

Skills for the aspiring surgeon in Australia: A needs assessment

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Abstract

Introduction: The increasing duration of time before the commencement of formal surgical education training (SET) in Australia has emphasised the need for pre-SET “aspiring” surgical trainees to develop greater competency in both generic and specialty-specific skills to fulfil these public hospital positions, however there is no formalised curriculum or guide. This paper investigates current inconsistencies in the training of Australian pre-SET aspiring surgical trainees and attempts to define which skills are required.

Methods: We conducted semi-structured interviews with pre-SET supervisors in general and specialty surgery fields at a large tertiary teaching hospital in Sydney, Australia, to assess expectations and competencies of pre-SET surgical trainees. A mixed-method analysis was used with inductive content analysis used for the rich interview data and quantitative analysis of 5-point Likert scale scores for the essential skills syllabus and eligibility requirements.

Results: Eighteen interviews were conducted. Three major themes arose from inductive content analysis: participants perceived that pre-SET trainees met basic expectations, significant variability in skill level exists between trainees, and simulation was suggested as a potential solution to address gaps in training. Quantitative analysis of Likert scores suggests that trainee competency was inadequate (or not required) for several skills. For general surgery, trainee competency was deemed inadequate for proctoscopy, rigid sigmoidoscopy and appendectomy.

Conclusions: There is a critical need to clearly define the skills expected of pre-SET trainees and their role within the healthcare system. This study provides insights into the content of that skillset, which could be used to design relevant and useful training programs for pre-SET trainees. The value of simulation training was universally noted by participants. They believed that this could improve competency for pre-SET trainees in technical and non-technical skills.

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Introduction

Surgical training is a long process and requires incremental and continual development of competencies and surgical skills. The pathway to becoming a surgeon in Australia has changed significantly in the last decade and differs markedly from other countries (Brown & Storey, 2016). After completing internship, aspiring surgeons are increasingly required to complete a number of years of employment in a senior surgical position as either a senior resident medical officer (SRMO) or an “unaccredited” surgical registrar before being accepted onto a surgical education and training (SET) program. Currently, there is no uniform terminology for these doctors, typically Post-graduate Year 3 onwards (PGY3+), however they are commonly referred to as pre-SET trainees.

“Unaccredited trainees” make up 21% of the total junior medical officer (JMO) workforce in NSW, a significant proportion of which are pre-SET general surgery and specialty surgical trainees (NSW Ministry of Health, 2020). This is a rapidly growing group of doctors, and the Royal Australasian College of Surgeons (RACS) (2011) anticipates increased need for these surgical trainees in coming years. Pre-SET trainees in NSW report a lack of formalised education compared to informal, job-based teaching (NSW Ministry of Health, 2018), and relying on clinical exposure alone may lead to biased and uneven caseloads between pre-SET trainees (Bell et al., 2009). Outside of the SET program, there is no clear training curriculum, and the only guide to training for pre-SET surgical trainees are SET application requirements and the RACS essential skills guide, which has a limited focus (Mitchell et al., 2013; RACS, 2015). These are self-directed, and whilst useful in providing a guide for pre-SET trainees, it is unclear how these skills were selected and if they remain relevant for pre-SET trainees. Some of the skills listed are basic constructs (defined as simple components of a task) and may not require focused training; others are intermediate or advanced constructs (defined as complex multi-component tasks), and competency may be an unrealistic requirement or, in some cases, not expected at all. There may also be additional procedural skills or professional capabilities that pre-SET trainees should be developing that are not captured in these guides. There is limited research looking at what skills pre-SET trainees should be competent in and current perceptions of pre-SET trainee competency.

This study aimed to:

- investigate barriers and solutions in the current training context
- define a list of skills pre-SET trainees should be competent in as perceived by trainee supervisors
- explore the need for further training and development of competency in these skills.

The data obtained should assist both pre-SET surgeons and institutions in developing a structured and contemporary training curriculum for pre-SET trainees that incorporates workplace requirements.

Methods

Design/setting

Semi-structured interviews with pre-SET supervisors were conducted between June 2021 and March 2022 at a large metropolitan teaching hospital in Sydney, Australia. We utilised a mixed-methods approach, with both qualitative interpretation of written interview text and quantitative interpretation of Likert scales recorded during interviews. This study was approved by Royal Prince Alfred Hospital Ethics Committee (X20-0383 – 2020/STE03767).

Participant recruitment and demographics

Pre-SET supervisors were defined as fellows of the Royal Australian College of Surgeons who directly supervise pre-SET trainees. Consultant surgeons involved in supervision and training of pre-SET trainees were invited to participate via emails sent by department heads to all surgeons. Those who responded and were interested were then sent a participant information sheet. Participation in the study was voluntary. Each participant was required to provide written consent. Interviews were conducted from March to June 2021.

Data collection

A semi-structured interview guide was developed with input from the research team, which included pre-SET trainees, experienced supervisors, education support officers and director of surgical training (see Appendix 1). Questions for participants focused on assessment of competency and specialty-specific procedural and professional skills, as well as the participant's experience and perception of activities in training. Competency was defined as being reliably and safely able to perform a skill under indirect supervision (senior surgeon available in the hospital).

The interview guide also included a list of procedural and professional skills from the RACS essential skills syllabus and eligibility report (RACS, 2015, 2021). Interviewers asked participants to rate the relevance of these skills on a modified 5-point Likert scale. Practice interviews were performed prior to data collection to refine the interview process and questions.

After consent was obtained, interviews were conducted in person by two researchers (IE and VK). Field notes and short quotes were transcribed contemporaneously. Interviews were often conducted in noisy environments in the hospital and participants were wearing face masks, precluding audio-recording. The Likert scale component was completed by the primary researchers conducting the interview, which allowed additional verbal comments to be used to enrich the data set.

Analysis

A mixed-methods approach to analysis was utilised for the qualitative interview data and the quantitative Likert data. The interviews were recorded in writing, key points and quotes transcribed contemporaneously and interpreted using inductive content analysis (ICA). Two researchers (IE and VK) read through the written text and commenced coding by identifying big-picture categories that emerged from the data. A second round of coding involved identifying subcategories that were refined to avoid repetition and maintain meaning. Findings were discussed with supervising researchers with expertise in surgical education and training (SW, JH). Researchers met periodically during the interview phase to discuss and reach a consensus on categories/subcategories and ensure that the interview questions were incorporating any new content, for example, simulation training was a category identified during early interviews and added to the semi-structured interview. Interviews were ceased when no new ideas or concepts emerged from the interviews.

Quantitative data was analysed separately. Five-point Likert scale responses were grouped into agree (strongly agree and agree), disagree (strongly disagree and disagree) and not required. This data is presented in figures, whilst lists of procedural skills are presented in tables.

Reflexivity

IE and VK are both pre-SET trainees at the study institution and work alongside some of the participants in this study. Both share an interest in surgical education and have experienced some of the difficulties of being a pre-SET trainee.

Results

A total of 18 current RACS fellows were interviewed; all directly supervise pre-SET surgical trainees. There were 10 general surgeons and 8 specialist surgeons.

Results from inductive content analysis

Three categories emerged from the data, two pertaining to the trainee's performance and one relating to training needs: trainees where performance was adequate, trainees showing variability in levels of competency and existing gaps in training, and the benefits of simulation training.

Pre-SET trainee performance is adequate

Participant consensus was that overall performance of pre-SET trainees was adequate. A common perception was that pre-SET trainees were performing at an expected level. For example, trainees were perceived to "meet the basic expectations" (Participant 8). Other participants stated that "basic stuff gets done reasonably well" (Participant 17) and "[there are] minimal expectations for pre-SET trainees" (Participant 16).

Variability in levels of competency and gaps in training

Another common perception expressed was the significant variability in skill level, accounted for by the length of time in pre-SET positions, as well as individual commitment. Participants identified that a major gap in training was theatre time and hands-on experience, for example, “experience with actual patients” was lacking (Participant 11). Operative skills were highly valued and a common area of perceived gap in current training. Professional skill deficiencies were identified, particularly communication and leadership skills around patient management, for example “trauma management” (Participant 2) and “perioperative management of patients” (Participant 3). Another aspect to professional development that was emphasised was that pre-SET trainees do not receive regular feedback, for example, “[there is] a lack of good feedback systems” (Participant 7). The identified structural and system-based gaps in training were complex but emphasised limited clinical exposure and lack of adequate structured training for pre-SET trainees. Participants perceived there was a difference between SET entry requirements and necessary competencies of pre-SET trainees, implying that being a competent pre-SET trainee did not necessarily ensure success in getting onto surgical training. For example, Participant 7 stated, “[There is a] disconnect between getting onto SET training and being a good clinician”. Whilst Participant 1 stated, “[There are] inadequate positions on SET training”. Reduced workload and time in the hospital was a common explanation for gaps in training, for example, “too many [pre-SET] trainees” (Participant 16) and “not enough hours in the hospital” (Participant 17).

Further simulation training for pre-SET trainees

The overwhelming consensus was that pre-SET trainees received infrequent and irregular simulation training, however all participants could see a benefit of further simulation training amongst pre-SET trainees. For example, participants expressed that simulation training should become “[a] compulsory part of surgical training” (Participant 6) and “more structured into training program” (Participant 16). Further to developing new skills, participants believed simulation training could maintain existing skills. Participant 5 suggested, “Even skills that junior surgical [pre-SET] trainees are competent in can be simulated and developed”. The limitations of simulation voiced by participants were in its fidelity; “nothing beats real experience” (Participant 4) and the difficulty constructing useful simulation models. The benefits of simulation were also perceived to diminish with seniority. Participant 16 commented that it is “useful for pre-SET trainees, less beneficial later in training”.

Quantitative results

Procedural skills pre-SET trainees should be competent in

Participants identified an array of both basic and complex procedural skills that they believed pre-SET trainees should be competent in (Table 1). Basic skills are defined by

simple constructs that are common to all surgical specialties. Complex skills are defined as skills requiring the use of a combination of simple constructs to perform a procedure and are usually specialty specific.

Table 1

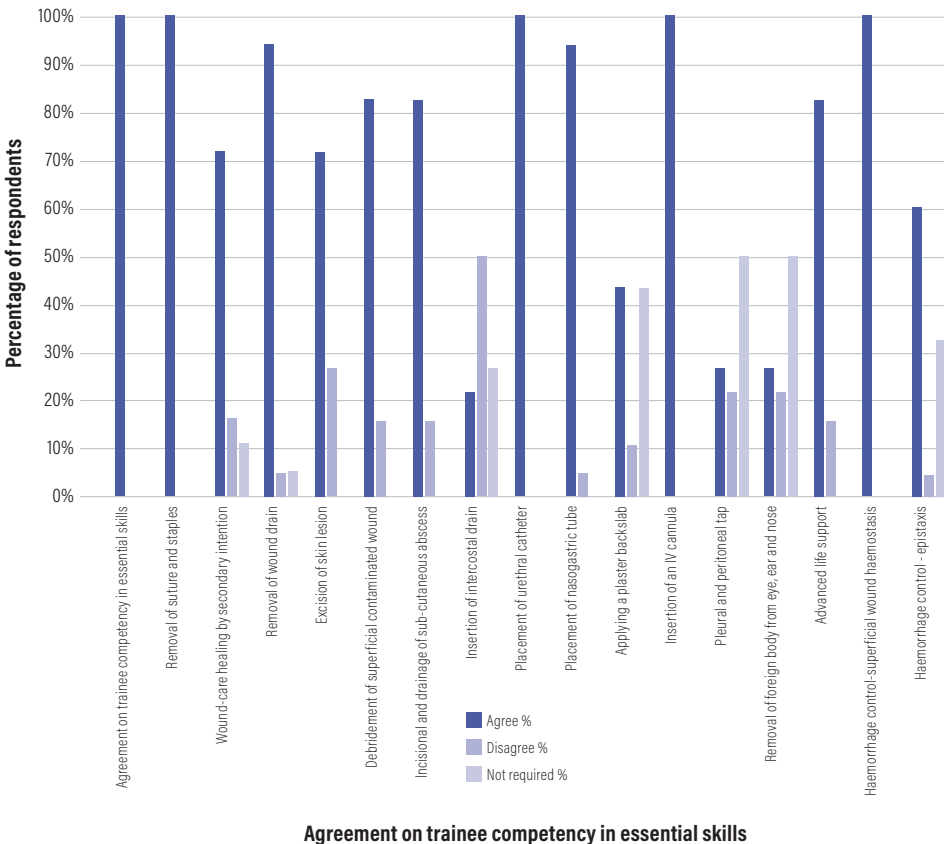
Basic Surgical Skills and Specialty-Specific Skills Desired by Pre-SET Supervisors for Pre-SET Trainees to Attain Competency

	Skill
Basic procedural skills (common to all specialties)	Knot tying/Hand tying Suturing Laying down proper subcuticular knots Prepping and draping OT positioning Handling soft tissues Use of diathermy Laparoscopic skills Knowledge of instruments Basic endoscopic skills Chest-drain insertion Interpretation of imaging Complex urinary catheter insertion (guidewire) Abscess drainage Wound debridement Opening and closing deep and superficial tissue planes Understanding and using wound dressings
Complex procedural skills (specialty specific)	Proctoscopy (general surgery) Recognition of orthopaedic instruments (orthopaedics) Bipolar and monopolar diathermy use in neurosurgery (neurosurgery) Seldinger and wire-skills (cardiothoracic) Performing cardiac, lung and vascular ultrasound (cardiothoracic) Gastroscopy/colonoscopy (general surgery) Rigid sigmoidoscopy (general surgery) Laparoscopic cholecystectomy (general surgery) Laparoscopic and open inguinal hernia repairs (general surgery) Perianal abscess drainage (general surgery) Inguinal hernias (general surgery) Appendicectomy (general surgery) Establishing pneumoperitoneum (general surgery) Trauma craniotomy (neurosurgery) Open joint replacements and repairs (orthopaedics) Conduit harvest (cardiothoracics) Endoscopic urological procedures (urology)

Participants were asked to indicate if they agreed or disagreed that pre-SET trainees were competent in, or that competency was not required in, performing the “essential surgical skills” identified from the training requirements (RACS, 2015) (Figure 1). Skills competency was seen to be lacking in care of wounds healing by secondary intention, insertion of intercostal catheter, applying a plaster backslab, pleural/peritoneal tap, removal of foreign body from eye/ear/nose and haemorrhage control from epistaxis. There were six skills felt to be unnecessary at this level by 25–50% of participants, and there was crossover with currently perceived poor performance in these skills.

Figure 1

Agreement of Participants on Whether Pre-SET Trainees Are Competent in a List of Procedural Skills Defined in the “Essential Skills” Document Published by RACS



Note: Participants were asked to indicate if they agreed or disagreed that pre-SET trainees were competent or that competency was not required.

For the general specialty surgical procedural skills (RACS, 2021), low levels of competency were perceived for proctoscopy, rigid sigmoidoscopy, establishment of pneumoperitoneum, closure of laparotomy wound and appendicectomy (Figure 2). A high proportion of surgeons felt pre-SET trainees were not and did not require competency in rigid sigmoidoscopy and appendicectomy.

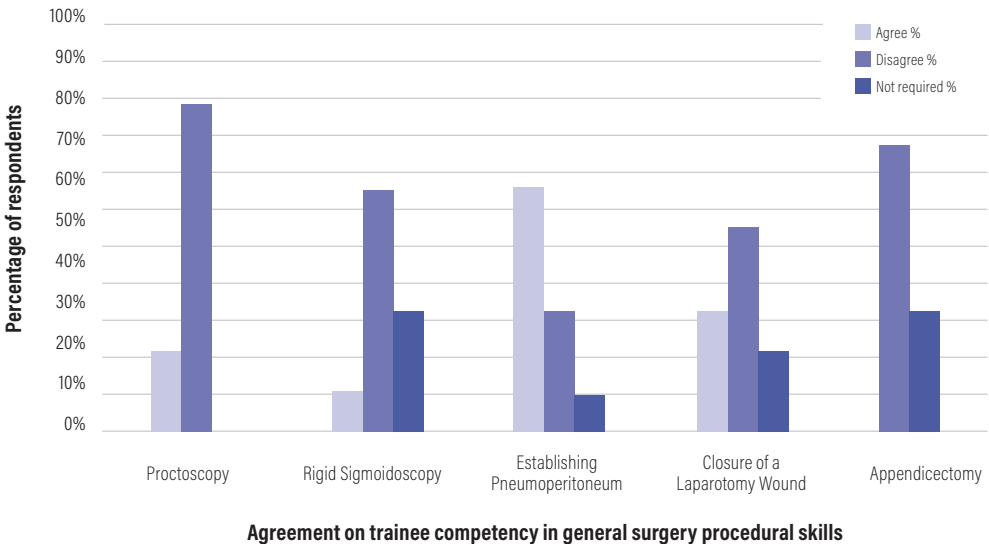
Professional skills pre-SET trainees should be competent in

Participants listed professional skills that pre-SET surgical trainees should be competent in, and these were categorised into ward-based, communication and academic professional skills (Table 2). Participants did not view professional skills to be specialty specific.

Perceived competency in the emergency management of non-procedural skills from the essential skills document is recorded in Figure 3. Less consensus was reached amongst participants regarding clinical skills competency. Emergency management of miscarriage was commonly seen as “not required”, and when participants thought it was required, competency was judged to be lacking amongst pre-SET trainees. Competency was deemed unsatisfactory for management of closed head injury, compartment syndrome, trauma, acute limb ischaemia, tendon injury, long-bone fractures and burns among general surgeons.

Figure 2

Agreement of General Surgical Pre-SET Supervisors to Whether Pre-SET Trainees are Competent in a List of Procedural Skills by the “Eligibility Report” Published by RACS’ for Pre-SET General Surgery Trainees



Note: Respondents were asked to indicate if they agreed or disagreed that pre-SET trainees were competent, or that competency was not required.

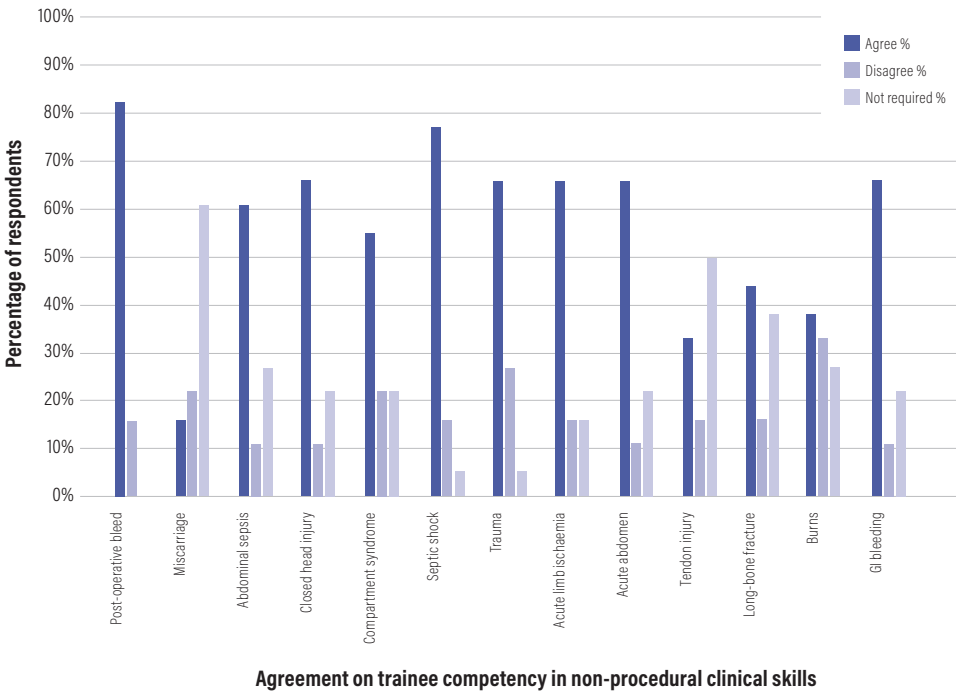
Table 2

Professional Skills Desired for Pre-SET Trainees

	Professional Skills	
Ward-based	Radiology interpretation Medical documentation Writing operation reports	Consenting patients for surgery Ward-based decision making Ward rounds
Communication: Teamwork and leadership	Communication Teamwork Leadership Trauma management	Emergency theatre organisation Communicating with patients Escalation skills
Academic development	Research skills Teaching skills and medical student/JMO education Ethical integrity Career planning Interview practice	

Figure 3

Agreement of Participant Opinion on Pre-SET Trainee’s Competency in the Emergency Management of Non-procedural Clinical Skills Defined in the “Essential Skills” Document Published by RACS



Note: Participants were asked to indicate if they agreed or disagreed that pre-SET trainees were competent, or that competency was not required.

List of skills perceived to be beneficial for simulation training

Surgeons listed the skills that might be offered through simulated training and may be beneficial to pre-SET trainees. We categorised these into general surgical, specialty-specific and professional skills (Table 3). Commonly mentioned skills included basic surgical skills (suturing, knot tying, etc.), laparoscopic surgery and trauma management.

Table 3

Supervising Surgeon's Nominated Skills for Simulation Training Aimed at Pre-SET Trainees

	Suggested Skills for Simulation Training
General surgical skills	Laparotomy set up Use of retractors Chest drain placement Cricothyroidotomy Trauma laparotomy Laparoscopic hernia, appendix and gallbladder training Abthera VAC use Abscess incision and drainage Umbilical hernia repair Establishing pneumoperitoneum Suturing practice Vascular repair Open appendectomy and cholecystectomy Laparoscopic stitching
Specialty-specific skills	Transcatheter intervention (urology) Burr holes (neurosurgery) Radiological guided and microscope surgical techniques (neurosurgery) Extraventricular device (EVD) insertion and management (neurosurgery) Cardiac echo (cardiothoracic) Thoracoscopy (cardiothoracic) Vein and artery harvesting (cardiothoracic)
Professional skills	Trauma management Multidisciplinary team clinical scenarios Communication exercises Breaking bad news Clinical handovers Graded assertiveness Situational awareness Combining procedural and non-procedural skills

Discussion

This study has explored the expectations of supervisors on the competence and training needs of pre-SET trainees in a large metropolitan hospital in Australia. Our study suggests that whilst pre-SET trainees meet basic expectations, there is significant

variability and large gaps in their training due to a lack of structured training programs. Expected competency is a complex interplay of individual trainee skill and job requirements. Reassuringly, general consensus was that pre-SET trainee competency was adequate. For supervisors, every year they may get a new group of pre-SET trainees who have a large variability in skill level and, thus, new expectations may form regarding competencies. The variability in skill level and the perceived gaps in training reflect structural issues in pre-SET training. A lack of feedback mechanisms and a discrepancy between the skills required for progressing to SET training and those required for performing their jobs have been discussed and correlate with previously raised concerns (Mitchell et al., 2013; NSW Ministry of Health, 2018, 2020).

There is some discrepancy between the skills that RACS lists and those deemed important for pre-SET trainees by supervisors in the clinical setting. Supervisors also deemed that some of the skills within both the essential skills syllabus and the eligibility requirements were not required. Additionally, there were several procedural and professional skills where pre-SET trainee competency was deemed inadequate. This suggests a need for both re-evaluation of skill requirements and adequate training for pre-SET trainees. In addition, supervisors listed a variety of basic and complex procedural skills from knot-tying to laparoscopic hernia repair and cholecystectomy. These more complex skills may only be expected of some pre-SET trainees and more realistically at the start of SET training. The large variety of skills suggested reflects the variability in experience and the longer duration of pre-SET training. It may also reflect different expectations of pre-SET trainees between surgeons and surgical departments. A Delphi process could prioritise and further clarify the relevance of these skills. This has been used in previous studies for evaluation of both professional and procedural surgical skills (Hertz et al., 2022; Palter et al., 2011). For the more complex skills listed in the eligibility report, there was a significant gap between expected and currently perceived level of competency for pre-SET trainees, particularly for proctoscopy, rigid-sigmoidoscopy, establishment of pneumoperitoneum, closure of laparotomy wound and appendectomy. This gap is primarily due to lack of training opportunities, however lack of structured teaching and availability of simulation are also possible contributors. Without ongoing training and frequent evaluation of competencies, a gap will continue to exist between pre-SET trainees' competencies and expectations.

Pre-SET trainee supervisors expressed a need for further procedural, non-procedural and professional skills development. With an increasing number of pre-SET trainee positions, particularly in specialty surgical positions, the expectations for pre-SET trainees have changed considerably. This may explain why many of the non-procedural skills suggested in the "essential skills" report are no longer seen as required. The RACS (2022) core competencies encompass many of the professional skills deemed necessary by our participants. Our findings suggest that for the current clinical environment, pre-SET trainees need additional practical application of these professional skills to develop.

There was universal consensus that simulation training would be useful in both professional and procedural skills' training, yet it is infrequently utilised. Given the constraints of limited clinical exposure for current pre-SET trainees, simulation training could potentially help to bridge the gap between expected and perceived competency for skills, and models do exist for procedural skills training in this setting (Zogovic et al., 2021). Simulation models that are based on this needs assessment of skills for aspiring surgeons would likely be advantageous (Table 3). This is supported by an abundance of literature on the benefits of simulation training in surgery (ABS, 2021; Schwab et al., 2017). Despite this, there is no protected time for simulation training. Resources and organisation are also limitations (Gostlow et al., 2017). Further research examining these barriers to simulation training would be valuable.

Limitations

Being a single-centre study, the findings also need to be tested and explored in rural and peripheral training centres in Australia. The study only sought the views of supervisors, not trainees, and the interview data was not captured in its entirety. Using our findings, a more comprehensive picture of training needs could be achieved through study of multiple sites, interviewing pre-SET trainees and utilising a Delphi process with key stakeholders to prioritise these skills competencies. There is potential bias in the researchers' interpretation of the data, however to improve reliability of coding, two independent researchers analysed the interviews. Whilst iterative saturation of concepts occurred in our interviews for general skills, further evaluation of specialty surgical training needs would be valuable, as this study had a small sample size for individual surgical specialties.

Conclusions

The rapidly growing role of pre-SET trainee positions in the Australian public healthcare system necessitates the development of comprehensive, up-to-date training objectives for these pre-SET surgeons. In identifying essential skills for pre-SET trainees, this study has identified a discrepancy between the current skills guidelines and those that supervisors expect. Structured training would be beneficial for both individuals and institutions to reconcile expectations of pre-SET trainees' competency. A definitive list of expected skills and a method of regular assessment would guide competency training for pre-SET trainees and further prepare them for SET training. Simulation training should be considered a part of this, however time would need to be allocated and pre-defined competencies chosen for pre-SET training and assessment. A better understanding of pre-SET trainee experiences is also recommended to better describe the needs of different healthcare centres, surgical subspecialties and rural centres. Ultimately, the training and development of pre-SET trainees would be greatly improved if both a regularly updated list of requisite competencies and the necessary education and training opportunities to develop these essential skills were provided.

Conflicts of interest and funding

The authors have no conflicts of interest or funding to disclose.

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Appendix 1

Semi-structured questionnaire and survey

Skills for the aspiring surgeon: A needs assessment

1. What is your position at RPA hospital?
2. Which department do you work in?
3. Do you directly or indirectly supervise SRMO and SET1 surgical trainees?
4. What general procedural skills do you believe pre-SET/SET1 trainees should be competent in?
5. What specialty specific procedural skills do you believe pre-SET/SET1 trainees should be competent in?
6. What general professional skills do you believe pre-SET/SET1 trainees should be competent in?
7. What specialty specific professional skills do you believe pre-SET/SET1 trainees should be competent in?
8. How do you feel about the following statements? Please respond using the following options. You may strongly agree, agree, disagree, strongly disagree or even say that competency is NOT required.

Current pre-SET trainees are competent in the following procedural skills:

- 1) Closure of a superficial wound
 - Not required Strongly disagree Disagree Agree Strongly agree
- 2) Care of a wound healing by secondary intention
 - Not required Strongly disagree Disagree Agree Strongly agree
- 3) Removal of sutures and staples
 - Not required Strongly disagree Disagree Agree Strongly agree

- 4) Removal of wound drain
 Not required Strongly disagree Disagree Agree Strongly agree
- 5) Excision of skin lesion
 Not required Strongly disagree Disagree Agree Strongly agree
- 6) Debridement of superficial contaminated wound
 Not required Strongly disagree Disagree Agree Strongly agree
- 7) Incision and drainage of subcutaneous abscess?
 Not required Strongly disagree Disagree Agree Strongly agree
- 8) Insertion of intercostal drain
 Not required Strongly disagree Disagree Agree Strongly agree
- 9) Placement of urethral catheter
 Not required Strongly disagree Disagree Agree Strongly agree
- 10) Placement of nasogastric tube
 Not required Strongly disagree Disagree Agree Strongly agree
- 11) Applying a plaster backslab splint
 Not required Strongly disagree Disagree Agree Strongly agree
- 12) Insertion of IV cannula
 Not required Strongly disagree Disagree Agree Strongly agree
- 13) Pleural/peritoneal tap
 Not required Strongly disagree Disagree Agree Strongly agree
- 14) Removal of foreign body from eye, ear and nose
 Not required Strongly disagree Disagree Agree Strongly agree
- 15) Advanced life support
 Not required Strongly disagree Disagree Agree Strongly agree
- 16) Haemorrhage control—superficial wound haemostasis
 Not required Strongly disagree Disagree Agree Strongly agree
- 17) Haemorrhage control—epistaxis?
 Not required Strongly disagree Disagree Agree Strongly agree

Current pre-SET trainees are competent in the following non-procedural skills (emergency assessment and management of):

- 1) Post-operative bleed
 Not required Strongly disagree Disagree Agree Strongly agree
- 2) Miscarriage
 Not required Strongly disagree Disagree Agree Strongly agree
- 3) Abdominal sepsis
 Not required Strongly disagree Disagree Agree Strongly agree
- 4) Closed head injury
 Not required Strongly disagree Disagree Agree Strongly agree
- 5) Compartment syndrome
 Not required Strongly disagree Disagree Agree Strongly agree
- 6) Septic shock
 Not required Strongly disagree Disagree Agree Strongly agree
- 7) Trauma
 Not required Strongly disagree Disagree Agree Strongly agree
- 8) Acute limb ischaemia
 Not required Strongly disagree Disagree Agree Strongly agree
- 9) Acute abdomen
 Not required Strongly disagree Disagree Agree Strongly agree
- 10) Tendon injury
 Not required Strongly disagree Disagree Agree Strongly agree
- 11) Long-bone fractures
 Not required Strongly disagree Disagree Agree Strongly agree
- 12) Burns
 Not required Strongly disagree Disagree Agree Strongly agree
- 13) GI bleeding
 Not required Strongly disagree Disagree Agree Strongly agree

For general surgery pre-SET trainees only:

Current general surgery pre-SET trainees are competent in the following procedural skills:

1) Proctoscopy

Not required Strongly disagree Disagree Agree Strongly agree

2) Rigid sigmoidoscopy

Not required Strongly disagree Disagree Agree Strongly agree

3) Establishing pneumo-peritoneum

Not required Strongly disagree Disagree Agree Strongly agree

4) Closure of laparotomy or abdominal wall incision

Not required Strongly disagree Disagree Agree Strongly agree

5) Appendectomy

Not required Strongly disagree Disagree Agree Strongly agree