



# Concerted Effort in Care of Female Urinary Incontinence and Pelvic Organ Prolapse

Hospital Authority Convention 2013

16<sup>th</sup> May, 2013

Dr. Symphorosa Shing-Chee CHAN  
Consultant & Clinical Associate Professor (Honorary)  
Dept. of O&G, Prince of Wales Hospital  
Chinese University of Hong Kong

# Prevalence of urinary and fecal incontinence in Chinese women during and after their first pregnancy

Int Urogynecol J

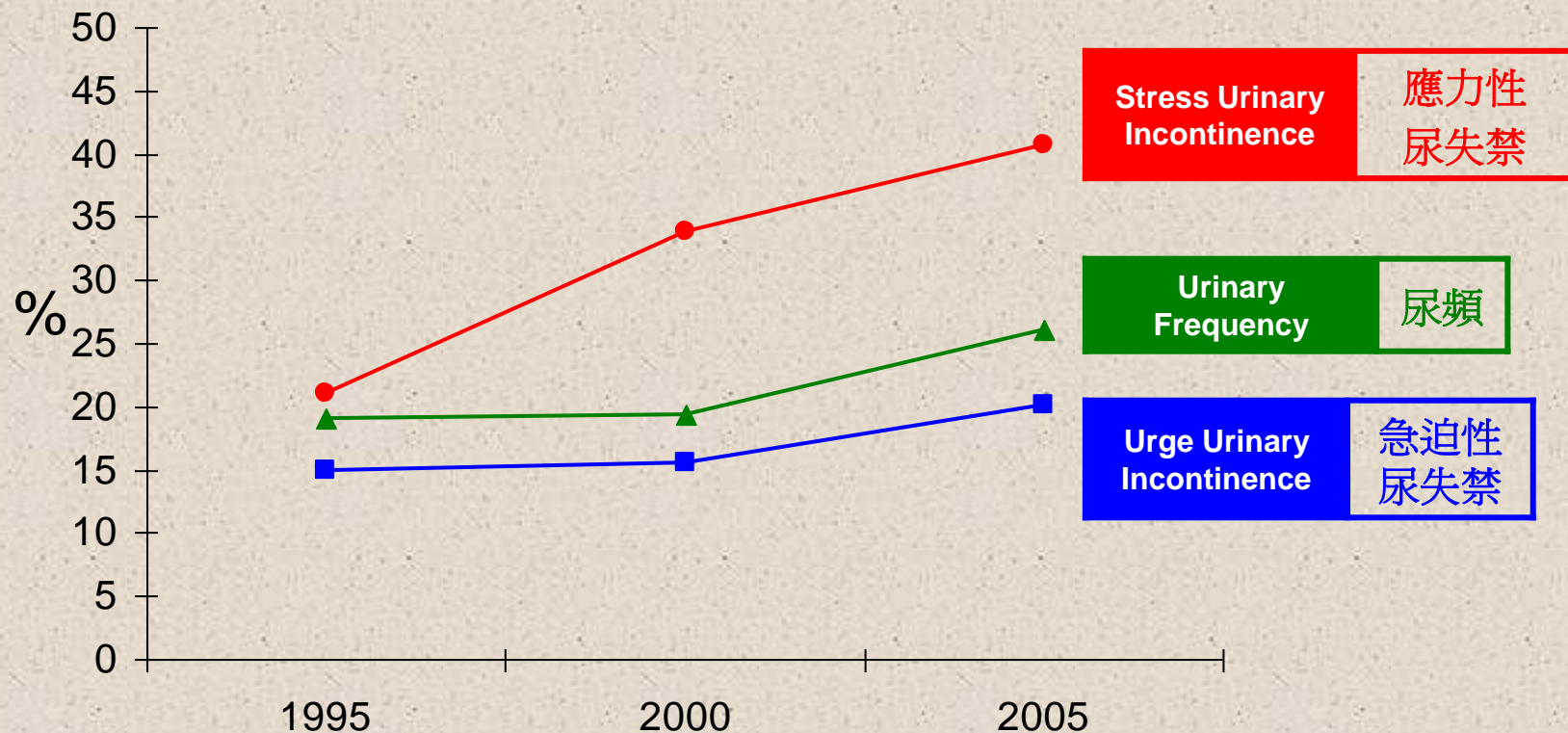
Symphorosa S. C. Chan • Rachel Y. K. Cheung •  
K. W. Yiu • L. L. Lee • Tony K. H. Chung

ORIGINAL ARTICLE

Symptoms N = 328	First trimester	Second trimester	Third trimester	Postnatal 12 month
Stress urinary incontinence	30 (9.1)	106 (32.4)	124 (37.8)	85 (25.9) <sup>*,**,***</sup>
Urge urinary incontinence	16 (4.9)	17 (5.2)	47 (14.3)	27 (8.2) <sup>*,***</sup>
Mixed UI	8 (2.4)	11 (3.3)	34 (10.4)	22 (6.7)
Any UI	38 (11.5)	112 (34.1)	134 (41.8)	90 (27.7) <sup>*,**,***</sup>

**Acknowledgements** This study obtained grants from Health and Health Service Research Fund from Department of Health Bureau of Government of Hong Kong S. A. R.

# Lower Urinary Tract Symptoms (LUTS) in Hong Kong Women – Overall



The Chinese University of Hong Kong Surveys 1995 - 2005

# Chinese validation of Urogenital Distress Inventory and Incontinence Impact Questionnaire short form

Symphorosa S. C. Chan • K. W. Choy • Beatrice P. Y. Lee • Selina M. W. Pang •  
Shing Kai Yip • Loreta L. L. Lee • Rachel Y. K. Cheung • Alice K. W. Yiu •

Tony K. H. Chung

Int Urogynecol J (2010) 21:807–812

Do you experience, and, if so, how much are you bothered by:

你有沒有經歷過以下的症狀？如果有，這些症狀有多困擾你？

## UDI-6 小便困苦清單

	Symptom Subscale
1 <b>Frequent urination?</b> 經常去小便	Irritative
2 <b>Urine leakage related to the feeling of urgency?</b> 由急迫感覺引致的失禁	Irritative
3 <b>Urine leakage related to physical activity, coughing, or sneezing?</b> 由活動、咳嗽或打噴嚏引致的失禁	Stress
4 <b>Small amounts of urine leakage (drops)</b> 小量的小便失禁（例如數滴）	Stress
5 <b>Difficulty emptying your bladder?</b> 有困難去排清小便	Obstructive/discomfort symptoms
6 <b>Pain or discomfort in the lower abdominal or genital area?</b> 小腹或生殖器官部位的疼痛或不適	Obstructive/discomfort symptoms

# IIQ-7 小便失禁影響問卷

你的小便失禁有否影響你的：

	IIQ-7 items	Subscale
1	<b>Ability to do household chores</b> 做家務的能力（例如：煮飯、清潔家居或洗衣等）	Physical activity
2	<b>Physical recreation such as walking, swimming, or Ex</b> 體育康樂（例如：步行、游泳或做運動等）	Physical activity
3	<b>Entertainment activities</b> 娛樂活動（例如：睇戲、聽演唱會等）	Travel
4	<b>Ability to travel by car or bus &gt;30 min</b> 搭車或駕駛車輛外出半小時以上的能力	Travel
5	<b>Participation in social activities outside your home</b> 外出參與社交活動	Social/relationships
6	<b>Emotional health (nervousness, depression)</b> 心理健康（如神經緊張、抑鬱或憤怒）	Emotional health
7	<b>Feeling frustrated</b> 沮喪感覺	Emotional health

# Study on Quality of life of women with UI

Conducted in 2009 at Urogynaecology clinics in NTEC (N=233)

Urodynamic diagnosis	Normal finding (n=76)	USI (n=103)	DO (n=40)	USI+DO (n=4)
Age (years)	48.9 ± 10.8	52.1 ± 8.0	48.1 ± 9.6	56.5 ± 12.5

UDI-6/IIQ-7 domain	scoring
UDI-6 total score	42.8 ± 20.3
Irritation	51.2 ± 31.4
Stress	53.9 ± 28.0
Obstruction/discomfort	23.4 ± 25.1
IIQ-7 total score	34.0 ± 25.3
Physical activity	34.9 ± 27.9
Travel	33.4 ± 30.5
Social/relationships	34.8 ± 33.0
Emotional health	32.3 ± 26.9

SF-36 domain	scoring
Physical functioning	73.6 ± 19.9
Role physical functioning	50.5 ± 40.7
Bodily pain	62.1 ± 24.0
General health	42.2 ± 21.0
Vitality	47.3 ± 17.8
Social functioning	50.8 ± 18.0
Role emotional functioning	53.5 ± 43.3
Mental health	59.6 ± 18.5








## New knowledge added by this study

*SF-36 domain scorings were up to 45% decrease*

- Women with urinary incontinence (UI) have an inferior quality of life (QoL), which is comparable to patients with chronic diseases (heart failure, interstitial lung diseases, and gynaecological cancers).

# Services for women suffering UI

- Continenence Nurse Clinic
  - Educational talk
  - Teach Pelvic Floor Exercise

Your Daily Bladder Diary			Your name: _____		
This diary will help you and your health care team. Bladder diaries help show the causes of bladder control trouble. The "sample" line (below) will show you how to use the diary.			Date: _____		
					
Time	Drinks (Type and amount)	Urine (Amount)	Accidental leaks How much? +    ++    +++ 	Did you feel a strong urge to go? Yes    No	What were you doing? <i>Sneezing, running etc</i>
7 am		300 ml			
7:30am	Coffee 200ml				
8:00am			+	No	Running





## Pelvic floor muscle training improves quality of life of women with urinary incontinence: a prospective study

Hiu Lan FAN, Symphorosa Shing Chee CHAN, Tracy Sze Man LAW,  
Rachel Yau Kar CHEUNG and Tony Kwok Hung CHUNG

*Department of Obstetrics and Gynaecology, Faculty of Medicine, The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong*

	<b>N = 372</b>
Age	52.3 (10.4)
Parity	2.4 (1.4)
Presenting symptoms	
• Stress urinary incontinence	254 (68.3%)
• Urge urinary incontinence	22 (5.9%)
• Mixed urinary incontinence	43 (11.6%)
Duration of PFMT (months)	9.9 (7.3)
Baseline UDI-6	30.7 (14.2)
Baseline IIQ-7	29.2 (23.5)

*Fan HL et al, Aust N Z J Obstet Gyn  
2013 online*



**Table 2** UDI-6 and IIQ-7 mean scores before and after pelvic floor muscle training for women with different urodynamic diagnoses

	Number (%)	UDI-6			IIQ-7		
		Before PFMT	After PFMT	P value	Before PFMT	After PFMT	P value
Overall	372 (100)	30.7 (14.2)	22.1 (15.3)	0.005	29.2 (23.5)	21.9 (22.5)	0.005
UDS not performed	52 (14)	28.4 (15.2)	18.9 (16.4)	0.005	21.9 (22.9)	16.1 (20.5)	0.036
No UDS abnormality group	138 (37)	28.7 (14.2)	19.5 (13.5)	0.005	26.5 (22.1)	20.0 (21.2)	0.001
USI group	140 (37.6)	32.5 (14.2)	24.9 (15.7)	0.005	32.8 (24.0)	24.5 (22.6)	0.005
Mild USI group	32 (8.6)	27.9 (14.9)	22.0 (13.6)	0.018	31.1 (26.0)	22.2 (22.0)	0.025
Moderate USI group	56 (15.1)	31.0 (12.3)	23.8 (16.3)	0.005	30.8 (20.8)	23.4 (24.6)	0.005
Severe USI group	52 (14)	36.9 (14.8)	27.8 (16.1)	0.005	36.1 (26.1)	27.1 (20.8)	0.004
DO group	28 (7.5)	36.6 (12.4)	25.0 (18.6)	0.005	36.6 (27.4)	30.2 (30.2)	0.244
DO not received anticholinergics	13 (3.5)	34.1 (13.0)	22.7 (21.2)	0.033	34.6 (32.1)	26.0 (30.5)	0.180
DO received anticholinergics	15 (4.0)	39.9 (11.3)	28.1 (4.3)	0.078	39.3 (20.6)	35.6 (8.7)	0.735
Mixed USI and DO group	10 (2.7)	30.4 (10.0)	23.3 (8.6)	0.162	30.0 (16.9)	24.6 (19.5)	0.544
Voiding disorder group	4 (1.1)	29.2 (10.8)	27.0 (16.1)	0.752	31.2 (22.2)	9.9 (7.9)	0.196

Data presented in mean (standard deviation).

DO, Detrusor overactivity; IIQ-7, Incontinence Impact Questionnaire short form; PFMT, Pelvic floor muscle training; UDI-6, Urogenital Distress Inventory short form; UDS, Urodynamic studies; USI, Urodynamic stress incontinence.

**Table 4** Change in UDI-6 and IIQ-7 mean score among women with different age group

Age (years)	Number (%)	UDI-6	IIQ-7
30–40	40 (10.8)	–9.9 (18.4)	–6.2 (28.2)
41–50	144 (38.7)	–7.8 (13.3)	–5.3 (19.5)
51–60	128 (34.4)	–8.4 (15.4)	–7.9 (21.2)
61–70	37 (9.9)	–11.5 (13.5)	–15.4 (21.7)
≥ 71	23 (6.2)	–8.7 (12.9)	–4.6 (23.5)
Total	372 (100)	–8.7 (14.6)	–7.2 (21.6)
	P value	0.825*	0.199*

→ Overall 65% improved in both UDI-6 and IIQ-7

→ PFMT is useful to women of different age

**Table 5** Change in UDI-6 and IIQ-7 mean score among women with different severity of urodynamic stress incontinence and the number of TVT-O performed after pelvic floor muscle training

USI severity (number)	UDI-6	Stress subscale of UDI-6	IIQ-7	TVT-O after PFMT n (%)
All USI (N = 140)	-7.6 (12.7)	-9.1 (18.8)	-8.3 (20.3)	25 (17.9)
Mild group (n = 32)	-5.8 (13.2)	-7.0 (20.6)	-8.9 (21.5)	3 (9.4)
Moderate group (n = 56)	-7.1 (13.2)	-9.6 (19.9)	-7.4 (19.0)	7 (12.5)
Severe group (n = 52)	-9.1 (12.0)	-10.1 (16.4)	-9.0 (21.3)	15 (28.8)
P value	0.49*	0.75*	0.90*	0.031†

## *In women diagnosed Urodynamic Stress Incontinence*

- 68% had improvement after PFMT
- Only 18% request further continence surgery
- Even in severe USI group, ~only 30% need surgical treatment

***PFMT should be the first line treatment.***

# Continence surgery

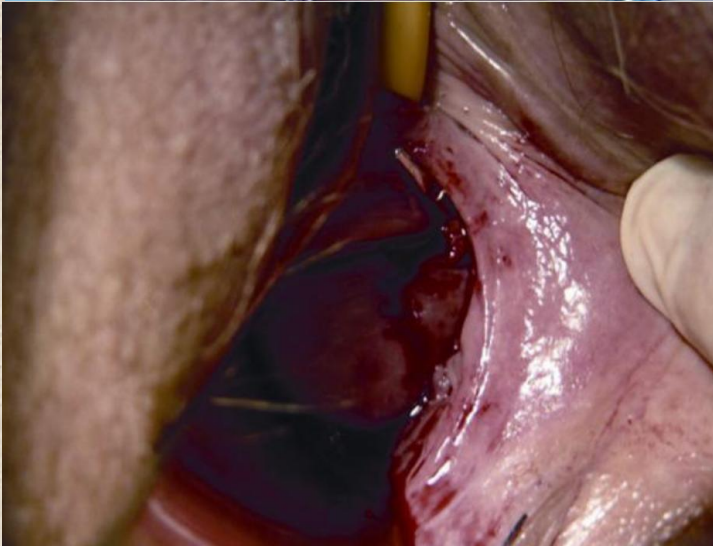
## Tension free transvaginal tape surgery

*Transobturator route:  
Outside-in technique*



- TVT was performed in Hong Kong since 1999
- Retropubic route → **Transobturator route** → Single incision surgery

*Transobturator route:  
Inside-out technique*



# PWH experience: Long term outcome

- Analysis outcome of TO-TVT performed from Sept 2004 to Mar 2008

		<u>First year follow-up</u>				<u>Fifth year follow-up</u>			
		Total	TOT	TVT-O	P-value	Total	TOT	TVT-O	P-value
<b>Subjective</b>		N=192/204 (94.1%)	n=107/117 (91.5%)	n=85/87 (97.7%)	0.06	N=186/204 (91.2%)	n=104/117 (88.9%)	n=82/87 (94.3%)	0.18
SI	Cure	158 (82.3%)	93 (86.9%)	65(76.5%)	0.06	154 (82.8%)	85 (81.7%)	69(84.1%)	0.67
	Better	32 (16.7%)	13 (12.2%)	19(22.4%)	0.06	22 (11.8%)	13 (12.5%)	9(11.0%)	0.82
	Same	2 (1.0%)	1 (0.9%)	1 (1.1%)	0.87	10 (5.4%)	6 (5.8%)	4 (4.9%)	0.79
De novo OAB		10 (5.2%)	4 (3.7%)	6 (7.1%)	0.30	23 (12.4%)	11 (10.6%)	12(14.6%)	0.40
<b>Objective</b>		N=182/204 (89.2%)	n=103/117 (88.0%)	n=79/87 (89.7%)	0.53	N=109/204 (53.4%)	n=69/117 (58.1%)	n=40/87 (46.0%)	0.06
USI	No USI	153 (84.1%)	86 (83.5%)	67(84.8%)	0.81	90 (82.6%)	57 (82.6%)	33(82.5%)	0.38
	Mild USI	10 (5.5%)	9 (8.7%)	1 (1.3%)	0.03	5 (4.6%)	2 (2.9%)	3 (7.5%)	0.43
	Moderate	10 (5.5%)	3 (2.9%)	7 (8.8%)	0.08	5 (4.6%)	4 (5.8%)	1 (2.5%)	0.57
	Severe USI	9 (4.9%)	5 (4.9%)	4 (5.1%)	0.94	9 (8.2%)	6 (8.7%)	3 (7.5%)	0.67
De novo DO		10 (5.5%)	4 (3.1%)	6 (6.9%)	0.34	10 (9.2%)	4 (5.8%)	6 (15.0%)	0.43

# Pelvic organ prolapse

- Local prevalence: ?

- In HK (Territory-wide O&G Audit Report 2004)

	<u>year 1999</u>	<u>2004</u>
– No. of VHPFR / PFR surgery	441	553

- NTEC

- ~300-350 new cases/year
- ~90-100 VHPFR or PFR surgeries / year

- Frequency of types of prolapse

- Local experience: Cystocele > uterine prolapse > rectocele
- Literature
  - With uterus: uterine prolapse 14%, cystocele 34%, rectocele 19%
  - Without uterus: cystocele 33%, rectocele 18%



# Symptoms, quality of life, and factors affecting women's treatment decisions regarding pelvic organ prolapse

Symphorosa Shing Chee Chan •

Rachel Yau Kar Cheung • Ka Wah Yiu • Lai Loi Lee •

Albe Wai Lam Pang • Tony Kwok Hung Chung

Int Urogynecol J (2012) 23:1027–1033

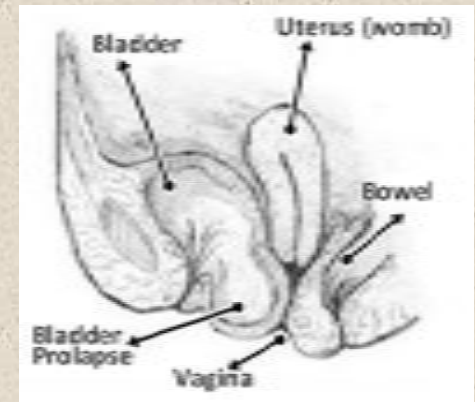
- 308 women consulted for POP from Sep 2008-March 2010
- Mean age:  $59.9 \pm 10.5$  years (range 34 to 87)
- Mean vaginal delivery:  $3.1 \pm 1.5$

Complain	POP	Urinary	Bowel
Chief complain	80.2%	19.5%	0.3%
At least one symptom	261 (84.7%)	283 (91.9%)	183 (59.4%)

# Methods: HRQOL questionnaire: PFDI

## Pelvic Floor Distress Inventory (PFDI)

1. Urinary Distress Inventory (UDI)
  - i. Obstructive / Discomfort Subscale
  - ii. Irritative Subscale
  - iii. Stress Subscale
2. Pelvic Organ Prolapse Distress Inventory (POPDI)
  - i. General Subscale
  - ii. Anterior Subscale
  - iii. Posterior Subscale
3. Colo-Rectal-Anal Distress Inventory (CRADI)
  - i. Obstructive Subscale
  - ii. Incontinence Subscale
  - iii. Pain/Irritation Subscale
  - iv. Rectal Prolapse Subscale



*Barber M et al, Am J Obstet Gynecol 2001*

你會經常感到陰道位置腫脹或凸出嗎?

*Do you usually have a sensation of bulging or protrusion from the vaginal area?*

0   
沒有 有  
No Yes

如有，它有多困擾你?

*If yes, how much does this bother you?*

1  
完全沒有

2  
輕微

3  
中度

4  
嚴重

Not at all

Somewhat

Moderately

Quite a bit

•A Chinese validated version is available

*Chan SS et al 2011*

# Methods: HRQOL questionnaire: PFIQ

## Pelvic Floor Impact Questionnaire (PFIQ)

1. Urinary Impact Questionnaire (UIQ)
  - i. Travel Subscale
  - ii. Social Subscale
  - iii. Emotional Subscale
  - iv. Physical Activity Subscale
2. Pelvic Organ Prolapse Impact Questionnaire (POPIQ)
3. Colo-Rectal-Anal Impact Questionnaire (CRAIQ)

*Barber M et al, Am J Obstet Gynecol 2001*

How do these symptoms or associated conditions usually affect your ... →→→→	Bladder or urine	Bowel or rectum	Pelvis or vagina
1. Ability to do household chores (cooking, housecleaning, laundry)?	<input type="checkbox"/> Not at all <input type="checkbox"/> Somewhat <input type="checkbox"/> Moderately <input type="checkbox"/> Quite a bit	<input type="checkbox"/> 完全沒有 <input type="checkbox"/> 輕微 <input type="checkbox"/> 中度 <input type="checkbox"/> 嚴重	<input type="checkbox"/> 完全沒有 <input type="checkbox"/> 輕微 <input type="checkbox"/> 中度 <input type="checkbox"/> 嚴重

**A higher score of PFDI and PFIQ = more severe symptoms & poorer QOL**

**A Chinese validated version is available for use**

**The responsiveness has also been tested**

*Chan SS et al, Int Urogyn J 2011*

*Chan SS et al, Int Urogyn J 2013*

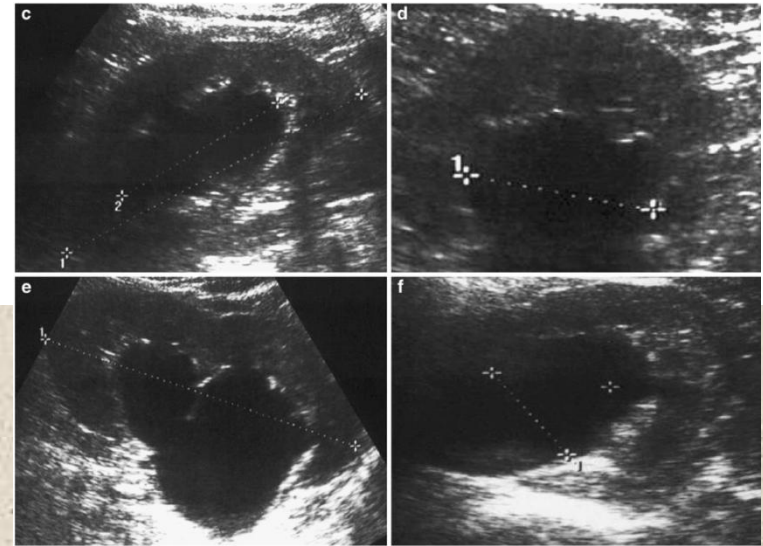


The PFDI and PFIQ scoring in all women and according to staging of POP

	All (N= 308)	Stage I (n = 66)	Stage II (n = 164)	Stage III/IV (n = 78)
<b>PFDI &amp; PFIQ</b>				
UDI total	70.3±56.2	66.0±53.5	69.1±53.0	76.6±65.7
UDI obstructive	27.3±22.0	21.0±18.6*	26.3±20.9**	34.7±25.1***
UDI irritative	23.2±20.1	22.9±19.7	23.2±19.1	23.2±20.1
UDI stress	19.7±21.8	22.1±22.6	19.6±20.7	17.8±23.3
POPDI total	82.9±64.9	70.1±54.2	82.3±65.8	95.1±70.0
General	36.7±25.4	30.9±23.6*	36.3±24.3	42.6±28.1*
Anterior	23.7±26.2	16.9±20.1*	22.2±25.4**	32.6±30.1***
Posterior	22.6±26.1	22.3±24.7	24.0±29.1	19.9±25.9
UIQ total	67.6±81.9	68.2±86.6	67.6±79.9	67.1±82.8
Travel	19.2±23.3	19.1±24.8	19.0±22.4	19.8±24.1
Social	9.9±16.6	11.0±17.2	9.6±16.6	9.7±16.2
Emotional	20.7±25.5	19.9±24.7	21.2±26.3	20.1±24.8
Physical activity	17.6±23.3	18.1±23.7	17.5±22.3	17.5±25.4
POPIQ total	59.8±78.4	41.4±65.8*	59.4±79.3	76.5±83.6*
Travel	14.7±23.9	11.3±20.3	14.0±22.7	19.0±27.4
Social	4.3±12.7	4.9±13.5	4.4±13.7	3.4±9.4
Emotional	19.6±25.8	11.2±19.6*	20.3±26.2*	25.4±28.2*
Physical activity	21.5±27.5	14.1±22.2*	21.6±27.4	27.6±30.5*

# A prospective study on the prevalence of hydronephrosis in women with pelvic organ prolapse and their outcomes after treatment

Shuk Yi Annie Hui • Shing Chee Symphorosa Chan •  
Suk Yee Judy Lam • Tze Kin Lau •  
Kwok Hung Tony Chung



- Prospectively assessed 233 patients
- 84% had uterine prolapse, others vault prolapse
- Stage I 8.6%, II 58.6%, III 26.2%, IV 6.9%
- Performed USG kidneys after voiding
- **Prevalence of hydronephrosis: 10.3%** (95% C.I. 6-14%)
  - Stage I or II 5%
  - **Stage III 17.7%**
  - **Stage IV 33.3%**
  - No derange renal function test result
- **Hydronephrosis resolved in 95% of patients after treatment for POP**

**Table 3** Logistic regression analysis of risk of hydronephrosis and related factors

Variables	Odds ratio	95% CI	SE	P
Age	1.03	0.98–1.09	0.03	0.26
Parity	1.15	0.88–1.50	0.14	0.31
Diabetes mellitus	2.62	0.95–7.12	0.52	0.06
Hypertension	2.00	0.62–6.50	0.60	0.25
Type of prolapse	2.00	0.67–6.04	0.56	0.22
<b>Stages 3–4 prolapse</b>	<b>3.42</b>	1.31–9.23	0.50	0.01

# Service for POP: Conservative

- Vaginal pessary
  - Most commonly used in HK: ring type
- Continence Care Team
  - Training program on vaginal ring pessary replacement ~started since 2009
  - Perform vaginal ring pessary replacement for women
  - Teach women self-replacement
    - ***Acceptance on self-replacement remains low!***



# Service for POP: Surgery

> 1 year FU of 308 women on their decision of treatment

- 30% expectant management
- 18.5% ring pessary
- **51.5% surgical treatment**

***Who are those choosing surgical treatment?***

	Odds ratio	95% confidence interval		<i>P</i> value
		Lower	Upper	
Complication with vaginal pessary	4.02	2.25	7.18	<0.001
Urodynamic stress incontinence	3.34	1.74	6.42	<0.001
POP staging	3.24	2.08	5.04	<0.001
POPDI scoring	1.01	1.002	1.02	0.04
POPIQ scoring	1.00	1.00	1.01	0.19
UDI scoring	0.99	0.98	1.00	0.18
Vault prolapse (previous hysterectomy)	0.65	0.26	1.64	0.36

# Surgical options for POP

	Vaginal approach	Abdominal /laparoscopic approach
Anterior compartment (Cystocele)	Anterior colporrhaphy Paravaginal repair <b>Anterior/total vaginal mesh</b>	Colposuspension Paravaginal repair
Middle compartment (Uterus /vaginal vault)	Vaginal hysterectomy McCall suture/technique <b>Sacrospinous ligament fixation</b> <b>Total vaginal mesh</b>	Sacrocolpopexy Hysteropexy Hystercolposacropexy
Posterior compartment (Rectocele)	Posterior colporrhaphy Rectovaginal septum(fascia) repair Transanal repair <b>Posterior/total vaginal mesh</b>	<b>Sacrocolpopexy</b> <b>Paravaginal repair</b>

--- reserved for advanced POP

--- not advised to perform

# Sacrocolpopexy: PWH experience

- Laparoscopic sacrocolpopexy since 2005
- Robotic assisted lap. sacrocolpopexy from 2007-2010

## Laparoscopic sacrocolpopexy for the treatment of vaginal vault prolapse: with or without robotic assistance

*Hong Kong Med J 2011;17:54-60*

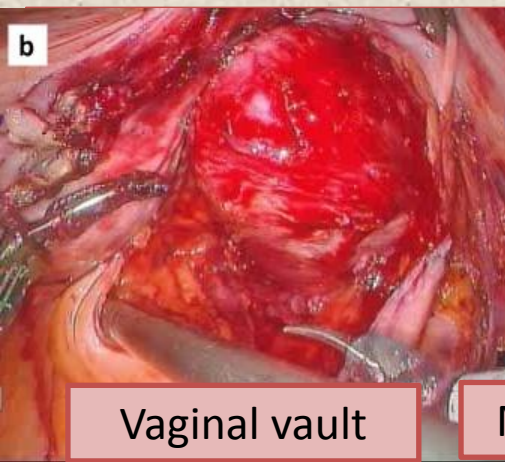
**Objective** To assess perioperative and medium-term outcome after laparoscopic sacrocolpopexy with or without robotic assistance for vaginal vault prolapse in a Hong Kong tertiary centre.

**Design** Retrospective study.

**Setting** An urogynaecology unit in Hong Kong.

**Patients** All women who underwent laparoscopic sacrocolpopexy with or without robotic assistance for vaginal vault prolapse from March 2005 to May 2010.

Symphorosa SC Chan 陳丞智  
Selina MW Pang 彭敏華  
TH Cheung 張德康  
Rachel YK Cheung 張優嘉  
Tony KH Chung 鍾國衡



Vaginal vault



Mesh sutured to vag. vault & sacral promontory



Reperitonealization

Y-shaped mesh



Robotic surgery setting



TABLE I. Patient demographics, clinical and operative information, and perioperative outcomes\*

Characteristic		All (n=36)	Laparoscopic (n=20)	Robotic (n=16)	P value†
Age (years)		66.8 ± 8.2	66.6 ± 9.3	67.4 ± 6.4	0.70
No. of vaginal deliveries		3.9 ± 1.5	4.0 ± 1.5	3.7 ± 1.5	0.60
Previous pelvic floor repair		23 (64%)	11 (55%)	12 (75%)	0.30
Current surgery					
Concomitant pelvic floor repair surgery		30 (83%)	15 (75%)	15 (94%)	0.20
Concomitant continence surgery					
Colposuspension		5 (14%)	4 (20%)	1 (6%)	0.30
TVT‡		6 (17%)	4 (20%)	2 (13%)	
Operating time (min)		205 ± 59	185 ± 64	230 ± 42	0.02
Blood loss (mL)		144.4 ± 86.0	155.0 ± 91.6	131.0 ± 79.3	0.42
Intra-operative and perioperative complications and information					
Bladder injury	<i>Lap sacro / Colposuspension</i>	6 (17%)	4 (20%)	2 (13%)	0.68
Ureteric injury	<i>Kinking of ureter due to Rt side paravaginal repair</i>	1 (3%)	-	1 (6%)	-
Port-site hernia		1 (3%)	-	1 (6%)	-
Postoperative fever and deep vein thrombosis		1 (3%)	-	1 (6%)	-
Hospital stay (days)		5.8 ± 5.2 Median (4)	4.3 ± 2.6 Median (3)	7.5 ± 7.0 Median (5)	0.05
Haemoglobin drop (g)		1.5 ± 1.0	1.4 ± 1.0	1.7 ± 1.0	0.37

\* Data are shown as No. (%) or mean ± standard deviation, unless otherwise specified

† Comparison of laparoscopic sacrocolpopexy and robot-assisted laparoscopic sacrocolpopexy

‡ TVT denotes tension-free vaginal tape



TABLE 3. Objective cure and satisfaction rates\*

	All (n=35)	Laparoscopic (n=20)	Robotic (n=15)
Follow-up (months)	29 ± 19	39 ± 17	16 ± 11
Objective cure <sup>†</sup>	<u>32 (91%)</u>	18 (90%)	14 (93%)
Recurrence of stage II prolapse			
Anterior compartment	2 (6%)	1 (5%) <sup>‡</sup>	1 (7%) <sup>‡</sup>
Vault (central compartment)	1 (3%)	1 (5%) <sup>‡</sup>	-
Posterior compartment	2 (6%)	1 (5%) <sup>‡</sup>	1 (7%) <sup>‡</sup>
Recurrence of stage III prolapse			
Anterior compartment	1 (3%)	1 (5%) <sup>‡</sup>	-
Women's satisfaction			
Same	3 (9%)	2 (10%)	1 (7%)
Better	32 (91%)	18 (90%)	14 (93%)

\* Data are shown as No. (%) or mean ± standard deviation

<sup>†</sup> Objective cure = women who have pelvic organ prolapse quantification assessment showing stage 0 or I prolapse at any compartment and with no symptoms due to prolapse

<sup>‡</sup> **Three women had recurrence of prolapse ≥ stage II;** one had stage II anterior and posterior compartment prolapse, one had stage II anterior compartment and vault prolapse, and one had stage II posterior and stage III anterior compartment prolapse

TABLE 3. Objective cure and satisfaction rates\*

	All (n=35)	Laparoscopic (n=20)	Robotic (n=15)
Follow-up (months)	29 ± 19	39 ± 17	16 ± 11
Objective cure†	<u>32 (91%)</u>	18 (90%)	14 (93%)
Recurrence of stage II			
Same	3 (9%)	2 (10%)	1 (7%)
Better	32 (91%)	18 (90%)	14 (93%)

*Performance was comparable to international data.*

*With appropriate laparoscopic skills, robotic assistance is not needed.*

\* Data are shown as No. (%) or mean ± standard deviation

† Objective cure = women who have pelvic organ prolapse quantification assessment showing stage 0 or I prolapse at any compartment and with no symptoms due to prolapse

‡ **Three women had recurrence of prolapse ≥ stage II;** one had stage II anterior and posterior compartment prolapse, one had stage II anterior compartment prolapse, one had stage II posterior and stage III anterior compartment prolapse. *Chan et al HKMJ 2011*

# Vaginal mesh repair

- Introduced in HK since 2006
- Patient-paid item till March 2012
- From April 2012, it becomes HA approved **Medical Device for improving standard of care for  $\geq$ stage III POP**
  - An audit is on-going under COC (O&G)



## PWH experience

*Fan et al, HKMJ accepted 2013*

- Performed for women with advanced stage POP
- Study on surgery performed from May 2007 – June 2011

<b>Table 1 Demographics and peri-operative clinical data</b>	Overall	Vault prolapse group	Uterus & pelvic floor prolapse (n = 29)	
	N = 47	n = 18	VH & mesh group n = 15	Mesh only group n = 14
<b><u>Baseline characteristics</u></b>				
Age (year)	68.2 (10.2)	69.6(9.7)	68.5(7.5)	66.1(13.3)
Number of vaginal delivery	3.7 (2.0)	4.1(2.1)	3.9(2.0)	3.2(2.0)
History of pelvic floor repair	10 (21.3%)	9 (50%)	-	1 <sup>a</sup>
History of continence surgery	2 (4.3%)	2 (11.1%)	-	-
<b><u>Pre-op POP<math>\geq</math> Stage III</u></b>				
Any compartment	38 (80.9%)	12 (66.7%)	14 (93.3%)	12 (85.7%)
Anterior compartment	33 (70.2%)	11 (61.1%)	12 (85.7%)	10 (71.4%)
Apical compartment	31 (66%)	7 (38.9%)	13 (86.7%)	11 (78.6%)
Posterior compartment	20 (42.6%)	3 (16.7%)	10 (66.7%)	7 (50%)
<b><u>Current surgery</u></b>				
Spinal anaesthesia	11 (23.4%)	3 (16.7%)	3 (20%)	5 (35.7%)
Total mesh (anterior and posterior)	32 (68.1%)	10 (55.6%)	10 (66.7%)	12 (85.7%)
Anterior mesh only	14 (29.8%)	7 (38.9%)	5 (33.3%)	2 (14.3%)
Posterior mesh only	1 (2.1%)	1 (5.6%)	-	-
Concomitant continence surgery	15 (31.9%)	3 (16.7%)	9 (60%)	3 (21.4%)
Mean Operative Time (min)	93.8(36.7)	68.3 (12.8)	136.0 (32.3)*	81.4 (17.8)*, **
Mean Blood loss(ml)	163.3(116.4)	108.3 (54.9)	236.3 (138.4)*	155.7 (114.0)
<b><u>Intra-operative and peri-operative complications and information</u></b>				
Bowel injury	3 (6.4%)	-	2 (13.3%)	1 (7.1%)
Bladder injury	1 (2.1%)	-	1 (6.7%)	-
Post-operative fever	9 (21.3%)	3 (16.7%)	5 (33.3%)	1 (7.1%)
Urinary tract infection	6 (12.8%)	2 (11.1%)	2 (13.3%)	2 (14.3%)
Mean Hospital stay (days)	3.7 (1.8)	2.8 (1.1)	4.2 (2.0)*	4.3 (1.9)

Treatment outcome and follow-up clinical data	Overall N = 47	Vault prolapse group n = 18	<u>Uterus &amp; pelvic floor prolapse</u>	
			VH & mesh group n = 15	Mesh only group n = 14
Follow up (months)	25(13.3)	22.8(11.6)	20.7(11.7)	32.1(14.9)
Mesh erosion (%)	6 (12.8%)	3 (16.7%)	2 (13.3%)	1 (7.1%)
Excision of exposed part of mesh	3 (6.4%)	1 (5.6%)	1 (6.7%)	1 (7.2%)
<b><u>Recurrent POP ≥ Stage II</u></b>				
Any compartment	9 (19.1%)	2 (11.1%)	3 (20%)	4 (28.6%)
Anterior compartment	6 (12.8%)	1 (5.6%)	3(20%)	2 (14.3%)
Apical compartment	4 (8.5%)	-	1 (6.7%)	3 (21.4%)
Posterior compartment	4 (8.5%)	2 (11.1%)	1 (6.7%)	1 (7.1%)
<b><u>Post-op de novo urinary symptoms</u></b>				
SUI symptoms	8 (17.0%)	2 (11.1%)	3 (20.0%)	3 (21.4%)
<sup>a</sup> De novo USI	5 (10.3%)	1 (5.6%)	2 (13.3%)	2 (14.3%)
OAB symptoms	8 (17.0%)	3 (16.6%)	2 (13.3%)	3 (21.4%)
<sup>b</sup> De novo DO	2 (4.3%)	1 (5.6%)	-	1 (7.1%)
<b><u>Women Satisfaction</u></b>				
Same	4 (8.5%)	1 (5.6%)	1 (6.7%)	2 (14.3%)
Better	43 (91.5%)	17 (94.4%)	14 (93.3%)	12 (85.7%)

***Performance comparable to international data.***  
***Need more long term data!***

# QOL of women improved after POP treatment

## +/- continence surgery

Chan SS et al 2013

Mean differences (standard deviation) between PFDI and PFIQ subscales of before and after treatment for different levels of satisfaction. (Satisfied group were further subdivided into 3 groups)

Subscales and groups	Level of satisfaction				
	Dissatisfied	Satisfied	Somewhat satisfied	Moderately satisfied	Very satisfied
<b>Vaginal pessary group (n = 27)</b>					
	n = 2	n = 25	n = 11	n = 12	n = 2
POPDI	-21.7 (74.5)	-38.3 (59.2)	-37.3 (71.5)	-46.1 (50.4)	-12.2 (15.6)
POPIQ	4.5 (51.6)	-53.4 (88.9)	-24.2 (47.9)	-83.0 (107.2)	-46.9 (86.1)
UDI	-5.0 (29.2)	-26.5 (45.4)	-33.2 (51.8)	-25.1 (40.5)	-2.4 (46.6)
UIQ	-15.2 (25.0)	-31.7 (78.6)	-32.4 (59.8)	-39.0 (100.3)	-32.0 (34.1)
CRADI	-6.0 (94.3)	-8.3 (52.5)	-30.8 (41.6)	-2.4 (54.0)	-42.5 (46.6)
CRAIQ	14.4 (49.8)	-21.5 (47.1)	-16.7 (23.9)	-27.7 (63.1)	-18.3 (46.5)
<b>PFR group with or without continence surgery group (n = 101)</b>					
	n = 3	n = 98	n = 26	n = 44	n = 28
POPDI	-5.3 (32.8)*	-82.7 (65.8)*	-49.7 (58.9)**	-73.5 (58.5)***	-116.8 (69.5)***,***
POPIQ	-2.8 (25.9)	-75.2 (74.8)	-42.5 (60.7)**	-65.6 (72.1)	-106.1 (77.2)**
UDI	-11.1 (29.8)*	-67.1 (56.6)*	-33.4 (32.3)**	-54.6 (52.5)***	-108.3 (56.0)*,***,***
UIQ	3.5 (34.4)	-63.4 (74.9)	-33.8 (53.1)**	-47.0 (63.4)***	-112.1 (81.2)***,***
CRADI	15.9 (44.7)	-71.3 (32.4)	-20.7 (42.4)**	-31.9 (53.8)	-65.5 (80.4)**
CRAIQ	-4.9 (6.9)	-86.7 (61.2)	-39.2 (49.9)	-32.3 (53.0)	-62.7 (63.1)
<b>Continence surgery alone group (n = 28)</b>					
	n = 2	n = 26	n = 4	n = 15	n = 7
UDI	-15.9 (22.9)*	-71.8 (44.4)*	-30.2 (64.2)**	-74.8 (27.2)*	-104.1 (31.5)*, **
UIQ	-13.3 (1.2)*	-105.0 (77.0)*	-40.9 (40.2)**	-95.9 (75.4)	-173.9 (87.4)*, **

# *Future direction & Research*

- **Uterine preserving surgery for women with POP:**
  - Laparoscopic hysterocolposacropexy was started since 2012
- **Audit on vaginal mesh surgery outcome in HA (O&G) is ongoing**
- **Cost effective analysis in management of POP**
- Understanding more on pelvic floor and the pelvic floor disorders
  - Perineal (Translabial) USG study
- Sexual function of women having UI and or POP; and effect of treatment on this aspect
  - Validating Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-R)

# Acknowledgement



- Team
  - Dr. Rachel YK Cheung
  - Dr. Alice KW Yiu
- Nurse Continence Care Team
- Dept. of O&G, PWH, CUHK
- Grants from *Health and Health Services Research Fund*
- HRQOL: <http://urogynae.obg.cuhk.edu.hk/links.asp>
- Email: [symphorosa@cuhk.edu.hk](mailto:symphorosa@cuhk.edu.hk)