

# National inpatient diagnostic hysteroscopy survey

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**Abstract** This survey was undertaken to determine the common practise patterns of how hysteroscopy is carried out in the UK. We believe this will help to develop a consensus and set national guidelines in accordance with the way we undertake this procedure. In addition; we aim to assess the operators understanding of hysteroscope optics related to this procedure. The study was conducted in a teaching hospital in the southwest of England, UK. Postal questionnaires were sent within the first week of June 2007 to 1,000 consultant gynaecologists in the UK. The surveyed gynaecologists were selected from the Royal college of Obstetricians and Gynaecologists (RCOG) register of Fellows and Members. The questionnaire included questions regarding common preoperative preparation, operative techniques, post-operative management, and follow-up. Four hundred seventy-five (47.5%) responses were returned. Four hundred forty (44%) consultant gynaecologists completed the survey and 35 (3.5%) incomplete questionnaires were returned by consultants who currently do not undertake hysteroscopy. It appears that there is some consensus in with the way we undertake this procedure. However, the results showed a wide variation in the understanding of the hysteroscopes angled optics and how this relates to surgical technique for inpatient hysteroscopy. It seems that setting up a national guideline is feasible. However, there was a clear lack of understanding of the optics used during a hysteroscopic procedure between

gynaecologists. Optics-related surgical techniques should be included into training programmes. Professional societies are able to develop a general consensus for this procedure. We are pleased that the practical skills courses run by the RCOG include clear training in this area.

**Keywords** Hysteroscopy · Diagnostic · Inpatient · Survey · Optic

## Introduction

Diagnostic hysteroscopy (DH) is considered one of the most frequent gynaecological procedures [1–3]. It has become an effective method for diagnosing of various intra-uterine pathologies [4]. Like all endoscopic procedures, it requires thorough training, practical experience and familiarity with the endoscopic techniques [5]. Awareness of possible complications and precautions to prevent them is also important [6].

We therefore conducted a national questionnaire survey of consultant gynaecologists in the UK. The intended goal was to find if a consensus was feasible. Also, it was to assess the operators' understanding of the optics of the hysteroscope.

## Material and methods

A self-administered questionnaire to all 1,000 UK consultant gynaecologists to enquire about their current practise and potential willingness to participate in a randomised trial.

A two-page questionnaire was developed for this study (Appendix 1). It composed 30 questions. The questionnaire

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was a structured format consisting of a series of closed, opened and multiple choice questions. However, the participant was able to add his/her preferred answer if it was different with the given choices. In addition, some questions require the participant to provide numbers e.g. hysteroscope size etc. Each surveyed envelope contained a letter of introduction, the questionnaire and a self-addressed return envelope.

After a pilot testing on 50 of the surveyed participants, the questionnaire was sent to all gynaecologists ( $n=1,000$ ). The anonymous nature of the survey makes comparisons of those who did and did not respond to the survey impossible. Therefore, there was no reminder sent for those who failed to respond. This survey was not funded by any industry source.

The first question in our survey has addressed the potential operative risks. Questions 2–24 were focused on the intra-operative preparation and individual techniques. However, question 19 was estimating the participants' understanding of the optics of hysteroscopy through choosing one of the supplied three photos showing different positions of the intra-cervical canal. We have linked questions 11 and 19 in recording the correct answer for question 19 as the correct answer depends on the degree of angulations of the scope lens. Question 25 was to find the participants' preference on follow-up. Also, we tried to find in question 26 the participant's percentage of inpatient–outpatient hysteroscopy. Questions 27–29 were to identify the participant experience in using and availability of operative hysteroscopy. The last question asked for any comment the participant would add.

The received information was collected in the statistical SPSS programme (SPSS, version 11, SPSS, Chicago, IL, USA).

## Results

Of the postal mail sent, 475 (47.5%) were returned and of them 440 (44%) were completed questionnaires. Thirty-six (3.5%) consultant gynaecologists who do not perform hysteroscopies, returned their questionnaire incomplete. This includes obstetricians, or retired consultants. The results of the completed questionnaire were entered into the computer database. Not all responders answered every question; hence, there are discrepancies between the total number of returned questionnaires and the total number reported for some questions.

In response to the question of preoperative informed consent; 34, 49, 58 and 147 ( $n=423$ ) respondents did not consent their patients for uterine perforation, bleeding, infection and anaesthetic complication, respectively.

General anaesthesia was chosen most commonly as the preferred anaesthetic method by 58% of respondents among

other types. Anaesthetist preference is the second commonly recorded answer. The majority of respondents neither catheterise (92%) nor give antibiotics (98%). More than two-thirds of those surveyed reported that they prefer lithotomy position to Lloyd–Davies position. Examination under anaesthesia is routinely used by (89.5%). Of the respondents, 85.5% do not have an assistant in theatre and 57% check their instruments themselves. Cusco speculum is less likely used (7.6%) compared to Sims speculum (78.6%). However, 13.8% of respondents do not use any speculums at all. The majority of respondents reported that cervical dilatation depends on the scope size and the cervix is always checked at the end of the procedure.

Over two-thirds, 65.8%, of those surveyed start the fluid media at the cervix, 30.5% start the fluid media prior to scope entry and 3.7% start the fluid media within the uterine cavity. However, most try to empty the uterine cavity at the end. The majority do not use any fluid suction system. Table 1 shows the surveyed gynaecologists preference regarding scope size, scope degree, type of fluid media and fluid pressure, respectively. Advancing the scope under camera vision was selected as the most commonly used technique.

The response to question 19 was high; 397. Of respondents, 66.6% using 0° scope chose the correct photo. Only 25.8% of respondents using 25–70° scope chose the correct photo. The overall correct answer for this question was 38.8%.

The common (61.6%) employed assessment system for the uterus starts with the uterine fundus, followed by tubal ostia, uterine wall and ends by examining the cervical canal. Two-thirds of responders attempted taking an endometrial biopsy. Table 2 shows the operators' preference to record the findings.

The response to question 27, 28 and 29 showed that the resectoscope is available in theatre in 80.5% of the respondents; however, only 69.5% have been trained and are able to use it.

**Table 1** Surveyed gynaecologists preference

Scope size	5 mm	176
	3 mm	58
Scope degree	30°	169
	0°	124
Fluid media	N. saline	388
	CO <sub>2</sub>	26
Fluid pressure	40–60 mmHg	21
	80–100 mmHg	122
	100–150 mmHg	101
	Manual	61
	No pressure	44

**Table 2** Operators' preference

Ways to record the operative findings	No.
Photos only	96
Photos and hand written records only	89
Hand written records only	81
Photos, diagrams and hand written records	61

## Discussion

This survey was conducted to observe a difference in the current UK practise patterns in undertaking diagnostic hysteroscopy. It also assesses the operators understanding of the hysteroscope optics.

Diagnostic hysteroscopy may be performed without anaesthesia [7]. Although local anaesthetics, intravenous sedation and paracervical blocks may be adequate for diagnostic hysteroscopy, they may not be suitable for more prolonged or complicated procedure [8].

Dilatation of the cervix and introduction of the hysteroscope are to blame for the risk of uterine perforation. Introduction of the hysteroscope under direct vision reduces this risk [6]. On other hand, dilatation of the cervix for diagnostic procedures is not mandatory [9–11]; however, others dilated the cervix routinely during all diagnostic procedures without complications [12].

The position, size and shape of the uterus should be assessed by bimanual examination if cervical dilatation is indicated [5]. Bladder emptying is not a routine unless it interferes with bimanual uterine assessment. The smaller the scope size the less likely dilatation required, 3–5 mm scope is recommended [13].

'No-touch' procedure of vaginoscopy was pioneered by Bettocchi and Salvaggi in 1995 [14]. It was performed with 5-mm diameter, continuous flow hysteroscope without medication, cervical dilatation or the use of vaginal

speculum or cervical tenaculum. Initially, the labia minora may have to be held together to facilitate distention of the vagina during the vaginoscopy part. The uterine distention is using saline at a pressure of approximately 30 mmHg. The failure rates of vaginoscopic procedures have ranged from 0 to 2.4% [14–16].

Cervical priming has been considered pre-operatively especially with expected difficult cervical dilatation. The use of misoprostol (400 µg orally or 200 µg vaginal) 9 to 12 h prior to the surgery, was shown to be beneficial in both pre-menopausal and post-menopausal women [17].

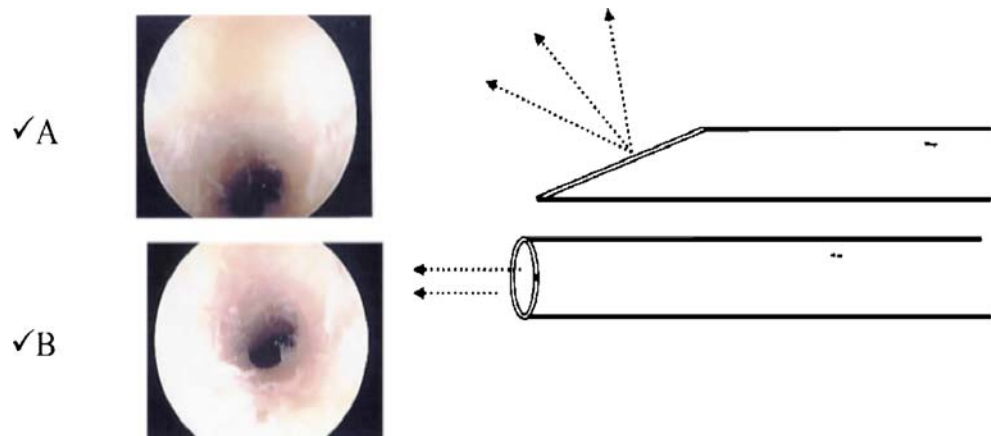
The mean intra-uterine pressure required to separate the uterine walls is 40 mmHg (range 25–50 mmHg) [18] and spill from normal fallopian tubes occurs at 70 mmHg when saline is the distending medium [19]. There is no ideal medium, and no one medium is devoid of complications. Comparing normal saline with CO<sub>2</sub> as distending media resulted in similar pain during the procedure with less post-operative discomfort or bowel irritation with normal saline [20]. In addition, CO<sub>2</sub> costs substantially more than normal saline [21].

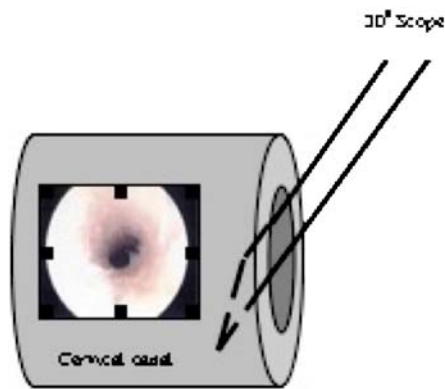
Preventing hysteroscopic complications start by raising the understanding of the hysteroscope optics which was one of our main objectives in this study. Some of the survey's questions are designed to check the understanding of the hysteroscope optics through choosing the correct photo when the angled or 0° scope is used. Only 25.8% of respondents chose the correct photo which we believe is low.

About half of the complications caused by the hysteroscopic approach were related to entry of the uterine cavity [6]. Therefore, advancing the hysteroscope under direct vision is recommended [6].

In order to know that the telescope and cervical canal are directly in line prior to advancing, the view on the screen needs to be fully understood to minimise the risk of uterine perforation and also to minimise pain experienced by patients in the outpatient setting.

**Fig. 1** Expected correct pictures with angled or 0° scope





**Fig. 2** The telescope is angled posteriorly with a significant risk of a posterior perforation when the 30° scope is advanced

With a 30° angled scope the scope and canal are only inline when you can just see the cervical canal at the bottom of the picture with angle scope looking upwards. With 0° scope, you will see the cervical canal in the middle of the picture (Fig. 1). If the cervical canal is in the middle of the picture then the telescope is angled posteriorly with a significant risk of a posterior perforation when the scope is advanced (Fig. 2). Vice versa with the angled scope looking down, requires the canal to be at the 12 o'clock position for the scope on cervical canal to be inline.

It is disappointing that only 25.8% of responders answered this question correctly and indicates that at the consultant level this is poorly understood and therefore poorly taught to future generations.

We are pleased that this subject is taught clearly and correctly in the Royal college of Obstetricians and Gynaecologists practical skills course. We are hopeful and confident that future generations of gynaecologists will not perpetuate those misunderstandings.

## Conclusion

There was a lack of understanding of the optics of the hysteroscopic procedure between gynaecologists. We strongly recommended that the optics-related surgical techniques should be included into any hysteroscopic training programme. Professional societies are able to develop a general consensus for this procedure. This would improve the understanding of hysteroscopy, reduce complications and aid setting up a guideline for the procedure.

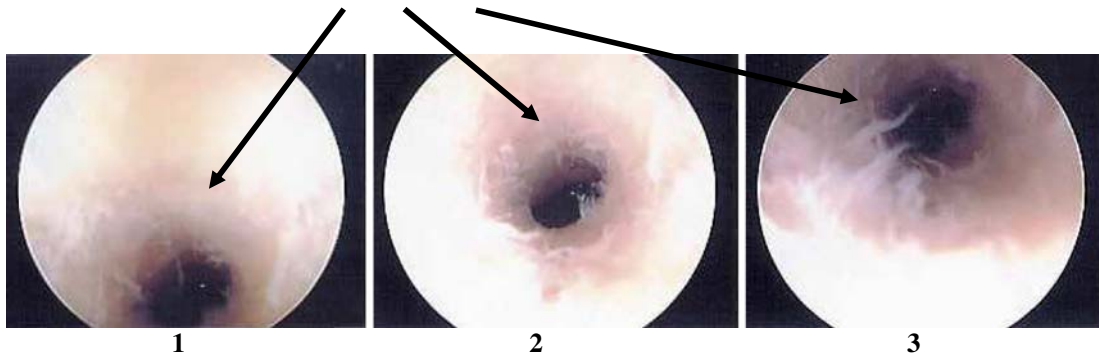
**Conflict of interest** There is no actual or potential conflict of interest in relation to this article.

## Appendix

**National Inpatient Diagnostic Hyteroscopy survey**

1. What complications do you inform patients of? Uterine perforation  
Bleeding  
Infection  
Anaesthetic risks  
Others: (please specify).....
2. What type of anaesthesia do you prefer? Nil  
Spinal  
General  
Local  
Anaesthetist preference
3. Do you catheterise patients pre-operatively? Yes No
4. Do you use antibiotics at induction? Yes No
5. How do you position the patients?  
Lithotomy  
Lloyd-Davies position  
Others (please specify).....
6. Do you examine your patient in theatre under anaesthesia prior to the procedure?  
Yes No Usually
7. Do you request an assistant (staff nurse or doctor)? Yes No Usually
8. Do you usually check and assemble instruments yourself pre-operatively Yes No
9. Do you use a speculum during hysteroscopy? Yes No  
If yes Type: Sims  
Cusco's  
Others:.....
10. What size/diameter hysteroscope do you prefer? .....mm  
No preference  
Unknown
11. What degree of scope lens do you use 0° 25° 30° 70°  
No preference  
Unknown
12. How far do you dilate the cervix to? Nil  
Depend on the hysteroscope size  
Others: .....
13. What distension medium do you prefer? Normal saline Water  
Glycine Sorbitol  
CO2 Other (please specify):.....
14. When do you start the fluid medium flow?  
A. Prior to entry B. In the cervical canal C. In the uterine cavity

15. Do you use a fluid suction system?      Yes      No
16. What pressure do you prefer:              No pressure              100-150mmHg cuff  
    80-100mmHg cuff          40 –60mmHg cuff  
    Manual pressure              Unknown
17. Do you use a camera or direct eye view? .....
18. Do you advance the hysteroscope under direct vision?      Yes      No
19. Where do you position the cervical canal on the monitor screen prior to advancing the scope you chose previously above if performed under direct vision with the light lead down?



20. What is preferred assessment system for the uterus? (Start with the first)  
                 Fundus .....Tubal ostia .....Uterine wall .....Cervical canal.....
21. Do you attempt to take endometrial biopsy even if the uterine cavity looks normal?      Yes      No
22. Do you usually try to empty the residual fluid from uterine cavity at exit?      Yes      No
23. How do you prefer to record the findings?      Photos if available              Video if available  
    Diagrams                              Hand written record  
    Others: .....
24. Do you check the cervix at the end of surgery?      Yes      No
25. How do you follow up your patients?  
                 **A.**Review before discharge   **B.**Gynaecology follow-up clinic   **C.**Write back with the histology result
26. What is your percentage of hysteroscopy:   Inpatient ..... %: Outpatient .....%
27. Is the resectoscope available in theatre if required?   Yes      No
28. Are you able to use the resectoscope if required?      Yes      No
29. Have you been trained to use resectoscope?            Yes      No
30. Other comments: (Please use overleaf if required)



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