

# Obstetrics and gynaecology trainees' understanding of intrauterine device/system insertion

Esther Moss, Tim Reynolds, Denise Williams, Charles Redman

## Abstract

**Objective** To determine obstetrics and gynaecology trainees' understanding of intrauterine device/system (IUD/IUS) insertion.

**Methods** A questionnaire-based survey of obstetrics and gynaecology trainees in the West Midlands region of the UK.

**Results** Forty-five trainees completed a questionnaire on this topic. High scores were obtained in questions relating to the medical and drug interactions of IUD/IUSs. However, trainees' knowledge of the technicalities of fitting and patient selection was poor. Some 49% of respondents stated that an IUS was effective as emergency contraception and 47% felt that an IUD/IUS was contraindicated in HIV-positive patients. No significant difference was seen between the number of correct

answers given by pre- and post-MRCOG trainees for any of the questions. The number of insertions per year was unrelated to knowledge levels.

**Conclusions** Obstetrics and gynaecology trainees regularly insert IUD/IUSs, and although their medical knowledge is on the whole very good, many doctors are not aware of best practice advice, in particular regarding the use of the IUS as emergency contraception. Training on contraception and sexual health needs to be incorporated into career obstetrician/gynaecologists' teaching programmes in order to improve their understanding and practice in this area.

**Keywords** intrauterine device, intrauterine system, IUD, IUS, training

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## Introduction

Sound understanding and practical knowledge of contraceptive options are essential for all trainee obstetrician/gynaecologists. The use of intrauterine devices (IUDs) in the UK has remained static over the past 8 years (4% of women aged 16–49 years) whereas the use of the intrauterine system (IUS) is rising steadily.<sup>1</sup> The Faculty of Sexual and Reproductive Healthcare (FSRH) has produced clear evidence-based guidelines on the use of the IUD and IUS, which are easily accessible on its website ([www.fsrh.org](http://www.fsrh.org)). However, the continuing occurrence of major patient morbidity associated with IUD/IUS insertion suggests that the FSRH best practice guidelines are not always adhered to, resulting in avoidable complications. The aim of this study was therefore to assess obstetrics/gynaecology trainees' understanding of the current best practice for IUD and IUS fitting.

## Methods

A questionnaire was designed using the FSRH Guidance on 'The copper intrauterine device as long-acting contraception'<sup>2</sup> and 'The levonorgestrel-releasing intrauterine system (LNG-IUS) in contraception and reproductive health'.<sup>3</sup> The questionnaire was designed with tick boxes to facilitate speedy completion and to maximise response. Clinical activity was assessed by asking the trainees to estimate the number of IUD/IUSs they had fitted in the past year. True/false/don't know

### Key message points

- Trainees in obstetrics and gynaecology regularly perform intrauterine device/system (IUD/IUS) insertions as part of their clinical workload.
- Many trainees are not aware of best practice advice regarding timing of insertion and that the IUS is not suitable for use as emergency contraception.

questions were designed to assess the trainees' knowledge of potential medical and drug interactions with the IUD/IUS, their knowledge of practical considerations, and their subjective opinion on fitting IUD/IUSs in different patient populations. Demographic information was also requested in the form of grade and postgraduate qualifications. Sixty questionnaires were distributed at three events: two registrar teaching days and the annual West Midlands trainees' scientific meeting.

The Chi-square test was used to examine the difference in the number of correct answers between pre- and post-Membership of the Royal College of Obstetricians and Gynaecologists (MRCOG) trainees and between trainees fitting fewer than 10 IUD/IUSs per year and those fitting more than 10 devices per year. The Mann-Whitney test was used to determine a difference between the total number of correct answers given by the trainees with and without the MRCOG or the Diploma of the Faculty of Sexual and Reproductive Health (DFSRH), which at the time the survey was conducted was known as the Diploma of the Faculty of Family Planning (DFFP). The correlation coefficient was used to investigate the relationship between the number of fittings and the total number of correct answers given.

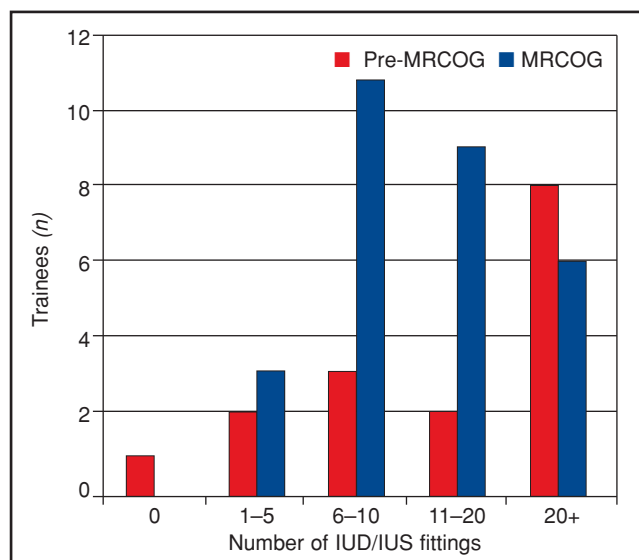
## Results

A total of 45 questionnaires was returned, a response rate of 75%. All of the respondents were obstetrics and gynaecology trainees working in the specialty, either in senior house officer (SHO) posts (four respondents) or registrar posts (40 respondents). One respondent did not state their grade. Twenty-nine of the trainees were post-MRCOG and the remaining 16 had passed the Part 1

**University Hospital of North Staffordshire, Stoke-on-Trent, UK**  
Esther Moss, MRCOG, MSc, *Gynaecology Research Fellow*  
Denise Williams, MRCOG, DFSRH, *Specialist Registrar in Obstetrics and Gynaecology*  
Charles Redman, FRCOG, FRCS(Ed), *Consultant in Obstetrics and Gynaecology*

**Queen's Hospital, Burton-on-Trent, UK**  
Tim Reynolds, MD, FRCPath, *Professor of Clinical Chemistry*

**Correspondence to:** Mr Charles Redman, Academic Department of Obstetrics and Gynaecology, University Hospital of North Staffordshire, Newcastle Road, Stoke-on-Trent Staffordshire ST4 6QG, UK. E-mail: [charles.redman@uhns.nhs.uk](mailto:charles.redman@uhns.nhs.uk)



**Figure 1** Trainees' subjective assessment of the number of intrauterine devices/systems they had fitted in the past year (pre-MRCOG,  $n = 16$ ; MRCOG,  $n = 29$ ). IUD, intrauterine device; IUS, intrauterine system; MRCOG, Membership of the Royal College of Obstetricians and Gynaecologists

MRCOG examination (pre-MRCOG). Thirteen (29%) of the trainees had obtained the DFSRH and a further five were in the process of completing it. Four (9%) trainees had been awarded further qualifications by the FSRH: two held the Letter of Competence in Intrauterine Techniques (LoC IUT), one had completed the membership examination (MFSRH) and the other had passed the first part of the MFSRH examination.

### Clinical workload

The trainees were asked to estimate the number of IUD/IUS fittings they had performed in the past year. Twenty-five

(55%) respondents stated that they had inserted more than 10 devices, four (31%) between six and ten devices and only one trainee had not fitted any (Figure 1).

### IUD/IUS fitting

The trainees were asked for their subjective opinion on IUD/IUS fitting in different patient populations. Thirty-one (69%) respondents felt that there was no difference in pain or difficulty inserting an IUD compared to an IUS. However, the majority of trainees did feel that parity had an effect on fitting with 41 (91%) agreeing with the statement 'An IUS is more difficult/painful to fit in a nulliparous woman'. Over half the trainees (24, 53%) would not advise condom use after insertion; however, 11 (24%) stated that they would advise it for 2 weeks.

### Medical and drug interactions and IUD/IUS use

The majority of trainees demonstrated a good knowledge of the medical and drug interactions with the IUD and IUS (Table 1). The role of intrauterine contraception in women with an HIV infection was less well understood, with only 24 (53%) respondents answering correctly.

### Technical knowledge of IUD/IUS insertion

Twenty-two (49%) trainees felt that the IUS was effective as emergency contraception compared to 21 (47%) who disagreed. The respondents also seemed unaware of the 1 in 20 risk of IUD expulsion quoted in the Faculty Guidance; only 14 (31%) answered this question correctly. Thirty-six (80%) trainees did know that prophylactic antibiotics were not recommended for routine IUD insertions and 40 (89%) would be happy to perform an insertion from 'any time' to '3 months' after a treated pelvic infection, provided there were no current signs or symptoms. Three (7%) trainees would wait 6 months after a treated infection and only one respondent would 'never' perform an insertion under such circumstances.

**Table 1** Number of correct answers given by the trainees analysed by Membership status and number of intrauterine device/system insertions within the past year (pre-MRCOG,  $n = 16$ ; MRCOG,  $n = 29$ ;  $\leq 10$  insertions in the past year,  $n = 20$ ;  $\geq 11$  insertions in the past year,  $n = 25$ ).  $p$  values were calculated using Chi-square with Yates correction

Question	Pre-MRCOG [n (%)]	MRCOG [n (%)]	$p$	$\leq 10$ insertions [n (%)]	$\geq 11$ insertions [n (%)]	$p$
When ideally should an IUS be fitted?						
Any time in the cycle if effective contraception	10 (63)	19 (66)	0.91	12 (60)	17 (68)	0.81
Days 1-7	13 (81)	19 (66)	0.45	13 (65)	19 (76)	0.64
Up to Day 19 if no contraception	15 (94)	27 (93)	0.59	19 (95)	23 (92)	0.85
Up to 5 days after unprotected intercourse at any time in the cycle	9 (56)	22 (76)	0.31	15 (75)	16 (64)	0.64
Any time in the cycle with no contraception as long as the pregnancy test is negative	15 (94)	28 (97)	0.75	18 (90)	25 (100)	0.38
An IUS can be inserted how long after a treated pelvic infection provided there are no current signs or symptoms?	15 (94)	25 (86)	0.79	18 (90)	22 (88)	0.80
Liver enzyme inducers (e.g. anti-epileptics) impair IUS efficacy	15 (94)	26 (90)	0.94	17 (85)	24 (96)	0.45
Most women continue to ovulate with an IUS	11 (69)	22 (76)	0.87	14 (70)	19 (76)	0.91
An IUS is effective as emergency contraception	4 (25)	17 (59)	0.07	12 (60)	9 (36)	0.20
IUS is associated with a low long-term risk of pelvic infection	7 (44)	7 (24)	0.31	6 (30)	8 (32)	0.86
The risk of expulsion with an IUD is around 1 in 20	6 (38)	8 (28)	0.73	5 (25)	9 (36)	0.64
Can an IUS be used in a patient with a history of focal migraine?	14 (88)	26 (90)	0.79	17 (85)	23 (92)	0.80
An IUS can cause a reduction in bone mineral density	13 (81)	28 (97)	0.24	19 (95)	22 (88)	0.77
Prophylactic antibiotics are not recommended for routine IUD insertion	15 (94)	21 (72)	0.19	15 (75)	21 (84)	0.71
HIV infection is a contraindication to an IUD or IUS	10 (63)	14 (48)	0.55	12 (60)	12 (48)	0.62

IUD, intrauterine device; IUS, intrauterine system.

**Table 2** Mean number and percentage of correct answers given by trainees broken down by Membership status, family planning qualification and the number of intrauterine devices/systems fitted per year. The number of respondents in each category is given in parentheses

Parameter	Correct answers (out of 16 questions)	
	Mean (n)	Percentage (%)
Pre-MRCOG (n = 16)	11.0	69
MRCOG (n = 29)	10.8	68
DFSRH/MFSRH (n = 19)	11.3	70
No DFSRH/MFSRH (n = 26)	10.6	66
≤10 IUD/IUSs fitted/year (n = 20)	10.8	67
≥11 IUD/IUSs fitted/year (n = 25)	11.0	69
Overall (n = 45)	10.9	68

DFSRH, Diploma of the Faculty of Sexual and Reproductive Healthcare; IUD, intrauterine device; IUS, intrauterine system; MFSRH, Membership of the Faculty of Sexual and Reproductive Healthcare; MRCOG, Membership of the Royal College of Obstetricians and Gynaecologists.

### Timing of IUS insertion

The question 'When in the menstrual cycle can an IUS be fitted?' was asked. Twenty-nine (64%) respondents stated that they would be happy to perform the fitting at any time in the cycle provided the woman was using effective contraception. Five (11%) trainees displayed a lack of knowledge of the advice regarding IUS insertion, three (7%) stating that they would fit the IUS up to Day 19 and two (4%) at any time in the cycle as long as a pregnancy test was negative.

### Postgraduate qualifications and training

No significant difference was seen in the percentage of correct answers given by the pre-MRCOG trainees compared to those who had attained their membership (i.e. 69% vs 68%). Trainees holding or in the process of completing a family planning qualification also showed no significant difference in their total number of correct answers compared to trainees without such training (i.e. 70% for DFSRH/MFSRH holders vs 66% for those without this training/qualification). The result of the question 'An IUS is effective as emergency contraception' was at the margin of significance, with 4/16 pre-MRCOG trainees giving the correct answer compared to 17/29 post-MRCOG trainees ( $p = 0.07$ ).

The number of IUD/IUS insertions per year had no effect on trainees' level of knowledge (Table 2) with no difference in the total number of correct answers given by trainees fitting fewer than 10 IUD/IUSs per year compared to those fitting 10 or more per year (67% vs 69%, correlation coefficient  $p = 0.47$ ).

### Discussion

This study confirms that obstetrics and gynaecology trainees regularly perform IUD/IUS insertions in their hospital-based practice. There are currently approximately 132 specialist registrars/acting registrars and 46 SHOs working in obstetrics and gynaecology in the West Midlands region. Our cohort of 45 trainees is approximately 25% of the total target population (i.e. 9% of the SHOs and 30% of registrars) and is therefore likely to be a representative sample of the trainee population. The questionnaires were distributed at educational meetings and thus there is the possibility of responder bias since trainees who are more interested in their teaching and training might be more likely to attend such meetings.

The majority of trainees who responded appeared to have a sound knowledge of best practice advice. However, a proportion of respondents seemed to be unaware of the guidance on the timing of IUS fitting<sup>3,4</sup> and that the IUS is not advised for emergency contraception use.<sup>5</sup> When the questions were combined into two overall categories, knowledge on the medical/drug interactions of IUD/IUS fittings was higher than the scores obtained for the more technical questions. The guidance on IUD/IUS insertion following pelvic inflammatory disease (PID) or a sexually transmitted infection (STI) is not universal between agencies. Faculty Guidance<sup>3</sup> states that an IUS may be inserted within 3 months of treated pelvic infection, provided that the woman is asymptomatic. This differs from World Health Organization *Medical Eligibility Criteria for Contraceptive Use* (WHOMEC) advice,<sup>6</sup> which classifies inserting an IUS when a woman has PID, or an STI, currently or within the last 3 months, as an unacceptable health risk (WHOMEC Category 4). For the purposes of this study the Faculty Guidance was followed, and the answers given by the respondents reflect that the majority of trainees follow this Guidance, with only three advocating a 6-month wait before insertion and one trainee responding that an IUD/IUS should never be inserted.

Medical and drug interactions of the IUD/IUS were generally well understood except for their use in HIV-positive women, which is considered to be a WHOMEC Category 3 classification by the FSRH rather than a contraindication (WHOMEC Category 4). Passing the MRCOG examination does not have appear to have an effect on understanding since no significant difference was seen in the number of correct answers given by pre- and post-MRCOG trainees, which is encouraging since IUD/IUS fitting activity appears to be high in the pre-membership trainees, with 50% of respondents performing more than 20 insertions per year. Clinical workload also does not appear to have an effect on the level of knowledge, with no difference seen between the number of correct answers given by trainees fitting 10 or fewer IUD/IUSs per year compared to those fitting more. This result does not support the policy of a set level of activity in a procedure in order to maintain a satisfactory level of competence and would instead support a competency-based accreditation system.

The patient population seen and managed by obstetrician/gynaecologists for IUD/IUS fittings will differ from that seen in the community. The majority of devices inserted will be IUSs, which may be fitted for reasons other than contraception, in particular menorrhagia. Also, a large proportion of insertions will take place in unconscious patients (e.g. those women having an IUS inserted after hysteroscopic evaluation of the endometrium). Despite these differences in patient population, the technicalities and complications of IUD/IUS insertions remain the same and therefore it is important that trainees understand and adhere to best practice advice.

Contraceptive topics are comprehensively covered in both the SHO and pre- and post-membership registrar training programmes in the West Midlands region, as well as featuring regularly in the RCOG educational journal, *The Obstetrician and Gynaecologist*,<sup>7,8</sup> and the distance-learning programme, StratOG. Attaining the LoC IUT to indicate technical competency will not be appropriate for the majority of trainees since the requirements would be very difficult to achieve in a hospital setting, namely seven insertions with two different devices in conscious patients and re-



certification every 5 years, necessitating the insertion of a further 12 devices over 12 months or six devices over 6 months in unanaesthetised patients. The training for obstetrics/gynaecology trainees therefore needs to be tailored specifically for the patient population that they will be managing and preferably with on-the-job training, which has been shown to significantly improve doctors' performance in contraceptive consultations and the quality of care provided to patients.<sup>9</sup>

The new Specialist Training Curriculum launched in 2007 incorporates hands-on training and assessment in order to produce a competency-based evaluation of trainees' clinical skills. The use of Objective Structured Assessment of Technical Skills (OSATS) to review technical competency of a procedure would be particularly appropriate for IUD/IUS fitting. It would allow the assessment of clinical skills with ongoing review and achievement of an accreditation for the trainee, enabling them to move into independent practice. The Mini Clinical Evaluation (Mini CEX) assesses a trainee-patient consultation by direct observation by the trainer and would enable evaluation of history taking and counselling/communication skills, which are important components of IUD/IUS fitting.

## Conclusions

Obstetrics/gynaecology trainees insert IUD/IUSs regularly and although their medical knowledge is on the whole very good, many doctors are not aware of best practice advice, in particular avoidance of the use of an IUS as emergency contraception. Regular training on contraception and sexual health needs to be incorporated into career obstetrician/gynaecologist teaching programmes in order to improve their understanding and practice in this area.

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