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## Colposcopy training and assessment across the member countries of the European Federation for Colposcopy



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### ABSTRACT

**Objectives:** Colposcopy training and assessment is not uniform across Europe with individual countries determining their own required standards and regulations. In light of the significant changes in colposcopic practice that have occurred over the past decade and the expansion of the European Federation for Colposcopy (EFC) membership, a study was conducted firstly, to assess the current requirements for training in each of the member countries and secondly, to review an EFC-approved core training curriculum for colposcopy.

**Study design:** A questionnaire survey of the EFC representatives from all member countries investigating their country's current practices/requirements with regard to training, assessment and accreditation for colposcopy. A two-round Delphi consultation with representation from the full, associate and three potential member countries was conducted using a 5-point Likert scale for scoring opinions. The results were analysed with respect to each country's population size and World Bank economic classification. **Results:** For the questionnaire survey, responses were received from 31/34 countries invited to participate. Training programmes were reported to be in place in 21 of the 31 countries but only 17 of the 21 countries had a committee overseeing the training programme. An assessment was part of the training programme in 20 countries with multiple choice questions and portfolios the most common assessment tools. Countries with a population size less than 2 million have a statistically significant lower probability of having a structured training/assessment programme, 1/5 compared to 20/26 for a populations greater than 2 million,  $p = 0.013$ . For the Delphi study, responses were received from 34/39 countries invited to participate. Of the 51 competencies previously identified only 2 did not receive full support: 'perform bacterial swabs' and 'provide data to national body'. There was no significant difference in the responses given by member, associate member or potential member countries.

**Conclusions:** There is considerable variation in colposcopy training and assessment across Europe. This study has enabled consensus opinion with the EFC on the contents of an EFC core curriculum. The revised curriculum has a mandate from the EFC member countries to be implemented across Europe as the standard for colposcopic training.

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### Introduction

European Federation for Colposcopy (EFC) was founded in 1999 and initially included only 14 member countries. Over the past 15 years the EFC has grown in strength and influence and now

comprises of 34 member countries and two associate member countries. It is essentially a collective body representing all the national colposcopy societies of the member countries and as such it seeks to aid and support member countries in all aspects of cervical screening including advising expected standards for colposcopy, cytology and pathology [1–3]. One key area that has been identified as an issue of difference across the membership, and where it is felt that standards need to be improved, is in the training and accreditation of colposcopists [4,5]. It is acknowledged that the screening programmes, provision of medical care and medical training differ greatly amongst the many countries in Europe and these aspects can be effected by many factors including the country's own traditions, economy and size of their population. It is therefore a great challenge to try and bring consensus and agreement on the issue of training across such diverse communities.

The Delphi technique is a structured communication technique that has been used in many settings and professional domains in order to gain consensus on guidelines and policy and to orient future recommendations [6]. The strength of this technique comes from all the experts contributing towards the outcome and can therefore feel ownership of the final result. It has been previously used by the EFC to determine a list of quality standards for an audit of colposcopic practice [7], which is now currently being evaluated in several European countries.

In order to assess the current state of coloscopic training across Europe two studies were performed. The first was a questionnaire to authorised representatives of the member countries attending EFC satellite meetings in order to gain information on the current requirements for colposcopic training and the processes for assessment and revalidation. The second was a Delphi consultation in order to update the training curriculum core competencies, which were determined by the consensus agreement in the year 2000 [8].

## Methods

The studies were developed at EFC satellite meetings in 2011 and 2012 in Berlin. Information was collected on whether a national colposcopy training programme was in place, the nature of the regulatory body, the training and assessment requirements and ongoing revalidation of competency in colposcopy. A questionnaire survey was distributed at an EFC representatives working group meeting to all EFC members (Albania, Austria, Belgium, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Israel, Italy, Kosovo, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Republic of Ireland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom) in 2014. Non-responders/attendees were emailed a copy of the questionnaire over the following 6 months, with at least two reminder emails in order to increase the response rate. The results were analysed by size of country population (greater than 20 million, 10–20 million, 2–10 million and less than 2 million) and World Bank classification (high-income, middle-income) [9].

A two-round Delphi consultation was conducted with up to two senior colposcopists, who were authorised to participate in the survey by their national societies, from each of the EFC member (Albania, Austria, Belgium, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Israel, Italy, Kosovo, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Republic of Ireland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom), associate member (Denmark, Switzerland) and potential member countries (Bosnia and Herzegovina, Bulgaria, Montenegro). The majority of the representatives belonged to the

same cohort of representatives that were present at the satellite meetings and participated in the first study. Participants were asked to give the opinion of their national society by considering the importance of each of the current competencies determined during the previous Delphi consultation in 2000 using a 5-point Likert scale [10]. The respondents were also given the opportunity to suggest additional competencies that could be added to the list for scoring by the group. Round 2 enabled the participants to revise their scores in light of the scores given by the group as a whole in round 1. The study was conducted using an internet-based survey tool with each national society representative being emailed a link to each of the rounds of the survey. Two reminder emails were sent 2 and 3 weeks after the initial invitation to each round in order to encourage participation. As with the previous EFC Delphi consultation [7], a mean score was calculated for each competency per country in order to ensure equal representation for the countries where only one respondent had participated.

## Results

Responses for the questionnaire survey were received from 31 of the 34 member countries, response rate of 91.2% (Austria, Belgium, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Israel, Italy, Kosovo, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Republic of Ireland, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Turkey and the United Kingdom). A training programme existed in 21 of the 31 countries, however only 17 of the countries had a committee overseeing the structure of the training programme. Four of the 25 countries that reported running a course for colposcopy training did not have a structured training programme. An individual country's capacity for training and number of training places was not known by many of the representatives however, only six countries reported that there were inadequate training places for their trainees (Cyprus, Estonia, Greece, Israel, Russia and Turkey).

When asking views on the training case-load, 93.3% (28/30) of respondents agreed that there needed to be a minimum number of cases seen and managed individually by the trainee. In this case-load, 86.2% (25/29) felt there should be a stipulated number of new cases – median of 50 cases (range 15–300), 73.3% (22/30) agreed that there should be a stipulated number of cases with high-grade dyskaryosis (HSIL) – median 25 cases (range 15–50), and 80.0% (24/30) thought there should be a stipulated number of cases seen under supervision – median 40 cases (range 5–300).

An exit assessment was reported as being part of the training programme in 20 countries (Austria, Croatia, Czech Republic, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Italy, Latvia, Portugal, Republic of Ireland, Romania, Russia, Serbia, Slovenia, Sweden and the United Kingdom). Multiple-choice questions were the most common assessment tool (12/20), with other modalities of assessment being a portfolio of cases (11/20), an objective structured clinical examination (OSCE)(9/20), problem-based learning (8/20) and essays (3/20). Although only 14 counties expressed an interest in developing an EFC colposcopy accreditation that could be used across European countries a further 11 (25/30) identified that the EFC could be of use to their national training programme primarily with developing structured training and gaining consensus with regard to training requirements.

There was no difference in responses between the countries when analysed by World Bank classification between the high-income and middle-income countries however, when the results were grouped according to population size a difference in the provision of training and a national re-accreditation process was seen. Countries with a population size less than 2 million have a

statistically significant lower probability of having a structured training/assessment programme, 1/5 compared to 20/26 for a populations of at least 2 million people,  $p = 0.013$  (Table 1).

For the Delphi consultation, responses were received from 32 member, one associate member and one potential member countries, 34 (87.2%) of the 39 countries asked to participate in the study (Albania, Belgium, Croatia, Cyprus, Estonia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Israel, Italy, Kosovo, Latvia, Lithuania, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Ireland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom). No additional competencies were proposed that were not already included in the list of 51 competencies in the previously determined list, therefore the scoring proceeded with no additions. It was the opinion of the group that colposcopic competency should not be confined to diagnosis and visualisation of lesions but should extend to confirming that diagnosis through performing biopsies and treating lesions. Following the second round of questioning only two competencies did not achieve a median score of  $>4.5$  out of 5, 'performing bacterial swabs' and 'providing data to a national body'. There was no significant heterogeneity in the scores awarded by the participants from the member, associate member, or potential member countries (Table 2).

## Discussion

There is great heterogeneity in the training and accreditation of colposcopists across Europe. This study has identified that not only is there wide variation in the training of colposcopy trainees and the techniques used to assess their clinical competency but also in the licensing and re-validation of practicing colposcopists.

Many specialist societies recognise the need to develop international guidelines in order to standardise training and clinical practice [11,12]. Colposcopy training within a particular country will inevitably depend on the structure of the national health care system and the model of medical training in that country. The results of our study indicate that countries with small populations, less than 2 million, appear to have less developed structures, which may be due to fewer national experts available in order to set up and run such an infra-structure. Although the proposal of a cross-border colposcopy qualification was only supported by 14 of the 31 respondents, since there was acknowledgement that this would be extremely difficult to develop due to legal indemnity issues and different health care systems, the role of EFC in developing common standards for training and assessment was widely supported. A generic EFC training programme and assessment system may be particularly

beneficial for small population countries, who may be unable to develop or sustain their own national programmes.

A revision of the colposcopy training competencies was indicated because of the expansion of the EFC membership, an original curriculum determined by 30 experts from 21 countries [8], and the changing landscape of colposcopic practice over the past decade. The Delphi consultation method is good technique to gain agreement between a diverse group of experts, in part because the participants are anonymous to each other thereby allowing free expression of opinions and encourage open critique while reducing a bandwagon effect with responders being influenced by their responder colleagues. The Delphi consultation was also useful since it could be performed without the need for a physical meeting. There was support for all but two of the previously determined standards. The lower level of importance given to 'need to provide data to a national body' may reflect the lack of infrastructure to collect data nationally in many of the EFC member countries. This result is also supported by the questionnaire survey finding that training is an essential requirement in only 10 of the participating countries and with even fewer countries requiring re-validation of a colposcopist's fitness to practice. Our data indicates that governance of colposcopy at a national level is only present in a few countries and may be further undermined by a proportion of colposcopy being conducted in the private sector.

The final list of 49 standards that were felt to be essential to training is a reflection of the wide range of abilities and tasks that is expected of an accredited colposcopist and supports the need for structured training and assessment to ensure that all competencies have been achieved before embarking on independent practice. Supporting the need for such a comprehensive curriculum are the views of the EFC representatives that there should be a stipulated number of training cases, a suitable case mix and the need for a proportion of those training cases to be performed under supervision in order for competency to be demonstrated. A median figure of 50 cases was proposed with 50% of these having high-grade (HSIL) cytology, but this figure may need to be modified depending on the clinical ability of the individual trainee.

In conclusion, the Delphi consultation has utilised the expert opinion of senior colposcopists in order to gain consensus opinion from countries across Europe on the content of the EFC core curriculum. The questionnaire survey has determined a minimum number of cases required for training and identified that there is the will amongst individual national colposcopy societies to develop a generic EFC training and accreditation programme. The final outcome can be concluded as being representative of the views of the member, associate member and potential member countries and is a constructive step towards optimising colposcopy

**Table 1**  
Presence of a National Structured Training Programme, assessment and re-validation, responses grouped by size of country population.

	Population >20 million (n=9)	Population 10–20 million (n=5)	Population 2–10 million (n=15)	Population <2 million (n=5)
Training programme	7/9 (78%)	4/4 (100%)	9/13 (69%)	1/5 (20%)
Course for colposcopy training	8/9 (89%)	4/4 (100%)	12/13 (92%)	1/5 (20%)
Committee overseeing training	6/9 (67%)	2/4 (50%)	8/13 (62%)	1/5 (20%)
Assessment as part of training	6/8 (75%)	3/4 (75%)	10/13 (77%)	1/5 (20%)
Training programme an essential requirement to practice	2/8 (25%)	3/4 (75%)	4/13 (31%)	1/5 (20%)
National re-accreditation process	4/8 (50%)	2/4 (50%)	3/13 (23%)	0/5
Would the EFC be of use to your training programme?	7/8 (88%)	4/4 (100%)	9/13 (69%)	5/5 (100%)

Population  $\geq 20$  million: France, Germany, Italy Poland, Romania, Russia, Spain, Turkey, United Kingdom Population  $\geq 10$  to  $<20$  million: Belgium, Czech Republic, Greece, Netherlands, Portugal.

Population  $\geq 2$  to  $<10$  million: Albania, Austria, Croatia, Finland, Georgia, Hungary, Israel, Latvia, Lithuania, FYR Macedonia, Norway, Republic of Ireland, Serbia, Slovakia, Sweden.

Population  $<2$  million: Cyprus, Estonia, Kosovo, Malta, Slovenia.

**Table 2**

Results of Delphi consultation on core competencies for colposcopic training scored on a 5-point Likert scale (1 = low importance, 5 = high importance).

	Members (n=32)	Full/associate members (n=33)	All respondents (n=34)
<b>General training</b>			
Understand the development of cervical neoplasia	5	5	5
Ensure that practice complies with health and safety recommendations	5	5	5
Manage patients within EFC guidelines	5	5	5
Provide adequate information prior to colposcopy	5	5	5
Answer questions about management	5	5	5
Communicate with other health professionals	5	5	5
Understand national cervical screening guidelines	5	5	5
Be able to communicate results in a sensitive manner	5	5	5
Provide data to a national body	4	4.5	4.3
<b>Basic examination</b>			
Be able to take a history	5	5	5
Examine the vagina	5	5	5
Examine the vulva	5	5	5
Position and adjust the colposcope	5	5	5
Be able to position a patient for colposcopy	5	5	5
Be able to insert a vaginal speculum	5	5	5
Use endocervical speculum	5	5	5
Document colposcopic findings	5	5	5
Provide adequate information after colposcopy	5	5	5
<b>Colposcopic procedure</b>			
Perform cervical sampling (including cytobrush)	5	5	5
Perform bacteriological swabs	4.1	4.75	4.35
Examine the transformation zone with acetic acid	5	5	5
Perform Schiller's and iodine test	5	5	5
Examine the transformation zone with saline and green filter	5	5	5
Quantify and describe acetic acid changes	5	5	5
<b>Colposcopic findings</b>			
Determine whether colposcopy is satisfactory or not	5	5	5
Determine the type of transformation zone (1, 2 or 3)	5	5	5
Recognise the extent of abnormal epithelium	5	5	5
Recognise original squamous epithelium	5	5	5
Recognise columnar epithelium	5	5	5
Recognise metaplastic epithelium	5	5	5
Recognise congenital transformation zone	5	5	5
Recognise minor colposcopic changes	5	5	5
Recognise major colposcopic changes	5	5	5
Recognise features suggestive of invasion	5	5	5
Recognise abnormal vascular patterns	5	5	5
Recognise changes associated with previous treatment	5	5	5
Recognise the effects of pregnancy on the cervix	5	5	5
Recognise features of a postmenopausal cervix	5	5	5
Recognise acute inflammatory changes	5	5	5
Recognise VAIN	5	5	5
Recognise VIN	5	5	5
Recognise benign cervical polyps	5	5	5
Recognise condyloma plana	5	5	5
Recognise condyloma accuminata	5	5	5
<b>Biopsies and treatment</b>			
Obtain informed consent for performing a procedure	5	5	5
Be able to administer local analgesia	5	5	5
Determine where to take directed biopsies	5	5	5
Perform directed cervical biopsies	5	5	5
Perform directed vaginal biopsies	5	5	5
Perform directed vulval biopsies	5	5	5
Control bleeding from biopsy sites	5	5	5

VAIN, vaginal intra-epithelial neoplasia; VIN, vulval intra-epithelial neoplasia.

training and subsequent colposcopic practice throughout Europe. The revised curriculum has a mandate from the EFC member countries to be implemented across Europe as the standard for colposcopic training.

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