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Original Research

# Perceptions of the Annual Review of Competence Progression (ARCP) in surgical training in the UK and Ireland: A prospective cross sectional questionnaire study

D.M. Nally*, E. Elsey, G. Humm, H.M. Mohan, on behalf of Association of Surgeons in Training (ASiT)

*Association of Surgeons in Training, 35-43 Lincoln's Inn Fields, London, WC2A 3PE, UK*

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ABSTRACT

*Background:* Surgical trainees in the UK and Ireland undergo rigorous formative and summative assessments throughout each placement, and appraisal at an Annual Review of Competence Progression (ARCP). The ARCP evaluates performance during each training year and determines progression to the next year of training. It is critical that the ARCP is a robust and fair process. The Association of Surgeons in Training (ASiT) sought to evaluate surgical trainees' experiences of the ARCP process in order to identify areas for improvement.

*Methods:* An electronic survey was developed and distributed electronically to the trainee membership of ASiT in the UK and Republic of Ireland. A 57 point survey examined the specifics of one ARCP cycle as well as attitudes to the process in general. Quantitative analysis was performed, along with thematic analysis on the free-text comments.

*Results:* 600 trainees from all deaneries, grades and specialities participated. The survey demonstrated difficulties in preparing for ARCP: insufficient notice (24%), inadequate communication (22%) and lack of engagement of seniors (30–39%). 47% considered the process and standards inconsistent. 82% of trainees considered a face-to-face ARCP advantageous. Such a meeting provided a means of raising concerns regarding training posts (29%), bullying (18%) and patient safety (17%) that would not otherwise have been reported in writing. During qualitative analysis, the following themes emerged: The conflict between potential value and real experience; concerns regarding the quality of assessment and the need for improvement (in process, individual performance and surgical training.)

*Conclusion:* This survey demonstrates that trainees appreciate the potential educational value of the ARCP process. However, there is a gap between this potential and trainees experience. Particular concerns include inconsistency, the timing of decision-making and the need to retain a face-to-face meeting. This feedback from trainees can be used to improve the assessment process in relation to procedural developments at the national level and engagement of supervisors and trainers locally. These changes will ensure that the ARCP becomes a higher quality assessment and more constructive for training in future.

## 1. Introduction

In the U.K., doctors, across all specialities, undergo an Annual Review of Competence Progression (ARCP) to evaluate performance during each training year and determine progression to the next year of training. Similar processes exist in the Republic of Ireland. The process and requirements for ARCP in the UK are specified in the Gold Guide, the Reference Guide for Postgraduate Specialty Training [1]. It defines ARCP as a formal process that uses evidence collected by trainees to review and record performance, demonstrate competencies achieved and inform decisions regarding progression in training. Trainees, have expressed concerns regarding consistency and transparency in the decision-making process [2]. The ARCP process has been under review by Health Education England (HEE) in the past year [3].

The Association of Surgeons in Training (ASiT) is an independent professional body and registered charity (No. 274841) which works to promote the highest standards in surgical training. Surgical trainees undergo rigorous formative and summative assessments: membership and fellowship examinations, an electronic operative logbook, work-based assessments and an online learning portfolio. As a craft speciality,

* Corresponding author. Department of Surgical Affairs, 2nd Floor, Royal College of Surgeons of Ireland, 121 St. Stephen's Green, Dublin 2, Ireland.
*E-mail address:* deirdrenally@rcsi.com (D.M. Nally).

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surgery is different from other training schemes with specific training needs that can influence the outcome of ARCP. In the context of the current process review, ASiT sought to evaluate surgical trainees' experiences of and attitudes towards ARCP. Specifically, this study was designed to detail trainees' experience of their most recent ARCP, to determine trainee perception of summative and formative components of assessment and to compile trainee-centred areas for improvement.

## 2. Methods

A Prospective Cross-Sectional Questionnaire Study was performed and is reported according to STROCSS guidelines [4]. A collaborative group with a specific interest in assessment developed an anonymous survey for data collection, following the principles of Cohen [5]. It was piloted via the ASiT Council and refined accordingly. The final version, supplied as an appendix to this manuscript, consisted of 57 questions addressing trainee demographics, experiences of most recent ARCP and general perception of ARCP. A combination of closed and 5-point Likert scoring scales were used. Additional comments and suggestions for improvement were invited and encouraged in free text spaces. The survey was distributed electronically via Surveymonkey™ to the trainee membership of the Association of Surgeons in Training (ASiT) in the UK and the Republic of Ireland from October 2017–March 2018. The ethical dimensions of this survey were considered and no concerns were identified: Participation was voluntary; completion of the online survey was accepted as implied consent. Data from the survey was imported to SPSS (IBM Corporation SPSS Statistics for Windows, Version 23, 2013. Armonk, NY.) for quantitative analysis. Grade of training was considered a continuous variable; Likert Scales were interpreted as ordinal data. Descriptive statistics using frequencies were used to summarise the data with the median taken as the measure of central tendency for Likert data [6]. Inferential statistics, using Chi-squared for nominal and Kruskal-Wallis test for ordinal variables were used to identify any differences between groups (e.g. specialities/deaneries/stage of training) [6,7]. Qualitative analysis was performed on the free text comments using an inductive thematic analysis approach, as described by Braun and Clarke [8]. The survey was imported into Nvivo 11 Pro for Windows (QSR International Pty Ltd., Australia) which was used to organize and support the coding process [9]. An initial coding framework was generated by the first author. Using a reflexive approach, researchers collaboratively reviewed and considered initial coding and preliminary themes. Through further reflexive discussion, these themes were refined, defined and named. Illustrative examples of each theme were extracted for preparation of this manuscript.

## 3. Results

Demographics: 600 trainees completed this survey. All training grades were represented: 25% of participants were Core/ST1/ST2 trainees, 22% were ST3/4, 24% were ST5/6, 19% were ST7/8, 4.5% were post CCT. The remainder were foundation or non-training grade doctors. Responses were received from academic and less-than-full-time trainees (5.4% and 6.4% of respondents respectively). All deaneries were represented. Responses were received from trainees from each surgical sub-specialty; the majority of respondents were general surgery and orthopaedic trainees (42.4% and 14.2%) respectively. A breakdown of respondents by speciality is provided in Fig. 1.

### 3.1. Preparation for ARCP

19.4% of respondents reported that they did not receive adequate communication from the TPD regarding requirements for ARCP. 25% did not have a clear understanding of these requirements. In a separate question, 22.8% of trainees did receive communication of requirements with adequate time to prepare. Trainees had difficulties getting educational and clinical supervisors to complete the requisite paperwork (30.6% and 39.4% respectively).

### 3.2. Decision making

79.4% of trainees thought that the decision regarding progression should be made at the ARCP, after discussion with the trainee. However, 74.9% thought that in reality this decision was made before the meeting. Face to face: Trainees' attitudes towards a face-to-face ARCP are illustrated in Fig. 2. 82% considered a face-to-face ARCP advantageous; 71% considered the face-to-face meeting very important. Trainees agreed or strongly agreed that it provided a means of discussing issues that they would not be comfortable committing to written or electronic media (their progress 32.6%, quality of training posts˘ 29%, bullying 18.5% and patient safety 16.9%).

### 3.3. Consistency

10% had to prepare a presentation. 35.8% had to submit paper forms in addition to the trainee registration and revalidation form (Form R)). 41% reported having a representative of the Special Advisory Committee present, (30.8% were unaware of this representative). Overall, 47.4% considered the process inconsistent between deaneries. There was a statistically significant difference in perception of consistency between grades, ($p < 0.001$), with more senior trainees considering the process and standards inconsistent compared to junior trainees. Respondents who preferred not to specify speciality considered the ARCP process the most inconsistent (83%). Maxillofacial surgery and plastics had the highest perceptions of consistency 36.7% and 36.8%. This was not statistically significant $p = 0.28$). There was a statistically significant difference in the perception of consistency between deaneries, ($p < 0.005$).

### 3.4. Potential and experience

41% considered the ARCP a useful learning opportunity, 48% believed it to be a useful external assessment of training. 42% found it a helpful process for feedback. However, 27% of trainees felt negative about training after the ARCP; 20% felt intimidated and undermined.

## 4. Qualitative analysis

Three major themes emerged from analysis of the free text comments. These themes and subthemes are illustrated in Fig. 3. Allegorical participant quotations are provided in the description of each theme.

1. *Potential value vs. reality:* This theme demonstrates a contrast between trainees' appreciation of the potential educational value of ARCP and their experience of the reality of the process.

Trainees consider the ARCP "an opportunity to review progress, make suggestions for improvement and identify training needs while appreciating achievements." It can be "useful as a guide to keep you on track of … targets." Preparation "is a useful time to reflect on progress over the past year." The meeting can provide "constructive feedback" and help "future placement plans." It provides a mechanism to "voice any issues you might be having" and "allow a free flow of discussion to identify early those areas that the trainee needs to focus on". Thus, "appraisals have the capacity to be really constructive, positive processes."

However, the reality experienced by many trainees was very different. Multiple trainees describe an intimidating experience which in which the ARCP is "a tool to punish trainees" or "a blood sport." Trainees describe being outnumbered and an unfavourable "balance of power" which allows for "institutional bullying". Some felt "undervalued", "inadequate," "more demoralised" and negatively predisposed to their training after the meeting.

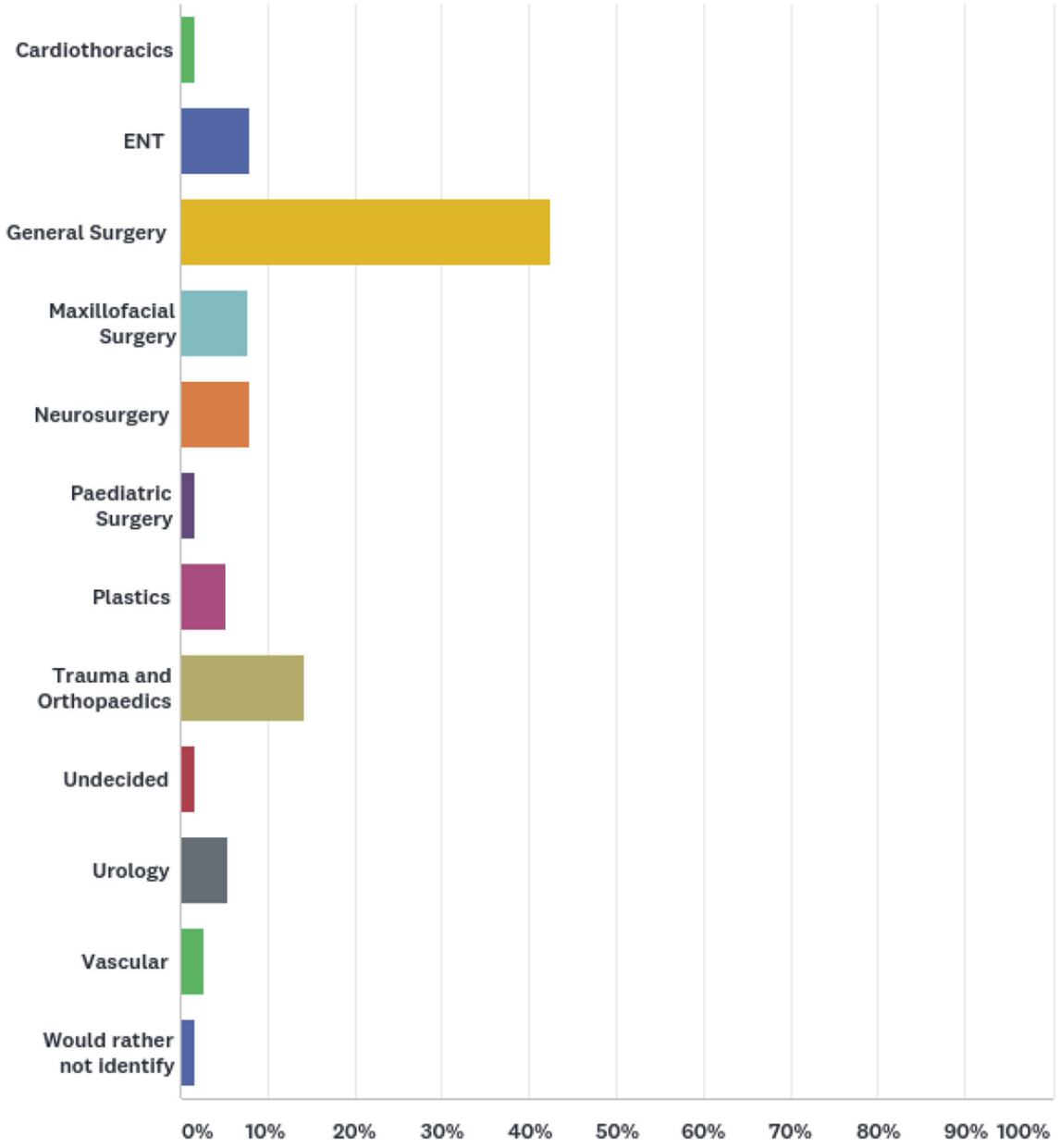


**Fig. 1.** Specialty of respondents.

2. *Quality of assessment*: This theme refers to trainees' concerns regarding the quality of summative assessment

Trainees questioned the validity of the assessment: “does not illustrate any of your clinical or academic standards; ” “You may be an awful trainee, but it doesn't matter because you've done 20 mini-cexs. You may be a tyrant to your juniors, but it doesn't matter because you haven't included any of them on your MSF [Multi-Source Feedback].” The perception of the ARCP being a tick-box exercise resonated strongly-“ARCPs should finally stop being a tick-box exercise and start focusing on things that really matter.”

Subjectivity in decision-making and inconsistencies between trainers, deaneries, and years were described: “requirements are sometimes different from one trainee to the other; ” “the whole process of what is expected from you seems to change every year; ” “I have seen a huge difference in the ARCP process pre and post 2014 which for my region may have coincided with a change in programme directors.”

Trainees value a face-to-face meeting: “ARCP outcomes should be decided after the face-to-face discussion, not prior to the discussion and should be influenced by the conversation had.” This helps contextualise submitted evidence by “clarify what would have looked like just poor effort on paper” and “made you feel more involved in the process.”

Trainees described ARCP panels where those involved were not aware of processes or requirements: “the ARCP process could be greatly improved by educating trainers in the process,” “Panel members need to be able to give accurate answers to questions about the training pathway.” There was conflicting opinion as to whether the panels should contain current trainers and supervisors: “The ARCP should be done by the team who is supervising you on a day-to-day basis,” and “My ARCP face-to-face discussion was conducted by my clinical supervisor. Having someone who I know conduct this interview meant I was able to discuss concerns and queries that I may not have otherwise done” compared to “one particular trainer who I had always had issues with was present - this made the process simply awful, and very biased.”

3. *Improvement:* How an improved ARCP process can improve individual performance of the trainee and surgical training delivery.


**Fig. 2.** Trainees attitudes towards a face-to-face ARCP.

Participants considered the current ARCP process over-focused on the underperforming trainee. Individual meetings are “always focused on perceived failings,” the progress and achievements of those who are progressing satisfactorily are not acknowledged:

> “At no point do they take a step back and highlight some of the things we've achieved, ask what we are most proud of in the last year, ask what was most challenging and rarely say well done. Sometimes they gloss over as they skim read the list- "wrote thesis, got higher degree, won prize, published papers" … fine. It wouldn't kill them to actually acknowledge these achievements rather than ticking them off.”

Trainees want individualized input and advice: “everyone can improve and it is important to identify ways in which this is possible”. The ARCP should be “a system which inspires more motivation of trainees and consequently excellence.”

One respondent described the current process as “encouraging a mutual cover-up of inadequate training.” Trainees expressed a wish for “a two-way process” in which “feedback on the placements is sought by ARCP panel,” to “identify any centres where the centre was unable to meet or provide adequately for the learning needs of the trainee” and thus works towards “improving the training scheme in the region.”

## 5. Discussion

The ARCP is now considered a high-stakes assessment [10]. Indeed, unlike professional examinations which allow repeat attempts after failure, the consequences of an ARCP outcome 4 may be career-limiting in that particular speciality. Thus, the ARCP process must meet the educational criteria of a good assessment, as outlined in the Ottawa Consensus Statement and Recommendations [11]. The quantitative and qualitative findings of this survey of surgical trainees demonstrate bone-fida inadequacies in the principles of validity, consistency and reliability. The Ottawa principles are tabulated against the realities of the surgical ARCP process in Table 1.

Norcini places particular emphasis on educational and catalytic effects of an assessment [11]. The latter is described as the potential of an assessment and feedback to create, enhance and support education such that it drives future learning forward. In this survey, trainees demonstrated an appreciation of the educational potential of this assessment. However, the surgical ARCP, as experienced by respondents to this survey did not realize this potential: only approximately 40% found the

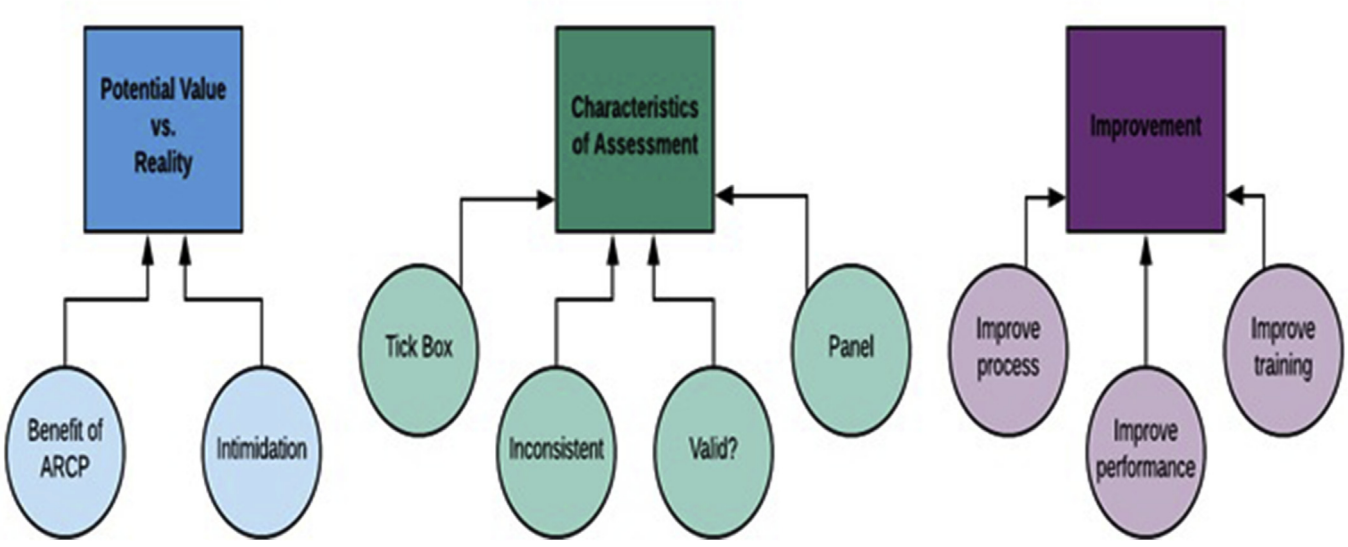


**Fig. 3.** Thematic analysis of free text comments.

**Table 1**
Ottawa criteria of assessment [11] considered in the context of the ARCP as perceived by respondents to this survey.

| Criteria | Definition: The Assessment … | As applied to ARCP |
|---|---|---|
| Validity | … Is supported by an evidence base | Minimal Evidence [10] |
| Reproducibility | … Yields constant results if repeated under similar circumstances | The survey demonstrates inconsistencies in the process |
| Equivalence | … Yields equivalent decisions when administered across different institutions | The survey suggests standards vary across deaneries |
| Feasibility | … Practical, realistic and sensible given context | Already established as feasible |
| Educational effect | … motivates those to prepare in a fashion that has an educational benefit | The survey suggests that potential educational effect is limited by tick box culture and poor engagement of supervisors |
| Catalytic effect | … provides results & feedback to create, enhance and support education and drive learning | "This approach of box ticking is very demotivating and demoralizing in general." |
| Acceptability | Stakeholders find the process and result credible | Survey reveals intimidation and bullying which limits acceptability |

ARCP useful in terms of receiving and discussing feedback on training; setting learning goals and planning future training. Furthermore, a significant percentage of trainees felt negatively towards their training (27%) and were intimidated by the process (20%). This survey exposed a further limitation of ARCP as currently executed: it is focused on the underperforming trainee. The progress and achievements of those who are progressing satisfactorily were not acknowledged, nor was there adequate advice provided as regards continuity of distinguished performance in training for high achievers. This reduces engagement, motivation and self-empowerment, hence eroding possible catalytic benefits. Clearly, improvements are required to generate a supportive environment and maximize the value of this encounter for all trainees.

Woolfe and Page conducted a non-systematic review of peer-reviewed, grey literature, national and speciality-specific guidelines surrounding ARCP [12]. One of their major findings-the lack of consistency in how panels make decisions-is consistent with this research. They advocate for the development and evaluation of comparable, yet speciality-specific, aids to assist with decision-making. They also recommend increasing the consideration given to contextual and environmental factors that affect a trainee's performance, whether positively or negatively. This is hugely relevant to surgical training where, for example, operative exposure may be limited by extrinsic circumstances, including theatre closures. The generality of the Gold Guide [1], which relates to all specialities, cannot accommodate the specific concerns issues of surgical training. Thus, blanket application of *in absentia* decision-making is unsuitable given the high stakes nature of this summative assessment. A face-to-face meeting, as petitioned by for by trainees in this survey, provides a means of discussing and contextualizing these factors prior to decision-making according to surgery specific guidelines.

This survey also highlights the potential for the ARCP to improve surgical training. Trainees are anxious that feedback provided is used to implement changes in the delivery of training. To this end, a face-to-face meeting is valuable as it provides a forum to discuss training progression and issues with training posts that participants would not otherwise express in written form.

Previous ASiT work by Fleming et al. demonstrated that only 16% of trainees considered current National Health Service (NHS) processes effective at protecting patient safety while providing adequate protection for whistleblowers [13]. They recommend introducing safer and more robust mechanisms for trainees to raise concerns and they identify the ACRP as such an instrument. The findings of this survey support and advance this position: face-to-face meetings function as a valuable setting for expressing any concerns regarding patient safety and bullying. Given that improving patient safety and quality of care is one of the stated aims of the ARCP process, it is crucial to protect this personal meeting as a means of promoting a culture of patient safety.

Our survey expands the work of Viney et al. [2] into a surgical context. As part of a larger study about the fairness of postgraduate medical training, this group performed qualitative focus groups and interviews with trainees and trainers on their perception of the validity of the ARCP as an assessment tool. Trainees from six specialities were included. Their findings are similar to this survey: Trainees reported difficulties with trainer engagement and completion of documentation; they expressed concerns regarding the reliability and consistency of the process. Furthermore, "ARCP as a tick-box exercise" and "Discouraging excellence" emerged as strong themes. Unlike the strong preference for face-to-face ARCP expressed by surgical trainees in this survey, the participants in Viney's study held more mixed views about attendance at ARCP panel meetings. This may reflect the relative importance of this meeting in surgical training and provides a further argument against *in absentia* decision-making in surgical training.

This survey demonstrates that trainees appreciate the potential educational value of the ARCP process. However, this potential is not, at present, being realized. The quantitative and qualitative finding of this study identify strategies to improve the process reduce the disparity between expectations and reality. Addressing inconsistency, engagement of supervisors and the timing of decision making are major concerns. Maintaining a face-to-face meeting is crucial. Furthermore, to ensure ongoing constructive training, trainees progressing at a satisfactory rate require support and advice to maximize performance and feedback on individual posts should be considered and acted upon.

Given that the 600 respondents of this survey are representative of all specialities, deaneries and stages of training, the findings give a credible insight into the ARCP process in surgical training. The limitations of this study are those inherent to all survey-based research: A survey may be considered a subjective research tool and there is the potential for responder bias. In this study, survey responses were not linked to ARCP outcomes. Some participants may have had a negative experience of the ARCP process due to poor individual performance during training or preparation for ARCP. This is not captured by this study and hence a negative perception does not always represent a flaw in the assessment process. However, even if, in some cases, negative experiences provided the motivation for participation, limitations of the ARCP process are exposed and these trainees have insightful and relevant suggestions for improvement. Regarding positionality of the researchers, as members of ASiT Council, our personal and intellectual biases influence our engagement with and interpretation of the qualitative data [14]. Reflexivity during the project and presentation of data to Council and the wider membership at our national meeting helped to preserve the integrity of these findings.

The ARCP process is currently under review. Multiple stakeholders are involved in developing and improving the process and progressing quality assurance procedures. Thus, it is important and timely to establish the experiences and perceptions of surgical trainees such that specific issues and interests can be addressed or accommodated during modification of the ARCP process. This study establishes the need for mprovements in procedures at a national level and engagement of supervisors and trainers locally to ensure that this process becomes a higher quality assessment and more constructive for training in future.

## Ethical approval

The ethical dimensions of this non-mandatory survey were considered and no concerns were identified. Completion of the questionnaire was taken as implied consent to participate in this study.

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## Author contribution

Author Contribution Statement (CRediT). Nally DM: Methodology, Formal Analysis, Writing- Original Draft Elsy E: Methodology, Writing-reviewing and Editing Humm G: Writing-reviewing and Editing, Mohan HM: Conceptualisation, Formal Analysis, Writing-reviewing and Editing, Supervision.

## Conflicts of interest

No Conflicts of Interest.

## Trial registry number

ClinicalTrials.gov Identifier: NCT03718481.

## Guarantor

Guarantor: Deirdre Nally.

## Provenance and peer review

Not commissioned, externally peer reviewed.

## Data statement

The survey included personal questions. Respondents were assured that data would remain confidential and would not be shared. Thus the raw data is not available.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijsu.2018.12.009.

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