



Has Laparoscopic Surgery replaced open abdominal surgery for benign gynaecological tumours – what and why

Prof Felix Wong
Ho Chi Minh, April, 2011

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Laparoscopic training centres, workshops and conferences



From a training centre
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From learner



To trainer



To Endoscopy conferences



A large number of overseas doctors had been trained at Liverpool



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After 16 years of promoting and practicing laparoscopic surgery in Australia

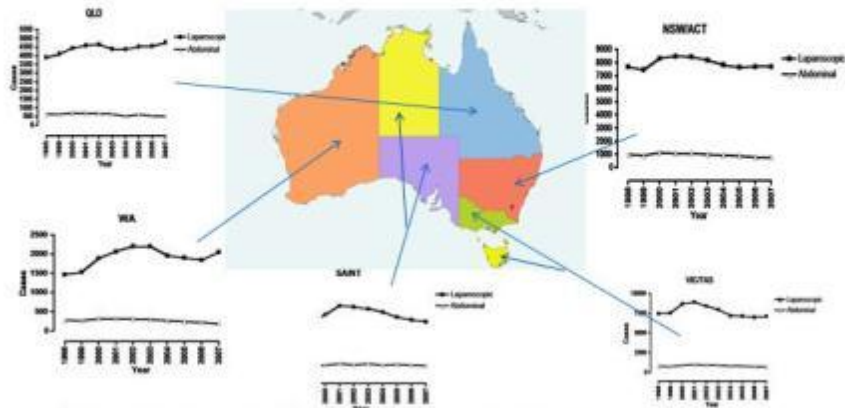


OUTCOME

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Trends of laparoscopic surgery in Australia – adnexal surgery



The trends of laparoscopic and abdominal adnexal surgeries in all States and Territories in Australia (NSWACT – New South Wales and Australian Capital Territory, VIC/TAS – Victoria and Tasmania, QLD – Queensland, SA/TAS – Southern Australia and Northern Territory, WA – Western Australia)

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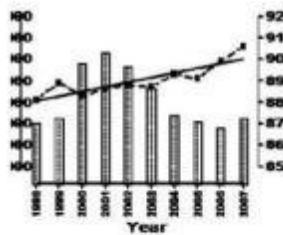
Laparoscopic Adnexal Surgery



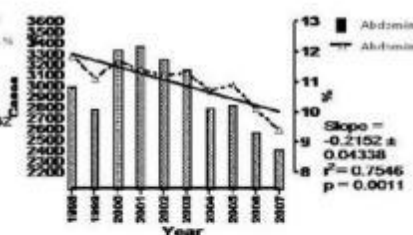
The trend of laparoscopic and abdominal adnexal surgery at Liverpool Hospital, Sydney, Australia from 1998 to 2008



Laparoscopic adnexal surgery

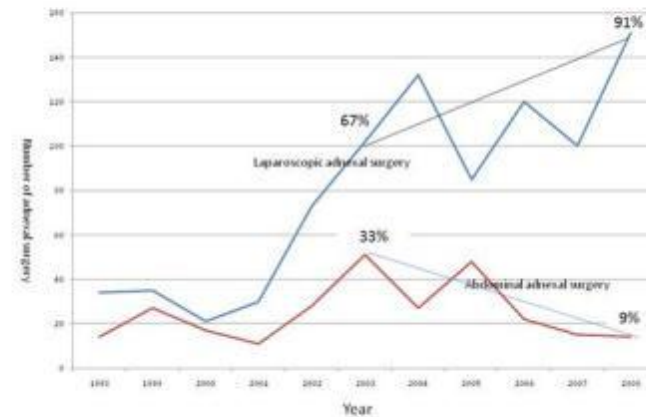


2b. Abdominal adnexal surgery



Trends of laparoscopic and abdominal adnexal surgery in Australia

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Abdominal surgery for adnexal mass



<i>Factors influencing the choice of open abdominal approach</i>		%
The adnexal mass had feature(s) suspicious of cancer	25	25.7
The adnexal mass was associated with other pathology e.g. very large cyst, multiple fibroids, adenomyoma, advanced endometriosis	34	35.1
The procedure would be difficult by laparoscopic approach	0	-
It was an emergency procedure	9	9.3
The patients was haemodynamic unstable	3	3.1
The laparoscopic procedure would take too long	0	-
Previous multiple abdominal surgeries	6	6.2
My standard/routine surgical approach for this condition	1	1.0
It was a scheduled elective procedure	18	18.6
Laparoscopic facilities in the OT were inadequate	0	-
Other – patient's choice	1	1.0

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Difficult adnexal surgeries



- Stage III and IV endometriosis
- Very large ovarian tumour or cyst
- Multiple abdominal or pelvic adhesions
- Ovarian cyst complicating pregnancy
- Multiple pathologies – associated with fibroids, adhesions, adenomyoma, pelvic infection

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Large ovarian cyst



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For very large ovarian cyst, just cannot do it ?



- Cannot perform pneumoperitoneum
- Unknown pathology – dermoid cysts, borderline tumour, early cancer
- Rupture the cyst – associated with risk of cancer spread
- No space to operate
- ...etc.

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Entry at other port site



- Entry problem due to a large ovarian cyst



Lee Huang Point entry

Left upper quadrant entry

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My 'direct entry' method – an introduction

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Endopath Xcel (J&J)



Direct visualization of the entry step/procedure via the monitor



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Direct visualization of all entry procedure via the monitor



Video showing removal of large ovarian tumour



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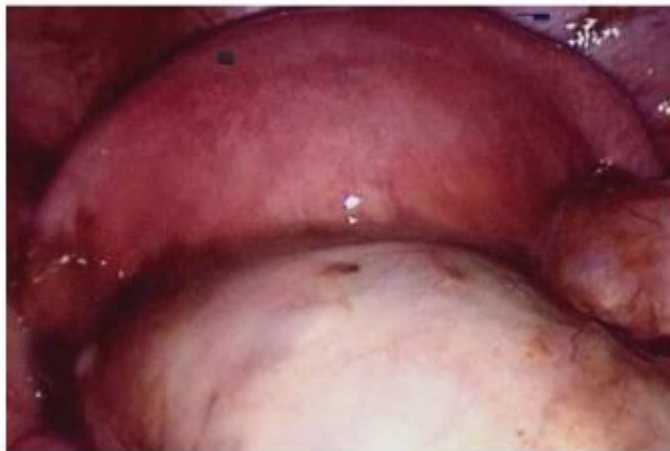
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Advanced pelvic endometriosis



Advanced pelvic endometriosis



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- Techniques to resolve advanced pelvic endometriosis – step 1

Step 1: dissect the ovarian fossa



Tips of successful radical excision for advanced pelvic endometriosis - Dr Sun Chung-hsien

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Advanced pelvic endometriosis



- Techniques to resolve advanced pelvic endometriosis – step 2

Step 2: unbend the retroverted uterus



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Advanced pelvic endometriosis



- Techniques to resolve advanced pelvic endometriosis – step 3

Step 3: Dissect pararectal space



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- Techniques to resolve advanced pelvic endometriosis – step 4

Step 4: open rectovagina space



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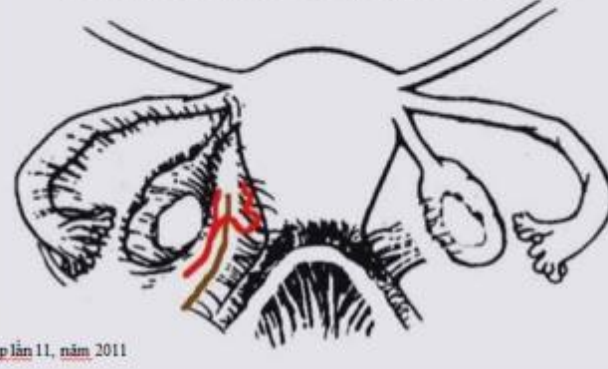


Advanced pelvic endometriosis



- Techniques to resolve advanced pelvic endometriosis – step 5-6

Step 6: dissect pelvic ureter



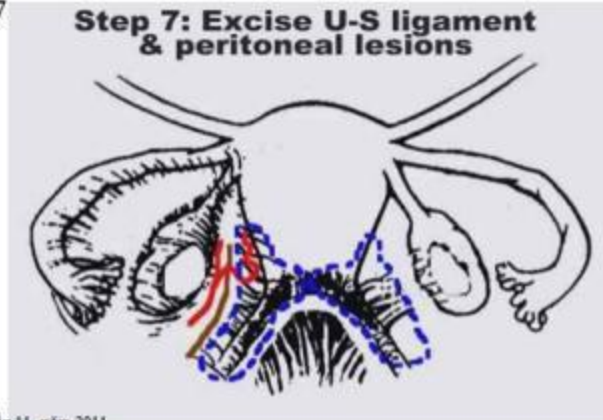
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Advanced pelvic endometriosis



- Techniques to resolve advanced pelvic endometriosis – step 7



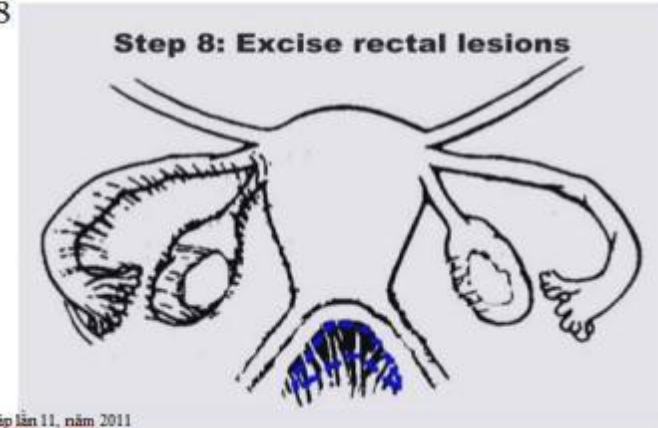
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Advanced pelvic endometriosis



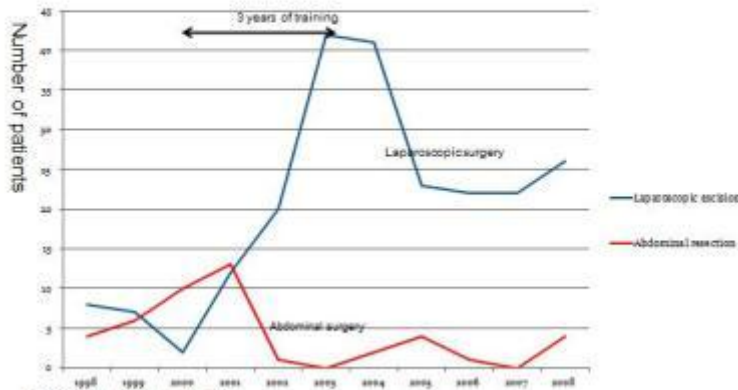
- Techniques to resolve advanced pelvic endometriosis – step 8



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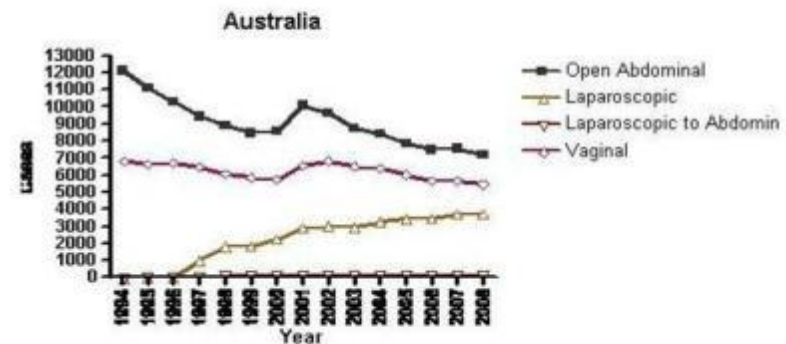
Laparoscopic resection of endometriosis versus abdominal endometriosis surgery in Liverpool Hospital



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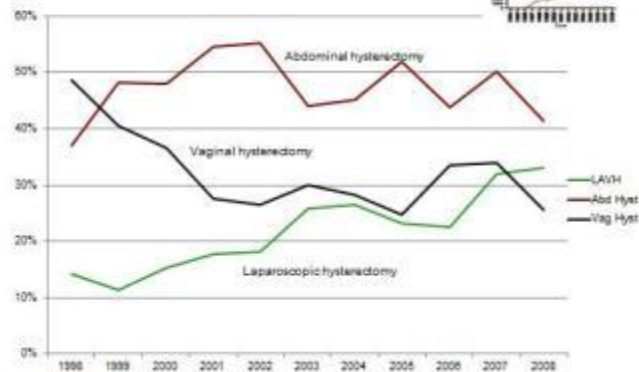
Trend of hysterectomy in Australia



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Trend of Hysterectomy at Liverpool Hospital



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A study of the trend on the factors affecting the choice of hysterectomy

Shao, J. and F. Wong (2001). "Factors influencing the choice of hysterectomy." *Australian and New Zealand Journal of Obstetrics and Gynaecology* **41(3): 303-306.**

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The choice of hysterectomy laparoscopy vs abdominal

Factors influencing	Factors not influencing
• Training of doctors – laparoscopists versus general gynaecologists	• Age, BMI, parity
• Indications for hysterectomy	• Types of hysterectomy
• Pathology of the diseases	

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Many difficult surgeries are performed by abdominal hysterectomy

- Large uterus
- Massive adhesions
- Advanced endometriosis
- Radical cancer surgery

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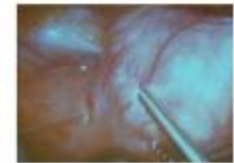
To share the

techniques to resolve the hurdle
of difficult laparoscopic
hysterectomy

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Large fibroid uterus

- Laparoscopic morcellation in situ
- Vaginal morcellation of uterus after control of blood supply



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Laparoscopic morcellation of in situ fibroid(s)



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Morcellation in situ - Pushing the limit

Laparoscopic removal of very large myomas

- Patients: 51 with fibroid(s) = or > 9cm, max 21 cm
- Weight of fibroids: mean 698 g (210 – 3400 g)
 - Mean op time: 136 min (80-270)
 - Blood loss: mean 322 ml (100-2100 ml)
 - Complications: one broad ligament hematoma, one emergency hysterectomy

Sinha R, Hegde A, Warty N, Patil N. Journal of the American Association of Gynecologic Laparoscopists. 10(4):461-8, 2003 Nov

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Techniques to perform LAVH with reduced bleeding



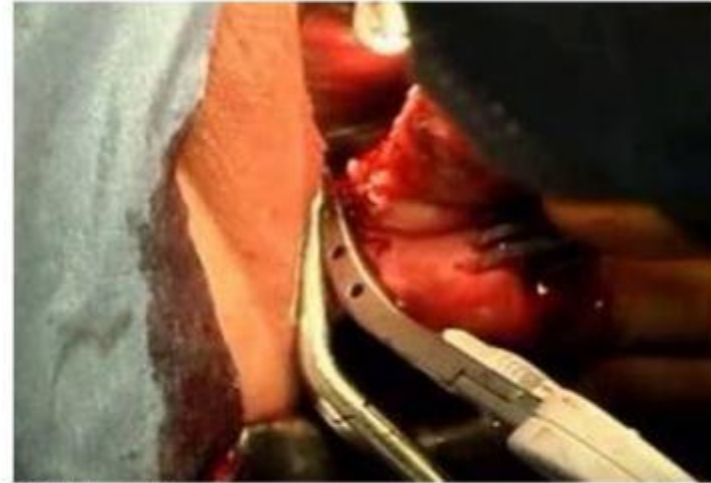
The use of new instruments



Ligation of bilateral uterine arteries prior to hysterectomy



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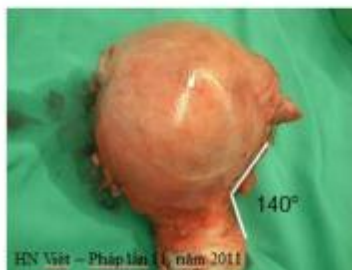
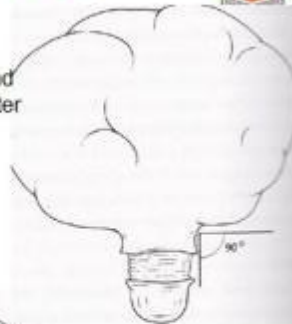
Shape of large uterus



Dr Eric Lee's technique to perform LAVH with large fibroid uterus



Difficult
Failed to descend
Distortion of ureter
Inaccessible



Easier
Accessible
Normal anatomy

- LAVH completed by vaginal morcellation with a paper roll technique



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Report on our paper roll technique



Instruments and Techniques Novel Vaginal "Paper Roll" Uterine Morcellation Technique for Removal of Large (>500 g) Uterus

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From the Perinatal Medicine Unit of the Royal Women's Hospital, Auckland City Hospital, Auckland, New Zealand; and the Department of Obstetrics and Gynaecology, The Chinese University of Hong Kong, Hong Kong, China (Dr. Liu).

ABSTRACT An hysterectomized vaginal hysterectomy with a novel "paper roll" vaginal morcellation technique. Large uterus (>500 g) can be removed via the vagina with safety, speed, and ease. This technique provides protection to the vagina and cervix, and large uteri can be removed in 1 hour, allowing the pathologist to examine the entire uterus. In terms of morbidity, hematology, histology (JGIM 11, 2014, 2014), and 1800 g uterus.

Keywords: Vaginal hysterectomy; Hysterectomy; Paper roll; vaginal morcellation; Surgical technique

A large or morcellated uterus is often considered a contraindication to vaginal hysterectomy. It has been the clinical practice to perform a hysterectomy via the vagina with a large uterus, but this is often associated with a high risk of complications. The use of morcellation techniques for large uteri has been reported. However, the use of morcellation techniques for large uteri is often associated with a high risk of complications. The use of morcellation techniques for large uteri is often associated with a high risk of complications. The use of morcellation techniques for large uteri is often associated with a high risk of complications.

... (text continues) ...

Materials and Methods

This series from one of the authors (Y.C.L.) is a retrospective analysis of 100 vaginal hysterectomies performed in patients with large (>500 g) uteri between 2003 and 2013. The patients were treated at the Chinese University of Hong Kong between October 2003 and February 2013. Of these patients, 100 were treated with a novel "paper roll" morcellation technique. The patients were treated with a novel "paper roll" morcellation technique. The patients were treated with a novel "paper roll" morcellation technique.



Changes and new developments in abdominal surgery



Abdominal hysterectomy is acceptable in very large uterus – general consensus



Uterus larger than 24 weeks





Minilaparotomy approach



- Benedetti-Panici P, Maneschi F, Cutillo G, Scambia G, Congiu M, Mancuso S. *Surgery by minilaparotomy in benign gynecologic disease. Obstetrics & Gynecology 1996;87(3):456.*
- Kohama T, Hashimoto S, Ueno H, Terada S, Inoue M. *A technique of minilaparotomy-assisted vaginal hysterectomy. Obstetrics & Gynecology 1997;89(1):127.*
- Hoffman M, Lynch C. *Minilaparotomy hysterectomy. American journal of obstetrics and gynecology 1998;179(2):316-20*
- Sharma J, Wadhwa L, Malhotra M, Arora R. *Mini laparotomy versus conventional laparotomy for abdominal hysterectomy: A comparative study. Indian Journal of Medical Sciences 2004;58(5):196.*
- Li-xia P, Ming-huo Y. *Clinical evaluation of mini laparotomy intrafascial hysterectomy. Chongqing Medicine 2006;11.*
- Muzii L, Basile S, Zupi E, Marconi D, Zullo M, Mancini N, et al. *Laparoscopic-assisted vaginal hysterectomy versus mini laparotomy hysterectomy: A prospective, randomized, multicenter study. The Journal of Minimally Invasive Gynecology 2007;14(5):610-15.*

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Laparoscopic hysterectomy vs modified abdominal hysterectomy – a personal series 2006-2009



Patient characteristic	Minilaparotomy abdominal hysterectomy (MAH) (n= 146)	Laparoscopic hysterectomy (n= 160)
Age (mean ± SD) (yrs)	49.2 ± 9.7	46.7 ± 9.7
Adnexal surgery (%)	63 %	47 %
Weight of uterus (mean ± SD) (g)	431.9 ± 428.4	159.8 ± 125.1
Indications:		
Leiomyoma (%)	71.7 %	45.0 %
Adenomyosis (%)	21.7 %	33.3 %
Endometriosis (%)	2.2 %	3.3 %

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Comparative data between Modified Abdominal and laparoscopic hysterectomy (retrospective study)

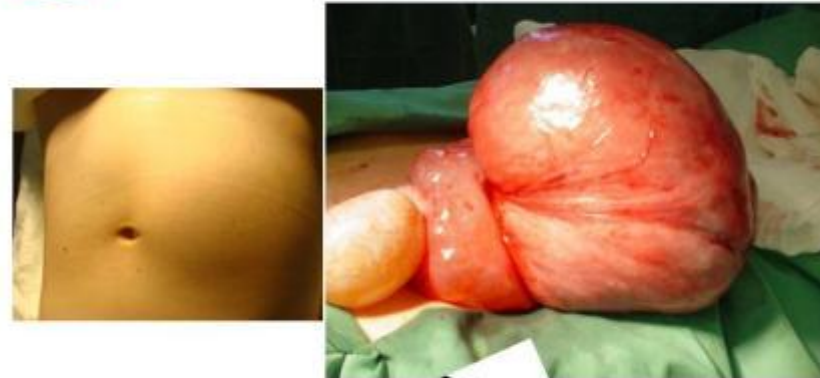


	Modified Abdominal hysterectomy N=146 开腹	Laparoscopic hysterectomy N=160 腹腔镜	P value < 0.05
Operative time (min)	45 ± 12	82 ± 11	S
Estimated cost / case AUD\$	1900	4800	S
Conversion to laparotomy	16	5	S
Complications			
Fever	2.8%	3.0%	NS
Blood loss (ml)	120 ± 5.6	115 ± 5.1	NS
Bowel injury	0.7%	0.6%	NS
Visual pain score 1/10	5/10	4/10	NS
Analgesic > 2 days	13.6%	12.5%	NS
Length of stay (mean ± SD) (days)	3.4 ± 1.4	2.2 ± 1.0	S

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Unknown pathology



Personally, I would prefer

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Conclusion

- There is a trend of increasing laparoscopic surgery for benign gynaecological tumour because
 - Advanced technologies help – faster, safer and effective surgery
 - Many endoscopy centres push to the limit – developing new techniques
 - More training among young doctors – start early

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Conclusion

At present, not all gynaecological surgeries are being replaced by laparoscopic surgeries in the management of benign tumour

e.g.

Abdominal hysterectomy versus Laparoscopy hysterectomy
--

Individualize each patient versus Choices of surgeons

Pathology of the tumour Pelvic adhesion Other relative contraindication Time/duration
--

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Primum, Noli Nocere – first do no harm



END

When the surgery and the patient for surgery are made safe, let now the surgeon make himself safe for his body and mind

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