

## Original research

# Endoscopy training in the UK pre-COVID–19 environment: a multidisciplinary survey of endoscopy training and the experience of reciprocal feedback

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Received 13 November 2020

Revised 4 February 2021

Accepted 7 February 2021



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**To cite:** Ratcliffe E, Subramaniam S, Ngu WS, et al. *Frontline Gastroenterology* Epub ahead of print: [please include Day Month Year]. doi:10.1136/flgastro-2020-101734

## ABSTRACT

**Objective** Training in gastrointestinal endoscopy in the UK occurs predominantly in a real world one-to-one trainer to trainee interaction. Previous surveys have shown surgical and gastroenterology trainees have had mixed experiences of supervision and training, and no surveys have explored specifically the role of trainee to trainer feedback. This study aimed to explore the experience of training and of providing trainer feedback for all disciplines of endoscopy trainees.

**Design/method** An online survey designed in collaboration with Joint Advisory Committee training committee and trainee representatives was distributed from January 2020 but was interrupted by the COVID-19 pandemic and hence terminated early.

**Results** There were 129 responses, including trainees from all disciplines and regions, of which 86/129 (66.7%) rated the culture in their endoscopy units favourably—either good or excellent. 65/129 (50.4%) trainees reported having one or more training lists allocated per week, with 41/129 (31.8%) reporting only ad hoc lists. 100/129 (77.5%) respondents were given feedback and 97/129 (75.2%) were provided with learning points from the list. 65/129 (50.4%) respondents reported their trainer completed a direct observation of procedure or direct observation of polypectomies. 73/129 (56.6%) respondents reported that they felt able to give feedback to their trainer, with 88/129 (68.2%) feeling they could do this accurately. Barriers to trainer feedback cited included time constraints, lack of anonymity and concerns about affecting the trainer–trainee relationship.

**Conclusion** Overall, the training environment has improved since previous surveys. There are still

## Significance of this study

### What is already known on this topic

- ▶ The Joint Advisory Committee has overhauled endoscopy training in the UK improving certification processes and creating resources for trainer development.
- ▶ Previous surveys of surgical and gastroenterology trainees have shown supervision and feedback have been mixed and there have been few studies exploring the role of the trainee feeding back to the trainer.

### What this study adds

- ▶ Trainees value high-quality training and trainers are more supportive and available than previously reported.
- ▶ The ability to feedback to trainers is valued by trainees but perceptions around anonymity and hierarchy can prevent trainees giving accurate feedback.

### How might it impact on clinical practice in the foreseeable future

- ▶ Pressures on workforce provision and endoscopy training from the European working time directive, shape of training and COVID-19 pandemic means extra care is needed to maintain standards of endoscopy training.
- ▶ Enhancing a reciprocal feedback environment will help trainer and trainee interaction.
- ▶ More work is needed to explore the trainer perspective to inform trainee perceptions.

issues around interdisciplinary differences with some surgical trainees finding the training environment less welcoming, and trainee perceptions of

hierarchical barriers and trainer responsiveness to feedback limiting the accuracy of their feedback.

## INTRODUCTION

Independent endoscopy practice in the UK now requires certification regulated by the Joint Advisory Committee (JAG). JAG certification for oesophagogastrroduodenoscopy (OGD) is mandatory for certification of completion of training (CCT) for gastroenterology trainees and colonoscopy certification is expected, not mandated.<sup>1</sup> Colorectal surgical trainees are expected to achieve equivalent competency in colonoscopy and the same is expected for upper gastrointestinal surgical trainees in OGD.<sup>2</sup> As demand for endoscopy has increased rapidly,<sup>3</sup> a workforce of non-medical/clinical endoscopists has expanded. They are trained via traditional training pathways or on accelerated training programmes that focus on a single endoscopic modality.

The majority of training in endoscopy happens on real patients on a one-to-one, trainer–trainee basis. The gold standard is for each trainee to have at least one adequately booked training list per week. Training can occur on an ad hoc basis where the trainee attends any list with a competent trainer.<sup>4</sup> Training quality is overseen by the JAG training committee and trainees must complete a minimum number of procedures, achieve thresholds for key performance indicators (KPIs) and endoscopy non-technical skills (ENTS) prior to certification assessment.<sup>5,6</sup> Training adjuncts such as simulation training,<sup>7,8</sup> online and practical courses<sup>9</sup> are promising, but the majority of training still occurs in the one-to-one environment.

Trainers are expected to have skills in teaching and facilitating feedback, in addition to expertise in the procedures they teach.<sup>10</sup> JAG training courses teach practical teaching skills, how to train in ENTS and suggest methods of providing feedback. There is no formal accreditation for the role of endoscopy trainer other than attendance at the courses, hence previous surveys have shown wide variation in quality of training.<sup>11–13</sup>

Trainees receive formal feedback via the direct observation of procedure (DOPS) and direct observation of polypectomies (DOPys) forms which are a mandatory part of JAG endoscopy training. Similarly, trainers receive formal feedback via the direct observation of teaching (DOTS) tool. The use of DOTS is not mandated, and little work has been done to assess the use of this form, barriers to use or if it improves trainee experience.

## AIMS

This study aims to explore the views of endoscopy trainees on their learning environment, training and of providing trainer feedback.

## METHODS

A survey was devised in collaboration between trainee representatives and the JAG training committee. The survey was created on an electronic survey platform (SurveyMonkey, Palo Alto, California, USA), with an email

link sent to gastroenterology trainees via British Society of Gastroenterology (BSG) trainees committee, surgical trainees via Duke's Club and a pop-up screen linking the survey was created on the electronic JAG endoscopy training system (JETS).

The survey was released on 29 January 2020 and anonymous responses were collected prospectively for 7 weeks as the COVID-19 pandemic resulted in significant disruption to endoscopy training the survey was terminated early.

This is the first survey to collect data from all disciplines of endoscopy trainees simultaneously, and the first to ask specifically about the experience of trainee to trainer feedback.

## RESULTS

A total of 129 endoscopy trainees completed the survey, there are approximately 1700 trainees registered on JETs potentially reflecting a 7.6% response due to closing the survey prematurely. However, it is unknown how many are active users on JETs and the responses reflected a wide range of disciplines, level of training and geography (table 1).

Of 129, 65 (50.4%) trainees reported having one or more training lists allocated per week, with 41/129 (31.8%) reporting only ad hoc lists. Most respondents, 79/129 (61.2%), had an appraisal at least annually, however, 50/129 (38.8%) were never scheduled for appraisal formally. Of those without a scheduled appraisal, 27 (54%) were surgical trainees, 14 (28%) were trainee nurse endoscopists on the accelerated course and 9 (18%) were trainee nurse endoscopists on the traditional pathway. Overall, trainees rated the culture in their endoscopy units favourably with 86/129 (66.7%) rating it good or excellent.

Survey respondents were asked to reflect on their last endoscopy list. For 82/129 (63.6%), this was a dedicated training list, 22/129 (17.1%) ad hoc with their usual trainer, 12/129 (9.3%) ad hoc with someone else and 13/129 (10%) other. Of 129, 117 (90.7%) of the lists were diagnostic lists (5/129 endoscopic retrograde cholangiopancreatography and 4/129 other therapeutic). Of 129, 68 (52.7%) reported being trained by a consultant gastroenterologist, 37/129 (28.7%) by a consultant surgeon and 17/129 (13.2%) by a nurse endoscopist, with the remainder including specialty doctors or senior trainees.

### During the list/training

Most respondents 122/129 (94.6%) reported trainer presence in the room during training, either at the bedside or nearby and this was felt to be appropriate for the level of supervision required (strongly agree 60.5%, agree 34.1%).

Of 129, 65 (50.4%) respondents rated training quality as excellent, with further 45/129 (34.9%) rating it as good. In contrast, three people reported training quality as poor. Of 129, 61 (47.3%) reported their trainer discussed their

**Table 1** A table outlining the number of responses from each region, level of training and full or flexible training

| Region                                  | No of respondents | % of total responses | Certification | OGD         | Colonoscopy | ERCP | FS |
|---|-------------------|----------------------|---------------|-------------|-------------|------|----|
| East of England                         | 11                | 8.5                  | Full          | 59          | 16          | 0    | 21 |
| Kent, Surrey and Sussex                 | 4                 | 3.1                  | Provisional   | 3           | 22          | 1    | 5  |
| London                                  | 20                | 15.5                 | In training   | 45          | 54          | 13   | 44 |
| North East/Cumbria                      | 16                | 12.4                 | Not training  | 14          | 25          | 91   | 23 |
| North West                              | 11                | 8.5                  | No response   | 8           | 12          | 24   | 36 |
| Oxford                                  | 6                 | 4.7                  |               |             |             |      |    |
| Peninsula                               | 7                 | 5.4                  | OGD           | 0–100       | 33          |      |    |
| Scotland                                | 10                | 7.8                  |               | 100–200     | 24          |      |    |
| Severn                                  | 11                | 8.5                  |               | >200        | 62          |      |    |
| Wales                                   | 7                 | 5.4                  |               | No response | 10          |      |    |
| Wessex                                  | 8                 | 6.2                  | Colonoscopy   | 0–100       | 53          |      |    |
| West midlands                           | 11                | 8.5                  |               | 100–200     | 15          |      |    |
| Yorkshire                               | 7                 | 5.4                  |               | >200        | 42          |      |    |
| <b>Flexible training</b>                |                   |                      |               | NA          | 19          |      |    |
| Yes                                     | 16                | 12.4                 | ERCP          | 0–100       | 70          |      |    |
| No                                      | 113               | 87.6                 |               | 100–200     | 3           |      |    |
| <b>Training discipline/level</b>        |                   |                      |               | >200        | 1           |      |    |
| Clinical endoscopist                    | 6                 | 4.7                  |               | NA          | 53          |      |    |
| Trainee clinical endoscopist            | 9                 | 7                    | Flexi Sig     | 0–100       | 54          |      |    |
| Accelerated course clinical endoscopist | 15                | 11.6                 |               | 100–200     | 15          |      |    |
| <b>Gastroenterology trainees</b>        |                   |                      |               | >200        | 16          |      |    |
| ST3                                     | 12                | 9.3                  |               | NA          | 44          |      |    |
| ST4                                     | 6                 | 4.7                  | Polypectomy   | 0–100       | 80          |      |    |
| ST5                                     | 11                | 8.5                  |               | 100–200     | 7           |      |    |
| ST6                                     | 11                | 8.5                  |               | >200        | 7           |      |    |
| ST7                                     | 2                 | 1.6                  |               | NA          | 35          |      |    |
| Research fellow                         | 11                | 9.6                  |               |             |             |      |    |
| <b>Surgical trainees</b>                |                   |                      |               |             |             |      |    |
| ST3                                     | 3                 | 2.3                  |               |             |             |      |    |
| ST4                                     | 5                 | 3.9                  |               |             |             |      |    |
| ST5                                     | 8                 | 6.2                  |               |             |             |      |    |
| ST6                                     | 3                 | 2.3                  |               |             |             |      |    |
| ST7                                     | 6                 | 4.7                  |               |             |             |      |    |
| ST8+                                    | 10                | 7.8                  |               |             |             |      |    |
| Other*                                  | 11                | 8.5                  |               |             |             |      |    |

\*Other includes: post-CCT or research fellows, locally appointed specialty doctor in gastroenterology or surgery, independent endoscopist with experience outside the UK. CCT, certification of completion of training; ERCP, endoscopic retrograde cholangiopancreatography; FS, flexible sigmoidoscopy; NA, not answered; OGD, oesophagogastroduodenoscopy; ST, specialty trainee.

learning needs at the beginning of the list, with 49/129 (38%) stating their needs had been discussed on a previous list. Further results are presented in [table 2](#).

Of 129, 78 (60.5%) of respondents reported that their trainer was not distracted at all by other duties during their list with 4 (3.1%) reporting their trainer was distracted throughout the list.

#### Feedback from the trainer to the trainee

Of 129, 100 (77.5%) respondents were given feedback and 97/129 (75.2%) came away with learning points from the list. Of 129, 109 (84.5%) respondents stated the trainer allowed time for training within the confines of the list, 94/129 (72.9%) respondents were guided through the feedback provided. Of 129, 65 (50.4%) respondents reported their trainer completed a DOPS or DOPyS.

#### Feedback to the trainer

Of 129, 73 (56.6%) respondents reported that they felt able to give feedback to their trainer, with 88/129 (68.2%) feeling they could do this accurately and this represented a mixture of different types of trainees. Of 129, 61 (47.3%) reported regularly completing DOTS forms.

#### Barriers to trainer feedback

The survey contained an open-ended question on the barriers affecting trainee to trainer feedback. Answers were reviewed and grouped according to trends. Key themes are outlined in [table 3](#) and more examples available in online supplemental material.

#### How to improve training/the DOTS form

The last survey question asked respondents to outline how to improve the process of feedback for trainers.

## Training matters

**Table 2** A table showing the number of responses denoting their agreement with statements about their experience of their training for the last endoscopy list they went to

|   | Strongly agree | Agree | Neither | Disagree | Strongly disagree | No answer |
|---|----------------|-------|---------|----------|-------------------|-----------|
| My trainer made me feel comfortable:  | 72             | 49    | 7       | 0        | 1                 | 0         |
| I felt comfortable to raise concerns during any of the procedures:                | 79             | 42    | 5       | 3        | 0                 | 0         |
| When I asked for assistance this was supported:                                   | 90             | 33    | 3       | 3        | 0                 | 0         |
| I could tell my trainer was aware when I would benefit from instruction/guidance: | 71             | 43    | 10      | 4        | 1                 | 0         |
| My trainer appropriately took over the scope when I needed assistance:            | 49             | 40    | 7       | 2        | 1                 | 30        |
| When my trainer took the scope they used this as a training opportunity:          | 34             | 37    | 10      | 5        | 4                 | 39        |
| When my trainer took the scope they offered to give it back at a suitable moment: | 39             | 32    | 8       | 8        | 3                 | 39        |
| My trainer provided me with advice or suggestions for improving my technique:     | 58             | 44    | 8       | 7        | 1                 | 11        |
| My trainer allowed time for training within the confines of the list:             | 63             | 46    | 5       | 3        | 1                 | 11        |

Some responses related to feedback and others covered issues around training in general. Key points included upskilling trainers in teaching endoscopy, formalising trainee to trainer feedback with an annual review and instituting a system of integrated training between endoscopists of different disciplines (eg, medical and surgical).

### DISCUSSION

To our knowledge, this is the first survey to collect data from all disciplines of endoscopy trainees in the UK. Overall, once trainees have access to endoscopy lists, most trainees describe a positive culture of training in endoscopy units leading to a positive experience.

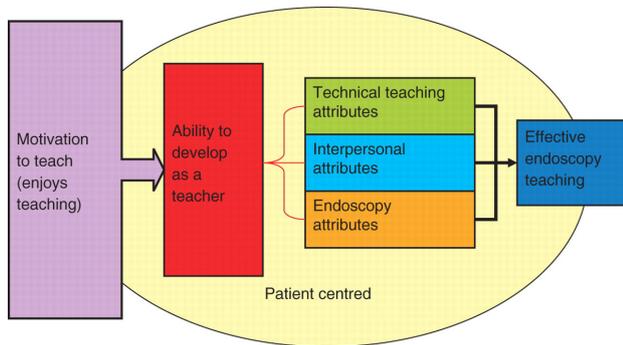
This has improved since a survey of gastroenterology trainees in 2008 where only 60% experienced adequate supervision and only 23% of trainees rated their training as good/excellent.<sup>14</sup> This suggests that the culture of training has improved significantly. However, adequate access to training lists remains an issue. A BSG trainees survey reported that 50% of gastroenterology trainees had not achieved full certification in colonoscopy near CCT,<sup>11</sup> vs only 11% on this previous survey.<sup>14</sup>

Endoscopy training is facing significant challenges as departments balance the demands for service delivery with training.<sup>3</sup> For gastroenterology trainees, the European working time directive (EWTD) and dual accreditation in general internal medicine can impact endoscopy training time.<sup>11</sup> Similarly, surgical trainees have a competing need for operative exposure together with the impact of EWTD.<sup>15 16</sup> Clinical endoscopists will help with service delivery but still require access to training lists. Only time will tell whether the shortened gastroenterology higher specialty training time from 5 years to 4 will have an impact on overall success rates of certification in endoscopy.<sup>11</sup>

Individually, the different groups had similar experiences, and there were no marked differences for flexible training/less than full time trainees. However, there were ongoing concerns felt by surgical trainees as barriers to their training. Only 38.9% of surgical trainees who responded reported having access to one training list per week, reflecting data from a Dukes' Club 2019 survey<sup>15</sup> and a JAG 2010 survey.<sup>16</sup> In contrast, 70% of gastroenterology trainees who responded reported two or more scheduled endoscopy lists per week. Other barriers previously reported by

**Table 3** Key themes denoting barriers to trainee to trainer feedback with verbatim examples from the open-ended question responses

| Barriers to trainee to trainer feedback                                    | Verbatim examples   |
|--|---|
| Lack of anonymity affecting ability to give honest feedback                | ▶ Difficult as non-anonymised so quality of true feedback may be impaired. Some trainers only have one trainee. So, all the feedback, although anonymous could be tracked to the person |
| Time constraints   | ▶ Lack of time..... to many patients on the training list.....<br>▶ Sufficient time at ad-hoc list is not always easy   |
| Concern around openness/ receptiveness of trainer to feedback from trainee | ▶ Those that are interested in receiving feedback ask for it, those that are not interested do not and I don't think they would be interested in receiving it in a different form       |
| Concern about how feedback could affect future training                    | ▶ I didn't feel I could give honest feedback for the fear of retribution and being side-lined   |
| Infrequent lists   | ▶ Lack of lists—less than one a month   |
| Hierarchical barriers  | ▶ I think maybe because my trainer is one of my consultants and the power balance could potentially make it difficult to give honest feedback   |
| Not regular practice/not expected  | ▶ I forget to complete the form and my trainer doesn't seem bothered if I do complete   |



**Figure 1** Attribute domains of an excellent endoscopy teacher taken from Wells 2010.<sup>10</sup>

surgical trainees include conflicting clinical obligations and prioritisation of gastroenterology or clinical endoscopist trainees for lists.<sup>15</sup> This has implications for certification as significantly fewer surgical trainees achieve certification in OGD, colonoscopy and flexible sigmoidoscopy compared with gastroenterology trainees.<sup>17</sup>

#### What about clinical endoscopists?

Recent international surveys on the impact of COVID-19 on endoscopy training have not included clinical endoscopists.<sup>18 19</sup> Although it impacts all trainees, a 4-month reduction in access will markedly impact those with training pathways of fewer than 2 years and for whom endoscopy is their main role. This has the potential to create difficulties between trainees of different disciplines as they compete for a finite resource. Maintaining an environment of training is a JAG requirement,<sup>4</sup> and therefore, being aware of the challenges and removing barriers is vital.

#### Trainer qualities

A paper using expert interviews and qualitative methods outlined the qualities of an excellent endoscopy trainer (figure 1),<sup>10</sup> some of the principles are outlined below with the results of the survey.

#### Understanding the long term and the individual needs

Most trainers discussed the training needs of trainees either at the beginning of the list or at a prior list. This reflects the understanding that training sits within the long-term goal of development. Many trainees only reported ad hoc training lists which is likely due to competing responsibilities as noted on prior surveys.<sup>11 15</sup> Despite this, most trainees reported that trainers understood when to intervene, which illustrates that trainers are intuitive and understand trainees' needs.

#### Interpersonal attributes

Two-thirds of trainees reported the overall training environment as good or excellent. Most trainees felt well supported and reported that trainers were seldom distracted. There is a fine balance between necessary

close supervision while still respecting the progression of trainees' development. Nearly all trainees felt they could raise concerns or ask for help during the procedure. However, for formalised trainer feedback, many trainees raised concerns about providing constructive criticism due to perceived hierarchy.

#### Teaching attributes

DOPs was created to assess technical skills as influenced by KPIs and non-technical skills including management decisions.<sup>5</sup> Although most trainees received feedback, only 50.4% had a DOPS/DOPys completed. JAG recommends one DOPS/DOPys per list.<sup>20</sup> Time may have been a barrier as many lists were ad hoc lists. The lack of formal documented feedback makes assessing the quality and structure of training difficult. DOPs are required for certification and should be embedded in routine practice.

Another trainer attribute is the ability to learn and improve. Our data show that trainees have concerns about trainer feedback via DOTs due to perceived concerns about disrupting the training relationship due to a lack of anonymity. The General Medical Council survey collates anonymous trainee data to maintain ambiguity which could be implemented by JAG. Other suggestions included completing DOTs at a later date, but this may result in inaccurate data as accurate feedback should be timely.<sup>21 22</sup> Overall, the creation of an environment of bidirectional feedback from the outset would break down perceived barriers.

#### Limitations

The survey commenced in January 2020 but was halted prematurely due to the COVID-19 pandemic and endoscopy disruption hence the low response rate. Other surveys have collected data over 1 year<sup>15</sup> and it is unclear how many trainees accessed JETs during the survey time. This survey does not cover the trainer's perspective which would be helpful to confirm or refute perceived trainee concerns.

#### SUMMARY

This pre-COVID-19 survey of endoscopy training showed an overall improvement in training experience across all disciplines. Access to lists remains an issue but once trainees overcame this, training experience was good. Trainees value high-quality training and trainers are more supportive and available than previously reported. The ability to feedback to trainers is valued by trainees, and many solutions were offered to overcome current barriers. The ongoing challenges of balancing demand for training opportunities is likely to worsen with the COVID-19 pandemic. Further work should be done to examine the trainer's perspective on feedback assessing if the barriers perceived by trainees are confirmed.

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**Acknowledgements** We are indebted to the JAG office team who helped format the electronic version of the survey, create the popup box on JETS and retrieved the results.

**Contributors** ER devised the initial survey with CW and WSN, all authors reviewed draft survey and contributed to the final survey design. Data were analysed by ER, CW, WSN, SS and all authors were given opportunity to comment and advise on the data. ER produced the initial draft manuscript which was reviewed and edited by SS, WSN and CW. All authors then reviewed and contributed to the final manuscript.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Ethics approval** The survey was voluntary and no ethical approval was required in line with similar surveys.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** Data are available on reasonable request.

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