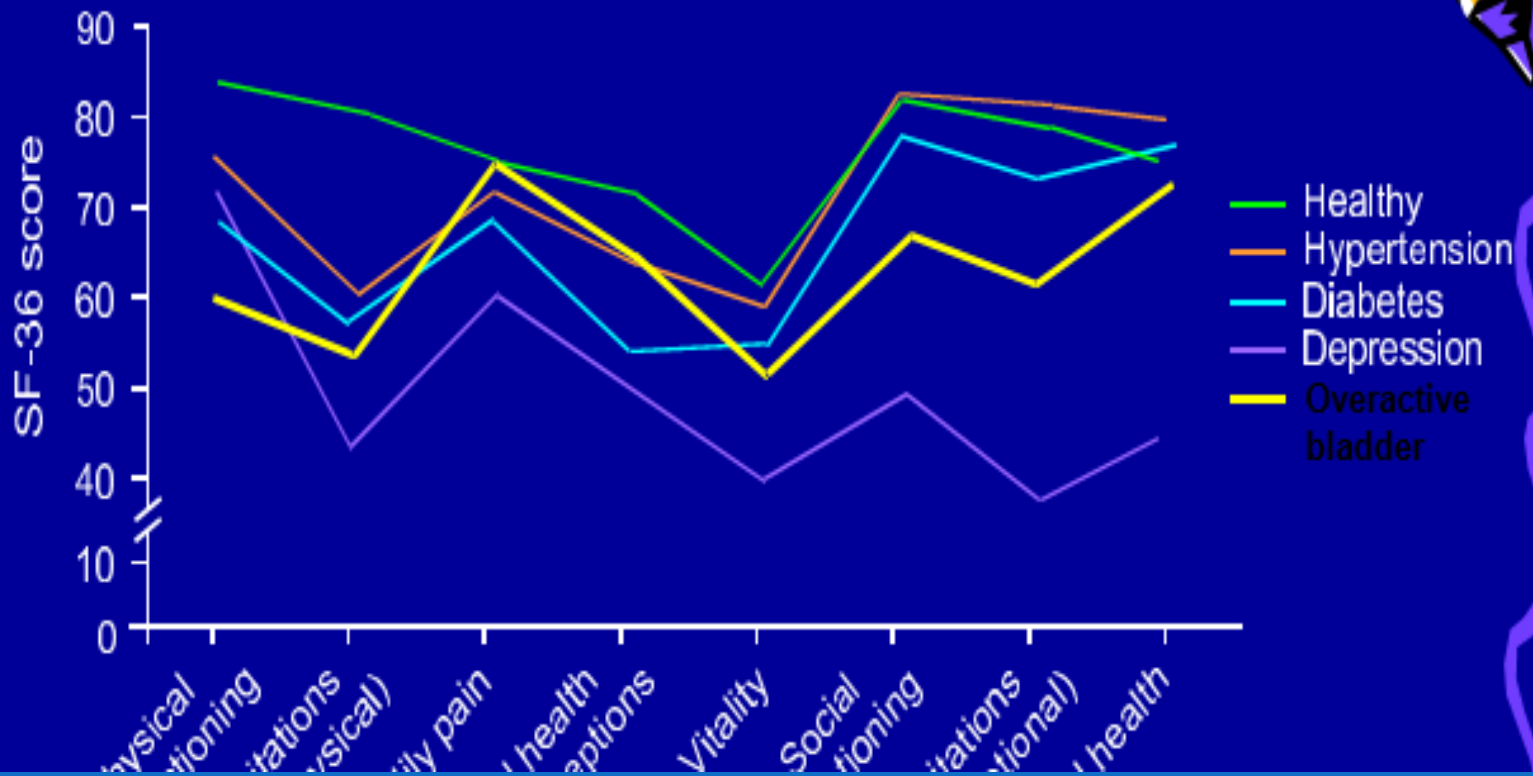
Postvoid
dribble

Continuous

Uncategorize
d

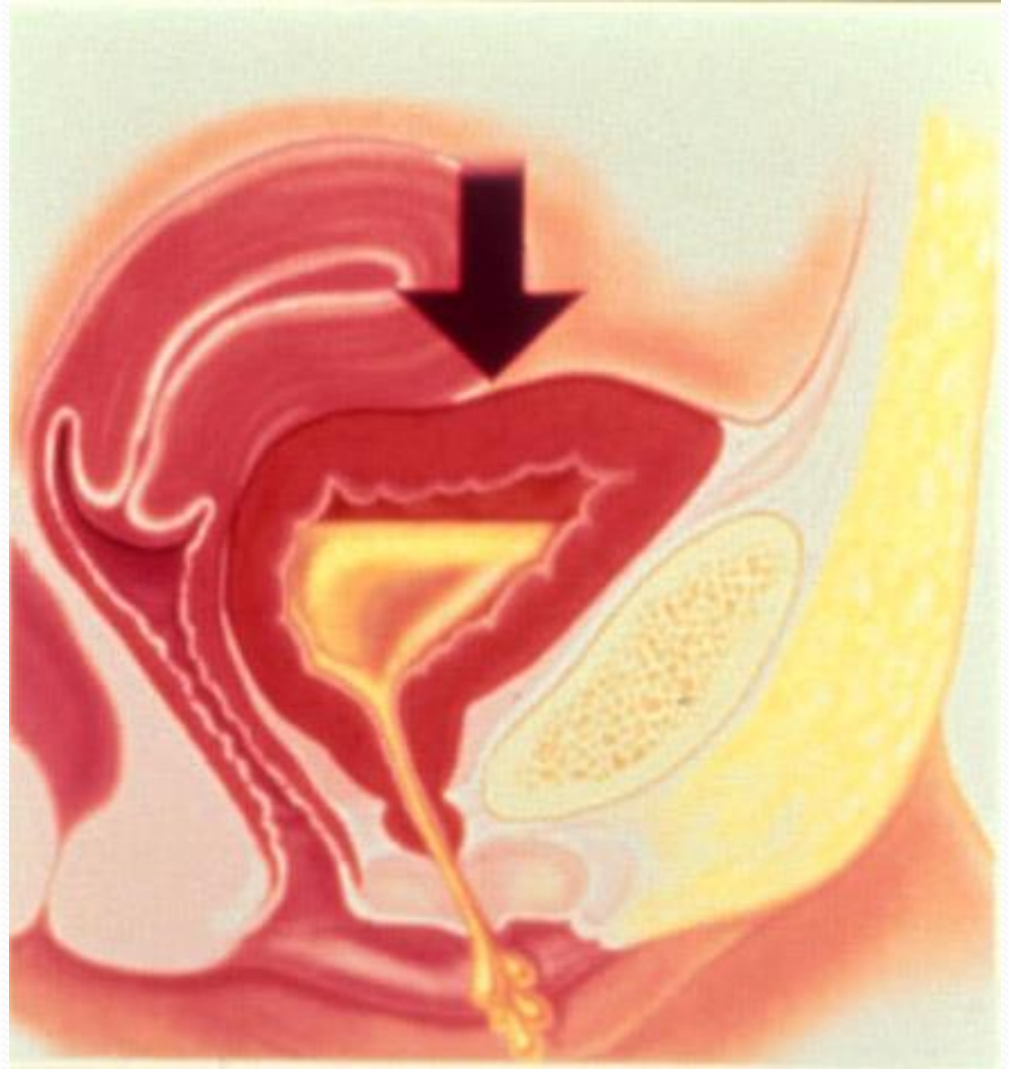


Impact on Quality of Life Compared With Other Conditions



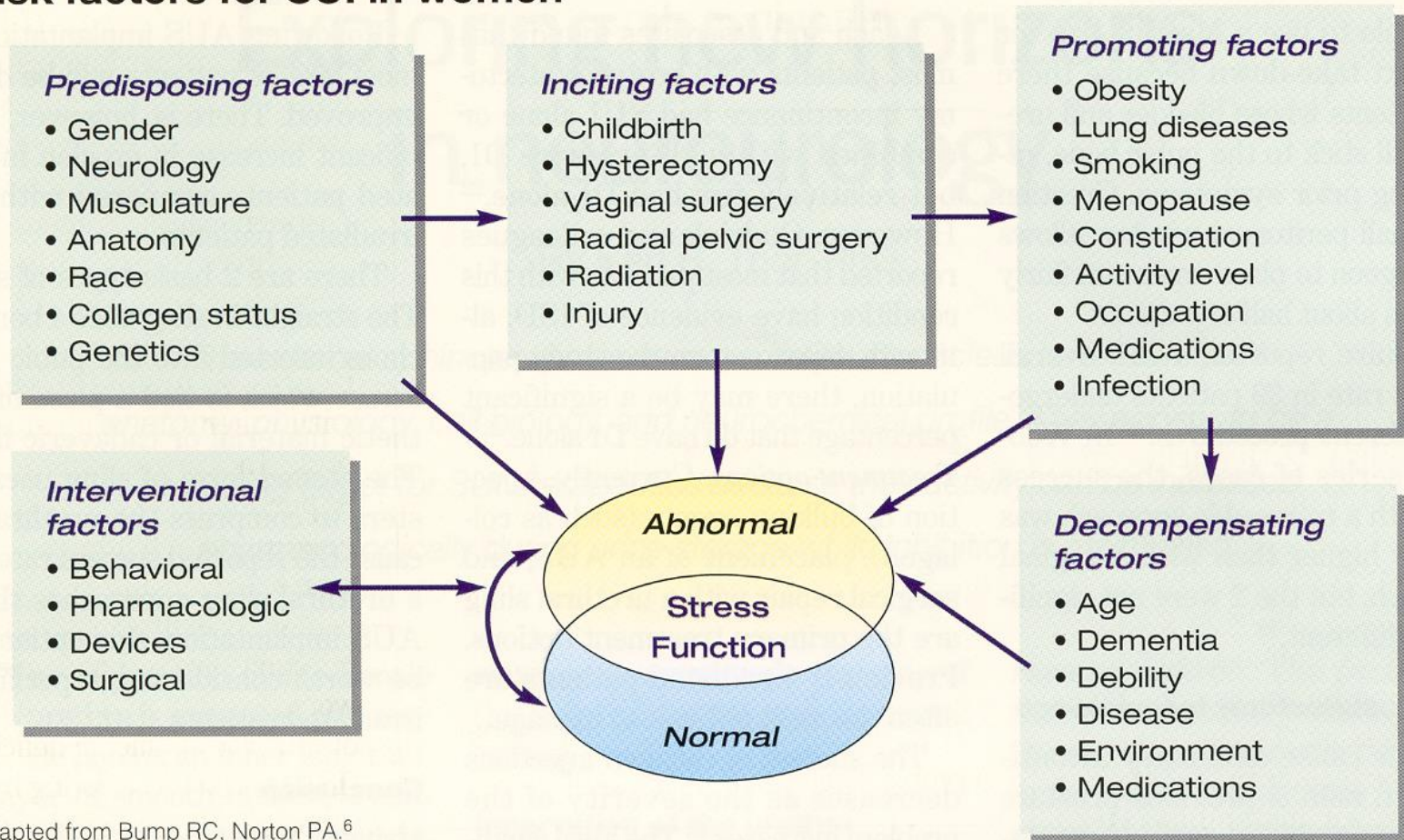
Stress Incontinence

The involuntary loss of urine during coughing, laughing, sneezing or other activities that increase abdominal pressure

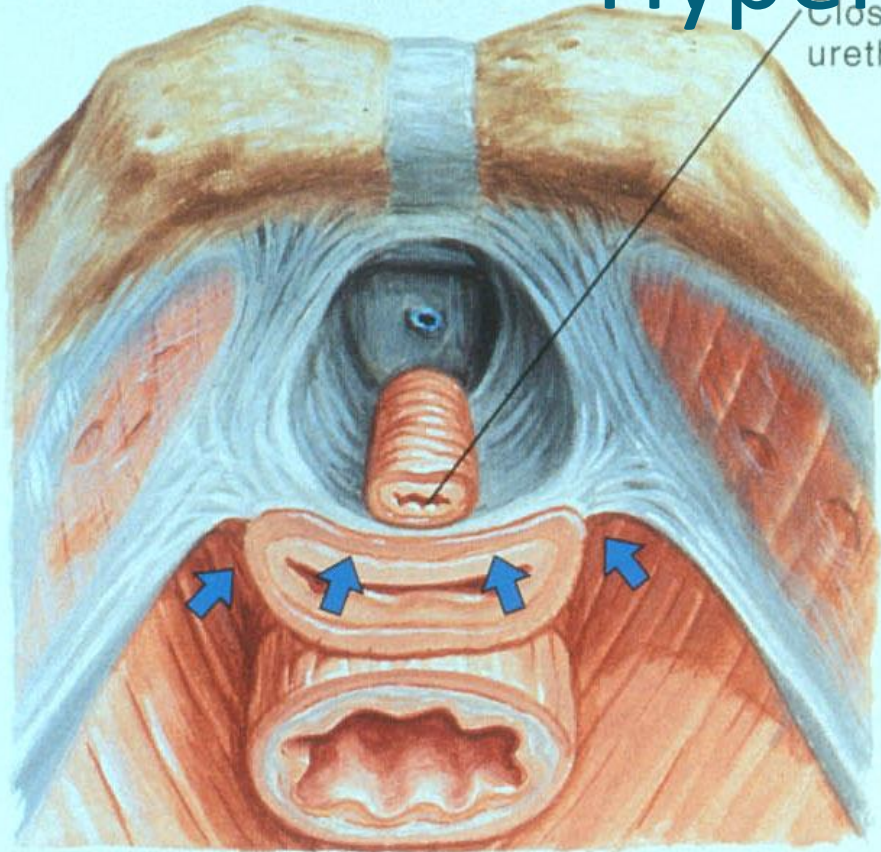


Risk factors for SUI

Risk factors for SUI in women



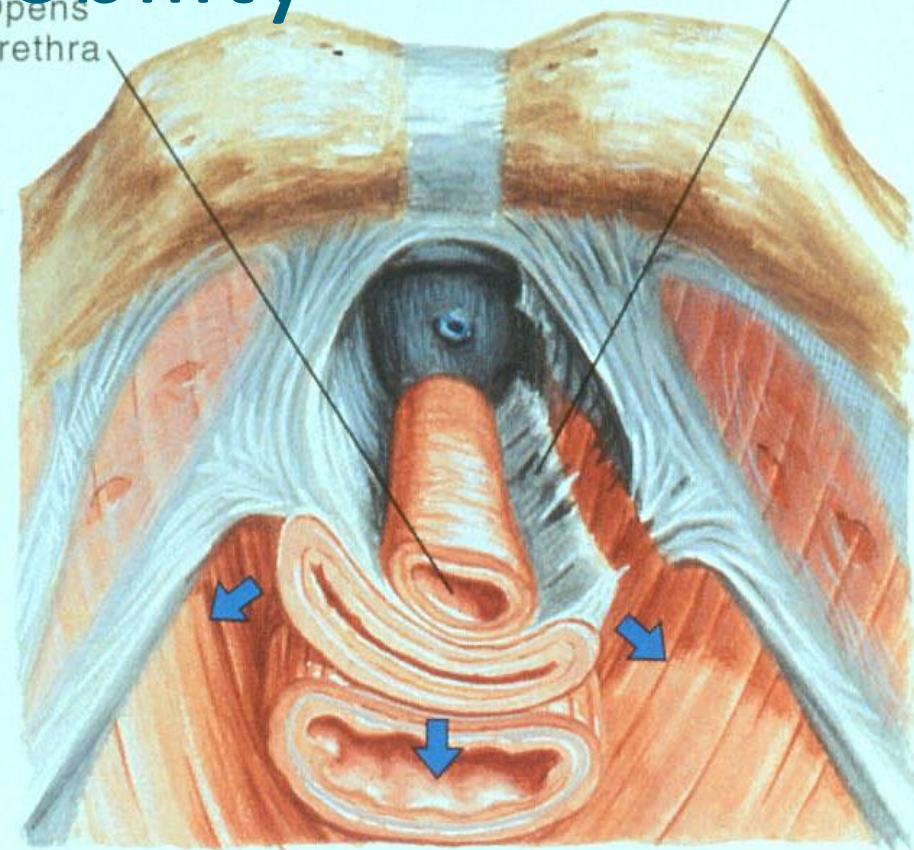
Normal pubocervical
fascial support



Increased intraabdominal pressure forces
urethra against intact pubocervical fascia,
closing urethra and maintaining continence

Hypermobility

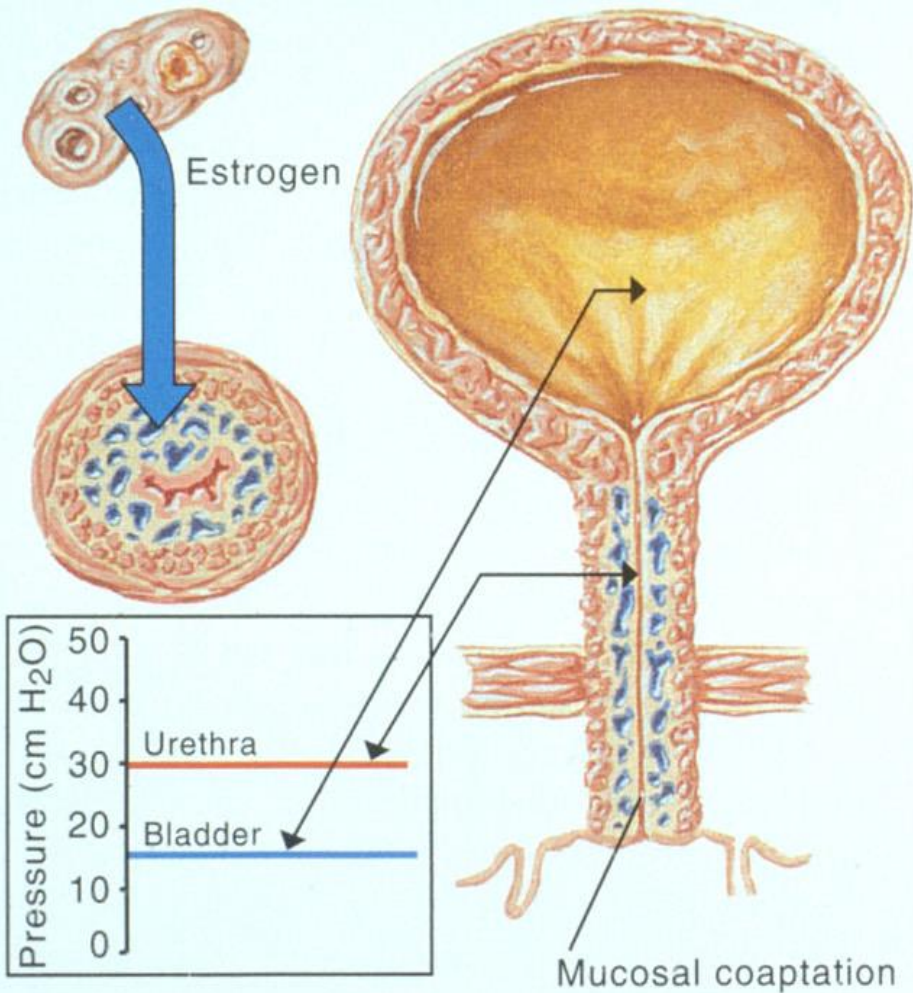
Increased pressure
Closes urethra Opens urethra



Defective fascial support allows posterior rotation
of U-V junction due to increased pressure,
opening urethra and causing urine loss

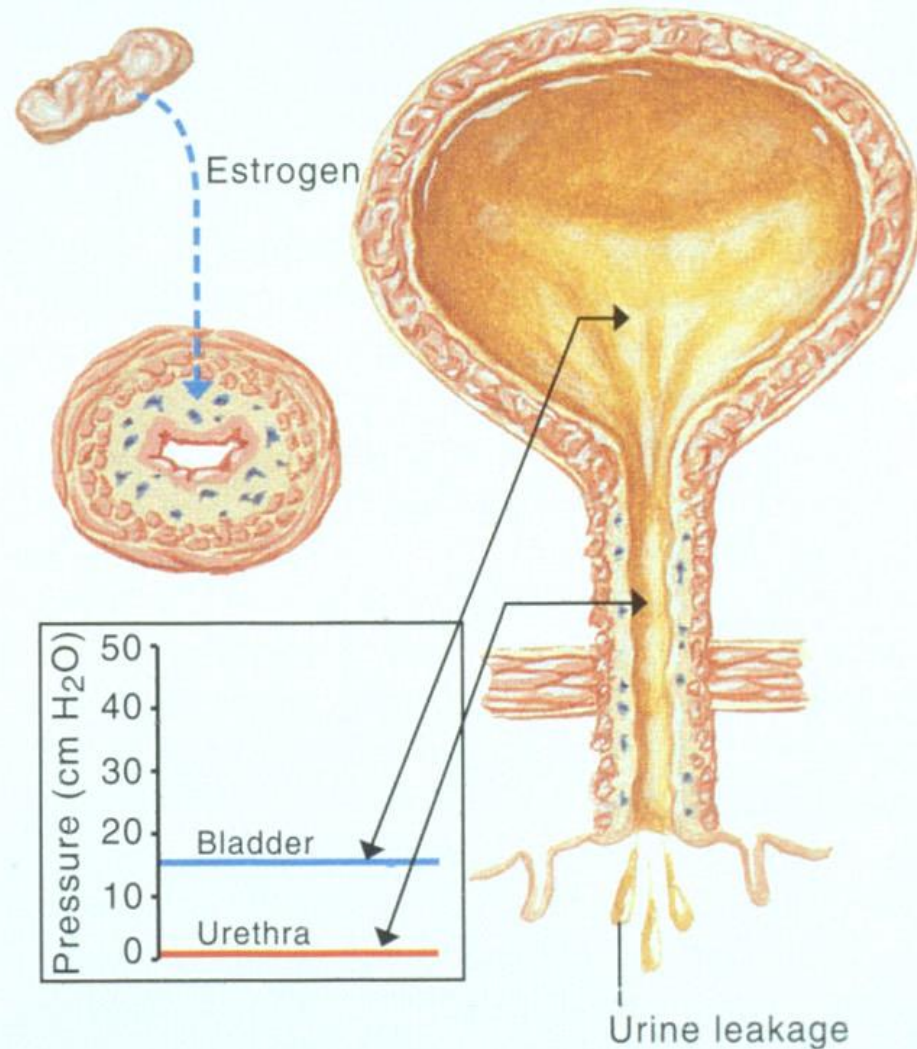
ISD (intrinsic sphincter deficiency)

Normal estrogen



Estrogen increases urethral resting pressure, making involuntary urine loss more difficult

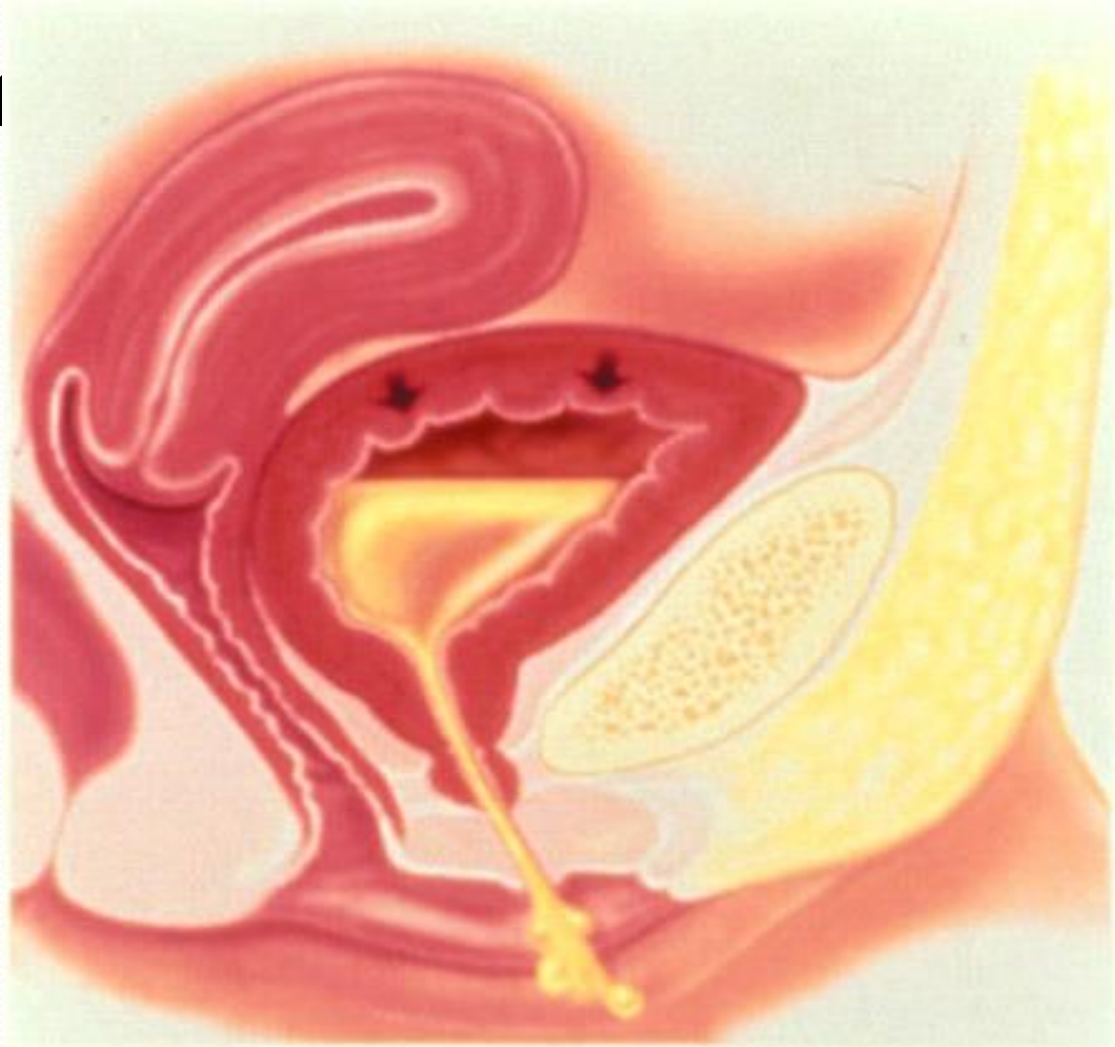
Estrogen deficiency



Estrogen deficiency decreases urethral resting pressure and facilitates urine leakage

Urge Incontinence

The involuntary loss of urine associated with the abrupt and strong desire to void (urgency)

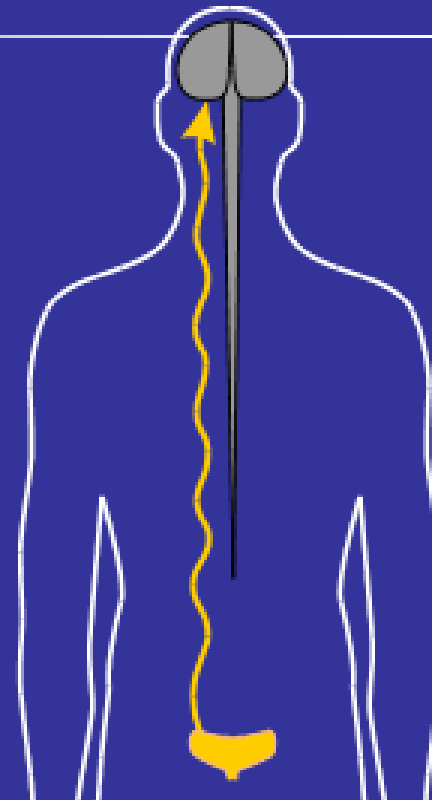
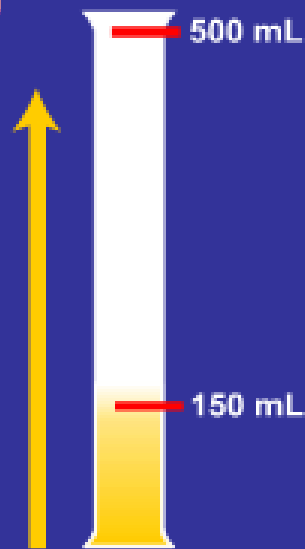


What is Overactive Bladder?

- A Symptom – based condition.
- Characterized by:
 - Increased urinary frequency
 - Urgency
 - With or without Urge incontinence

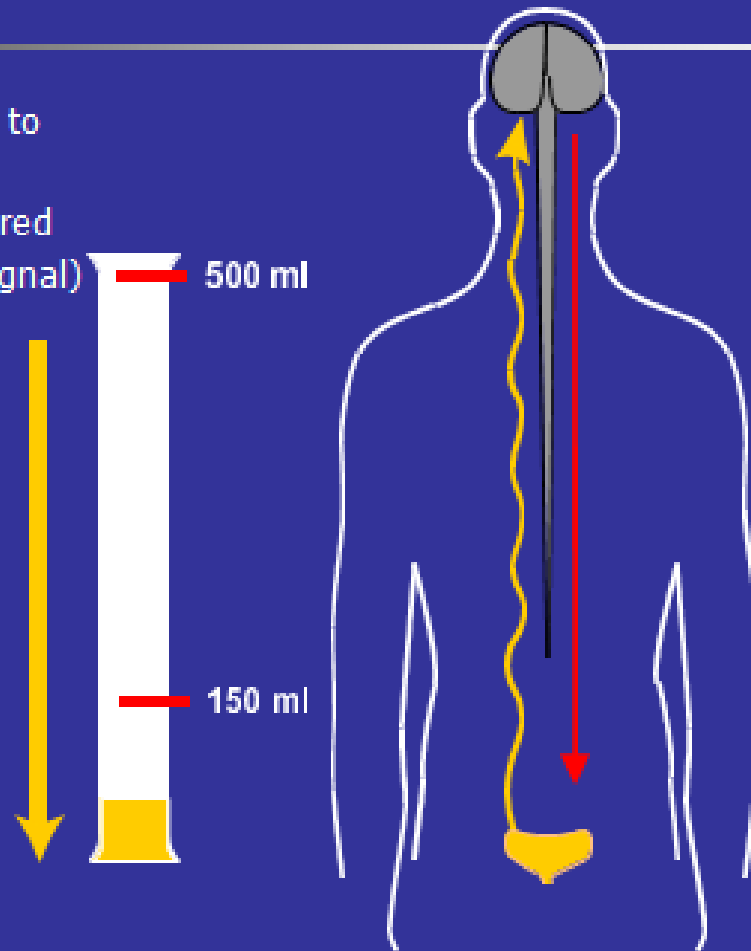
Overactive Bladder

- Sudden desire to void
- usually at low volume
- (yellow arrow)



Overactive Bladder

Patient able/unable to inhibit—involuntary voiding may occur (red arrow—activating signal)



Overflow Incontinence

The involuntary loss of urine that occurs when the bladder overfills. The bladder never empties completely, so it is constantly filling



Evaluation

History

-Nature of Incontinence

Frequency

Nocturia

Leakage with cough, sneeze or exercise

Urgency

Uncontrollable leakage

Timing

Awareness of leakage

Severity of Incontinence

Pad use and number

Past Medical History

Neurologic Conditions

Multiple Sclerosis

Spinal Cord Injury

Lumbar Disc Disease

Previous Vaginal/Bladder/Urethral Surgery

Other Pelvic Surgery

Radiation Therapy

Other Significant Disease

Obstetric History

Pelvic Exam

External Genitalia

Perineal body

Vaginal epithelium

Urethral meatus

Hyper mobility

Post – void residual

Prolapse

Urethral palpation

Stress test

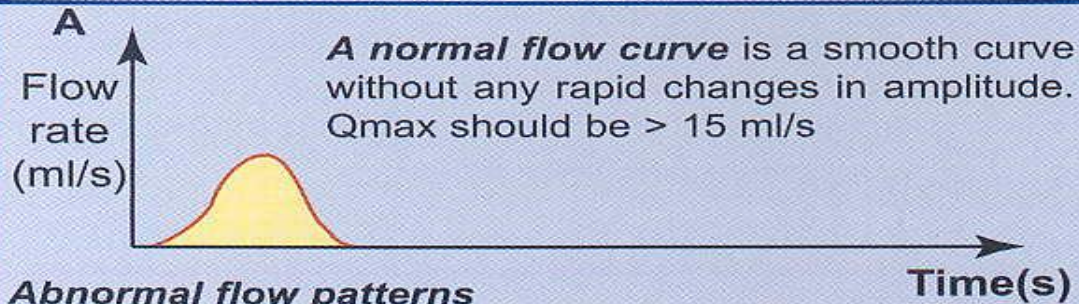
Eyeball urodynamics

Detrusor Overactivity

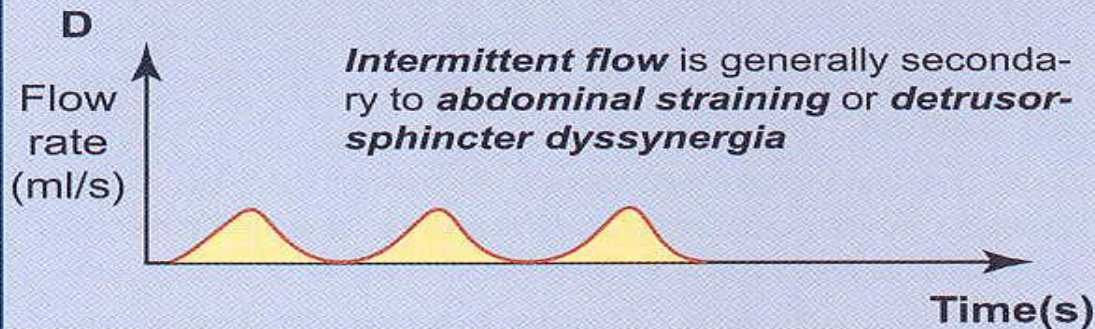
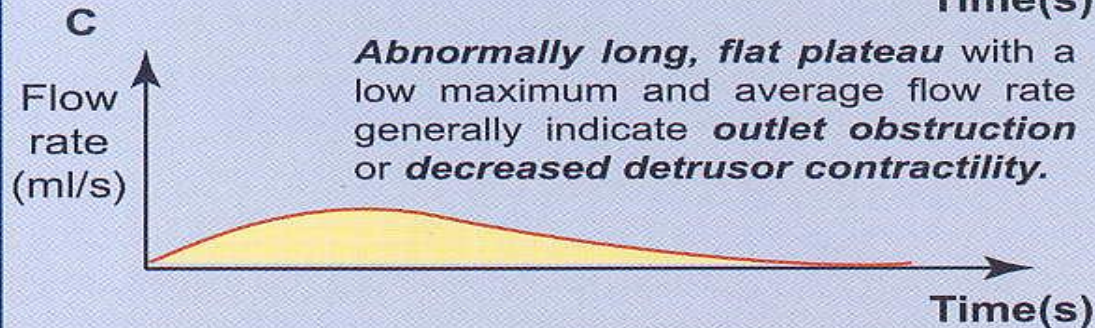
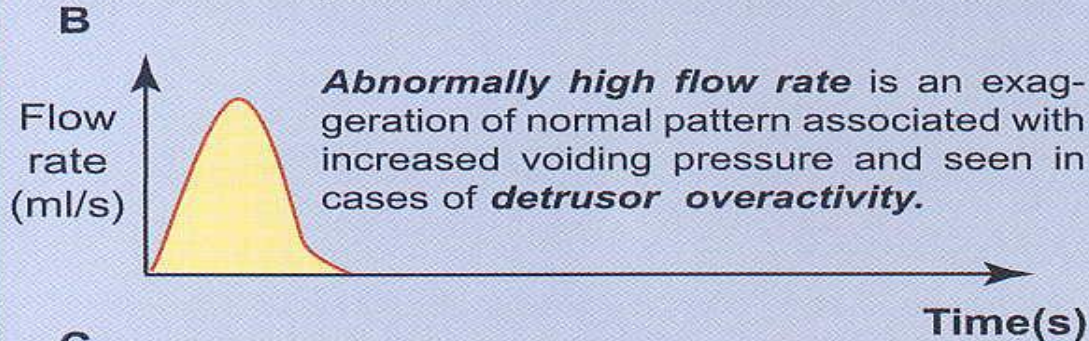
‘a urodynamic observation characterised by involuntary detrusor contractions during the filling phase which may be spontaneous or provoked’

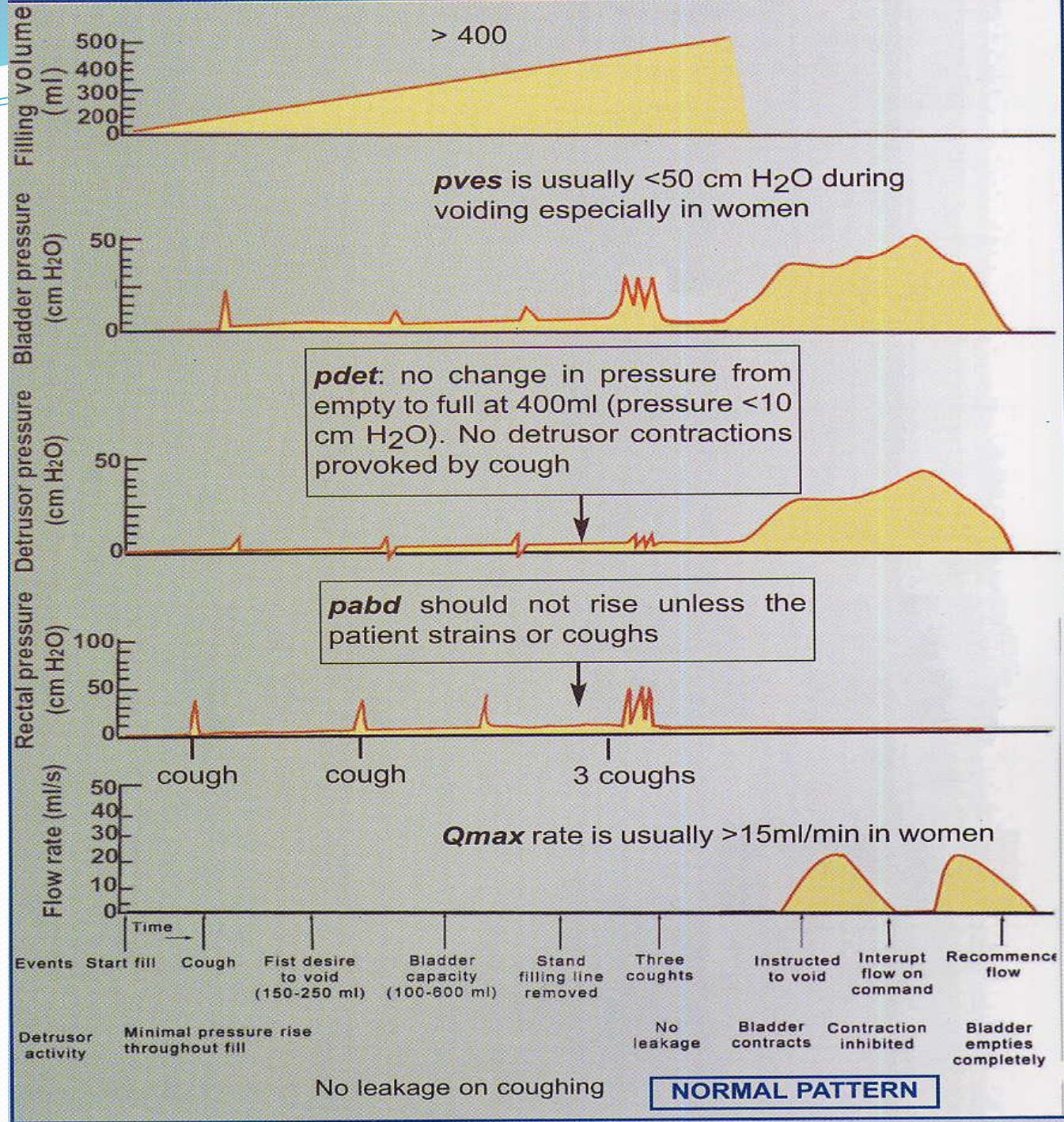
Abrams et al, 2002

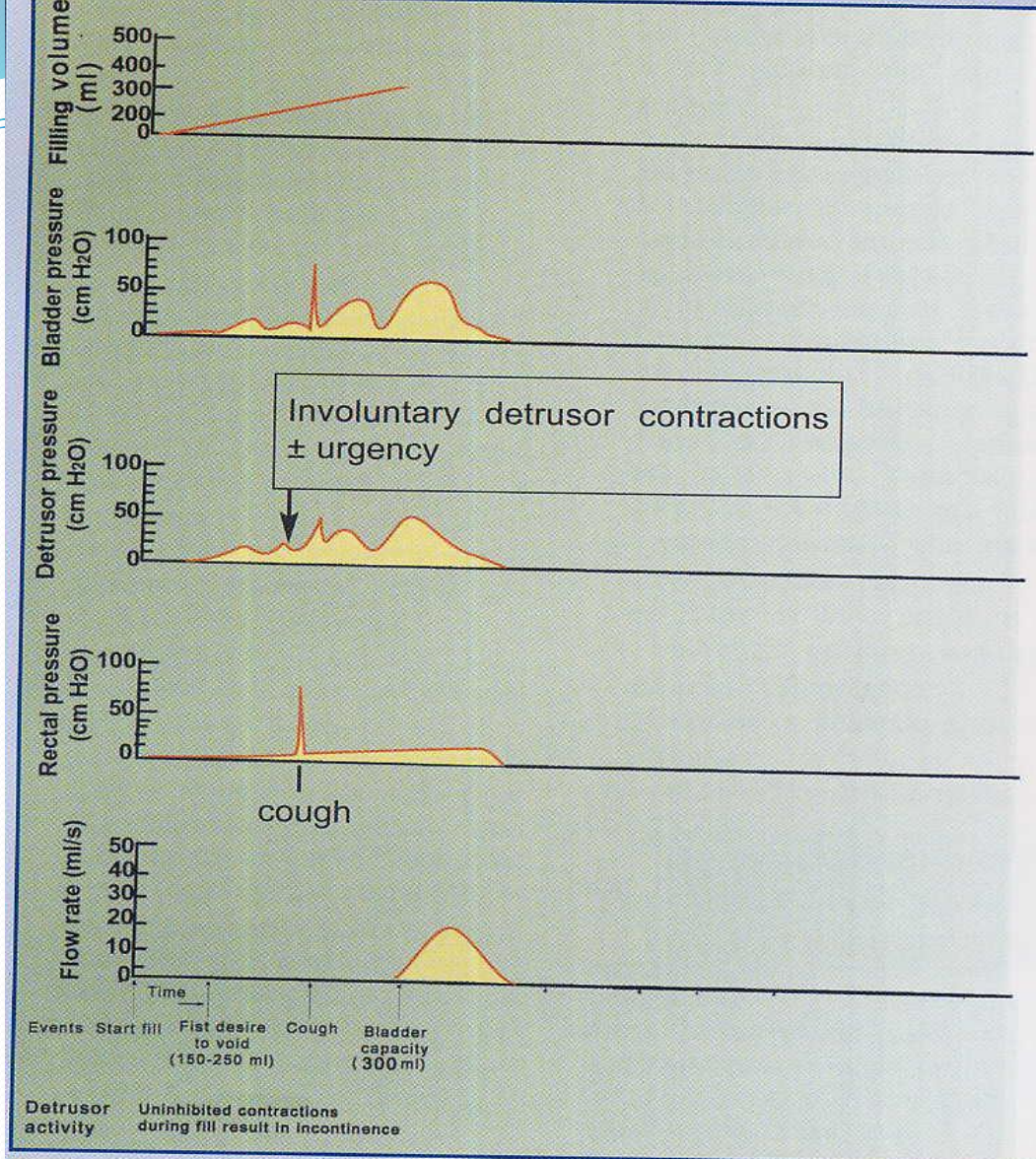




Abnormal flow patterns







- **Detrusor overactivity**

Is a **urodynamic observation** characterised, during the **filling phase**, by **involuntary detrusor contractions** which may be spontaneous or provoked in which the detrusor pressure raises and then falls possibly accompanied by a sensation of **urgency** (amplitudes less than 5cm H₂O are not meaningful).

- **Detrusor overactivity incontinence**

is incontinence due to an **involuntary detrusor contraction**. In a patient with normal sensation, **urgency** is likely to be **experienced** just before the leakage episode.

Lifestyle Intervention – Fluid Intake

- Many OAB sufferers restrict fluid intake even before presentation
- No epidemiological relationship between total fluid intake and urge incontinence

Wyman et al, 1991

- Excessive fluid intake increases frequency and urgency
- Risk of UTI and worsening constipation with fluid restriction

Lifestyle Intervention-Caffeine

- High caffeine intake is an independent risk factor for detrusor overactivity

Arya, Myers et al, 2000

- Tea drinking (but not coffee) epidemiologically associated with all forms of incontinence

Hannested et al, 2003 (EPINCONT)

- Caffeine intake pre-urodynamics associated with an increase in cystometric filling pressures

Creighton, Stanton et al, 1990

4th ICI – Weight Reduction

- Obesity is an independent risk factor for urinary incontinence
- Level 2 evidence that weight loss decreases incontinence in morbidly obese women
- Level 1 evidence that weight loss also effective for moderately obese women

Weight Reduction

- 5-10% weight loss effective for both stress incontinence and OAB for women with moderate obesity

Subak, Johnson et al, 2002

- Significant improvements both in pad weights and KHQ scores with 10% weight loss

Auwad, Bombieri and Freeman, 2005

Bladder Drill

- Exclude pathology
- Set target time
- Patient cannot use the toilet until target time reached
- When goal met, increase time
- Normal fluid intake
- Fluid balance chart

Pelvic floor exercises for OAB

- Many RCTs assess pelvic floor exercises in stress incontinence
- No RCTs specifically address urge incontinence
- Improvements seen in most trials for subgroups of women with mixed incontinence
- No evidence of harm
- The 4th International Consultation on Incontinence concluded that pelvic floor exercises should be offered as a first line therapy in all patients with mixed or urge incontinence

Conservative Therapy – Conclusions

- Bladder retraining should be considered in all patients with OAB
- Weight loss may be effective in overweight and obese women
- Pelvic floor exercises are probably of benefit, at least for mixed incontinence
- Other therapies have high relapse rates, and may have a significant placebo component

Antimuscarinic Agents

After lifestyle changes, antimuscarinic agents are the most common and currently the most widely used therapy for OAB syndrome.

Andersson, 2004

Antimuscarinics

- reduce intra-vesical pressure
- increase compliance
- raise volume threshold for micturition
- reduce uninhibited contractions

Abrams et al, 2002

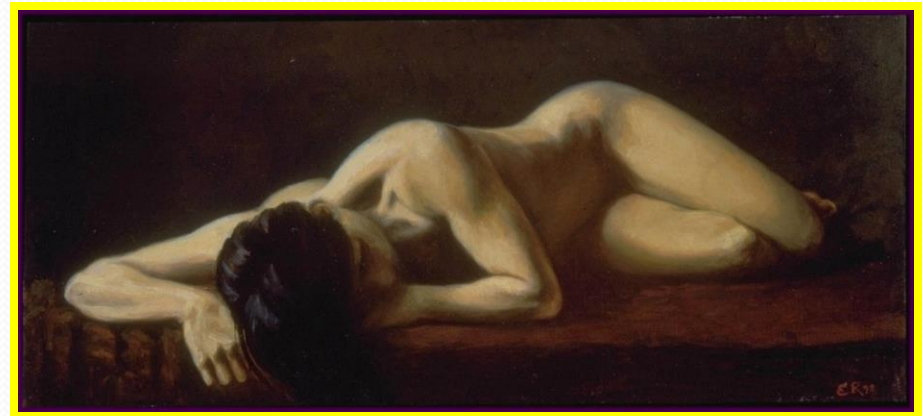
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4th International Consultation on Incontinence

Drug	Level of evidence	Grade of recommendation
Darifenacin	1	A
Oxybutynin	1	A
Propiverine	1	A
Solifenacin	1	A
Tolterodine	1	A
Trospium	1	A
Fesoterodine	1	A

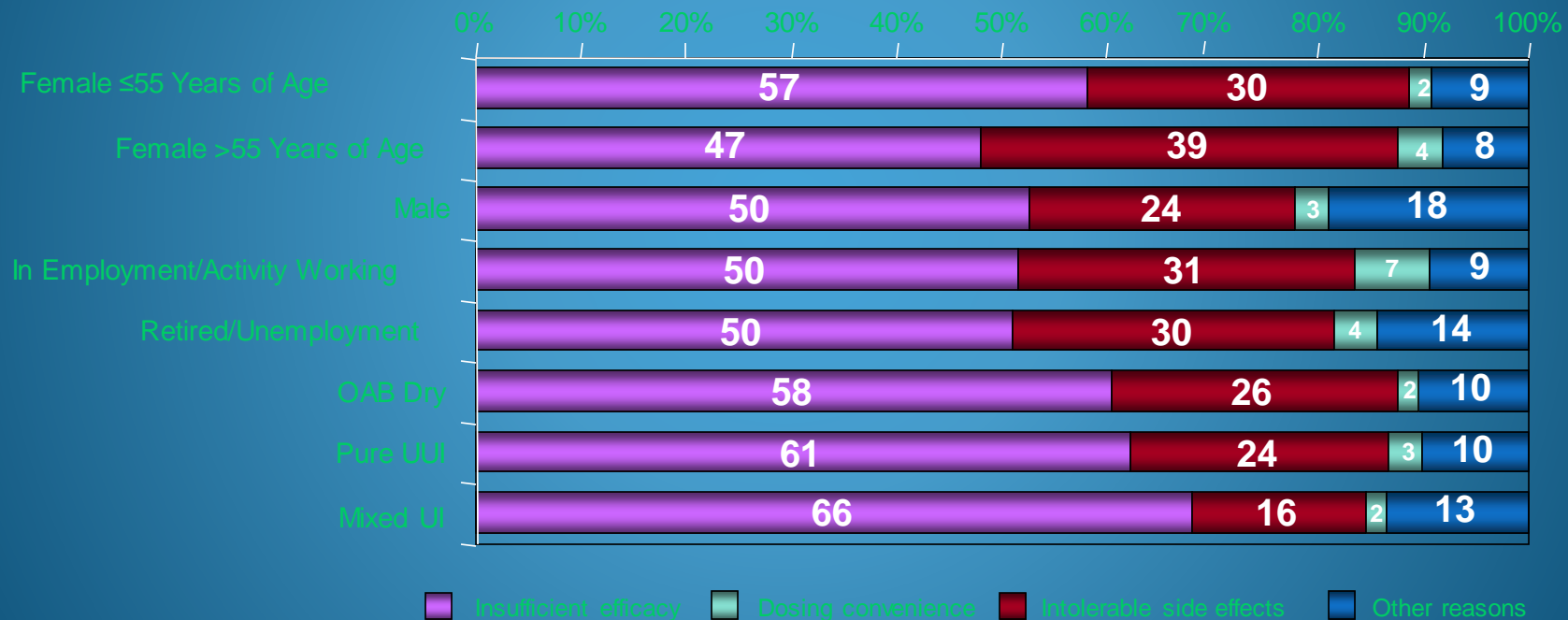
Antimuscarinic Side Effects

- Dry mouth
- Constipation
- Blurred vision
- Somnolence



Why Do Patients Stop Taking Antimuscarinic Therapy?

Lack of efficacy is the major reason for failure of first-line antimuscarinic therapy:



SURGERY

- THERE ARE MORE THAN 100 OPERATIONS DESCRIBED FOR USI.
- THE MECHANISM OF CURE IS NOT WELL KNOWN.

Objective surgical cure rates for GSI

Procedure	Objective
MMK	443 (69%)
Colposuspension	2300(84%)
Needle	729 (70%)
Sling	720 (85%)
Kelly type	490 (42%)
Injectables	133 (60%)
TOTAL	4815

Jarvis 1994 Meta-analysis

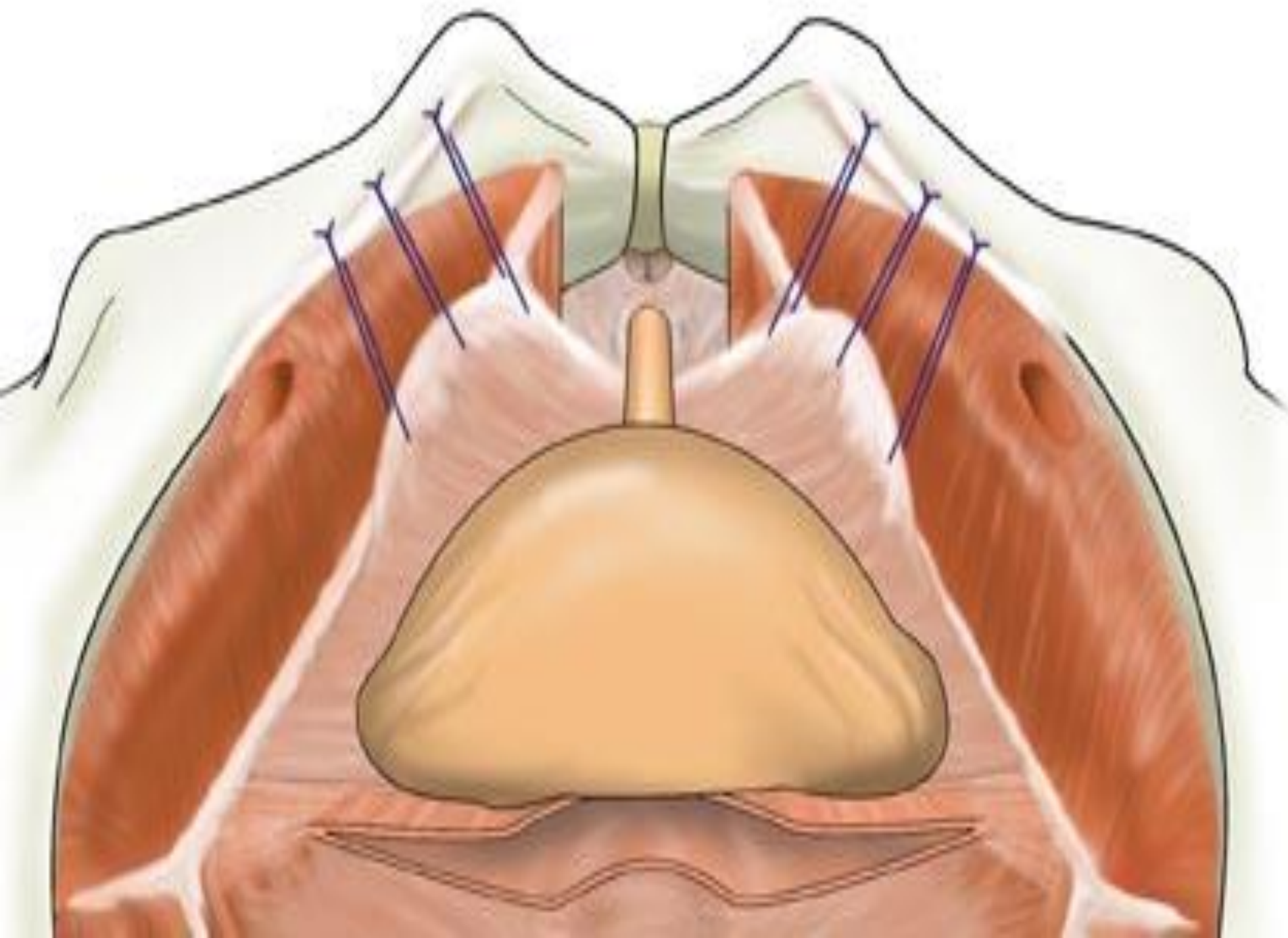
Burch Colposuspension Laparoscopic vs. Open

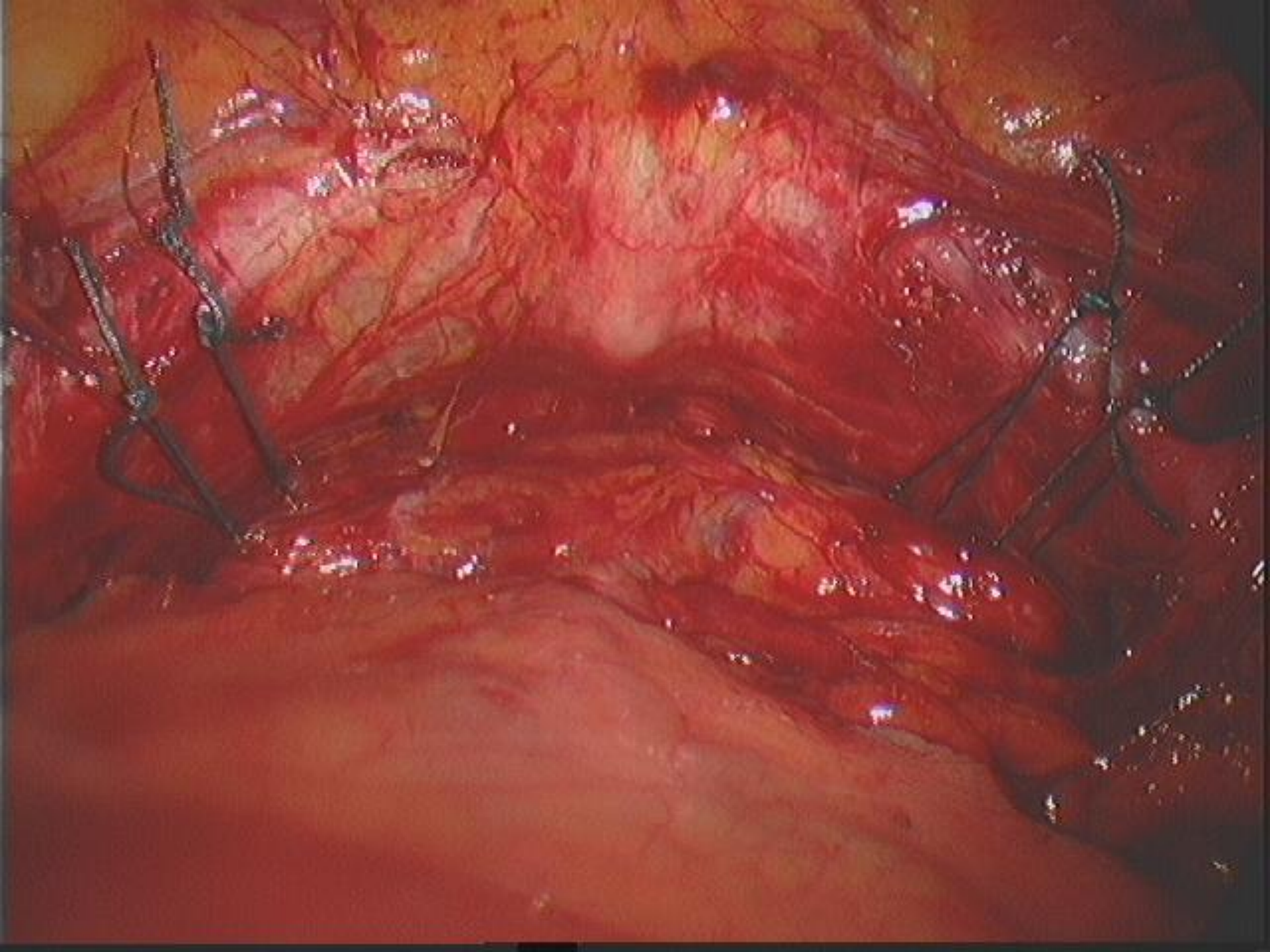
The Cochrane Review - Ellis et al. 2008/ 1

- Outcome equally good
- No significant difference for postop. urgency, voiding dysfunction or de novo DO

Is there still a place for Burch colposuspension in 2010 ?

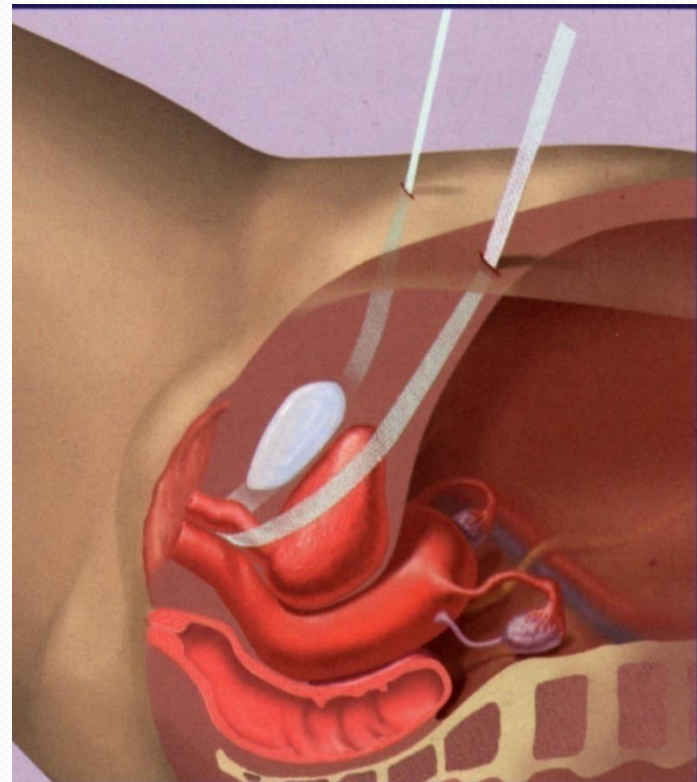
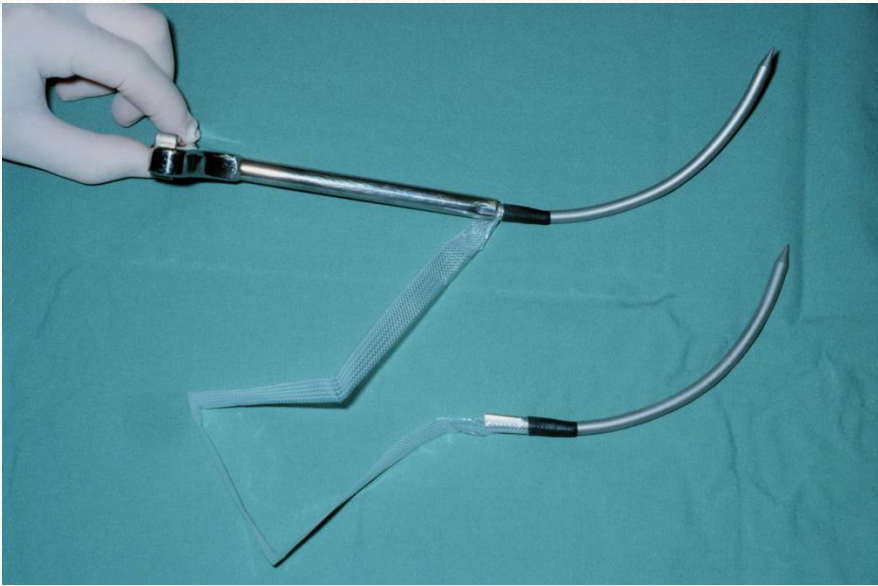
- SUI, when laparotomy necessitated by other pathology
- ??? Not justified to do laparotomy for SUI





Tension Free Vaginal Tapes

Ulmsten & Petros 1995



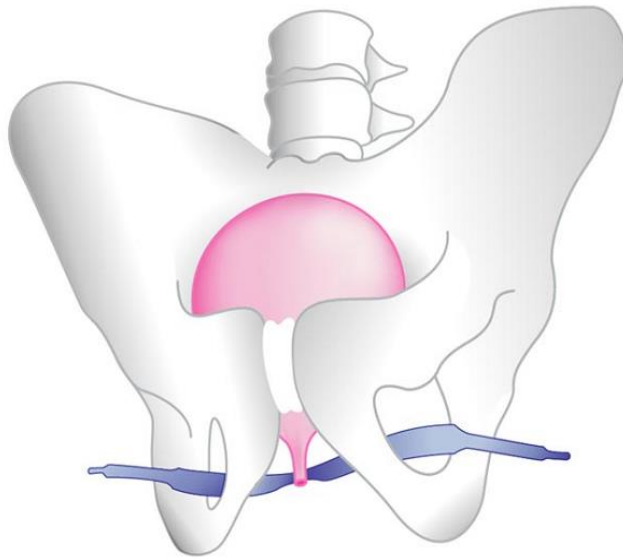
Tension-free vaginal tape TVT



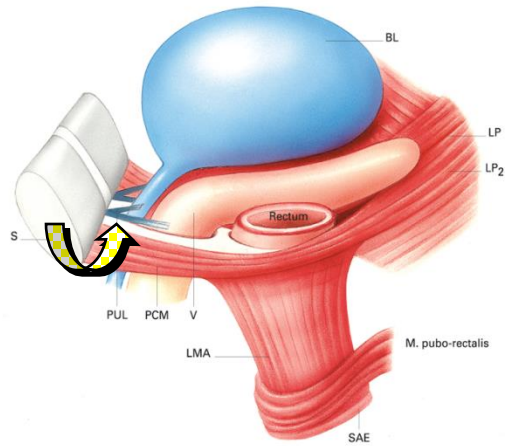
- Cohort analysis demonstrates efficacy rate of 80% cure and 94% improvement (Level 2)
- RCTs suggests equal success rates to colposuspension (Level 1/2)
- Reduced surgical morbidity (Level 1/2)

Transobturator suburethral tape (TOT)

Delorme 2001

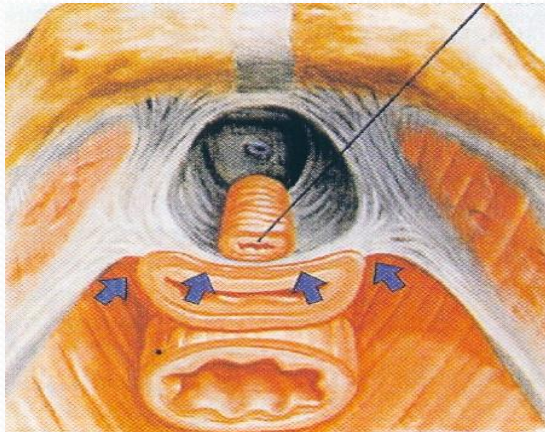


- Tape runs through both obturator foramina
- Cystoscopy not necessary (bladder perforation unlikely)



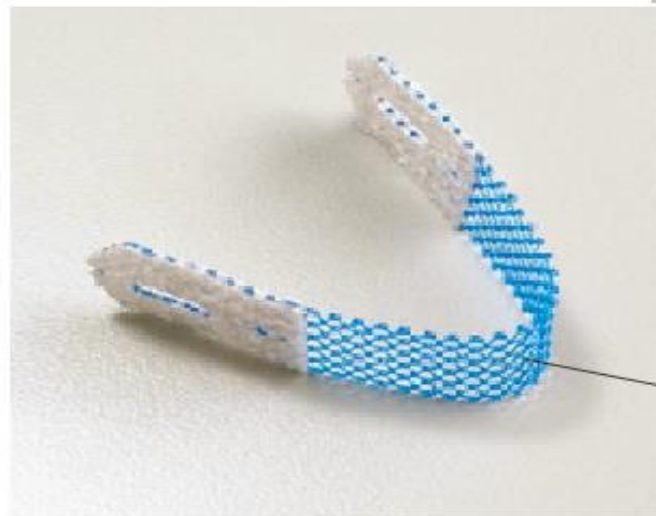
TOT – MODE OF ACTION

- Support of the mid portion of the urethra forming a sort of hammock
- Forces against this hammock determine urethral compression
- This mechanism prevent stress urinary incontinence



Single Incision Slings

1st GYNECARE TVT SECUR System
then many other launched on the market
(AMS, Bard, Neomedics etc)



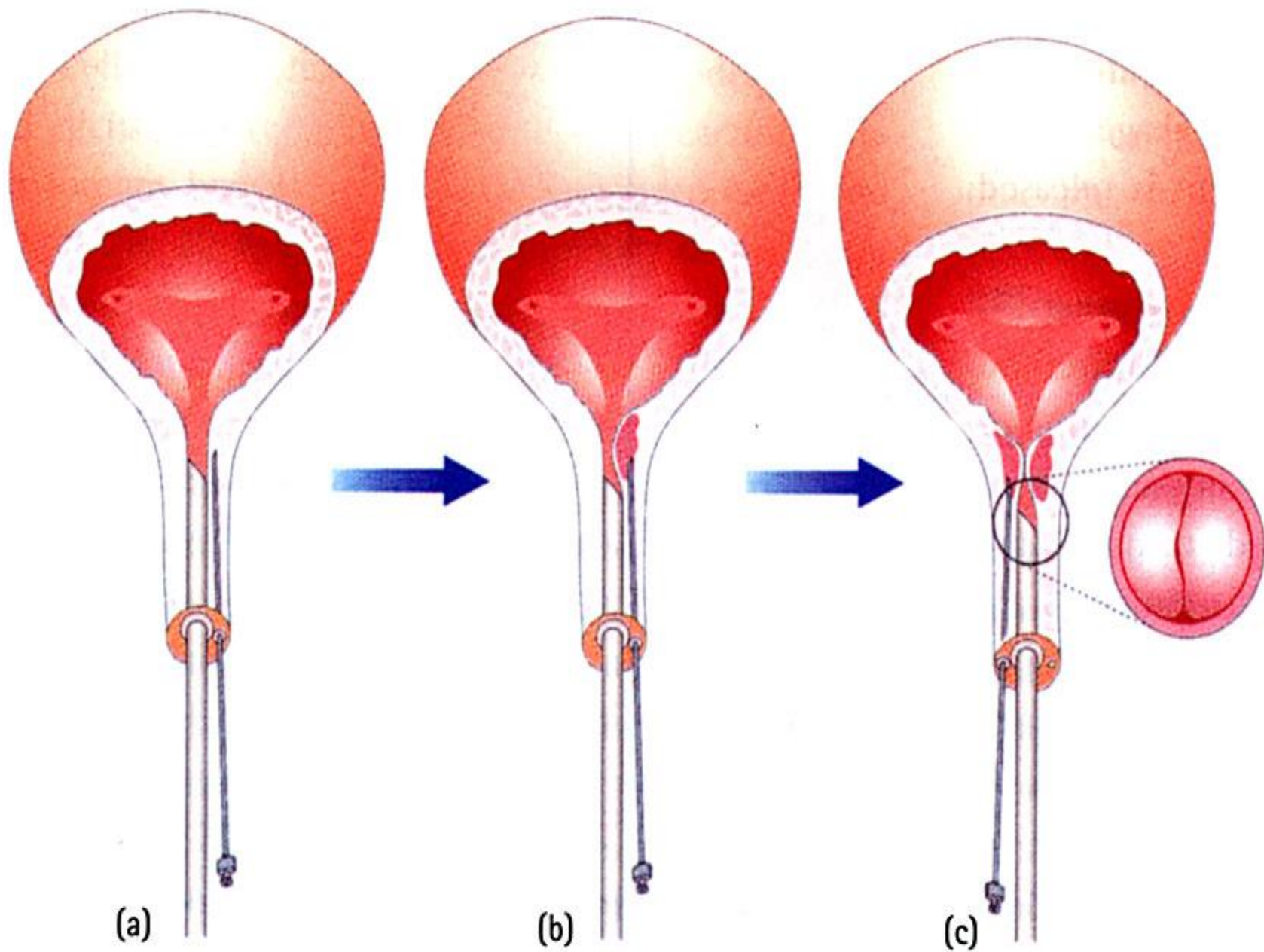
Mesh Implant

SINGLE INCISION SLINGS

- Still lack of evidence based data
- To be used in clinical trials

URETHRAL BULKING AGENTS

- Rather expensive with transient cure rate
 - 50% after 2yrs
- Problems: acute retention (2%), bovine collagen allergy, urgency (13%)



HOW DO WE AVOID INJURIES / COMPLICATIONS?

1. Know the anatomy well
2. Good training: Observe / Assist
 - Perform 10-15 under supervision
 - Independent practice with review
 - Cystoscopy
3. Do procedures regularly: skills retention
4. Follow rules: Cystoscopy
 - Tape tension adjustment
 - Position needles carefully
5. Refer difficult cases to Tertiary Centre/ Urogynaecologist

MINIMIZING COMPLICATIONS, MAXIMISING SUCCESS

- Correct indications
- Urodynamic studies
- Competent surgeon
- Well-trained in procedure
- Can manage complications with confidence



THANK YOU