W28: Current Nursing Management of Incontinence (Free Workshop)

Workshop Chair: Sandra Engberg, United States

21 October 2014 09:00 - 17:00

Start	End	Topic	Speakers
09:00	09:15	welcome and introductions	All
09:15	10:00	Update on Urinary catheters and self-care	• Mary Wilde
10:00	10:30	Case study for urinary catheters	• Gisele Azevedo
10:30	11:00	Break	None
11:00	11:30	POPQ technique to assess prolapse	• Ricardo Reges Maia de Oliveira
11:30	12:00	Case study for prolapse	• Maria Helena Baena de Moraes Lopes
12:00	14:00	Break	None
14:00	14:30	Acupuncture for UI	• Sandra Engberg
14:30	15:30	Pessaries	• Margaret Wilson
15:30	16:00	Break	None
16:00	17:00	Nursing management of neurogenic UI and FI	• Tamara Dickinson
17:00	17:30	Case study for neurogenic UI and FI	• Tânia Lima
17:30	17:40	Closing remarks	All

Aims of course/workshop

The objectives of this workshop are to discuss current, evidence-based approaches to nursing and conservative management of some of the most common incontinence problems that is enhanced by delegate participation, interaction and case studies.

Update on Urinary Catheters and Self-Care

Workshop: Nursing Management of Incontinence

International Continence Society Annual Meeting

Rio De Janeiro, Brazil 2014

UNIVERSITY of ROCHESTER MEDICAL CENTER | SCHOOL OF NURSING

Objectives

1. Evaluate practice related to short term urinary catheter use in acute care settings.
2. Describe best practices for management of long-term indwelling or intermittent catheters.
3. Identify self-care issues and needs of both indwelling and intermittent catheter users.

Indications: hospitalization, post operative, monitoring intake and output

SHORT-TERM CATHETER USE IN ACUTE CARE

Short term use- less than 1 months' expected use

- Can be longer, failing trial without catheter

Catheter sizes

- 12-16 Fr for men and 12-14 Fr for women.
- Children: 5-6 Fr for newborns ; 5-10 Fr toddlers to children to age 12

Balloons 5-10 mL. (30mL only for postop bleeding), 2.5-5mL for children

(WOCN, Indwelling Urinary Catheters, Best Practices for Clinicians, 2009)

Coated catheters

Silver alloy—(not silver oxide) can decrease bacteria in urine for short-term use up to 2 weeks

Coated catheters (including antimicrobial) do not prevent symptomatic CAUTI

(Parker et al. 2009; Shumm & Lam, 2008 ; Wilde & Zhang, 2013)

Drainage bags

Closed drainage essential in acute care, short term use

- Only proven method of decreasing UTI (Kunin & McCormack, 1966)

Overnight (2000-4000mL); Leg bags (270-1000 mL.); Belly bag (normal bladder pressure) (WOCN, Indwelling Urinary Catheters, 2009)

No evidence that connecting a catheter to a leg bag continuously, then hooking up an overnight bag is beneficial (Cottenden et al. 2013)

Catheter securement (anchoring)

Nurses often recommend but not use it: Of 82 nurses (8 continence specialists), 98% recommended but only 4% used it. (Siegel, 2006)

Could prevent dislodgement and urethral/bladder neck trauma

- Adhesive—good for those likely to dislodge but irritating to skin
- Non-adhesive—need to prevent constricting circulation (Wilde & Feng, 2013)

Decreasing catheter use/duration

THE KEY to preventing CAUTI in acute care

25% in hospital will have urinary catheter (Saint & Chenowith, 2003)

Medicare no reimbursement CAUTI hospitalization

(Saint et al., 2009)

Catheter bundles to address CAUTI

Insertion Bundle:

Order for insertion: (CDC Indications)

Closed drainage system

Smaller size urinary catheter preferred (e.g., 12-14). Larger sizes put in only by urologist

Strict hand hygiene

Strict aseptic technique for insertion

Secure urinary catheter to patient thigh or abdomen.

Document insertion date and urinary catheter size.

Maintenance Bundle:

Assess daily for continued need and document.

Consider alternatives e.g., condom (sheath, external) catheter, straight catheter, or bladder training program.

Pericare daily and after each bowel movement.

Drainage bag and tubing below level of the bladder and off the floor.

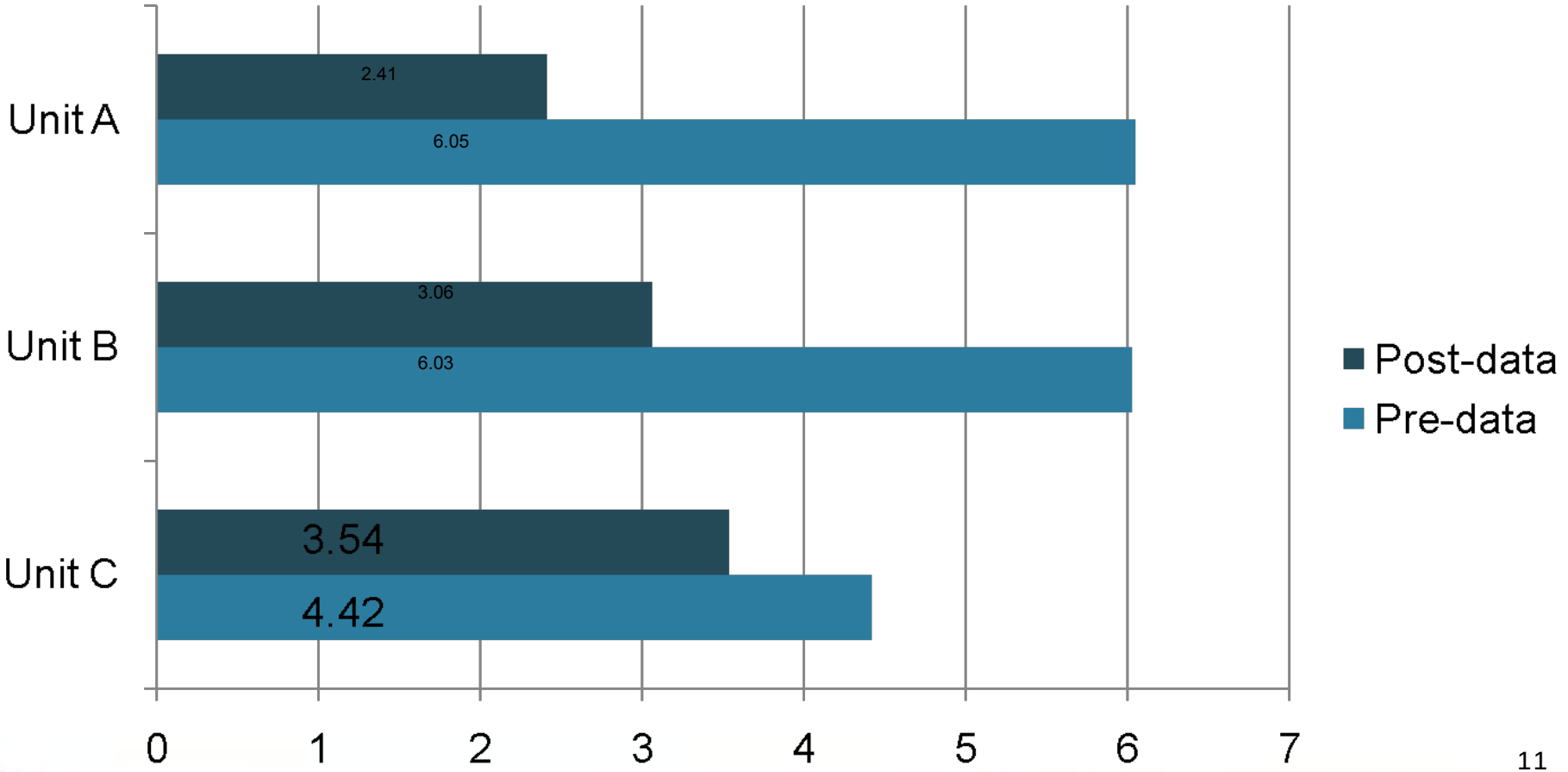
Confirm presence of securing device every shift.

No kinks in drainage tubing

Do not clamp > 2 hours for specimen collection.

For C&S sample, cleanse sampling port vigorously with alcohol and allow to air dry; label sample as “catheter obtained.”

Example of Bundle: Catheter use decreased by 56% in three weeks



Conclusion of Catheter Bundle

Uses evidence based clinical guidelines.

Computer documentation/orders help make providers and nurses aware.

Organizational support is essential.

Andreessen, L., Wilde, M. H., & Herendeen, P. (2012). Preventing catheter-associated urinary tract infections in acute care: the bundle approach. *Journal of Nursing Care Quality, 27*(3), 1-9. DOI: 10.1097/NCQ.0b013e318248b0b1

Indications: Persistent retention, cannot perform intermittent catheterization, difficulty using toilet **& cannot manage any other way**

LONG-TERM INDWELLING CATHETER SELF-MANAGEMENT

Indwelling catheter problems

UTI, blockage, dislodgement, leakage

(Wilde et al., 2013)

Excess health care costs

Recurrent problems affect the urinary tract over time, UTIs, trauma, strictures (WOCN 2009)

Complications affect quality of life

Key catheter problems in past two months (Wilde et al. 2013)	Percent %
UTI	31
Blockage	24
Dislodgement	12

Other catheter problems	Percent %
Leaking	43
Sediment	63
Kinks/twists	20
Bladder spasms	36
Autonomic dysreflexia	13

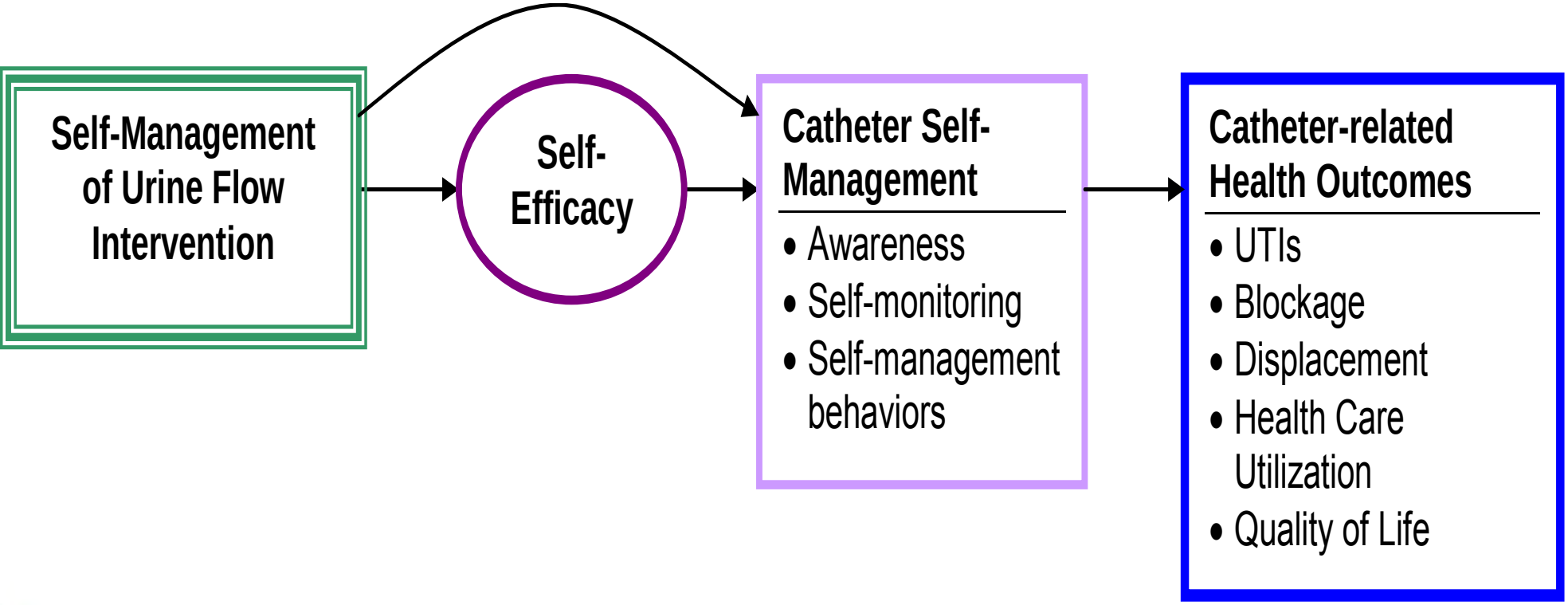
Treatments (Wilde et al. 2013)	UTI	Blockage
	Percent %	Percent %
Extra home nurse visit	19	30
Extra office visit	25	23
Emergency department	**35**	**19**
Hospitalized	**27**	
Catheter changed	65	70
Urine cultured	65	
Antibiotic prescribed	100	

Self-management

A philosophy of care in which health care professionals support patients to identify problems, make decisions, and take appropriate actions

(Wilde, Tannenbaum, Bliss, Cheater, Booth, Self-management of urinary and fecal incontinence, 2014)

Theoretical model for Self-management of Urine Flow Intervention (RCT)



Study design- RCT (N= 202)

Four contacts with Intervention nurse: 3 home visits, 1 telephone call

Teaching self-monitoring for 3 days
- Urinary diary I & O and catheter journal
- Educational booklet

To increase awareness, self-monitoring and self-management behaviors

Data collection bimonthly for a year

January 2009 Catheter Calendar

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Problems: **B= Blockage** **U= Urinary Tract Infection** **D = Falls Out/Dislodged**		**Treatments: What Was Done?** **A= Antibiotic** **O= Extra Office Visit** **HV= Extra Nurse Visit** **ER= Emergency Room** **H= Hospitalizations** **R= Rehabilitation**		1		3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NIH/NINR R01 25031

Educational Booklet--Basic Catheter Self-Management--Fluids

- **Stay Aware**. stay aware of your body and how you feel.
- **Drink more water** than any other beverage! Limit caffeine.
- **Drink Consistently**. Optimal and consistent level all day to help prevent catheter blockage.
- **Your Body Needs Fluids**. Most people need 2000 to 3000 cc of fluid a day. For instance a 150 pound person would need 2045 cc which is equivalent to about 8½ glasses per day. More fluids are needed for hot weather or when exercising. My fluid goal is _____.
- **Pay attention** to the color of your urine. It should be light yellow all day long.

Basic Catheter Self-management- Prevent dislodgement

- **Notice Changes** in what you feel.
- **Notice Catheter Position** when you move and teach others.
- **Check for kinks and twists** by feeling with your hand.
- **Ask for Help**.

Tips from Catheter Users

"**Drink the water and go**!"

"I didn't know amounts of intake and output."

"I am paying attention to the color and quantity of the urine."

"Now I drink more when I am out of the house."

"I measure intake and caffeine and notice the color of urine, and sediment in the tubing. I am really being aware."

"I check the position of the catheter when getting in and out of bed."

"I think about how to best secure the catheter during activities to take the pressure off it."

"If something does not feel right, act on it quickly!"

Quick Guide to Problems and Action Strategies

Problem	Action Strategies
Decreased/inconsistent fluid intake	Increase fluid intake
UTI	Increase fluid intake Recognize early symptoms of UTI and acting on it
Catheter blocks	Increase fluid intake Promote catheter changes at best intervals
Adjustment to living with a catheter	Approaches for living with a catheter
Not sure of the best schedule for catheter changes	Promote catheter changes at best intervals
Kinks, twists, or tugs on catheter	Prevent kinks, twists, or tugs on catheter
Too much caffeine	Decrease caffeine
Catheter leaks	Decrease catheter leakage Empty urine bag
Urine bag odor	Clean urine drainage bag
Changes with sex	Make adjustments for sexual activity
Autonomic Dysreflexia (for people with spinal cord injury)	Recognize early symptoms of Autonomic Dysreflexia

NIH/NINR R01 25031

Increase fluid intake

- "I am more conscious of what I drink. I am adamant about drinking 6 glasses of water."
- **Paying Attention:**

  Notice whether you are getting enough fluids throughout the day.

  Be aware of changes in daily activities, such as stress and illness, affecting I & O.

- **Things you can do:**

  If you like the water cold, keep several bottles in the fridge and refill them everyday.

  To add flavor to water, try 2 oz of cranberry or apple juice to 8-10oz of water.

Prevent Kinks/Twists in catheter or tubing

Kinks or twists can cause the bladder to overfill and may contribute to UTI.

- **Paying Attention:**

  Stay aware of the position of the tubing and catheter.

  Notice what you feel, especially over the bladder area or abdomen or when the catheter is blocked.

- **Things you can do:**

  Don’t let catheter get run over by wheel chair.

  If sensitive to adhesive tape, try a catheter holder made of cloth or anchor tubing to clothing or bed linen.

Symptom recognition

Urine Changes:

- Color – Discolored, cloudy, dark, blood stained
- Odor – Foul smelling, change in smell from usual
- Sediment (grit) – Increased amount

Temperature – Fever or chills

Pain and/or pressure in bladder area or back

Burning possible, not common

Early, mild symptoms of autonomic dysreflexia (e.g., goosebumps, headaches, sweats) mainly in people with spinal cord injury

General Symptoms Blahs!, feeling sick

- Functioning or mental changes – weakness, spasticity, change in the level of alertness (Wilde et al., 2013)

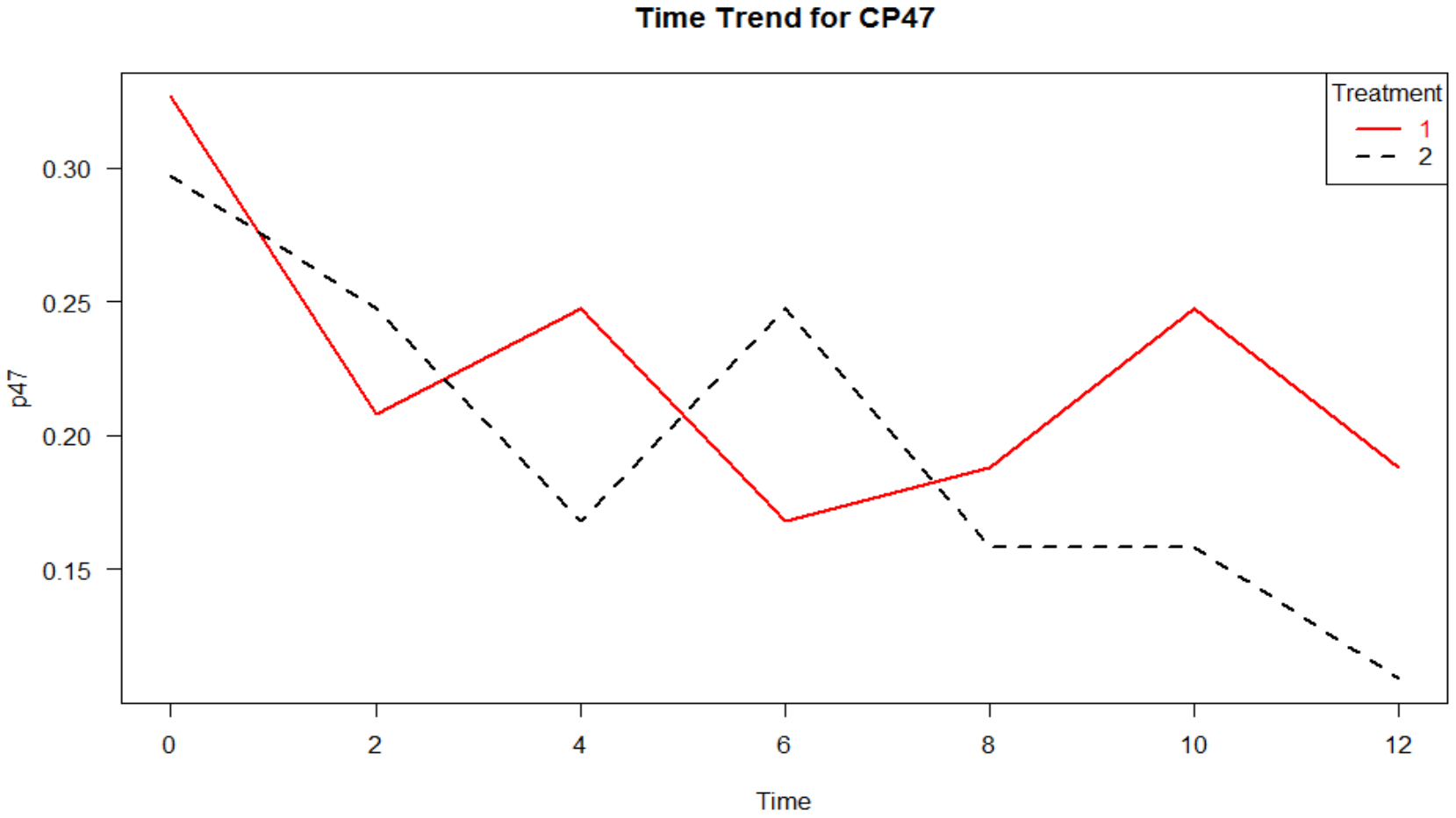
Background about fluids and blockage

Sodium, magnesium, and calcium drop out of the urine, often about 6.8 pH, causing sediment and encrustation.

Researchers found urine pH could increase to as high as 9 or 10 and the catheter might not block if fluid intake is increased to DILUTE the concentration of minerals. (Khan et al. 2010)

Results from Catheter Self-MANAGEMENT STUDY

UTI bimonthly % (Y/N)--no significant difference



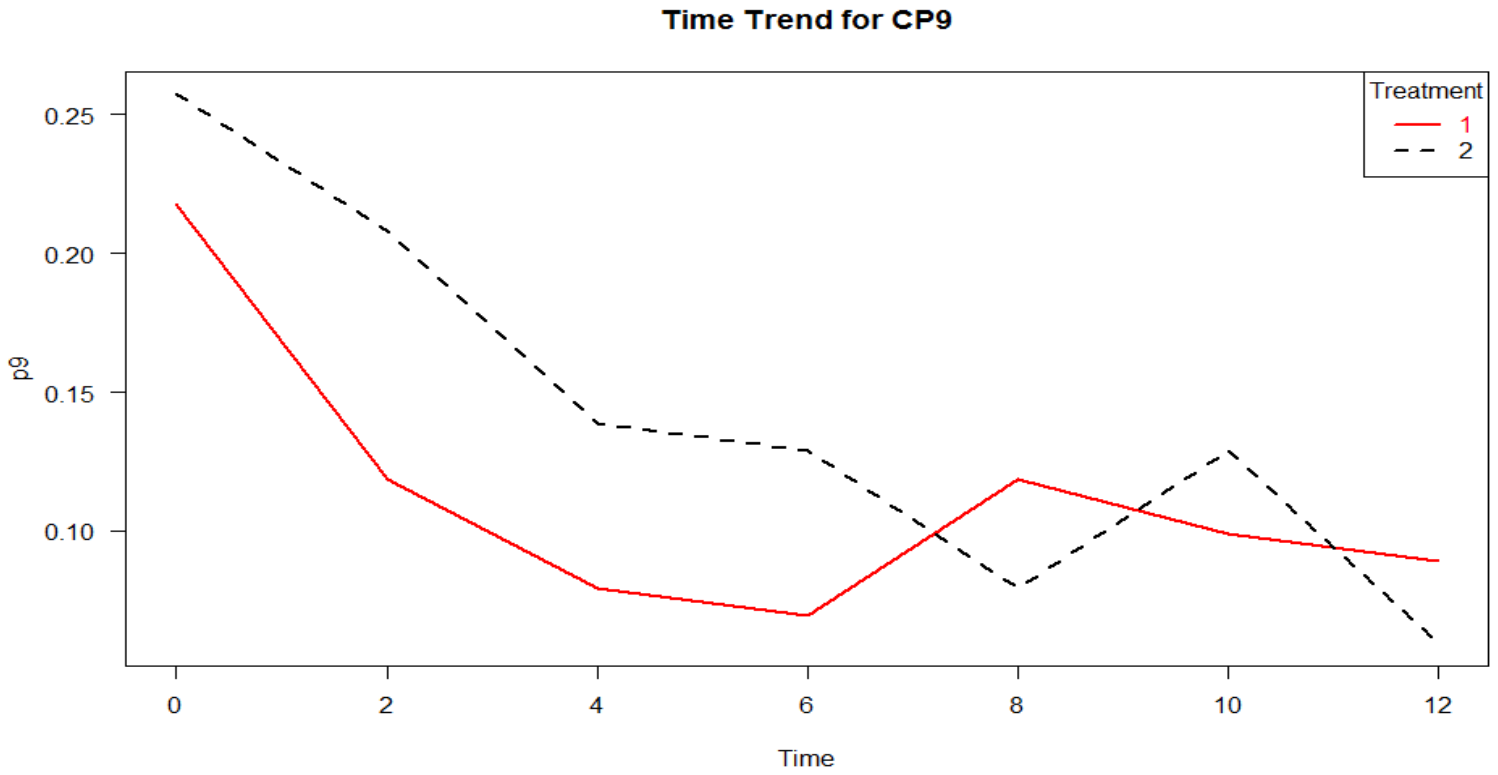
NIH/NINR R01 25031

Results: Rates UTI / 1000 catheter days

	Intervention group	Control group	Group P values	Change from baseline rates: Intervention	Change from baseline rates: Control
UTI Rates	Simple Rates (95% CI)			Change in rates P values	
Intake- prior two months	6.9 (5.00, 9.37)	5.5 (3.79, 7.72)	NS		
First 6 months	4.4 (3.40, 5.53)	4.8 (3.82, 6.03)	NS	*	
Second 6 months	5.5 (4.31, 6.87)	3.3 (2.41, 4.39)	*		*
Full 12 months	4.9 (4.12, 5.75)	4.1 (3.42, 4.91)	NS	*	

***P 0.05 or <**

Blockage bimonthly %--for full study: significantly different only in first 6 months intervention group (P= 0.0168)



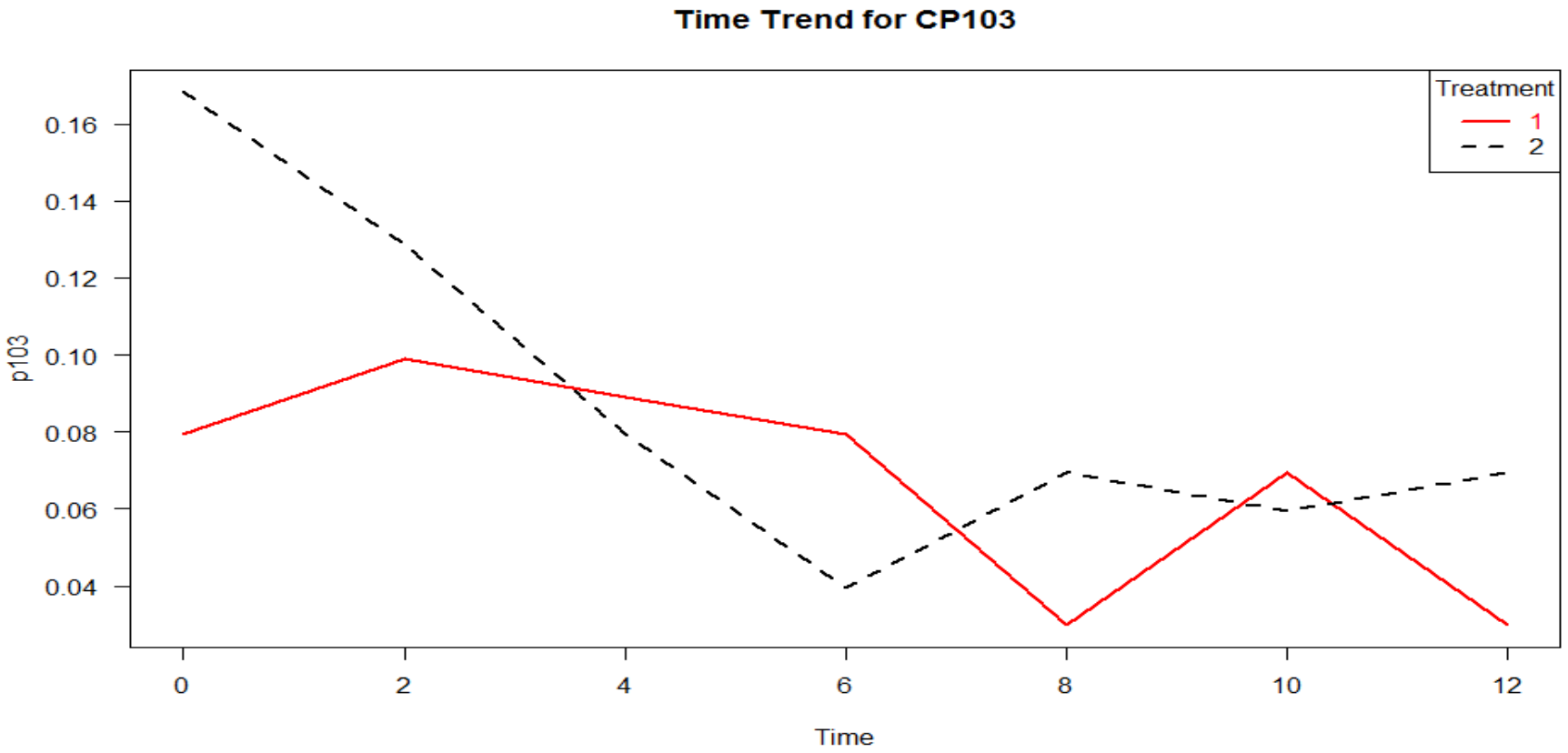
Results: Rates Blockage / 1000 catheter days

	Intervention group	Control group	Group P values	Change from baseline rates: Intervention	Change from baseline rates: Control
Blockage Rates				**P values**	
Intake-prior two months	9.4 (6.98, 12.05)	11.5 (8.95, 14.55)	NS		
First 6 months	4.3 (3.32, 5.43)	7.4(6.14, 8.86)	*	**	*
Second 6 months	5.3 (4.15, 6.67)	4.5 (3.41, 5.71)	NS	**	**
Full 12 months	4.8 (4.00, 5.62)	6.0 (5.20, 6.99)	NS	**	**

NIH/NINR R01 25031

*** P<.01 ** P< .0001**

Dislodgement bimonthly %--no significant difference (P= 0. 0.4054)



NIH/NINR R01 25031

Results: Rates Dislodgement /1000 catheter days

	Intervention group	Control group	Group P values	Change from baseline rates: Intervention	Change from baseline rates: Control
Dislodgement Rates					
Intake-prior two months	2.8 (1.63, 4.49)	4.3 (2.83, 6.35)	NS		
First 6 months	2.6 (1.86, 3.52)	2.7 (1.99, 3.67)	NS	NS	NS
Second 6 months	1.5 (0.89, 2.24)	2.4 (1.69, 3.41)	NS	*	*
Full 12 months	2.1 (1.58, 2.65)	2.6 (2.06, 3.24)	NS	NS	*

*** P = .05 or <**

Excess healthcare expenses & QoL

GEE analysis over time, hospitalizations for UTI were higher in intervention group (P = < .01)

But fewer blockage home visits in intervention group(first six months) (P<0.05)

Quality of life did not differ between groups

UTI severity score

UTI severity score was higher intervention group (P = 0.05)

- **Symptom severity higher intervention group for bladder pain, malaise, weakness, fever, or chills.**

NIH/NINR R01 25031

Conclusion and implications

Catheter calendar and interviews—simple form of intervention

- Both groups improved over time
- Calendar teaching self-monitoring
- Calendar easy to implement

Symptom identification, severity of UTIs, & seeking care early could be r/t hospitalization for UTI.

Blockage improvement might be related to fluids, but effect lasted only first 6 months

Value in additional teaching related to fluids and preventing dislodgement.

University of Rochester site	VNSNY site (sub-contracting)
Mary Wilde, RN, PhD, PI James McMahon, PhD, Co-I Judith Brasch RN, MS Project nurse & data analyst Eileen Fairbanks, RN, MS, Project Coordinator Robert Mayer, MD, Urology, Strong Medical Center (consultant & data safety monitoring) Pamela Sawdey, Grants manager Wan Tang, PhD, Din Chen, PhD, & Wenjuan Wang, PhD-Biostatistics	Penny Feldman, PhD, Program Director/site Co-PI Seon Lewis-Holman RN, MS-site Co-I (VNSNY: Director of Education and Clinical Development) Yanick Martelly, RN, MS, CWOCN, Consultant Margaret McDonald MSW- Project Manager Shivani Shaw, MS, MPH, Data analyst Christopher Murtaugh, PhD
Intervention Nurse: Marge Lash, RN, MS Research Interviewers: Chris Clinton, JoAnn Moda	Intervention Nurse: Paula Wilson, RN, BS, MPH Research Interviewers: Yessica Terrero, Laura Edilitz, Manny Schwimmer, Maria Viterbo-Verna
Information technology: Brian Harrington, Michael Fisher, Annette Curtis	Information Technology: Sridevi Sridharan, Timothy Peng, Richard Dumpson

Indications: Persistent retention, can do by self or with a caregiver several times a day

INTERMITTENT CATHETERS SELF-MANAGEMENT

Intermittent catheter problems

- Psychological concerns, including stigma. (Shaw et al., 2008).
- Worries about UTIs
- Inconvenience of IC in everyday activities
- Inadequate insurance & choice in catheters and supplies
- Inaccessible bathrooms-too small, lacking in privacy, and/or unclean (Wilde et al., 2011)

R21 begun June 2013: Self-management in intermittent catheter users

- Internet-based resources—including catheter products
- 3 phone calls with study nurses
- Discussion forums with peer leaders
- Online personal database-I &O, observation of self-cathing patterns

NIH/NINR R21 27667

Purpose

- Test the feasibility of a new online intervention
- Goals of program are for people with SCI to:
  - Learn more about their own patterns with IC
  - Obtain support and information for self-management
  - Sustain IC over time

Web application

Link to Internet CIC Self-Management participant web site:

https://www.son.rochester.edu/wildecic/intervention/index

References

Andreessen, L., Wilde, M. H., & Herendeen, P. (2012). Preventing catheter-associated urinary tract infections in acute care: the bundle approach. *Journal of Nursing Care Quality, 27*(3), 1-9. DOI: 10.1097/NCQ.0b013e318248b0b1.

Bandura A. (1997). Self-Efficacy: The exercise of control. New York: W. H. Freeman.

Cottenden, A., Fader, M., Wilde, M.H, Bliss, D., Buckley, B., Hayer, D , Joan Ostaszkiewicz, Pieters, R., & Gartley, C.. (2013). Management using continence products. In P. Abrams, L. Cardozo, S. Khoury, & A. Wein A, Eds., *Incontinence: 5th international consultation on incontinence.* Arnheim, The Netherlands: ICUD-EAU Publishers.

Khan A, Housami F, Melotti R, Timoney A, Stickler D. Strategy to control catheter encrustation with citrated drinks: a randomized crossover study. *J Urol*. 2010;183:1390-1394.

Kunin CM, McCormack RC. Prevention of catheter-induced urinary-tract infections by sterile closed drainage. *N Engl J Med*. 1966;274:1155-1161.

Parker D, Callan L, Harwood J, Thompson DL, Wilde M, Gray M. Nursing interventions to reduce the risk of catheter-associated urinary tract infection. Part 1: Catheter selection. *J Wound Ostomy Continence Nurs*. 2009;36:23-34.

Saint S, Chenoweth CE. Biofilms and catheter-associated urinary tract infections. Infect Dis Clin North Am 2003

Saint S, Meddings JA, Calfee D, Kowalski CP, Krein SL. Catheter-associated urinary tract infection and the Medicare rule changes. Annals of Internal Medicine 2009.

Shaw, C., Logan, K., Webber, I., Broome, L., & Samuel, S. (2008). Effect of clean intermittent self-catheterization on quality of life: A qualitative study. *Journal of Advanced Nursing, 61*(6), 641-50.

Schumm K, Lam T. Types of urethral catheters for management of short-term voiding problems in hospitalised adults. *Cochrane Database Syst Rev*. 2008;(2):CD004013.

Siegel TJ. Do registered nurses perceive the anchoring of indwelling urinary catheters as a necessary aspect of nursing care?: a pilot study. *J Wound Ostomy Continence Nurs*. 2006;33:140-4

Wilde, M.H. & Garvin, S. (2007). A concept analysis of self-monitoring. Journal of Advanced Nursing, 57(3), 339-350.

Wilde, M. H. , Brasch, J., & Zhang, Y. (2011). A qualitative descriptive study of self-management issues in people with long-term intermittent urinary catheters. Journal of Advanced Nursing, 37(3), 301-310. doi: 10.1111/j.1365-2648.2010.05583.x

Wilde, M. H. & Zhang, F. (2013). Best practices in managing the indwelling urinary catheter for the homecare patient. *Perspectives, 10(1), 1,*7-12.

Wilde, M. H. ,McDonald, M.V.,Brasch, J., McMahon, J.M., Fairbanks, E.., Shah, S., Tang, W., & Scheid, E. (2013). Long-term urinary catheter users self-care practices and problems. Journal of Clinical Nursing, 22, 356-367.

Wilde, M.H., Bliss, D. Z., Booth, J., Cheater, F.M., & Tannenbaum, C. (2014). Self-management of urinary and fecal incontinence. American Journal of Nursing, 114(1), 38-45.

WOCN Society Clinical Practice Continence subcommittee. *Indwelling urinary catheters: Best practice for clinicians*. Wound Ostomy and Continence Nursing Society; 2009.

Thank you

Questions?

UNIVERSITY of ROCHESTER MEDICAL CENTER | SCHOOL OF NURSING

Clean Intermittent Catheterization: Case Study

Gisele Regina de Azevedo, RN, CWOCN, PhD

Interest Conflict: consulting BACE Internacional; speaker to Coloplast Brasil Ltda.

INSTITUTO PAPILIO

PUC-SP

COMMON CASE

- Woman, 23 years old, spinal cord injury, using Foley catheter 8 months.
- Fetid / Reeking / Stinking / Bad smell urine, dark yellow, with waste, concentrated look
- Oriented to self catheterization using hydrophilic catheter and learned the procedure without difficulty. Increase drinking water all the day.
- One week after: CIC 6 times per day, no urinary leakage at intervals, clearer the urine, less waste, still reeking.
- Fifteen days after: Fever, foul smelling urine, dark urine, shiver, chills, feeling bad, pelvic pain, difficulty making CIC → probably UTI.
- What happens? Where did we fail? Patient does not want to do CIC, what to do?

INSTITUTO PAPILIO

PUC-SP

COMMON CASE: The guidance that lacked

In the first weeks of CIC this can happen:

- **Bacteria are running out of food**
- **Need to defend their territory**
- **Need to ensure the species, and ... will try to invade your cells**

GET READY!

COMMON CASE: Guidance

- Prepare the patient for complications
- Clear and unprejudiced discussion
- Explain about the outdated Professional
- Allow the patient to take ownership of their care
- Provide contact
- Group care

INSTITUTO

PAPILIO

gicazevedo@gmail.com
+ 55 15 99705-6043

PUC-SP

Pelvic Organ Prolapse Quantification (POP-Q) – practical approach

Prof. Ricardo Reges M.D Ph.D
Division of Urology

Universidade Federal of Ceara
Brazil

Introduction

Prevalence of POP

- 5-10% women (Women's Health Initiative, 2004)
- Most frequent: anterior → posterior → apex
- Hendrix et al, 2002
  - Lowest incidence → black
  - Highest incidence → hispanic

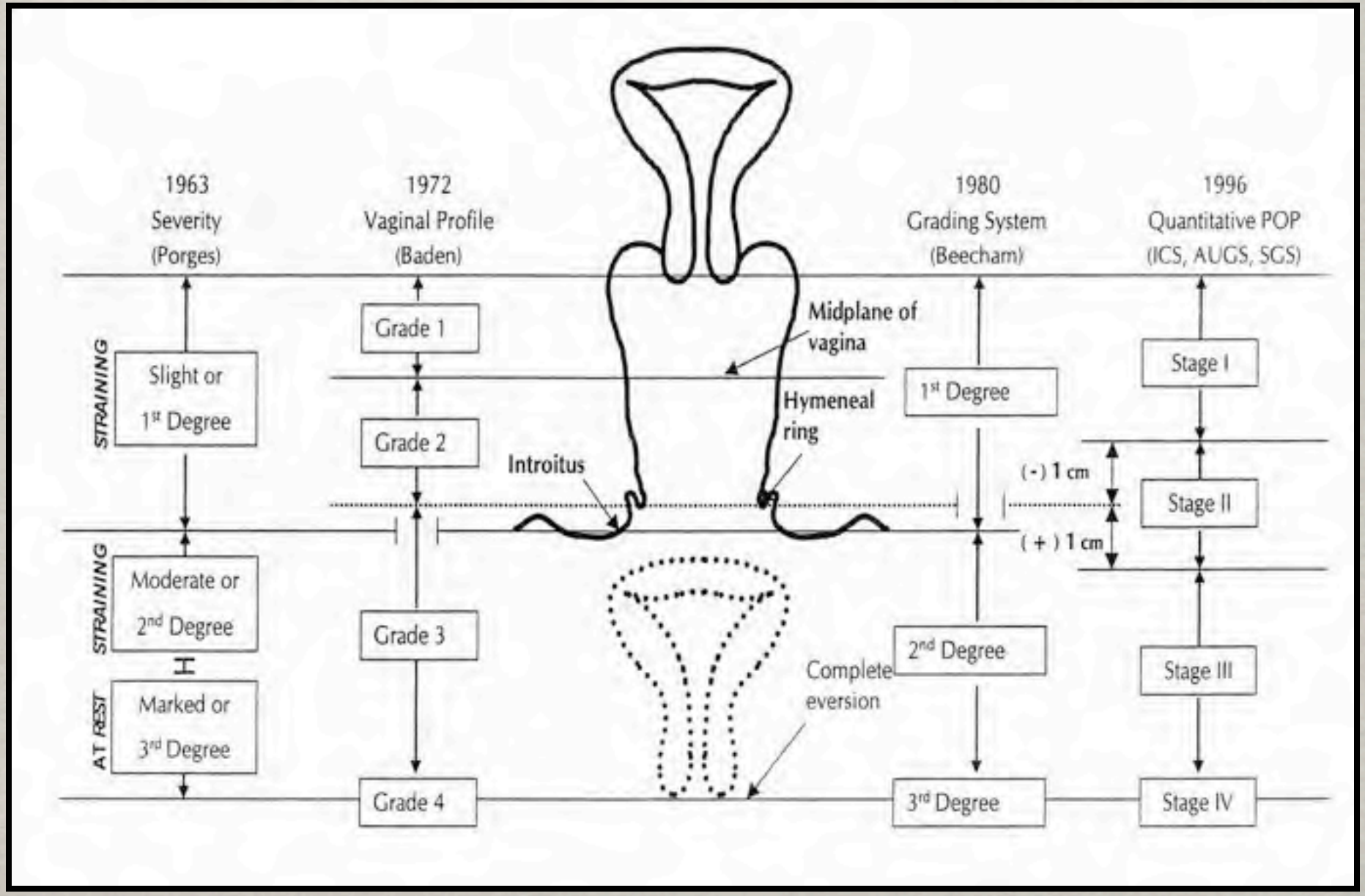
History

- ICS - Terminology Standardization Committee (1973)
- International Multidisciplinary Committee (1993)
  - ICS
  - American Society of Urogynecology
- Reproducibility 6 center in USA (1994)

POP-Q system

- Created in 1995
- Effort to provide objective POP quantification
- Nine points of measurement
- Six vaginal points → valsalva
- Good to compare patients - reproducibility between researchers

Baden Walker & POP-Q

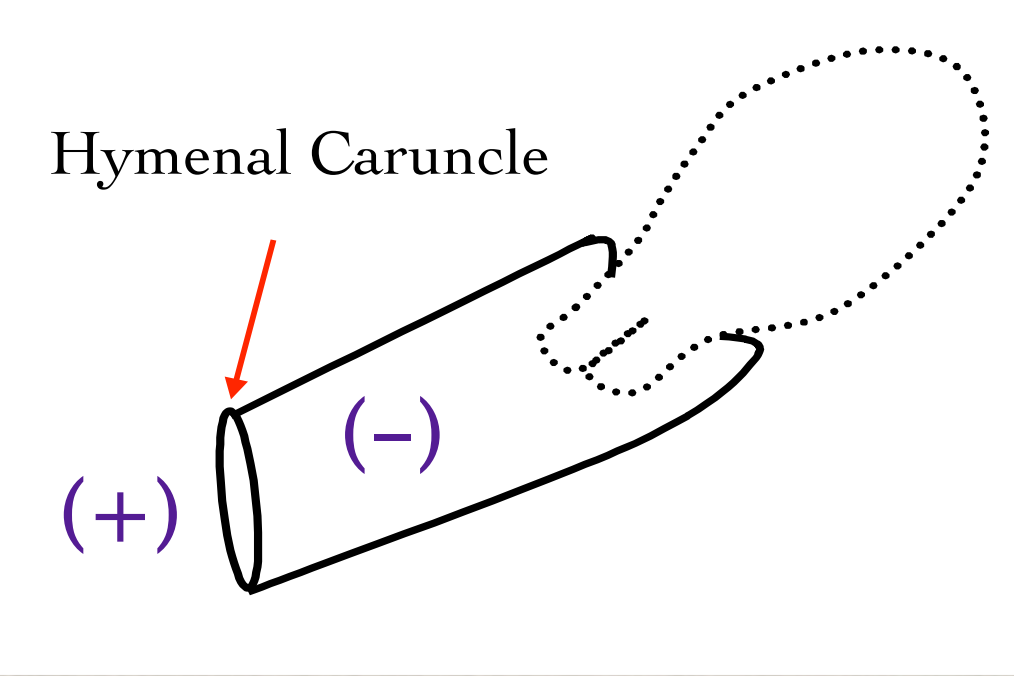


Objectives

- How perform POP-Q evaluation
- Examples
- Tips and tricks
- Evidence of literature

Quantitative Position

Fixed Point



- Negative (-):

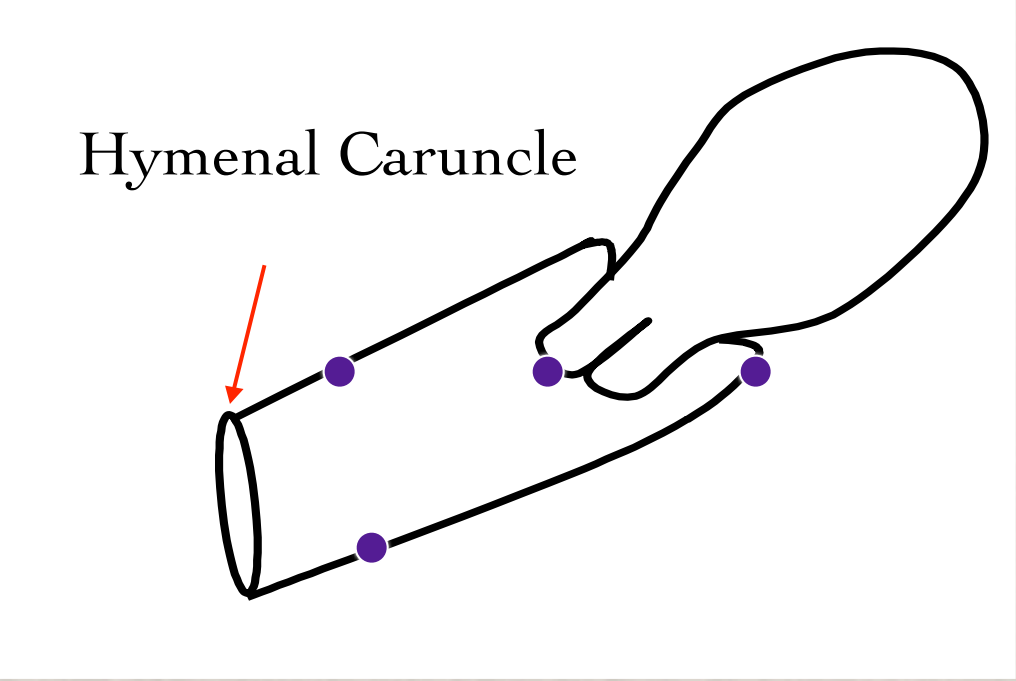
  Above caruncle

- Positive (+):

  Below caruncle

Quantitative Position

Anatomical reference



- Anterior vaginal wall:

  Aa, Ba

- Posterior vaginal wall:

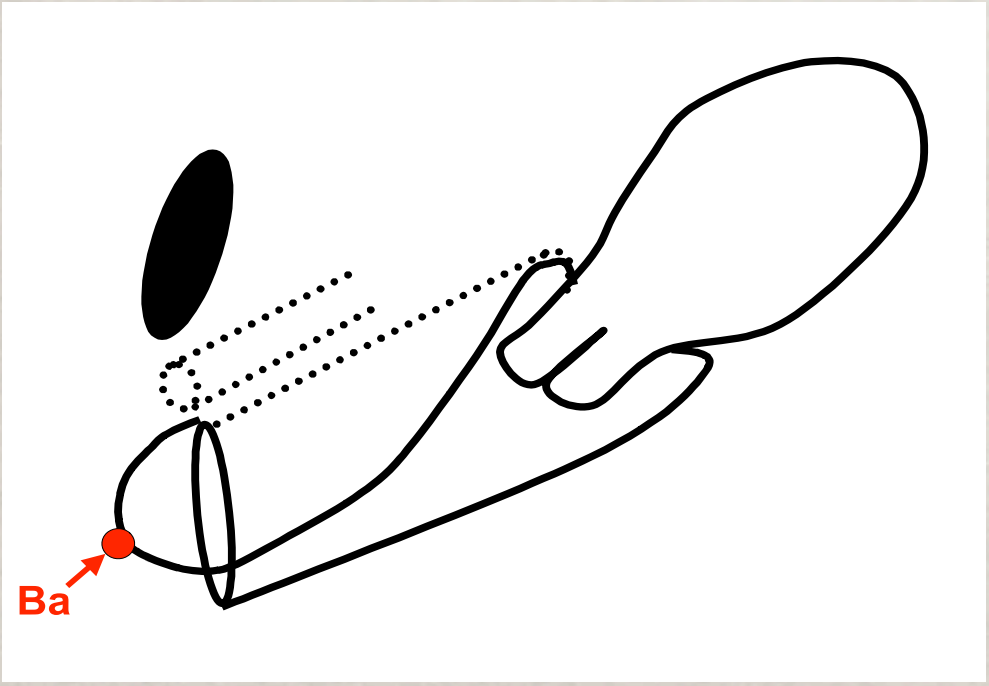
  Ap, Bp

- Apex:

  C, D

Quantitative Position

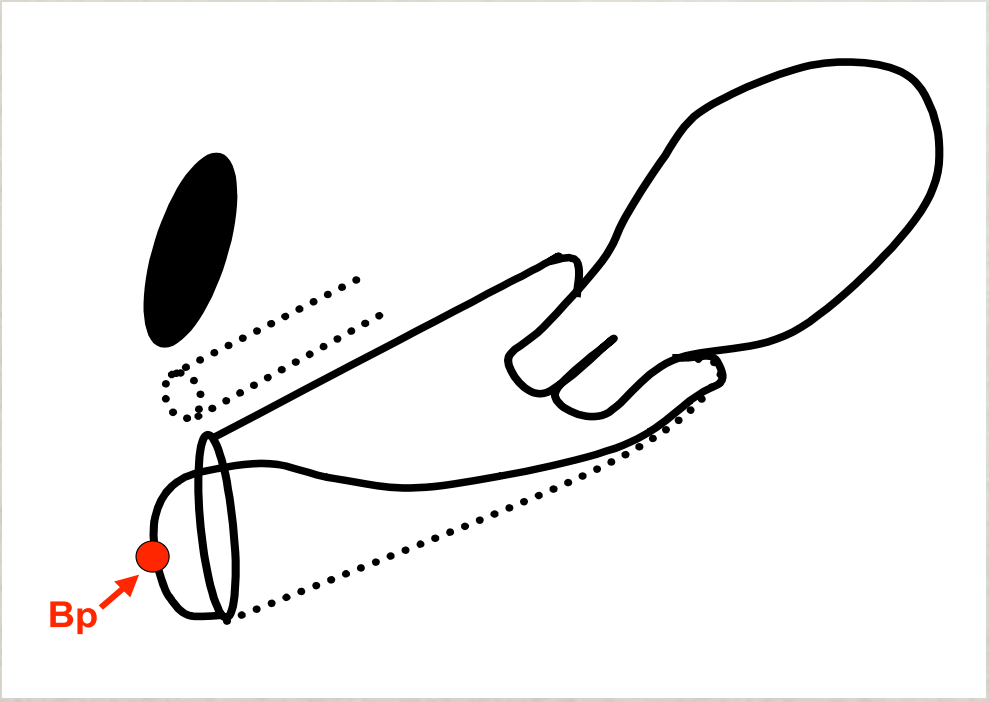
- Points in Anterior Vaginal Wall (AVW)



- Aa - midline AVW, 3 cm urethral meatus
- Ba - distal point of AVW

Quantitative Position

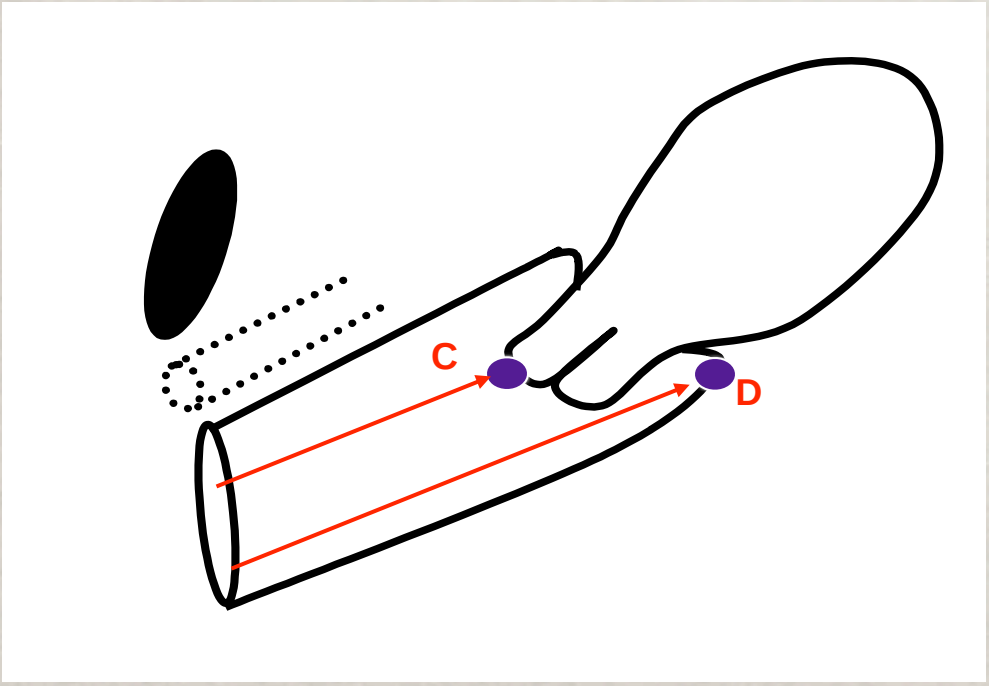
- Points in Posterior Vaginal Wall (PVW)



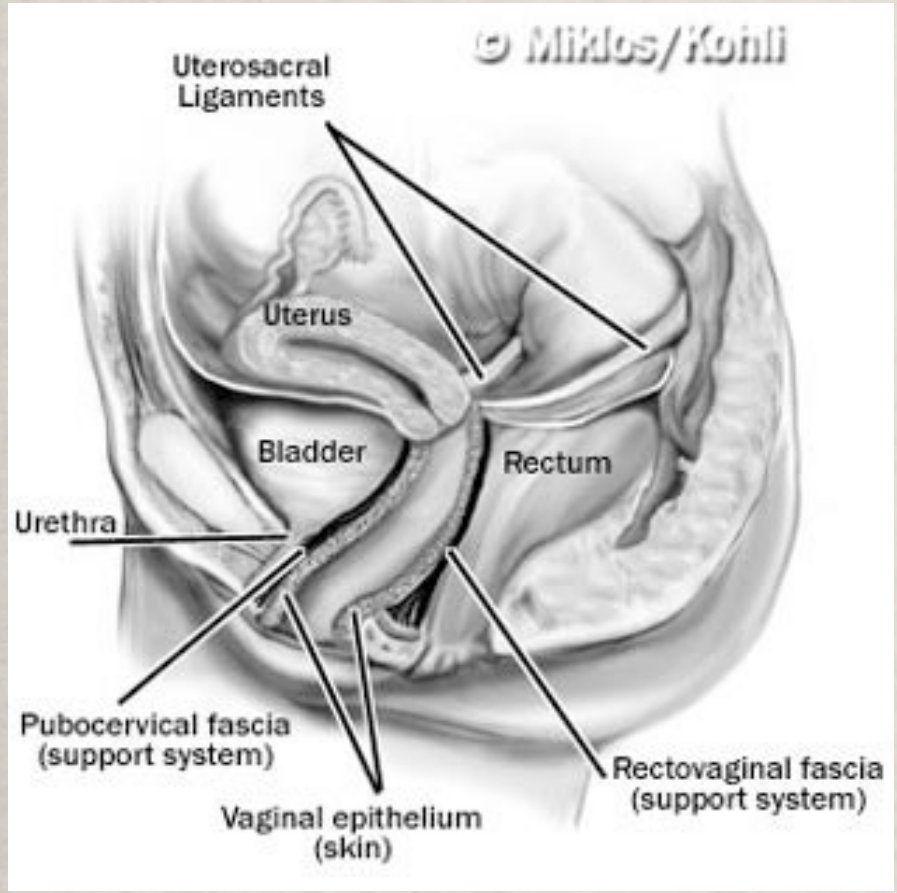
- Ap - midline PVW, 3 cm hymen
- Bp - distal point of PVW

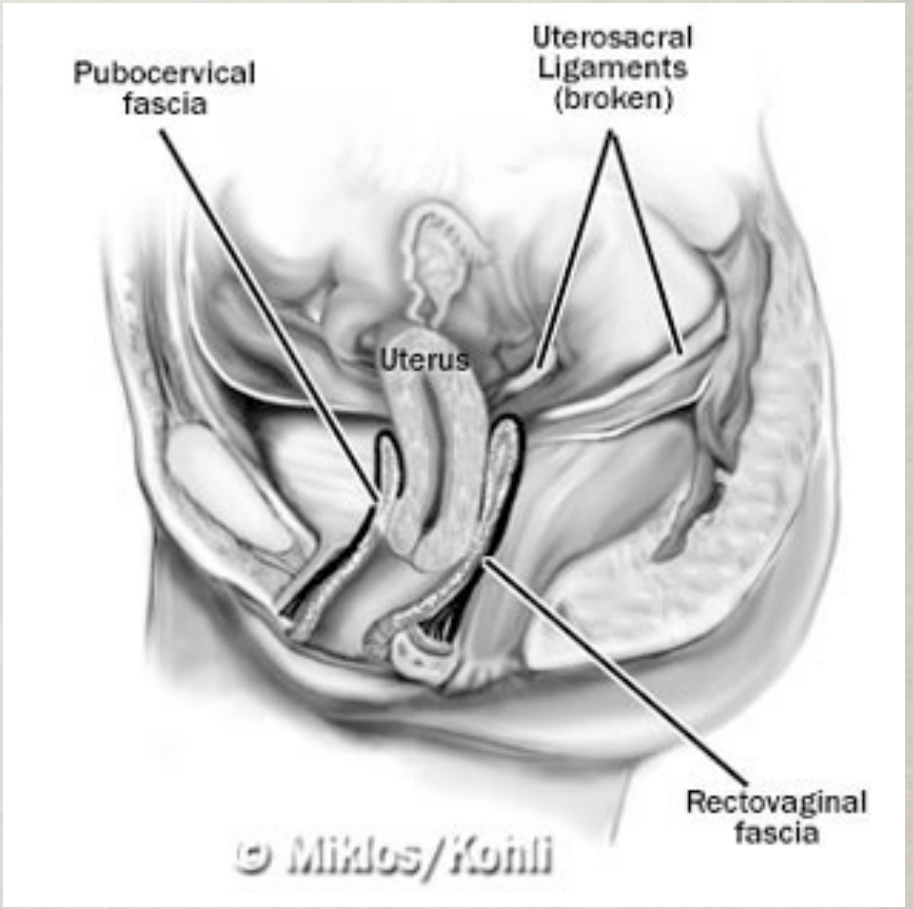
Quantitative Position

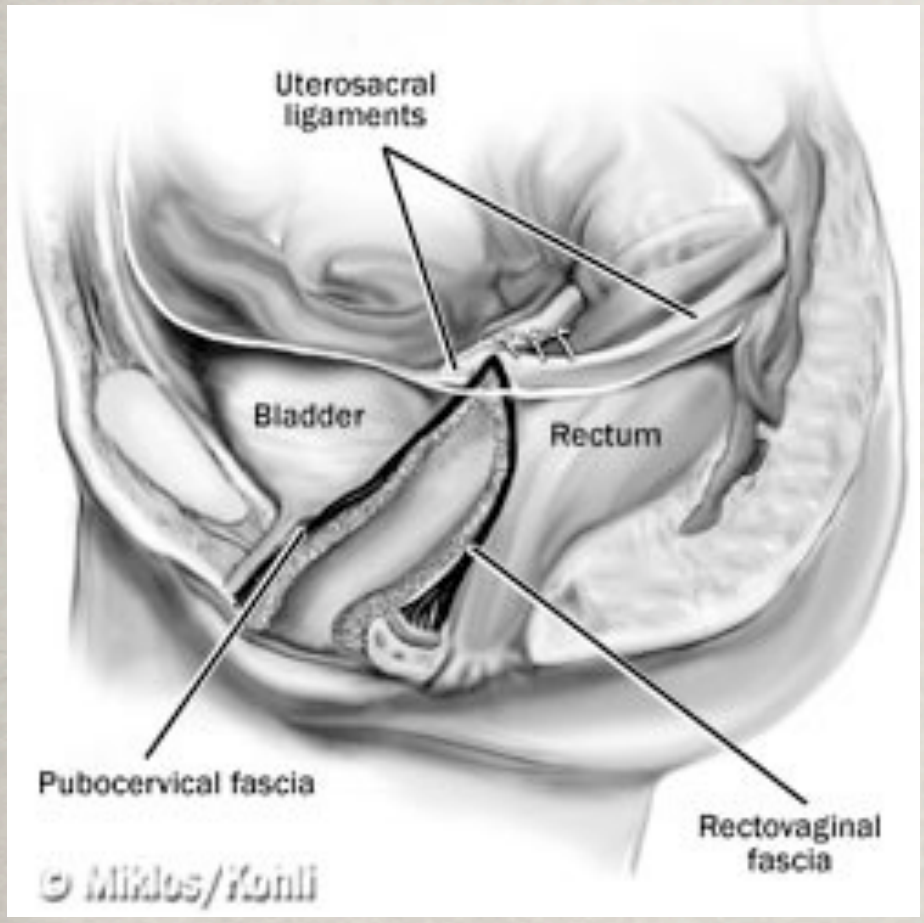
- Points in Vaginal Apex (VA)

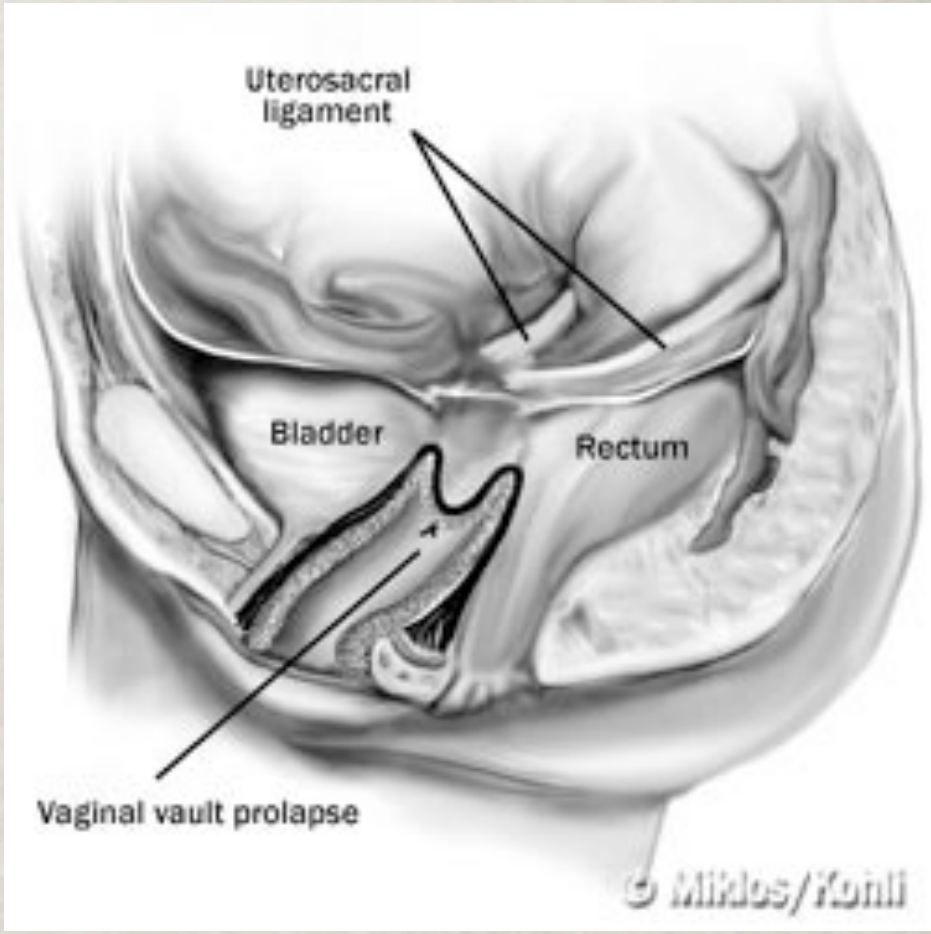


- C - distal point → cervix / vaginal cuff
- D - posterior fornix


© Mikos/Kohli
Uterosacral Ligaments
Uterus
Bladder
Rectum
Urethra
Pubocervical fascia (support system)
Vaginal epithelium (skin)
Rectovaginal fascia (support system)

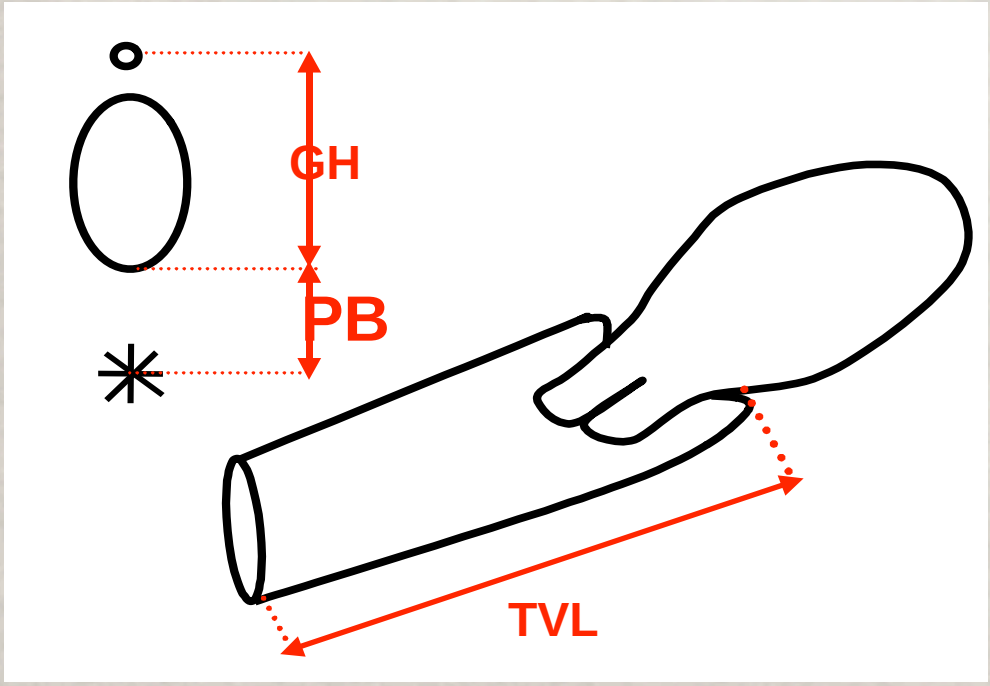

Pubocervical fascia
Uterosacral Ligaments (broken)
Uterus
Rectovaginal fascia
© Mikos/Kohli


Uterosacral ligaments
Bladder
Rectum
Pubocervical fascia
Rectovaginal fascia
© Mikos/Yonli


Uterosacral ligament
Bladder
Rectum
Vaginal vault prolapse
© Mikos/Yonli

Quantitative Position

- Other points

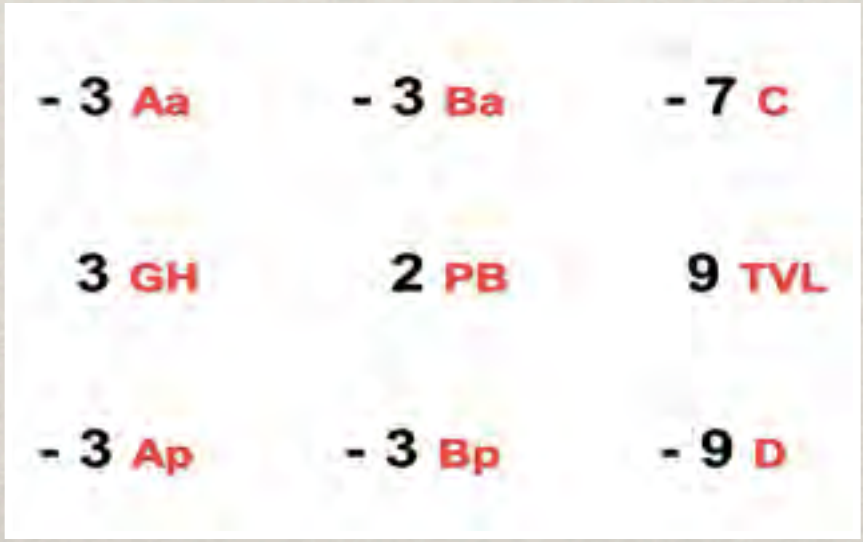


- Genital hiatus (GH)
- Perineal body
- Total vaginal length (TVL)

Practical Approach

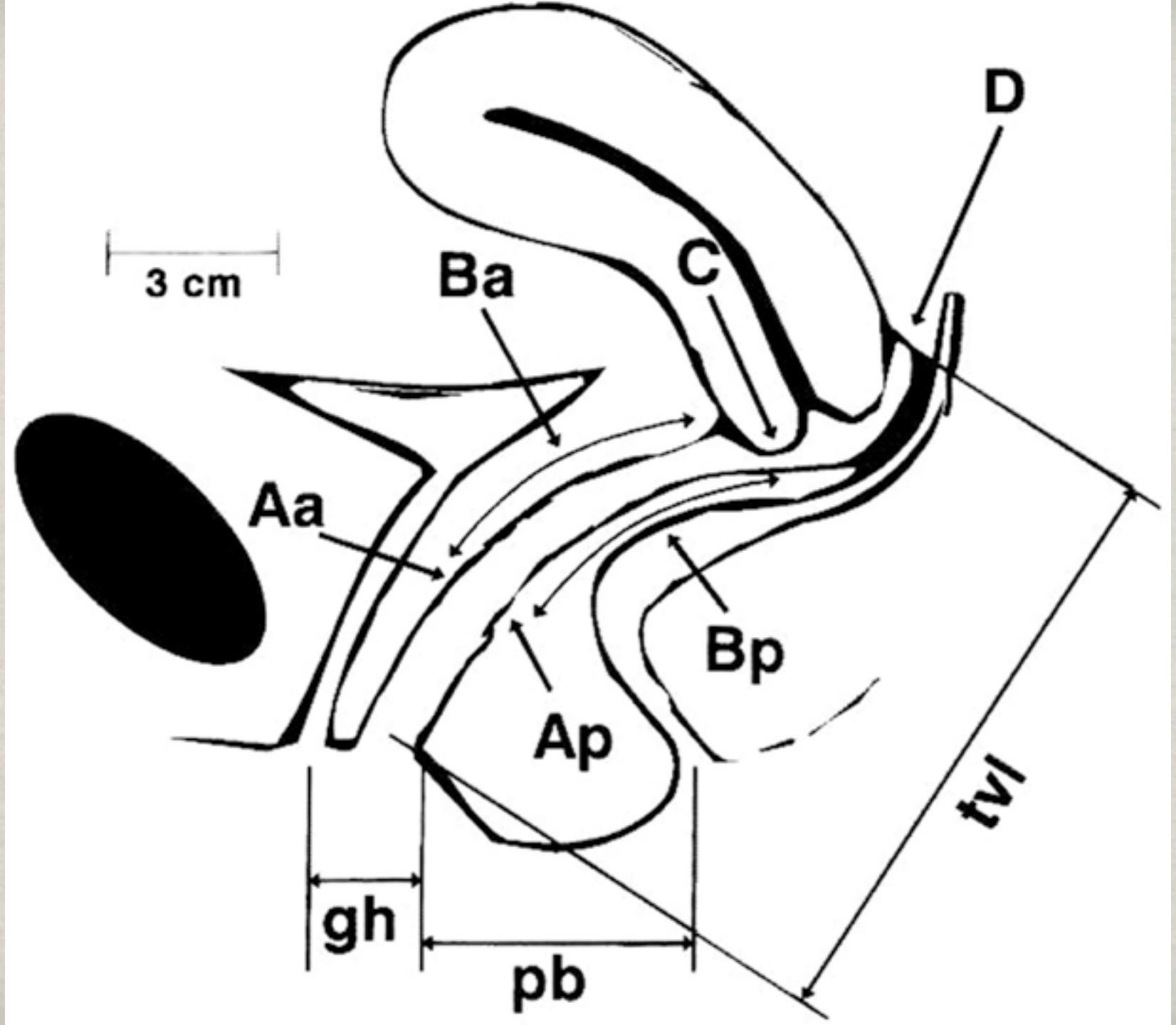
Making an exam

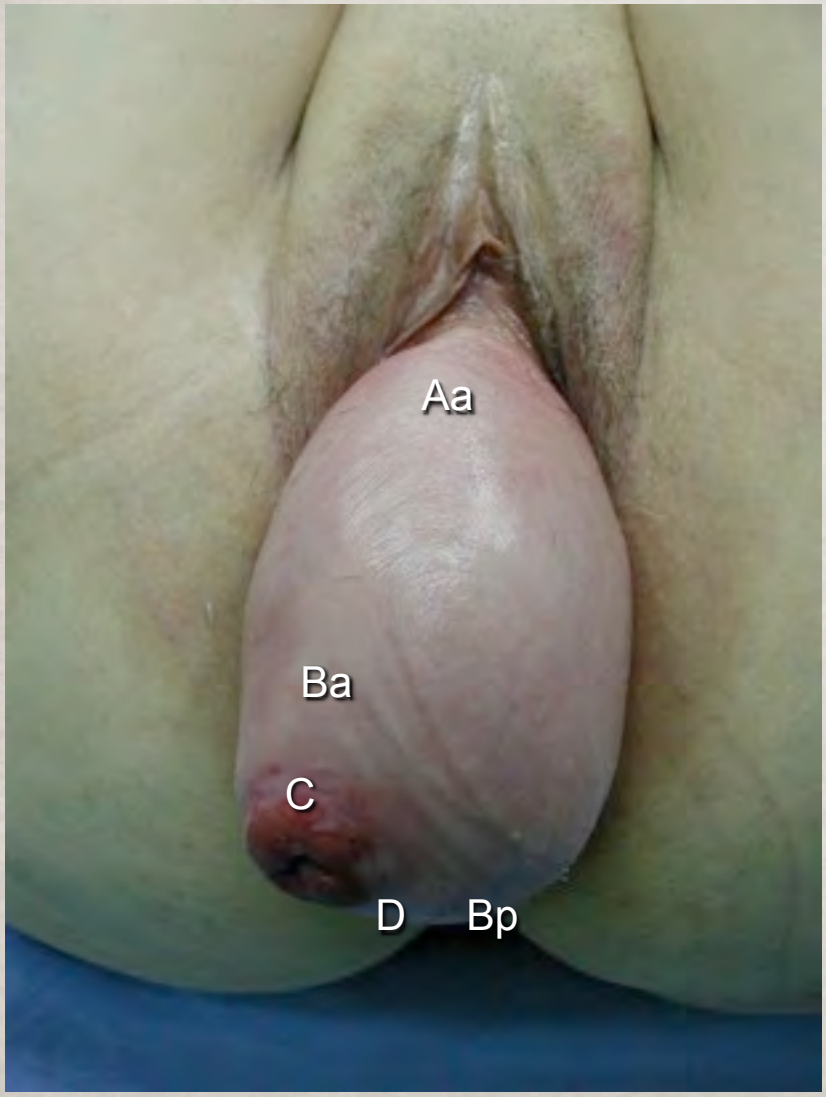
- Sequence of number
- Grid bar 3 x 3 ("TIC TAC TOE")



STAGING AN PELVIC PROLAPSE

- Sub-grouped (most distal part)
  - a = anterior vaginal wall
  - p = posterior vaginal wall
  - C = vaginal fornix
  - Cx = cervix


3 cm
Ba
C
D
Aa
Bp
Ap
tvl
gh
pb

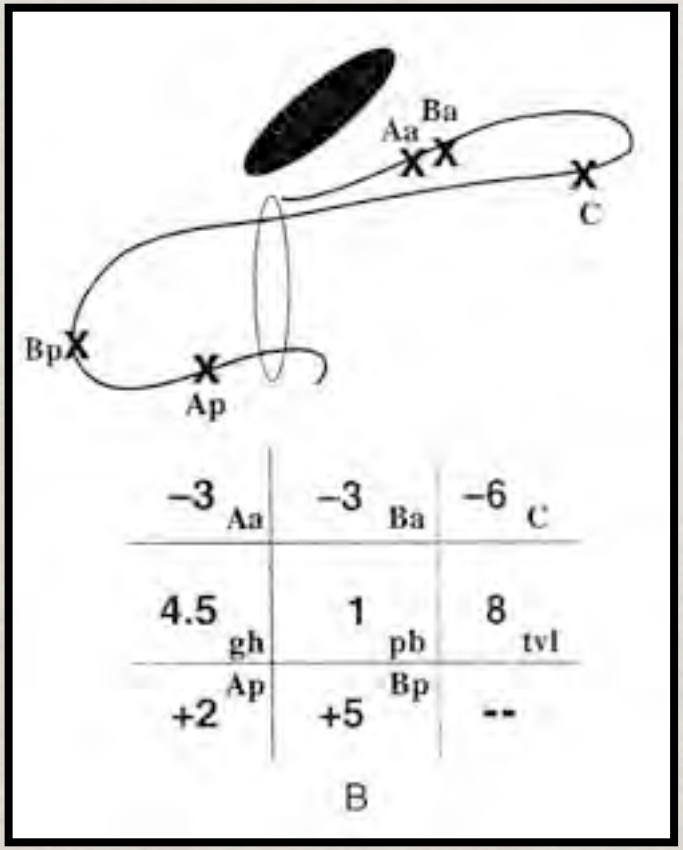


Aa +3	Ba +9	C +10
gh 3	pb 3	tvl 9
Ap +3	Bp +8	D +9

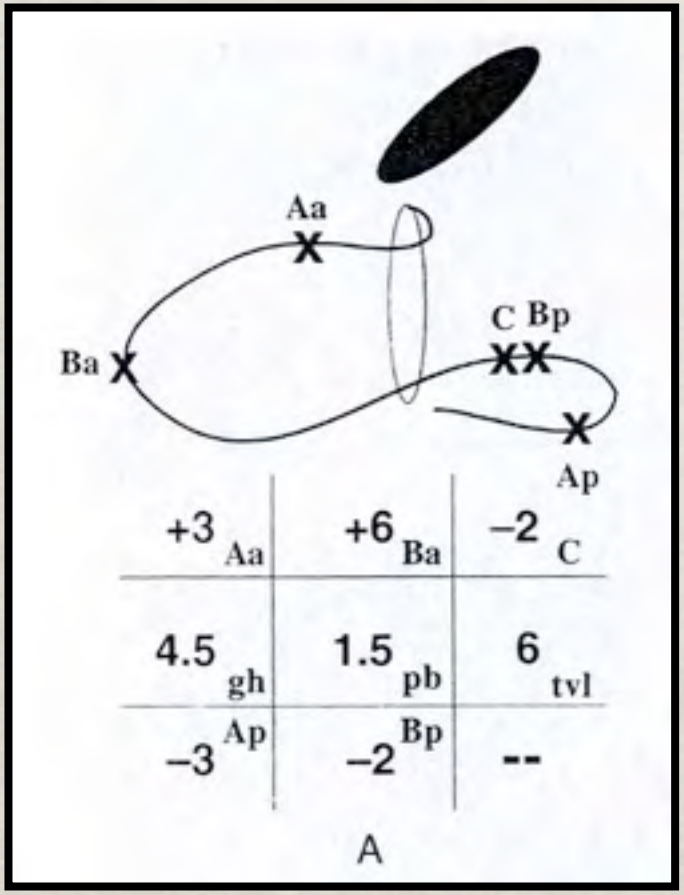
MORPHOLOGY AND BASIC PELVIC ORGAN PROLAPSE QUANTIFICATION (POPQ)

1ª= Aa (3cm proximal to urethral meatus - UVJ)

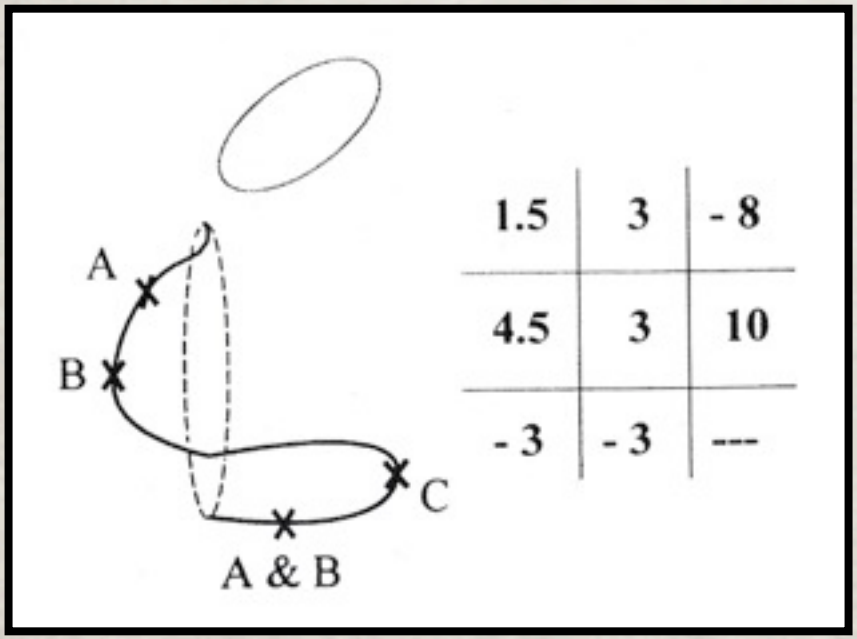
- Estage I: >1 cm above hymenal caruncle
- Estage II: <1 cm distal hymen caruncle
- Estage III: >1 cm below to hymen caruncle
- Estage IV: Complete eversion



Stage III
Bp



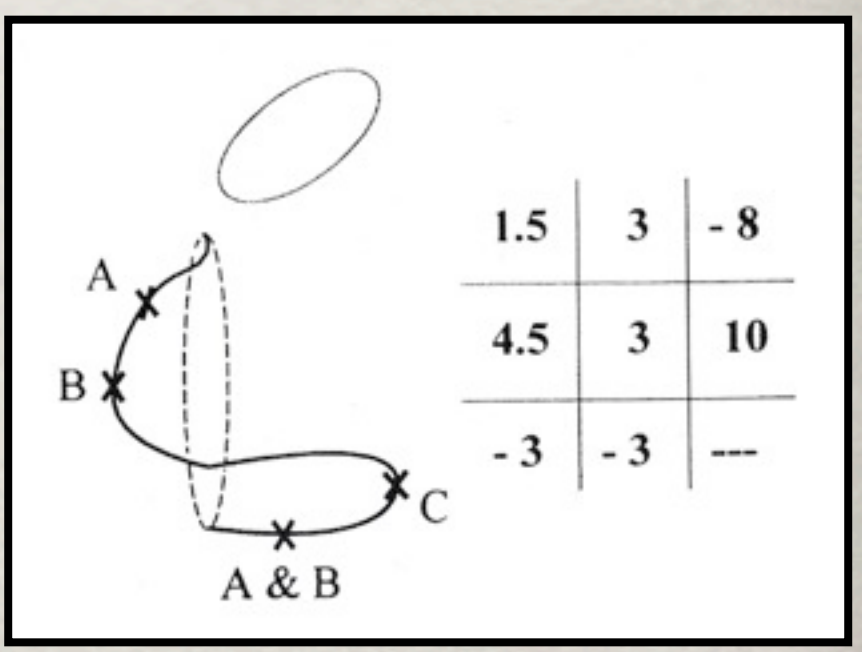
Stage III
Ba



1.5	3	- 8
4.5	3	10
- 3	- 3	---

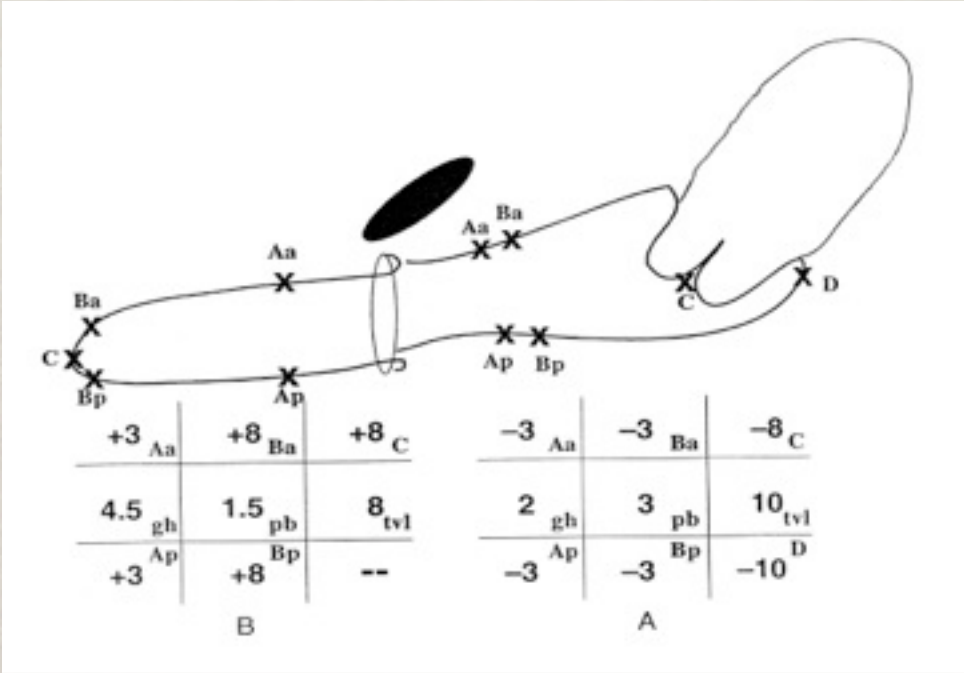
Stage III Ba


Aa x
Ba x


A
B
C
A & B
1.5
3
- 8
4.5
3
10
- 3
- 3

Stage IV C

Stage 0



Level of evidence

URETHRAL MOBILITY AND BASIC PELVIC ORGAN PROLAPSE QUANTIFICATION (POPQ)

- Montella et al
  - Compare Aa vs Q-tip test (n=111)
  - Positive Q-tip test (≥ 30°)⇒ 75%
  - Aa -1 (sensibility - 67% / especificity - 61%)
- Cogan et al (N=274)
  - Strong association between Aa and Q-tip test
  - Estages II, III e IV (Aa) urethral hypermobility

URETHRAL MOBILITY AND BASIC PELVIC ORGAN PROLAPSE QUANTIFICATION (POPQ)

- Studies agree 100% urethral hypermobility ⇒ estages II-IV (Aa)
  - Q-tip test not necessary

URINARY INCONTINENCE (UI) AND BASIC PELVIC ORGAN PROLAPSE QUANTIFICATION (POPQ)

- Tapp et al - Aa vs Q-tip test to UI
  - 345 ♀ UI (urodynamic)/ 245 control
  - Aa - no association with UI
  - Positive Q-tip test → strong association
  - Aa → VPN = 39% e VPP = 56%

Final messages

- Relation to hymen - points Aa,Ba, Ap, Bp, C and D
- Points must be expressed as:
- Accuracy more than 0.5 cm
- Don't forget - describe how the examination was done
- Reprodutibility
- Standadization

Final messages

- POP-Q good to pelvic floor evaluation, but not adequated to UI
- Use it in researches
- Private practice?

Case study for prolapse

- Maria Helena Baena de Moraes Lopes, RN, PhD
- Faculty of Nursing- Universidad Estadual de Campinas – UNICAMP
- Brazil

Case “A small ball in my vagina”

- White woman , 82 years old
- 5 pregnancies, 3 vaginal deliveries, 2 abortions
- Complaint of “fallen bladder”, hesitancy, slow stream, intermittent stream, straining to void, nocturia (3 times), feeling of a lump
- No complaint of urinary or fecal incontinence
- Physical examination: prolapse stage 1, PERFECT : P=3 E=3 R=5 F=10

ICS

First session

- Kegel exercises
- Difficulty in contraction of the pelvic floor muscles
- Co-contractions of abdominal and adductor muscles
- Home exercises
- Return in a week

Second session

- Complaint of urine leakage
- Kegel exercises
- Home exercises
- Return in a week

5th session

- Improvement of urine leakage
- Mild improvement of prolapse
- Improvement of power
- No changes in resistance
- Kegel exercises in standing, sitting and lying position
- Home exercises
- Return in a week

8th session

- Complaint of urine leakage with water contact
- Pelvic floor contraction during contact with water
- Kegel exercises in standing, sitting and lying position
- Home exercises
- Return in a week

14th session

- Physical examination: prolapse stage 1, PERFECT : P=4 E=4R=2 F=10
- Pelvic floor contraction during contact with water
- Kegel exercises in standing, sitting and lying position
- Home exercises
- Return in a week

15th session

- Patient refers improvement of the prolapse sensation
- Pelvic floor contraction during contact with water
- Kegel exercises in standing, sitting and lying position
- Home exercises
- Return in a month

16th session – one month later

- Complaint of fecal incontinence
- Physical examination:
- PERFECT : P=2 E=4 R=2 F=5
- Evidences that she stopped the exercises
- Oriented to do again the exercises

Acupuncture: A Role in the Management of Urinary Incontinence?

Sandra Engberg, PhD, RN, CRNP, FAAN
University of Pittsburgh
School of Nursing

Acupuncture

- Literally, “a puncture with a needle”
- Inserting needles into acupuncture points and manipulating them

Acupuncture: History

- Precise origin unknown
  - Generally attributed to early Chinese medicine
    - Used in traditional Chinese Medicine (TCM) for more than 3000 years
  - First described in European literature in the late 1600's
    - Fell into disrepute by mid 19th century

Acupuncture: History

- Acupuncture in the U.S.
  - 1972 - First NIH grant to study acupuncture
  - 1973 – NIH acupuncture research conference

    "Acupuncture holds some promise as an anesthetic for certain surgical operations and for the treatment of some acute and chronic painful conditions." (Zhao et al., 2005)

Acupuncture: Key concepts in TCM

- Qi (chi)
  - Life energy
  - Composed of two opposite forces: Yin & Yang
  - Flows though the body in meridians
    - Connected to each other as well as body organs
- Health is seen as a balance of yin and yang
  - Illness or pain occurs when there is an imbalance of energy flow (qi) through the meridians

Acupuncture: TCM View

- Acupuncture
  - Intervenes at particular points along the meridians related to particular organ systems
  - Either stimulate or suppress the flow of qi, depending on the imbalance detected
  - Restore proper energy balance within the body and thus, good health

Acupuncture: Western View

- Not completely understood
  - Acupoints are located in sites with high density of neurovascular structures
  - Predominate theory
    - Needling stimulates small-diameter nerves.
      - Release of neurotransmitters and neurohormones (endogenous monoamines and neuropeptides)
    - MRI evidence of CNS changes

Acupuncture Treatment

- Needles typically about 30 mm long, very fine and disposable
- Depth of insertion varies
- Following insertion, needles are generally stimulated
- Left in place from few seconds to 20+ minutes
- Varying or consistent points used
- Frequency and duration of treatment varies

Acupuncture: General Efficacy

- National Center for Complementary and Alternative Medicine
  - Most common used to treat pain and musculoskeletal complaints
    - Research findings for most disorders are mixed
    - Many studies suffer from methodology weaknesses related to their deigns, sample sizes, outcome measures

Acupuncture: Adverse Effects

- If done by licensed, experienced acupuncturist generally very safe
- Prospective survey completed by 574 professional acupuncturists over 34,407 acupuncture treatments in England *(Ernst & White, 2001)*
  - No serious adverse events
  - Mild transient adverse events (pain, bruising, bleeding) occurred in up to 2% of patients

Acupuncture for UI??

Why Consider Acupuncture for UI?

- Pharmacotherapy
  - May not produce clinically significant reductions in incontinence for many individuals
  - Often associated with bothersome side effects
  - High discontinuation rates (Campbell et al., 2008)
- Behavioral therapy
  - Effective for many individuals with UI, but required ongoing adherence to the treatment regimen

Why Acupuncture?

- Based on the dominate Western view that acupuncture has its effects through modulation of nervous system activity
  - Acupuncture may affect bladder function by modifying impulses between the bladder and spinal cord

Acupuncture for UI: Evidence

- Phip et al., 1988
  - 8 patients with urge UI
  - Incontinence abolished in 63% of patients
- Kitakoji et al., 1995
  - 9 patients with overactive bladder and urge UI
  - Urge incontinence eliminated in 5 and reduced in 2 patients
- Honjo et al., 2000
  - 13 patients with detrusor hyperreflexia and UI secondary to spinal cord injury
  - UI was eliminated in 2 (15%) and reduced 50% or more in 6 (46%) of subjects

Acupuncture for UI: Evidence

- Bergstron et al., 2000
  - 15 women 66 to 85 years of age who had urge or mixed UI
  - Significant improvements in self-reported leakage at each post-treatment assessment point
  - 73% reduction in grams of urine lost (48 hour pad test) relative to baseline at 1 month post-treatment (p=.028)

Acupuncture for UI: Limitations of Evidence

- Small samples
- Non-randomized designs
- Inadequate outcome measures
- Inadequate control condition
- Limited follow-up

Acupuncture for UI: Evidence

- Emmons et al., 2005
  - 74 women with overactive bladder and urge UI at least twice during a 3-day period randomly assigned to true or placebo (at alternate points) acupuncture
    - Incontinent episodes decreased from a mean of 6.3 to 2.6 (59% reduction) in the treatment group and from a mean of 8.9 to 5.3 (40% reduction) in the placebo group (ns)

Acupuncture for UI: Evidence

- Engberg et al., 2009
  - Pilot double-blinded RCT (n=9 women), age 40-70 yrs with urge urinary accidents randomized to true or sham acupuncture
  - Reduction in UI 4 weeks post-treatment/control
    - True acupuncture: mean = 67.5% (median = 75.8%)
    - Sham acupuncture: mean = 16.7% (median = 0%)
      - p = .19 (limited power); effect size d=0.85 (95% CI: -0.60-2.12)

Efficacy of Acupuncture in Treating Urinary Incontinence

NIH NCCAM: R01 AT002175
IRB # 0507028

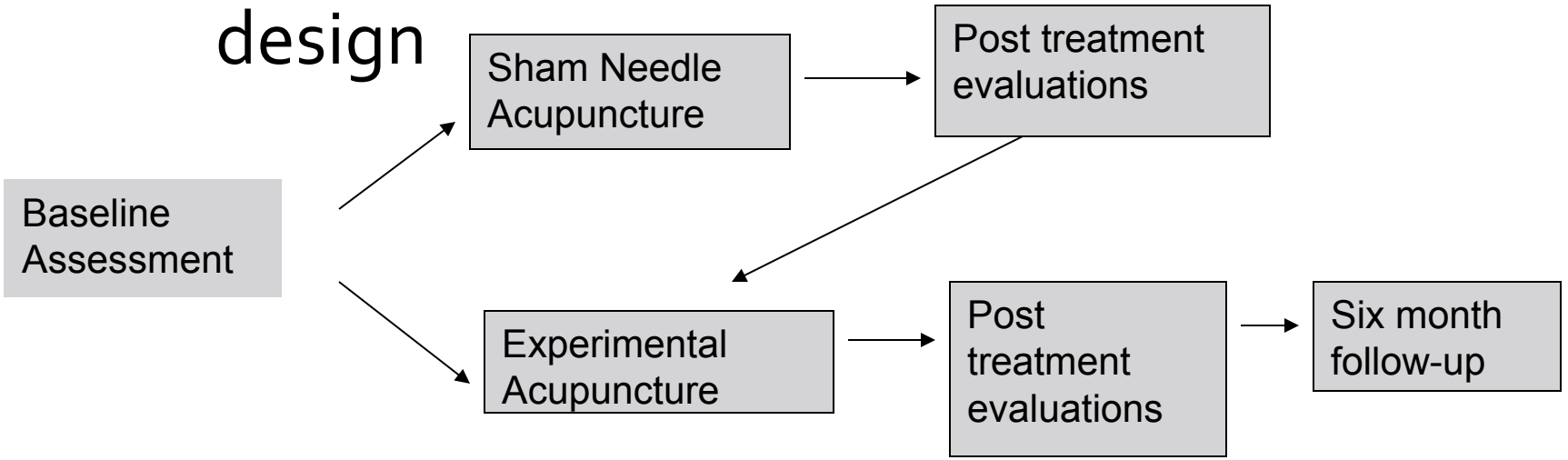
Sandra Engberg, PhD, RN, CRNP,
Susan Cohen, PhD, RN
Wendy Lang, MD
Debra Weiner, MD
Susan Sereika, PhD

Primary Specific Aims

- To examine the short-term effectiveness of acupuncture in reducing or eliminating urge, stress and mixed UI among women.
- To examine the impact of acupuncture treatment for UI on self-reported health related quality of life.

Design

Double-blinded, randomized controlled clinical trial using a pretest-posttest crossover design

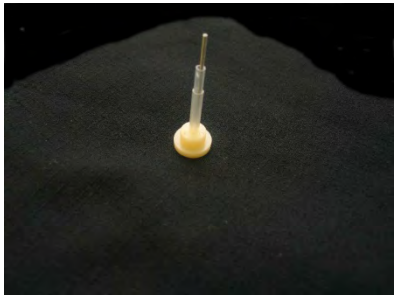


Sample

- Convenience sample of women age 25 and older with stress and/or urge urinary incontinence at least twice a week for 3 or more months

Intervention

- True acupuncture or sham acupuncture
  - 12 Sessions over 6 weeks
  - 12 points based on previous research and corresponding to segmental innervation of the bladder
  - Protocol identical for true and sham acupuncture except penetrating needle vs. blunt, non-penetrating needle



Sample Characteristics

- Randomized (n=127)
  - No significant differences from those not randomized
- True vs. sham acupuncture
  - No significant baseline differences in any baseline characteristics

Sample Characteristics

- Sociodemographic
  - Age: M=56.86 ± 11.86 years (range 32-93 yrs)
  - BMI: mean=29.5±6.6
    - Obese (BMI≥30): n=53 (41.7%)
  - History of pregnancy: n=102 (80.3%)
  - Post-menopausal: n=84 (66.1%)

Sample Characteristics

- Median duration of UI=6 years
- Mean accidents/day=2.4±1.9 (median=2.0)
- Mixed UI: n=112 (88.2%)
- Protective pad: n=96 (75.6%)
- Previous treatment for UI: n=97 (76.4%)
- Constipation: n=22 (17.3%)
- Fecal incontinence: 10 (7.9%)

Outcomes: UI Severity (Bladder Diary)

Percent reduction in all incontinent episodes

	True Acupuncture % Reduction	Sham Acupuncture % Reduction	p-value
1-week post			
Intention-to-treat	M=39.7 (SD=42.3) Median= 41.7	M=12.5 (SD=82.1) Median=22.8	.02
Completers	M=47.0 (SD=42.1) Median=53.5	M=16.4 (SD=93.9) Median=37.5	.03
4-weeks post			
Intention-to-treat	M=43.2 (SD=40.6) Median=49.4	M=33.0 (SD=50.2) Median=49.5	.15
Completers	M=52.2 (SD=39.0) Median=58.0	M=39.2 (SD=52.5) Median=50.2	.21

Outcome: General Health-Related Quality of Life (MOS SF-36)

- No significant differences in Physical Health Component scores
- Significant or near significant differences in the Mental Health Component scores

ITT: 1 week	ITT: 4 weeks	Completers: 1 week	Completers: 4 weeks
Mental health component score in true acupuncture (p=.03)	Mental health component score in true acupuncture (p=.07)	Mental health component score in true acupuncture (p=.04)	Mental health component score in true acupuncture (p=.06)

Outcome: Incontinence Specific Quality of Life

- Small to modest improvement in IIQ scores in both groups
  - No significant differences between the groups based on intention to treat or completer only analysis at either 1 or 4 weeks relative to baseline

Conclusions

- True acupuncture was associated with a statistically significantly greater reduction in incontinent episodes than sham acupuncture at 1 week but not 4 weeks after the true or sham intervention
- The impact on mental health domain was significantly more positive in the true acupuncture group at 1 week post intervention
- Changes in UI-specific quality of life did not differ in the groups

Pessary use for Incontinence and Prolapse

Lesley Hanson-Bellefeuille RN BScN
Nurse Continence Advisor

International Continence Society
Rio de Janeiro
October 20, 2014

Management strategies for incontinence and prolapse

- Manage medical problems
- Avoid heavy lifting
- Treat constipation
- Weight loss
- Local HRT

- Behavioral therapy
- Pelvic floor physio

- **Pessaries**
- Surgery

Multi-discipline!
Inter-discipline!

The history of the pessary

- One of the oldest medical devices
- Peak popularity in the 1800s (uterine retroversion)
- Experienced a rebirth in design
  - Available from medical supply companies

Historical perspective

- Hippocrates
  - pomegranate
- A.D.
  - leg binding
  - Astringents

David Scott Miller, MD
Contemporary Use of the Pessary
Obstetrics and Gynecology
Vol. 1, Chapter 39, January 1991

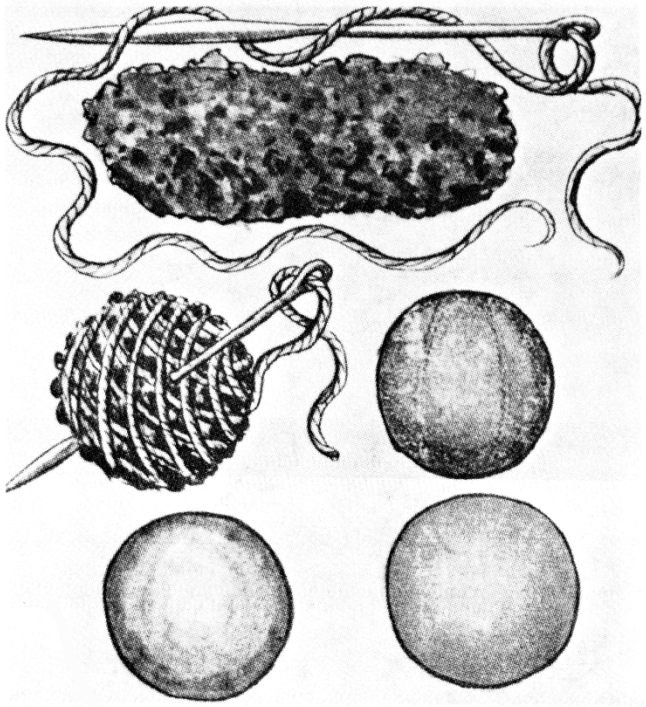


Fig. 1. Early pessaries. (Stromayr C: Die Handschrift des Schnitt-und Augenarztes Caspar Stromayr. Berlin, Brunn, 1925)

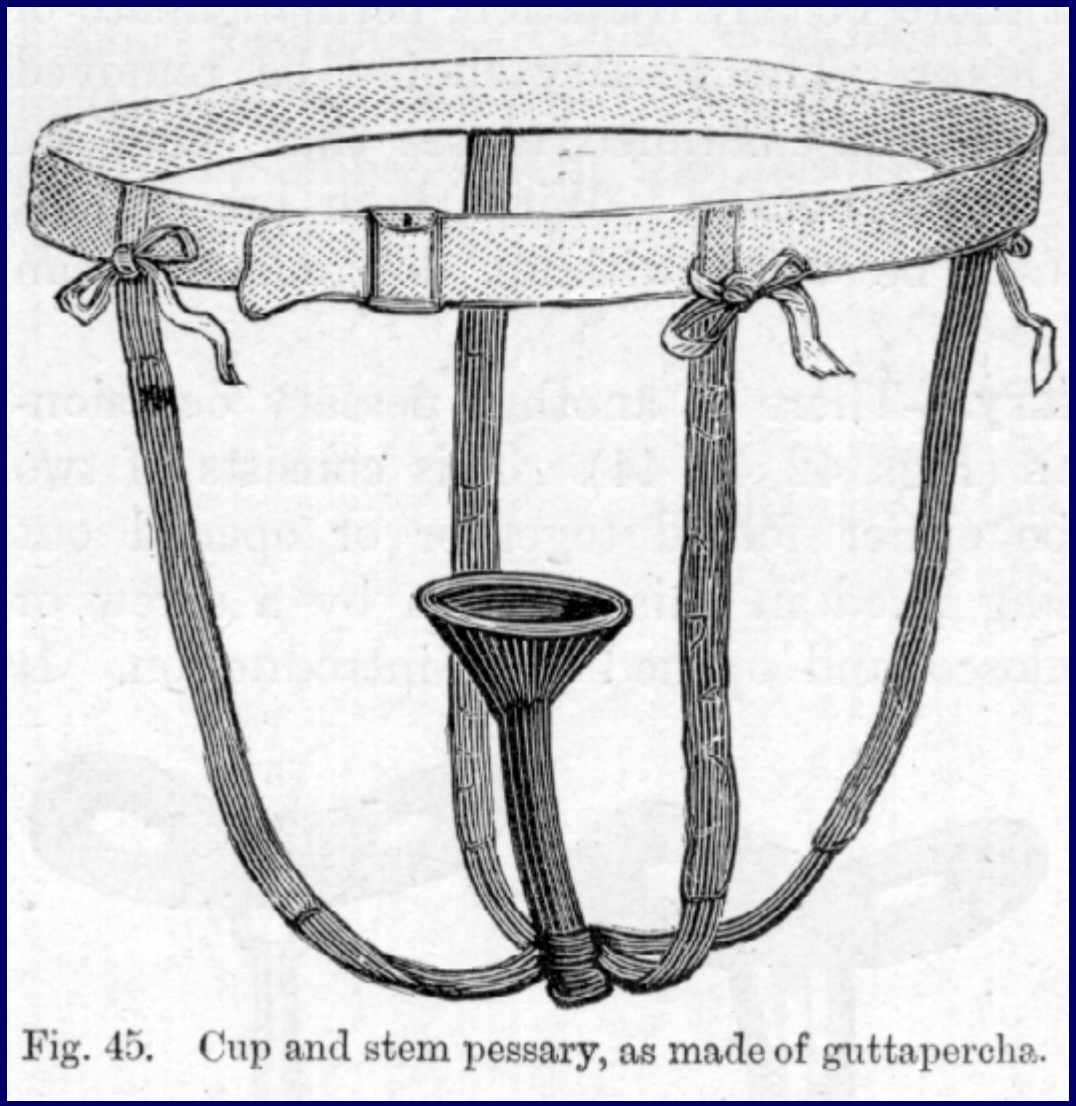
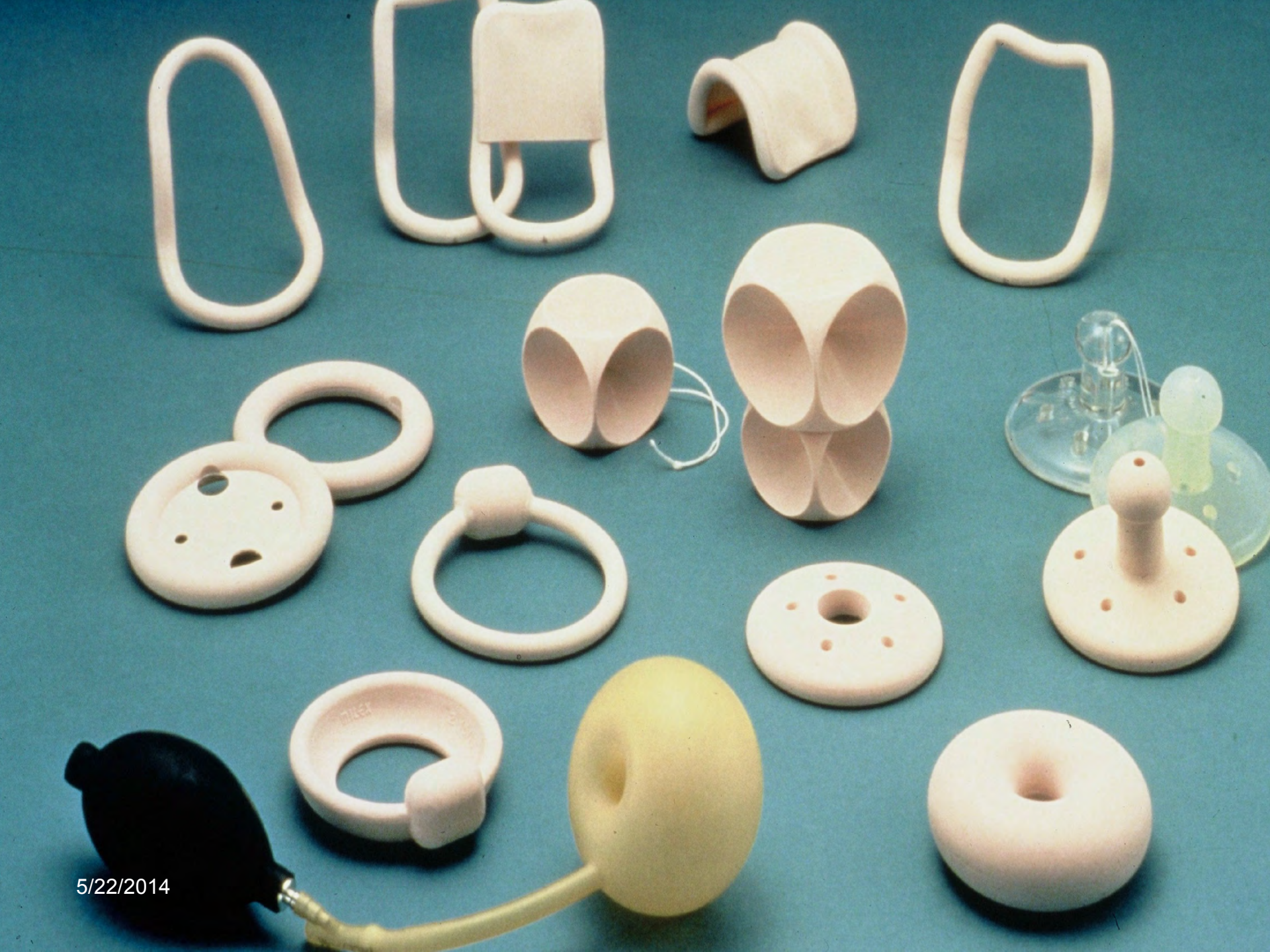


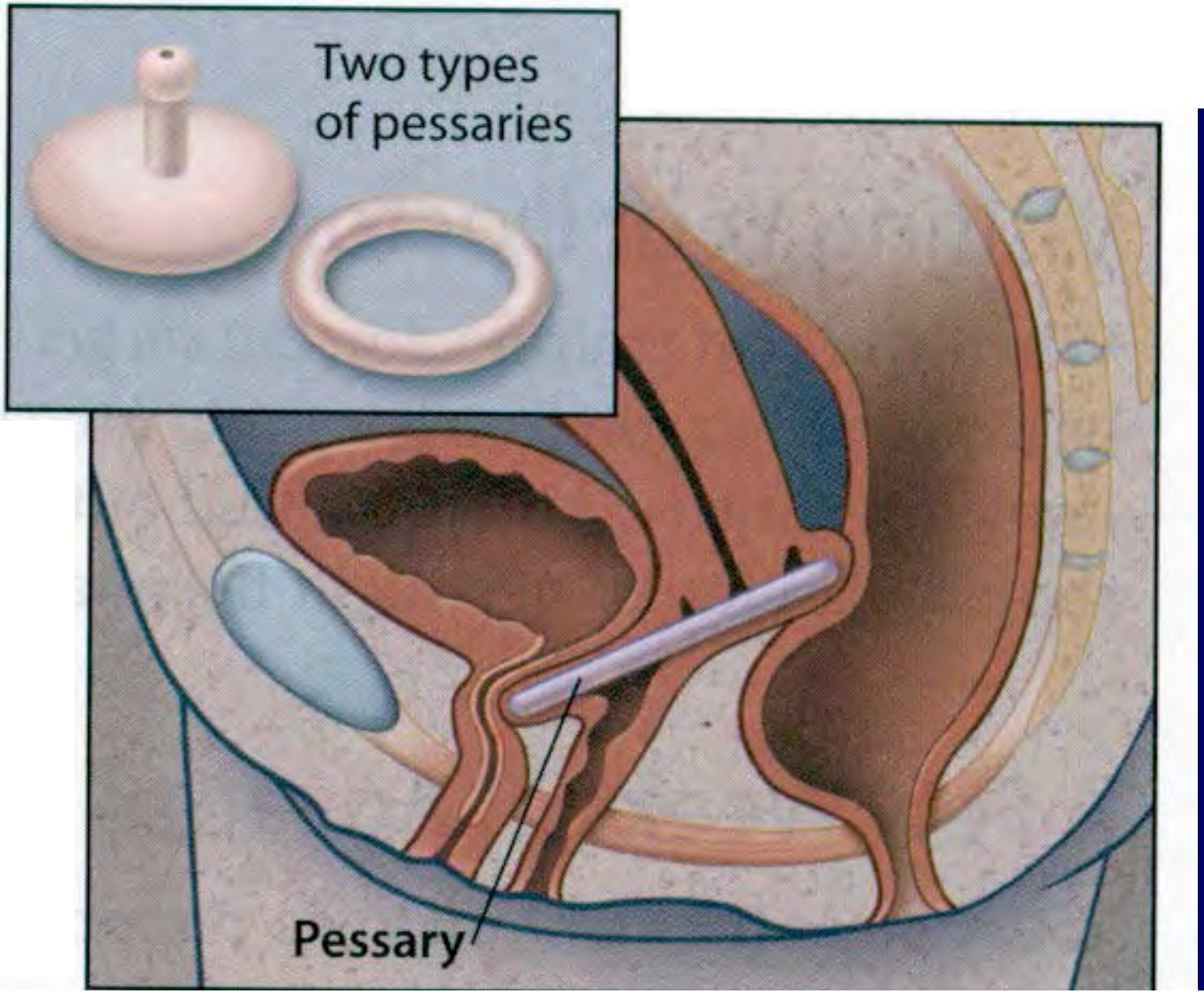
Fig. 45. Cup and stem pessary, as made of guttapercha.

History

- Traditionally pessaries were used for prolapse
- Pessaries used in urinary incontinence with success (>70%)
- Limited trials on pessaries in general and especially incontinence pessaries



5/22/2014



Wearing a pessary can help support any prolapsed organs.

Pessaries

- Placed in the vagina to support the pelvic muscles, the anterior and posterior wall of the vagina and the uterus
- For stress, urge & mixed incontinence in women
- If surgery is not
  - suitable
  - wanted
  - possible

Indications for pessaries

- In addition to other conservative treatment
  - PFMT, lifestyle changes
- Temporary measure pre-op
- Incontinence after failure of surgery
- Diagnosing latent incontinence pre-op
- Patient preference

Predicting Successful Pessary Fitting

Study	Design	N	F/U (mo)	Measure
Nager et al. 2009	Randomized clinical trial	266	3	n/a,

- Successfully fitted 92%
- Did NOT predict successful fit:
  - Prior hysterectomy
  - Genital hiatus (GH)
  - GH/TVL
- Did NOT predict final pessary size:
  - POPQ points C or D
  - Total Vaginal Length

Predicting Successful Pessary Fitting

Study	Design	N	F/U (mos)	Measure
Hanson et al. 2006	Retrospective series	1,216	6	Non validated,

- Successfully fitted 86%
- Continued use 71%

- Predicted successful fit:
  - Hormone replacement therapy
  - Ring pessary

Hanson et al. Int Urogynecol J Pelvic Floor. 2006;17(2):155-9.

Impact on Sexual Symptoms

Study	Design	N	f/u (mos)	Measure
Fernando et al. 2006	Prospective series	97	4	Sheffield POP Questionnaire

- 27% sexually active
  - 62% increase sexual activity

Fernando et al. Obstet Gynecol. 2006;108:93-9.

Impact on Sexual Function

Study	Design	N	f/u (mos)	Measure
Kuhn et al. 2009	Prospective series	73	ns	Female Sexual Function Index

- Improvement in
  - Desire
  - Lubrication
  - Sexual satisfaction
- Did not alter orgasm

Kuhn et al. Fertil Steril. 2009;91:1914-8.

Uterine Prolapse

- Case Study-Mrs. D
  - Age 65 yrs
  - Urinary retention-overflow incontinence; Foley catheter
  - Fit with a Gellhorn 3”
  - Voiding well-post void residual after fitting under 50 mls

Prolapse reduced with Pessary

Incontinence pessaries

Incontinence ring

Incontinence Dish

Incontinence dish with support

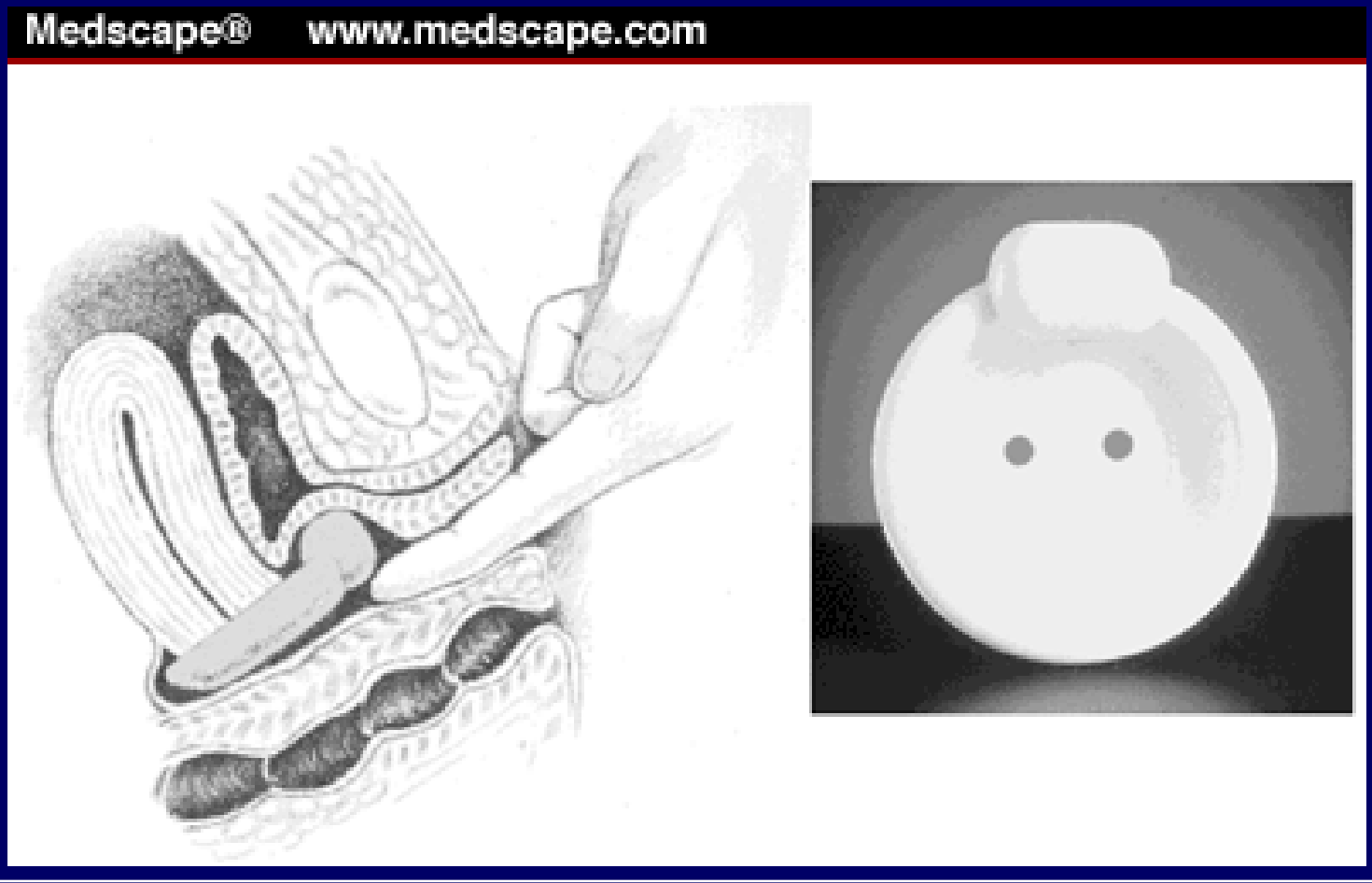
Support & knob Pessary

Mode of action-incontinence

Increases urethral closure pressure; supports the bladder neck

- Useful for women with stress, urge and mixed urinary incontinence

Mode of action



Pessary fitting

- Trial and error
  - many styles and sizes
- Should be comfortable… “I can’t feel it”
- Should be able to empty bladder-check post void residual

How to Select and Fit a Pessary?

- Anatomic requirement - degree of POP, type of UI, size of introitus
- Must also consider “whole picture”
  - Age, ability
  - Health status (contraindications)
  - Integrity of vaginal tissues, vaginal size & shape
  - Background (cultural, personality)
  - Sexual activity

Anticipate

- **1/10 can't be fit** – Pessaries are not for everyone
  - Falls out
    - gaping introitus, degree of prolapse, shape of vagina
  - Too uncomfortable
    - scar tissue, "bands", cramping, pressure, etc
  - Don't like, won't wear, don't return
  - Never pressure anyone, provide info

Process of pessary fitting

- History
- Pelvic Exam
  - Introitus
  - POP evaluation
  - Tissue integrity
  - Evidence of SI
  - Estimate size of vagina (digital exam)

Process of pessary fitting

Trial of pessaries based on:

- Indication,
- Ability to manage,
- History,
- Sexual activity

Process of pessary fitting

- Have patient stand, sit, walk, squat
- Empty bladder (do PVR)
- assess comfort, relief of symptoms, leakage
- may need to try several

Pessary fitting

- Two fingers into vaginal vault
  - Determine depth and width
- Start with ring or appropriate design for diagnosis
- Lubricant on leading edge of device
- Slip in, tilt behind symphysis
  - turn if indicated
  - fingers breadth

Checking fit

- Must be able to place a finger tip between the pessary and the side wall of the vagina
- Must be able to empty the bladder
- Must not come down or out with coughing or bearing down
  - May feel like a “Tampon out of place” if not in place

Process of pessary fitting

- Teach, teach, teach!
  - what to watch for
  - what to do if ….
  - how to take care of
  - avoid constipation
  - importance of follow-up

Process of pessary fitting

- Trial at home, in real life with real activities
- Return for follow-up appointment
  - If unable to remove (1-2 weeks)
  - If independent with care (4-6 weeks)

Evaluation - Ask

- Follow visit:
  - Do you like it?
  - Is it working?
  - Any complications/problems/issues?
  - ?discharge, discomfort, odor, cleaning, removing & inserting, bowels, voiding, sexual activity
  - Do you want to keep on using it?

Evaluation on follow up - Examine

- Exam:
  - Check position, fit
  - Check tissues, discharge, odor, condition of pessary
- Ongoing:
  - Troubleshooting problems
  - Comfort
  - Effectiveness

Follow up Regimes

Patient able to remove & reinsert:

- Wear as often or a little as they wish
- Weekly, wash with dish soap & water, leave out overnight, reinsert in am
- Report any signs of discharge, odor or bleeding

Follow up Regimes

Patient <u>unable</u> to be independent:

- Every three months health care provider to remove, clean, and reinsert pessary
- Vaginal speculum exams to inspect vaginal tissues for erosion, irritation, infection

Healthcare follow-up

- Speculum exam to rule out abrasions, ulcerations and infections
- Clean pessary with dish soap and water and reinsert
- Treat any infection or erosions
  - Leave device out for two to three weeks and treat with antibiotic cream and/or vaginal estrogen cream

Complications

- Vaginal discharge and odor
  - May be normal
  - May be due to an erosion
- Discomfort
  - Likely poor fit
- Vaginal abrasions or ulceration
  - May be too large or tissues lacking estrogen
- Rare
  - Obstruction voiding/defecation
  - Embedded (lost to follow-up)

Trouble shooting-Vaginal discharge

- May be normal foreign body effect
- May require culture-antibiotic/antifungal
- Estrogen cream/ring and/or non-estrogen lubricant
- Warm water or betadine douche
- More frequent removal & cleaning

Troubleshooting-Erosions

Prevention & education!

- Culture
- Pessary “rest”
- Add or increase vaginal estrogen
- Non-estrogen lubricant (Replens;Gynatrof)
- Antibiotics/antifungal
- More frequent follow up

Troubleshooting the "forgotten" pessary

- Potential cellulitis, peritonitis, fistulas, chronic discharge and odor
- Caution with office removal>hemorrhage
- Local estrogen prior to attempting removal

- Leave alone and manage with douching and estrogen

Frequently Asked Questions: Patients

- How often should I remove and clean it?
- How do I remove & reinsert it?
- Can I have sex with it in place?
- Can I use a petroleum based lubricant?
- What problems should I watch for?
- Can I put it up too far?

Frequently Asked Questions: Physicians

- How often should I see the patient?
- How do I clean it, should it be sterilized?
- Should I do a speculum exam?
- Does the patient need to have routine pap?
- Patient unable to use local estrogen?
  - What can she use?
- Patient has an erosion; how long should the device be left out & how should I treat her?

Conclusions

- Local estrogen replacement plays a major role in the ability to successfully fit a pessary
- Systemic estrogen is not as important

Conclusions

- Pessaries are an option for the treatment of stress, urge and mixed incontinence
- Pessaries are an option for the treatment of all prolapse including vault prolapse
- Pessaries are an option for young sexually active women

Case Studies

Case # 1

- 30 year-old G2P2
- Marathon runner
- Future wishes for childbearing uncertain
- Leaks with intercourse
- Grade 2 cystocele, Grade 1 rectocele

Case #1 Questions:

- Is a pessary an option?
- What is your pessary style of choice?
- What is your pessary management regime for this patient?

Case #2

- 79 year-old G4P4, heaviness and bulge
- Bloody discharge, difficulty defecating and voiding
- Dyspareunia-painful intercourse
- Vaginal Hysterectomy, no HRT
- Complete vault eversion with erosion

Case # 2 Questions

- What are your conservative management options?
- What type of pessary would you try first?
- How do you address pessary use in a sexually active woman?
- Do pessaries work for rectocele?
- Ulcer management?

Case #3

- 85 year-old with Alzheimer's disease
- **No history available**
- Vaginal odor and discharge
- Large Gellhorn pessary discovered on exam

Case #3 Discussion

- What is your course of action?
- What if the pessary cannot be removed in the office
- Can a pessary be left in indefinitely?
- If removed and reinserted, what is your recommended management regime?

Case #4

- 32year-old G1P1 with mixed incontinence
- Symptoms of pelvic pressure
- Sexually active, single parent
- Grade 2 uterine prolapse and cystocele
- Positive cough test, high residual

Case #4 Discussion

- Is pessary an option?
  - Justify your answer…
- What is your first choice of pessary?
- What is your recommended management regime?

Clinical reference manual

“Pessaries in clinical practice”

Scott Farrell Ed.

Springer 2006

Available online

Questions?

Thanks to Dr. G. Cundiff

Elimination Dysfunction in Neurologic Diseases

Tamara Dickinson, RN, CURN, CCCN, BCB-PMD
Department of Urology
UT Southwestern Medical Center
Dallas, TX

ICS

Neurologic Voiding Dysfunction

Detrusor Underactivity

- Contraction of reduced strength and/or duration, results in prolonged bladder emptying and/or incomplete emptying
- An underactive detrusor is one that cannot demonstrate a detrusor contraction during UDS
- Can be caused by conditions that inhibit at the level of the brain stem, micturition center, sacral spinal cord, or bladder smooth muscle

ICS

High Compliance

- Large capacity with no real increase in pressure during filling despite large volume
- Can be caused by sensory neuropathy, lower motor neuron lesions, overdistention injury of the detrusor

Low Compliance

- A steady steep rise in pressure usually in response to a small volume
- Change from baseline greater than 40 cm H2O puts patients at risk for upper tract damage
- Can be caused by UTI, upper motor neuron lesion, or chronic obstruction

Diseases/Injuries at or above the brain stem

- CVA-initially retention and detrusor underactivity, then neurogenic DO
- Dementia-Is it a loss of awareness or loss of control?
- Parkinson's Disease-c/o urgency, frequency, nocturia, UUI, BOO-most common UDS finding in neurogenic DO

Diseases/Injuries involving the spinal cord

- Multiple Sclerosis
- Spinal Cord Injury
- Spinal Anomalies (spina bifida, tethered cord)
- Spinal Cord Tumors

Disease Distal to the Spinal Cord

- Disc Disease-most protrusions compress L4-5 or L5-S1, detrusor areflexia is common, laminectomy may not improve bladder function, pre-op UDS?
- Diabetic Cystopathy-peripheral & autonomic neuropathy, 1st impaired bladder sensation then time between voids lengthens resulting in detrusor overdistention and decompensation

ICS

Common UDS Findings in Myelodysplasia

- Detrusor underactivity and/or acontractile detrusor with open BN, 10-15% with DSD (McGuire & Denil, 1991)
- Detrusor underactivity or acontractile detrusor, neurogenic DO, some with low compliance, open incompetent BN (Wein, 2002)

ICS

Common UDS Findings in SCI

- Suprasacral Injuries-neurogenic DO, normal compliance, DSD
- Sacral Injuries-detrusor underactivity and/or acontractile detrusor, low compliance usually develops, competent non-relaxing smooth sphincter

Wein, 2002

Detrusor Leak Point Pressures (Det-LPP)

- Evolved from the research of McGuire in the early 1980's
- Studied myelodyplastic population and noted a relationship between the detrusor pressure when leakage of urine occurred and the development of upper tract compromise
- N=42, 22 had Det-LPP > 40 cm H2O (68% had VUR and 81 % ureteral dilatation), in long term f/u of these 100% developed upper tract deterioration

ICS

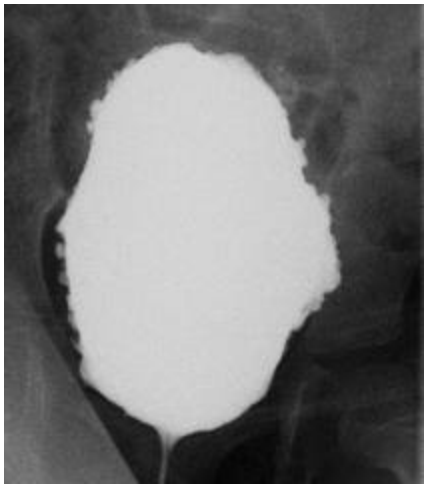
Detrusor Leak Point Pressure Clinical Relevance

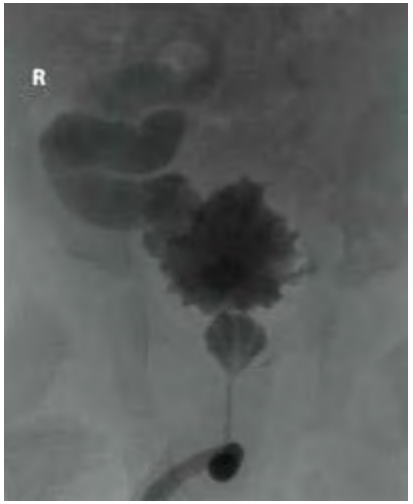
- Upper tract changes due to low compliance and subsequent high Det-LPP can occur in any disease process that results in increased outlet resistance
- Increased outlet resistance causes a gradual loss of detrusor compliance
- Is important to manage elevated pressures before upper tract damage occurs
- Low bladder compliance (or high storage pressures) can cause an impairment of ureteral delivery of urine into the bladder
- Upper tract deterioration includes ureteral dilatation, VUR, and even pyelonephritis

ICS

Diverticulum

Trabeculation

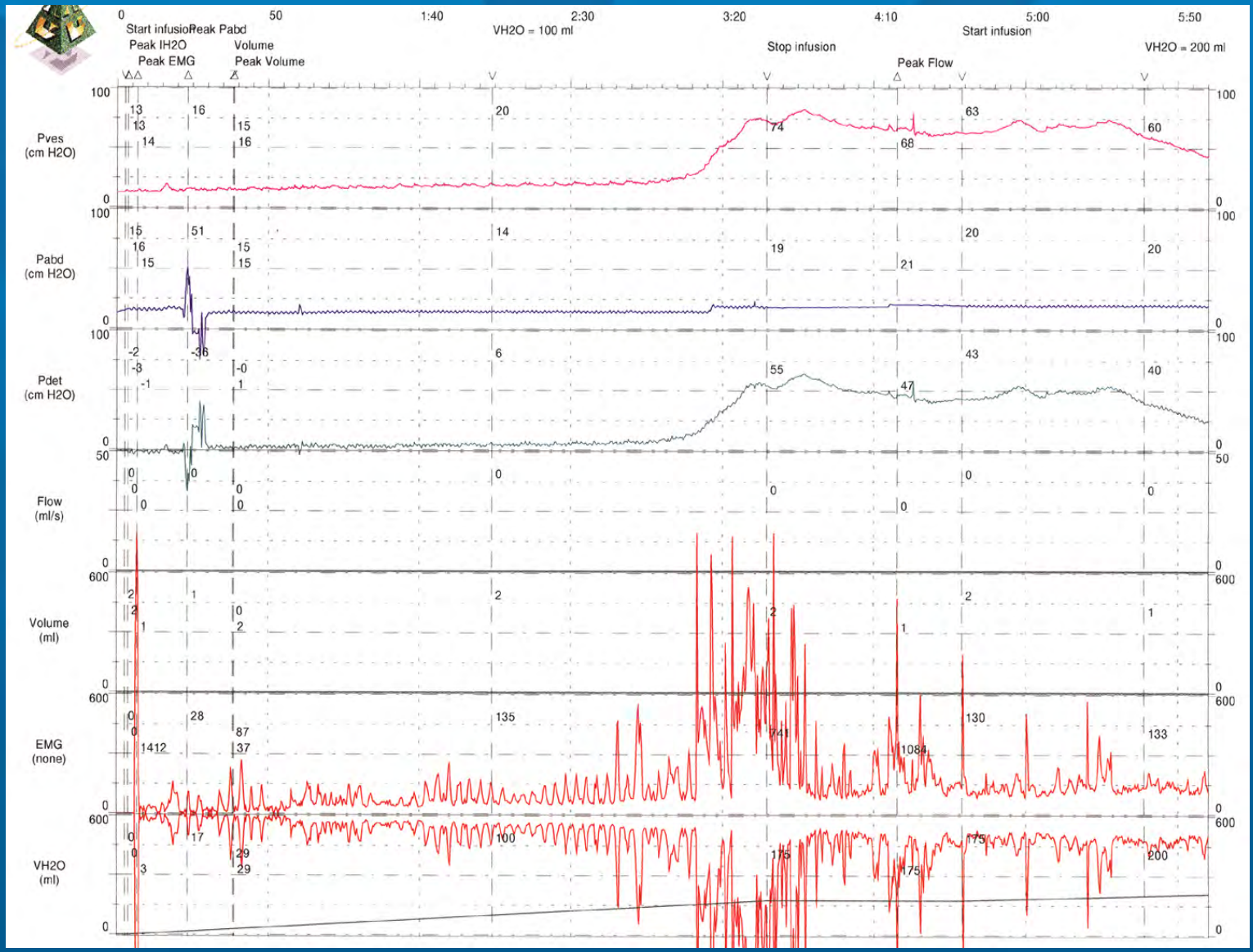




Detrusor Sphincter Dysynergia

- Dysynergia-”kinesiologic disassociation of 2 groups of muscle that generally work in harmony” (Wein, 2002)
- Detrusor Sphincter Dysynergia (DSD) is a common finding in SCI, MS, and Parkinson’s patients
- There is also a subset of patients who have developed learned voiding dysfunctions by not relax the PFM adequately for elimination creating an outlet obstruction

ICS



T5 Spinal Cord Injury patient with Detrusor Sphincter Dysynergia

ICS

Goals of Management

- First and foremost, preservation of the upper tracts
- Control of UTI's
- Adequate storage at low pressures
- Adequate emptying at low pressures
- Adequate control
- Acceptable and adaptable for that patient's situation
- Adequate preservation of quality of life

ICS

No Risk, No Side Effect Therapy

Behavioral Modifications

- Adequate fluid intake, appropriate fluid intake
- Identification of bladder irritants
- Managing constipation
- Evening fluid restriction and elevating LE to decrease nocturia
- Toileting and bladder retraining programs

Therapy to Facilitate Storage

- Pharmacologic Therapy
- Neuromodulation
- Augmentation cystoplasty
- Botulinum toxin
- Non-surgical periurethral bulking
- Surgical procedures (sling, AUS)

ICS

Therapy to Facilitate Emptying

- Bladder Related-external compression, neuromodulation
- Outlet Related-address anatomic obstruction
- Miscellaneous-CIC, continuous drainage, diversion

Clean Intermittent Catheterization

- Still the “gold standard” for management of incomplete emptying in the neurogenic population
- What if someone isn’t able to catheterize themselves?
- How does it affect QOL when a caregiver must perform this procedure for someone numerous times a day?
- Does bladder management really affect QOL?

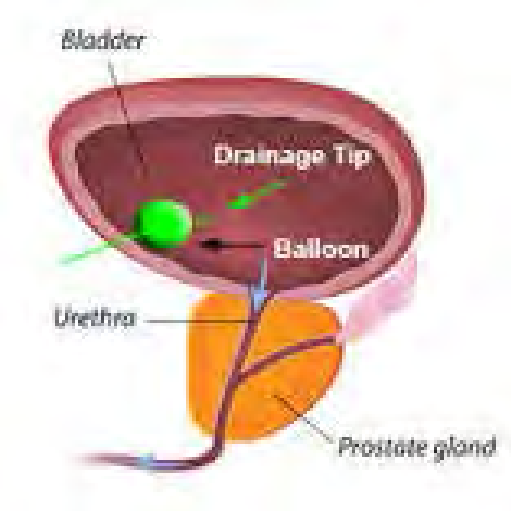
ICS

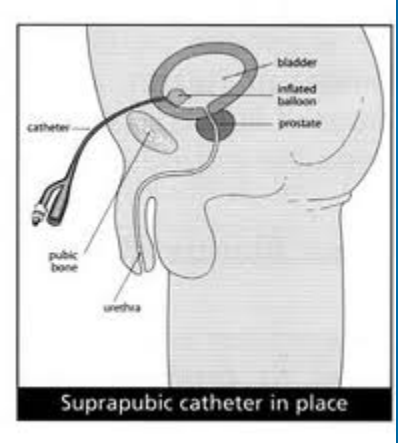
Hand Function

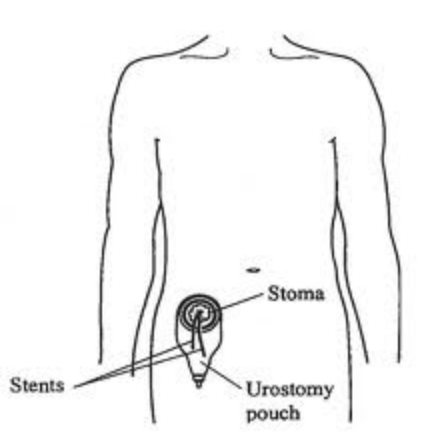
Independence & Control

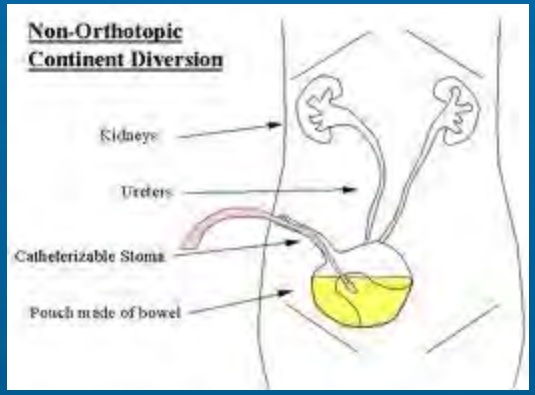
- Important aspect of the care and well being of patients with disabilities
- Promotes quality of life
- Participatory care

Other Options









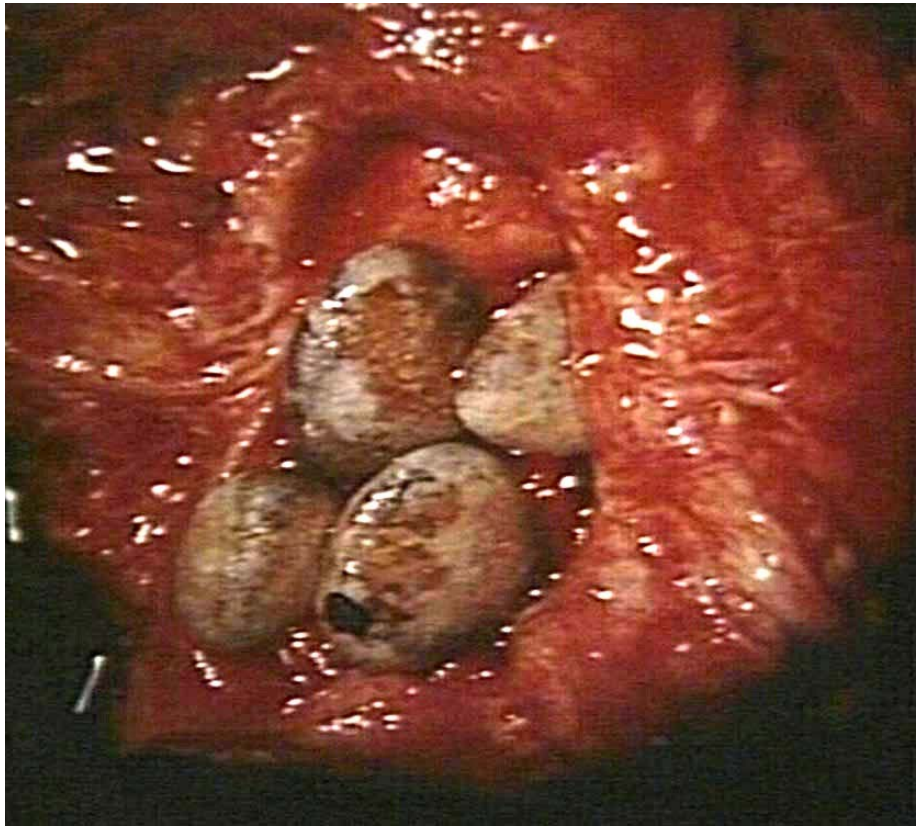
ICS

Suprapubic Catheter & QOL

- Indicated in refractory UI, incomplete bladder emptying with the inability to perform intermittent catheterization & inability to tolerate long-term indwelling catheterization
- Can be effective means of bladder emptying when other methods are not feasible & can improve QOL
- The PGI-I has been sent to 116 patients in our neuro-urology practice to evaluate improvement in QOL (patients spanning a 10 year period of experience) in addition to a retrospective chart review.

ICS

Bladder Stones



Autonomic Dysreflexia

- A medical emergency
- An “acute massive autonomic response to specific stimuli in patients with SCI above T6” (Wein, 2002)
- Visceral distention,full bladder *or bowel*
- Immediate removal of the cause!

Symptoms of Autonomic Dysreflexia

- Usually a sudden onset of symptoms
- Symptoms include bradycardia, severe HTN, sweating above the level of injury, “goose bumps” below the level of injury, SEVERE headache and nasal stuffiness

Neurologic Bowel Dysfunction

Spinal Cord Injuries and Lesions

- S2-4 sacral nerves mediate bowel function
- Injury or lesion above this level preserves the reflexes of the anal sphincter and rectum (Reflexic Impairment)
- Injury or lesion below this level creates a flaccid rectum (Areflexic Impairment)
- Lumbosacral injury or lesion creates a flaccid rectosigmoid colon
- Cervicothoracic causes hypertonic, poorly compliant colon and subsequent increased transit time

ICS

Goals of Bowel Programs

- Predictable evacuation at a chosen time and frequency
- Promote continence
- Prevent constipation and other secondary complication of neurogenic bowel

Gastrocolic Reflex

- In response to drinking warm beverages and/or eating a meal, increases muscular activity in the GI tract
- Makes after breakfast or dinner a good time for bowel programs

Dietary Considerations

- Adequate and appropriate fluid intake (likely need an additional 500 ml/day)
- Appropriate fiber
- Avoiding foods that produce excess gas

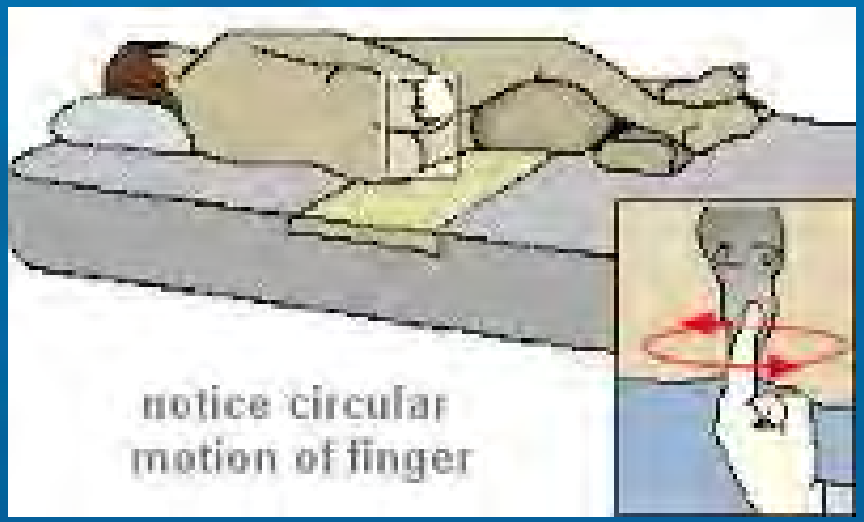
Areflexic bowels generally need firmer stools while Reflexic bowels need softer stools

The Bristol Stool Form Scale

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces ENTIRELY LIQUID

Digital Stimulation

- Used to increase reflex muscular activity in the rectum (increase pressure and relax sphincter in order to expel stool)
- Lubricated, gloved finger in a slow circular motion around the anal canal maintaining contact with the mucosa, typically 15-20 seconds, until relaxation of the sphincter is achieved.



ICS

Suppositories and Enemas

- Suppositories can be glycerin or stimulant laxative
- Enemas are not as favored (large volume enemas can create electrolyte imbalances, they are more difficult to use, not as well liked for long term management

Laxatives

- Stimulants (senna, bisacodyl)
- Softeners (docusate sodium)
- Bulkers (fiber, psyllium)
- Osmotics (polyethylene glycol, lactulose)

Taken regularly will help with predictability and maintain consistency

Digital Evacuation

- Common single intervention in 2007 survey (Coggrave)
- Shorter bowel program and fewer incontinent episodes (Coggrave, 2007)
- Used in early SCI care to avoid over distension of rectum that might alter recovery of reflex function
- Used in management of flaccid bowel

ICS

Other Neurologic Conditions

- Multiple Sclerosis, Parkinson's Disease and Stroke
- Complaints usually related to constipation and fecal incontinence

ICS

Case Study: Fecal Incontinence in Anorectal Malformations

- Tania das Graças de Souza Lima, RN, PhD
- Universidad Federal do Rio de Janeiro
- Brazil

ICS

Anorectal Malformations

- The Anal Imperfuration is a congenital malformation in the anorrectal region
- It is a condition what happens in 1 in every 5000 newborns
- The cause is unknown
- More common in boys

ICS

Anorectal Malformations

- The correction occurs soon after birth or the realization of a colostomy and subsequent definitive surgery
- Afther operation for rectal atresia, Incontinence is very common
- There are great personal and social impacts

ICS

Case: Fecal Incontinence in children

- O.G.S.A., child 12 years, male
- Submitted to the surgical correction of imperforate anus
- Using 4 to 5 diapers per day
- "Not joked in his party four years"

ICS

Severe Fecal Incontinence (Assessment of anal function)

- First Manometric Evaluation:
- Rest pressure=34 mmHg
- Contraction pressure=107 mmHg
- Visual Analog Scale:
- Mother=7 Father=10 Children=5
- The Wexner Score: 15

ICS

Severe Fecal Incontinence

- Made daily defecation (36 losses \ week)
- Started manometric biofeedback in second session
- Home Exercise
- Biofeedback for digital guidance

ICS

Fecal incontinence

In the third session

- • PFMT
- • Shows 50% improvement
- • But still has a high frequency of loss

ICS

Fecal Incontinence

- • We created goals
- • The eighth session worsens with 57 episodes of loss \ week
- • In the tenth session stopped wearing diapers
- • Started using absorbent 3 \ day

ICS

Severa Fecal Incontinence

- • 11th session initiated the use of loperamide 1 \ 2 comp. \ day
- • Nine months after evacuating x 3 to 4 days
- • Longer evacuates the night
- • Carefree uses to replace the diaper
- • After eleven months it has 1-2 losses \ day
- • Uses 1 to 1 1 \ 2 loperamide \ day

ICS

Conclusion

- • The children with poor fecal continence have very problems and poor quality of life caused by fecal dysfunction.

  Attention should be paid to the rehabilitation of fecal continence after surgery, such as bowel training and biofeedback therapy.

ICS