



The changing landscape of hysterectomy for benign conditions

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INTRO: There has been a significant increase in the uptake of minimally invasive hysterectomy, with a subsequent reduction in the number of abdominal (AH) and vaginal (VH) cases. The safety profile for laparoscopic hysterectomy (LH) for benign disease has been continuously evaluated in world-wide studies,^{1,2,3,4,5,6} however the evidence to support this shift away from vaginal hysterectomy is lacking.^{1,8,9} What consequences could this have for trainees and our hospital system?

METHODS: This was a single-site retrospective cohort study to take a brief look at the trends in approach to hysterectomy and compare complications rates, service provision usage, and outcomes with the current literature. This study was undertaken at a general tertiary hospital in New Zealand that now services up to 8 RANZCOG Basic Trainees and an AGES Fellow, which has increased from 2013.

RESULTS: The percentage of LH increased from 9.4% in 2014 to 75.4% in 2020, with consequential decreases in total number and

percentage of VH and AH. There was an increase in average weight and ASA 2 scores in the 2020 cohort which was not significant, but a significant increase in average BMI from 28.8 to 31.3kg/m². By 2020, adnexal pathology as an indication for hysterectomy significantly decreased, while surgical management of AUB increased and all other indications for hysterectomy remained stable. There was no change in complications between cohorts overall or individually, however the use of cystoscopy (mostly planned) increased significantly from 0.5% in 2014 to 8.5% in 2020. The planned procedure was the procedure performed in over 98% of cases in each cohort. Overall and >200mL blood loss was significantly higher in the 2014 cohort. Hospital length of stay decreased however total anaesthesia and operating time increased in 2020.

	N = 2014 (%)	N = 2020 (%)	p
Surgical approach			<.001**
Laparoscopy	19 (12.0%)	139 (88.0%)	
Laparotomy	131 (86.2%)	21 (13.8%)	
Vaginal	52 (65.8%)	27 (34.2%)	
Planned = undertaken	198 (98.0%)	185 (98.4)	1.000

	Median	Mean	p
Estimated blood loss (mL)			<.001**
2014	300.0	390.2	
2020	200.0	209.6	
Estimated blood loss >200mL			<.001**
2014	350.0	446.4	
2020	200.0	279.7	

	N = 2014 (%)	N = 2020 (%)	p
Overall complication rate	15 (7.4%)	15 (8.0%)	.293
Need for transfusion	1 (0.5%)	2 (1.1%)	.473
Bowel injury	2 (1.0%)	4 (2.1%)	.309
Bladder injury	4 (2.0%)	5 (2.7%)	.455
Ureteric injury	2 (1.0%)	0 (0.0%)	.268
Return to OT for wound dehiscence or infection	6 (3.0%)	4 (2.1%)	.421

	Median	Mean	p
Length of stay (days)			<.001**
2014	3.0	3.8	
2020	2.0	2.4	
Operating time (mins)			<.001**
2014	133.5	137.9	
2020	166.0	171.3	
Total anaesthesia time (mins)			<.001**
2014	152.0	158.0	
2020	183.0	188.0	

DISCUSSION: Over less than a decade in this tertiary training centre the rate of LH shifted significantly and became the primary route of minimally invasive hysterectomy, leaving a large deficit in AH and VH available to Trainees. This trend has been noted world-wide⁹. The majority of consultants at this hospital are generalists who have changed to preferentially undertaking LH. The increased operating times for LH may contribute to a decrease in the number of hysterectomy cases a trainee performs over the course of training, as well as significantly limiting exposure to abdominal and vaginal procedures. This may lead to trainees lacking certain surgical skills upon completion of training.

The RANZCOG training program still requires AH and VH to be formally signed off by the end of Basic Training, with pursuit of LH being left to those who wish to undertake Advanced Laparoscopic Training.^(RANZCOG APSS and ATM requirements)

It is interesting that the evidence for VH versus LH hasn't significantly

changed over the past decade, however practices have shifted so substantially. The evidence for LH vs VH, while both show shorter time to return to normal activities, the operating time, lower postoperative pain, and hospital stays are shorter in the VH cohorts.

As well, routine use of cystoscopy for detection of ureteric and bladder injuries is not supported in the evidence but has largely become standard practice.¹⁰

It is reassuring to see that the change in practice has seen complication rates that are in-line with the world-wide data and suggests that our approach to laparoscopic learning has kept up with this change in surgical approach.

This is a brief commentary on how our training is shaped by the current trends in our profession, which may not necessarily be driven by a changed evidence base. It may also highlight issues faced in maintaining an up-to-date surgical training program in Australia and New Zealand.

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