

Developing Professional Judgement in Surgical Trainees: The Role of Critical Reflection

Timothy William Gray¹ and Christopher John Coombs^{2, 3}

¹ Lecturer, Department of Community Emergency Health and Paramedic Practice, Monash University, Melbourne, Australia
Retrieval Consultant, Adult Retrieval Victoria, Ambulance Victoria, Australia

² Director, Department of Plastic and Maxillofacial Surgery, Royal Children's Hospital, Melbourne, Victoria, Australia

³ Department of Paediatrics, University of Melbourne, Melbourne, Victoria, Australia

OPEN ACCESS

Correspondence

Name: Timothy William Gray

Email: timothy.gray@monash.edu

T. W. Gray MBBS FACEM GradCertHlthProfEd; **C. J. Coombs** MBBS (Hons) FRACS

Citation

Gray TW, Coombs CJ. Developing professional judgement in surgical trainees: the role of critical reflection. *Australasian Journal of Plastic Surgery*. 2018; 1(1): 126-132.

Accepted for publication: 8 December 2017.

Copyright © 2018. Authors retain their copyright in the article. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Critical reflection is a disciplined process that aims to critically evaluate everyday medical practices to more fully understand and learn from them. It can lead to improved professionalism and clinical reasoning and is increasingly seen as a core component of continuing professional development in a number of disciplines. While critical reflection is a central element of expert surgical practice, its processes are often tacit and hence invisible to trainees. In this paper, we describe a pilot project aimed at introducing critical reflection techniques into a Plastic Surgery Training Program. We also discuss the use of critical reflection as a tool to allow learning surgeons to develop, observe and critique their own clinical thinking, and outline a framework for surgical supervisors and trainers to guide, monitor and assess the development of professional judgement in their trainees.

Key words: Professional Judgement; Clinical Reflection; Decision-making; Supervision; Feedback

Introduction

Learning to 'be' a surgeon, and in doing so acquiring the required operative and clinical skills, has traditionally been something to be learned on the job under the close supervision of an experienced surgical supervisor and mentor. The changing demands of contemporary hospital practice in Plastic Surgery training has resulted in an increase in training time and a reduction in the number of cases 'seen' over that time. Trainees are generally older when commencing training due to a combination of factors including increased age of graduating medical students and the number of years it can take to be accepted onto the FRACS SET program. This is coupled with an increasing desire of trainees to shorten the time to complete specialist training as well as an expectation of hospitals to comply with safe work hours for specialist trainees. As a result, learning in the clinical setting seems to have become less structured and opportunistic, given the increasing service requirements of both trainees and surgical teachers.¹

The contemporary professional surgeon draws on complex theoretical knowledge together with professional judgement and communication skills to tailor general clinical principles and technical skills to the practical management of a specific condition in an individual patient. Surgical activity is a complex process that involves many moment-by-moment judgements that may not be apparent to the observer. Technical knowledge and skills are relatively easy to observe and teach, but the critical thinking and reflective processes that underlie expert surgical practice are invisible and tacit.

Professional judgement is an essential component of surgical practice.² The development and application of professional judgement marks the

transition from efficient apprentice to thinking and competent professional practitioner, yet to date, technical knowledge and skills has been the main focus of surgical training. Learning surgeons are often left to grasp the principles of clinical thinking by osmosis, observing their teacher's visible actions without fully understanding the underlying cognitive processes.³ The challenge for surgeons involved in trainee supervision and training is how to teach, while assessing clinical judgement and the decision making necessary for surgical proficiency given the practical constraints on contemporary surgical training.

In 2016, the Department of Plastic and Maxillofacial Surgery at the Royal Children's Hospital in Melbourne recognised these challenges and undertook to incorporate evidence based oral and written structured reflections into their Plastic Surgery Training program.

Method

Ovid Medline and Scopus databases were searched using the keywords: critical reflection, clinical reflection, professional judgement, reflective practice. The search was limited to English-language papers published after 1990 and narrowed to include papers relating to healthcare or medical education. Manual search of bibliographies of retrieved papers was undertaken to identify further sources of evidence.

On the basis of this literature search, a structured program of critical reflection was implemented as follows:

- Each SET trainee has a structured weekly meeting with the Head of Department in which they reflect on their case load for that week.

The emphasis is on the clinical and surgical decision-making before, during and after the cases but also allows trainees to reflect on their professional interactions with families and colleagues from other disciplines – a critical element of pediatric surgical practice. These discussions take place in a supportive environment, where the trainees feel that they can openly and frankly discuss their management of patients. It is also an opportunity for trainees to clarify clinical and operative decision making they have observed but not received adequate explanation of in the ‘heat’ of an operative procedure. The meeting concludes with a discussion of learning strategies to address any knowledge or skill gaps identified with a plan to review at the next meeting.

- Trainees and Fellows present a structured written reflective case discussion at weekly department meetings. This written reflection is done using a structured PowerPoint template based on the format outlined in Fig. 2 (see below). The emphasis is on the decision making in preoperative, operative and postoperative phases of care and utilizing literature reviews to underline the decision making. For example, what were the reasons for *this* patient with a velopharyngeal incompetence, why were they booked to have a superiorly based pharyngeal flap and not a sphincter pharyngoplasty.

Evaluation

Initial evaluation of the program has been through the informal end-of-term interviews with trainees to get their feedback on the process on the impact on their clinical decision making.

Having successfully established the program, we are developing a more structured evaluation in

collaboration with the Melbourne University Department of Paediatrics. Initial interviews by independent educationalists of the staff involved in the reflective practice sessions are being commenced to determine the effectiveness and obtain a qualitative assessment of the critical reflective program.

Results

The initial feedback has been extremely positive at both a consultant and junior medical staff level. There is a general feeling and commentary from the SET trainees that both forms of reflection have been extremely valuable. There are two common themes that they report. Firstly, these sessions help them to solidify their knowledge and secondly, their ability to understand the process of decision making in patient care is heightened. These sessions have allowed a higher level of thinking, discussion and learning in the department meeting, while reenergizing the meetings and increasing the interest and participation of members of the department. Currently we are undertaking interviews by independent educationalists to assess the positives and the challenges of the program.

Discussion

What is critical reflection?

Critical reflection is a disciplined process that aims to critically evaluate everyday medical practices to more fully understand and learn from them.⁴ It is a process that contrasts with the narrative methods of case discussion often used in clinical meetings and morbidity and mortality meetings where the focus is on a description of a technical process, or on what went wrong. The purpose of reflection is to allow the clinician to consider their decisions and actions and the (sometimes unconscious) underlying cognitive processes, in

Gray and Coombs

order to understand these in the context in which they occurred, and to use that understanding to refine and improve future decision making and professional judgements – why did the surgeon do ‘X’ and not ‘Y’ at that point in time of the procedure.

The concept of ‘reflection’ is widely used in medical education to describe a range of educational processes with differing intended learning outcomes. A wider definition that is useful for the purposes of this paper is:

“Reflection is a metacognitive process that occurs before, during and after situations with the purpose of developing greater understanding of both the self and the situation so that future encounters with the situation are informed from previous encounters.”⁵

While reflection is a familiar concept in everyday life, surgical supervisors and trainers must distinguish and define a particular skill set associated with important educational outcomes. Effective reflection can result in transformative learning with the potential for improved professionalism as well as better handling of complex clinical situations and professional interactions.^{1, 5, 6}

Three forms of reflection have been described.^{7, 8} These are time dependent in relation to the task and occur after the task, during the task or before the task.

1. **Reflection-on-action** – the ‘typical’ form of reflection after the task is completed in order to inform future behavior.
2. **Reflection-in-action** – the reflection on events and actions to guide decision making while carrying out a task.

3. **Reflection-for-action** – the use of knowledge and experience to mentally rehearse actions to optimise successful completion of the task in the future.

Together, these different vectors of reflection form an ongoing cycle of reflective practice – one that, while not always explicit, is a core component of expert surgical practice.

Learning surgeons would then benefit from reflection as a learning strategy – particularly in the clinical environment where many aspects of the professional role are experienced and learned. The main value of reflection is to enable learners to integrate these new learnings and experiences into their existing knowledge and skills. It is only through this ‘sense making process’ that future actions can be altered. In this context, reflection may be used for several purposes by a training surgeon as well as consultant surgeons to develop and maintain their skills, professional judgement and professional relationships:⁵

1. Reflection for learning

Surgeons and trainees can guide their own skill and knowledge development following clinical experiences by asking themselves a few simple questions such as:

- Did anything surprise me about the situation?
- What is the underlying reason why the identified issue arose?
- What knowledge or skills do I need to develop in order to deal with this situation better in the future?

2. Reflection to develop professional judgement

Reflection allows surgeons and trainees to consolidate the complex integration of knowledge

and skills required for professional practice to maximise learning and mentally prepare for future actions and decision making.

3. Reflection to develop therapeutic and professional relationships

Building appropriate relationships with patients and other health care professionals is an essential component of professional practice. Guided reflection on professional interactions may help surgical trainees develop their communication skills as well as identifying and challenging underlying belief and values.

Models of reflection

There are many models of reflection in the literature. Here we will focus on Models of Reflection-on-action as this is the 'default' form of reflection used in many areas of education. This can be a simple approach as outlined by Driscoll⁹ (Fig. 1) or a more structured format that encourages deeper inquiry (Fig. 2).

What? – what happened, what were the results.
So what? – what impact or meaning does the event have for you.
Now what? – what are you going to do to develop your practice following this event.

Fig. 1 Driscoll's simplified approach⁹

Description – What happened?
Feelings – What were you thinking and feeling?
Evaluation – What went well? Why? What was challenging? Why?
Analysis – What sense can you make of the situation, what else could you have done?
Action Plan – What have you learned? What would you do differently if it arose again?

Fig. 2 Structure for deeper oral or written reflection

In order to achieve the 'transformative' learning outlined above, critical reflection must be seen by trainees and supervisors as more than just a 'ritualistic' superficial review of practice. Effective reflection must involve systematic critical enquiry into one's professional work. Critical reflection requires learners to challenge and critically evaluate the assumptions, beliefs and values underlying their decision making and actions to inform and improve future practice.

Take the example of a medical error. A superficial reflection may involve a description of the events and rationalisation of the error occurring because of the clinician being too busy, or members of the team failing in their responsibilities. A more useful deeper reflection would include consideration of how and why decisions were made, how the assumptions and personal values of those involved contributed to the outcome and more importantly how they could reframe their thinking to avoid the error in the future.^{10, 11}

Getting started

Supervisors wishing to incorporate reflection into their training programs need to recognise that simply introducing reflective practice to a programme does not necessarily guarantee trainee engagement or valid learning.¹² Critical reflection must be tied into a larger educational program – trainees and supervisors need to see the value of critical reflection and recognise that the goal is meaningful learning and practice improvement.

Supervisors must establish clear learning goals for reflection – is the emphasis on reflection for clinical skills, professional judgement or professional relationships? In general, critical reflection is more useful as a learning strategy to resolve complex rather than simple clinical

challenges.¹³ To encourage deeper learning, trainees should be encouraged to choose appropriate prompts for their reflections – situations that triggered questions or concerns, where they felt they did not have the necessary knowledge or skills, or in which they felt professionally or personally challenged. Having established the learning objectives, supervisors then need to choose an appropriate framework for the reflection to occur. Structure is essential, as evidence shows that in the absence of structure and understanding, learners tend to produce reflections that are largely anecdotal and devoid of learning.¹⁰

In designing a reflective exercise, supervisors need to choose the most appropriate format to suit the context and objectives. Reflections may be oral, written, or completed using online or digital media such as blogs or digital recording. There is no evidence for the superiority of one technique over another, but oral reflection seems most suitable for clinical reflection or reflection-in-action. This may take the form of a verbal narrative of identified challenges and decision-making while being supervised performing a surgical procedure, or a structured reflective case discussion with peers and/or supervisors to replace the traditional clinical audit or narrative case discussions. More complex situations, particularly those involving professional or emotional challenges may be better managed in more structured reflection using written or digitally recorded media.³

Written reflection promotes deeper critical thinking and allows opportunities for feedback either from their supervisor as a formal process or from their peers if the reflection is shared. Creating a formal record shows commitment to the reflective process and allows the trainee to create a learning journal documenting the maturation of their professional judgement

throughout their training.¹⁰

The goal of reflection is to learn from experience. Combining written reflection with regular formal feedback sessions allows supervisors to help trainees set training goals and monitor and track their progression through the term.

Ethical considerations

Supervisors must be mindful of the potential for deep reflection to generate emotional or ethical disquiet. While sharing reflections with peers is a powerful learning opportunity, trainee's privacy and safety needs to be protected, as does those who may be mentioned in the reflection. Creating rules around confidentiality is an important element of shared reflection, and trainees should be offered the opportunity to keep their reflections confidential if they contain emotional or personal elements. Supervisors must also decide in advance how they will manage the depiction of unprofessional or concerning actions or statements, as allowing these to go unchallenged implies tacit assent.⁵

Modelling reflection

While a large proportion of practicing Plastic Surgeons would already use these techniques in their clinical practice, they are often invisible to observers. Surgical educators can facilitate the development of trainee's reflective skills by making their own reflective activities 'visible' to trainees. Some strategies that may facilitate this are:

- Modelling clinical judgement by verbalising decision making before, during and after procedures.
- Articulating ethical and professional dilemmas that arise as part of this process.

Gray and Coombs

- Encouraging trainees to articulate their own thoughts and decision making while performing procedures under supervision.
- Requiring trainees to adopt a reflective approach to case presentation allowing sharing of challenges and solutions amongst peers as well as allowing supervisors to assess and give feedback on their decision making.
- Requiring trainees to complete a number of formal written reflections on challenging clinical/ethical decisions, and patient or inter-professional communication encounters.

Conclusion

There is good evidence to suggest that effective critical reflection has the potential to change practice and help develop clinical judgement and professionalism in surgical trainees. The utilisation of these techniques is well supported in the literature and the introduction into a plastic surgery department's education program will increase the understanding of both consultants and trainees of their own and others tacit/invisible decision making. It will also help the trainee to embed knowledge while training in a time pressured environment learning not only from their own experiences but those of their surgeon teachers.

References

1. Chikwe J, de Souza AC, Pepper JR. No time to train the surgeons. *BMJ*. 2004; 21; 328(7437): 418-419.
2. Murdoch-Eaton D, Sandars J. Reflection: moving from a mandatory ritual to meaningful professional development. *Arch Dis Child*. 2014; 99(3): 279-283.
3. De Cossart L. *Cultivating a Thinking Surgeon: New Perspectives on Clinical Teaching, Learning and Assessment*. Harley: Tfm Pub., 2005.
4. De Cossart L, Fish D, Hillman K. Clinical reflection: a vital process for supporting the development of wisdom in doctors. *Curr Opin Crit Care*. 2012; 18(6): 712-717.
5. Sandars J. The use of reflection in medical education: AMEE Guide No. 44. *Med Teach*. 2009; 31(8): 685-695.
6. Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: a systematic review. *Adv Health Sci Educ Theory Pract*. 2009; 14(4): 595-621.
7. Schön DA. *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books, 1983.
8. Killion J, Todnem G. A process for personal theory building. *Educational Leadership*. 1991; 48 n 6: 14-16.
9. Driscoll J. Reflective practice for practise. *Sr Nurse* 1994;14(1): 47-50.
10. Aronson L. Twelve tips for teaching reflection at all levels of medical education. *Med Teach*. 2011; 33(3): 200-205.
11. Loughran JJ. Effective reflective practice: in search of meaning in learning about teaching. *Journal of Teacher Education*. 2002; 53(1): 33-43.
12. Duckett H. Smoke and mirrors? Evaluating the use of reflective practice as a management learning technique. LTA Assignment, Education-line, 2002.
13. Mamede S, Schmidt HG. The structure of reflective practice in medicine. *Med Educ*. 2004; 38(12): 1302-1308.