

Proficiency for Advanced Laparoscopic Procedures in Gynecologic Residency Program: Do all Residents Need to be Trained?

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OBJECTIVES: To assess the current state of laparoscopic gynecologic surgery in the Dutch residency program, the level of competence among graduated residents, and whether they still perform these procedures. Furthermore, their current attitudes toward the implementation of minimally invasive surgery into residency training were assessed.

DESIGN: An online survey (Canadian Task Force Classification III) regarding the level of competence, performance, training, and interest for gynecologic laparoscopic procedures.

PARTICIPANTS/SETTING: Gynecologists who finished residency training between 2008 and 2013 in the Netherlands.

RESULTS: Response rate was 73% (171/235). The scores for all basic and intermediate laparoscopic procedures performed immediately after residency showed the highest competence level (median 5, of scale 1-5). The competence level for advanced laparoscopic procedures was less at 3, indicating that the graduated residents are not able to perform these procedures without supervision. Overall, 56% of the gynecologists no longer perform any level 3 advanced procedures, and 86% do not perform level 4 advanced procedures. Gynecologists who still perform the inquired laparoscopic procedures scored a significantly

higher competence level immediately after residency training for most of procedures compared with the gynecologists who do not perform these procedures.

CONCLUSION: Residents are sufficiently trained for basic and intermediate laparoscopic procedures during residency training. However, they are not sufficiently equipped to perform advanced laparoscopic procedures without supervision. We should consider training advanced procedures especially to a selected group of residents because most gynecologists do not perform these procedures after residency. The learning curve for advanced procedures continues to rise after finishing residency for those who keep on performing these procedures, therefore an additional fellowship is recommended for this group. (J Surg Ed 72:942-948. © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: Gynecology, laparoscopy, training, residency, education

COMPETENCIES: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills

INTRODUCTION

In 2013, the Dutch gynecologic residency program implemented new guidelines, which also had surgical requirements.¹ Besides the quantity of performed procedures, the level of competence was introduced (Table 1). The requirements of laparoscopic procedures are mainly based on

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TABLE 1. Dutch Requirement of Laparoscopic Procedures During Gynecological Residency

Procedure	Required Number	Level of Competence*
Diagnostic laparoscopy	50	At least 10 on level 4
Laparoscopic adhesiolysis	10	Not specified
Salpingotomy/salpingectomy/ectopic pregnancy	20	Not specified
Cystectomy (laparoscopic or abdominal)	25	At least 5 on level 4
Myomectomy (laparoscopic or abdominal)	5	Not specified
Hysterectomy (VH, AH, or LH)	40	Not specified

VH, vaginal hysterectomy; AH, abdominal hysterectomy; LH, laparoscopic hysterectomy.

*Level 1: has theoretical knowledge, level 2: is able to perform under strict supervision, level 3: is able to perform under limited supervision, level 4: is able to perform without supervision, and level 5: is able to supervise and educate others.

performing basic and intermediate (levels 1 and 2) laparoscopic procedures without supervision, but performance of some advanced (levels 3 and 4) procedures with supervision is also required (Table 1). Basic and intermediate laparoscopic procedures, according to the European Society for Gynaecological Endoscopy,² are sufficiently taught during residency in the Netherlands.³ However, advanced laparoscopic procedures are not formally embedded into this training program.^{3,4}

The residency training program forms the basis for the gynecologist to obtain sufficient education and adequate proficiency in laparoscopic skills; however, many graduated residents do not think they are sufficiently prepared to perform all levels of laparoscopic procedures at the completion of their residency program.⁵⁻⁷ Because laparoscopic approach is increasingly preferred to open surgery, there is a growing demand for an adequate and structured education program for all levels of laparoscopic procedures during residency. The latter is even more important because the Dutch Health Care Inspectorate showed concerns about patient safety regarding minimally invasive surgery (MIS) and stated a need for improved training in MIS.⁸ Therefore, residency training programs are under pressure to incorporate both basic and advanced laparoscopic procedures. The question remains whether it is even necessary and required to train all residents in these more advanced procedures, as a large proportion of residents will potentially perform only basic laparoscopic procedures after residency in their daily practice.

The aim of this study is to assess the implementation of laparoscopic gynecologic surgery in daily residency training program, the level of competence among graduated residents, whether they still perform laparoscopic procedures, and at which level they currently perform these procedures. Furthermore, this study determines their current attitudes toward the implementation of MIS into residency program, to identify barriers and find practical ways to optimize the implementation of MIS into the gynecologic residency curriculum.

MATERIALS AND METHODS

A web-based survey (NetQ) was sent through e-mail to all gynecologists who finished residency within the previous

5 years (2008-2013) and were registered at the Dutch Society of Obstetricians and Gynecologists (NVOG). Names and e-mail addresses were obtained from the NVOG. To maximize the response rate, 3 reminder mails were sent.

The survey consisted of questions covering demographic characteristics, level of competence immediately after finishing residency, current level of competence, and whether the respondent still performs these procedures. The same questions were asked regarding abdominal and vaginal hysterectomy to compare the different surgical approaches to hysterectomy. In addition, the survey included questions about the interest of the respondents in performing the procedures and training acquired during residency. The last item of the survey was a request for possible solutions to optimize laparoscopic training during residency and was answered through free text. A 5-point Likert scale was used to measure the state of agreement and the degree of their interest: 1 (strongly disagree) to 5 (strongly agree); 1 (not interested) to 5 (very interested). Guidelines of the European Society for Gynaecological Endoscopy² were used to classify the requested laparoscopic procedures according to the 4 levels of difficulty—first level (*basic*): diagnostic laparoscopy and laparoscopic sterilization; second level (*intermediate*): salpingotomy/salpingectomy/ectopic pregnancy, salpingo-oophorectomy, moderate adhesiolysis, and minimal endometriosis; third level (*advanced*): hysterectomy, myomectomy, extensive adhesiolysis, and severe endometriosis; and fourth level (*advanced*): sacrocolpopexy, lymphadenectomy, and recto-vaginal endometriosis. To indicate the level of competence, the Dutch residency curriculum uses 5 different competence levels to perform surgery, based on Miller's pyramid of clinical competence (Fig.)⁹—level 1: has theoretical knowledge, level 2: is able to perform under strict supervision, level 3: is able to perform under limited supervision, level 4: is able to perform without supervision, and level 5: is able to supervise and educate others.

If the respondents did not answer every item of the questionnaire, subcalculations with different denominators were made. Teaching hospitals represent university and nonuniversity teaching hospitals.

Subanalysis of the basic characteristics was performed for sex. Furthermore, the distribution of the different

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