



Full-time research during surgical training: career killer or stepping stone?

What is the role of full-time research during surgical training? Should all trainees undertake an extended period of research, or should this be limited to those who are 'academically inclined'? The answers to these questions are unclear, and opinions are often sharply divided depending on personal perspectives and bias. Nevertheless, the College has recognized the importance of research in the training of a surgeon by defining a minimum research requirement as part of the Surgical Education and Training (SET) programme. This requirement, however, is variable among specialties, and decided by the training board of each individual subspecialty.¹ Typically, the requirement consists of a pre-approved part-time research project that results in a publication or presentation at a national or international scientific meeting. This is notably less than that of many equivalent North American or European programmes.^{2,3}

Beyond meeting the minimum SET requirement, some trainees choose to undertake a period of more intensive full-time research towards a higher degree. While there is no doubt that this can be a rewarding experience, the decision to stop clinical work can be a difficult one for the trainee. The aim of this paper is to outline the benefits and drawbacks of undertaking such a period of fulltime research during surgical training.

Benefits

- **Critical analysis:** Spending three to four years utilizing scientific methodology to analyse data provides the trainee with training in analytical thinking, and critical literature review.⁴
- **Scientific writing:** This is an acquired skill, and practice is required.^{5,6} The speed and quality with which a scientific manuscript can be written is likely to improve dramatically between the beginning and the end of a period of full time research.
- **Presentation skills:** In addition to writing, dissemination of research findings includes presenting these in a wide variety of forums. This practice leads to more polished presentations, and more confident public speaking.
- **Research methods:** Learning trial design, biomedical statistics, and clinical epidemiology is part of full time research training. These are skills that surgical departments increasingly require.
- **Knowledge:** The trainee will become well versed in the current literature around a specific subject and then disseminate that knowledge within the specialty and amongst their peers. The alternative traditional approach of exam-based textbook learn-

ing can result in somewhat outdated understanding and a lack of interest in horizon scanning.

- **Exposure:** Attendance at national and international scientific meetings provides valuable contact with clinicians and institutions regionally and overseas.
- **Competitiveness:** This is the likely reason for the seemingly increasing numbers of trainees opting to do full-time research.⁷ The improvement in career prospects after undertaking an MD or a PhD is a gift that keeps on giving during surgical training and after it is complete.
- **Time away from clinical work:** For many trainees, a break from the daily grind of busy clinical duties can offer time for reflection, self-improvement, and participation in life events (such as having a child, for example) that can otherwise be either difficult or unachievable.

Drawbacks

- **Prolongs training:** Completion of surgical training takes at least 8 years after leaving medical school. The addition of another 1–3 years to this can be daunting, in particular for older trainees.
- **Navigating bureaucracy:** Despite the College looking favourably on full-time training, the reality is that application for interruption of training is not necessarily an easy process. When that is added to the considerable amount of university paperwork that is often associated with doctoral studies, this can be a source of frustration.
- **Perception of the surgical community:** 'Those who can't operate teach; and those who can't teach do research' is a surgical idiom that is not infrequently used in the operating room. Others have described the false perception of academic surgery as that of an 'ivory tower divorced from the everyday realities of surgery at the coal face'.⁸ This stigma can deter trainees from what would otherwise be an exciting career prospect.
- **Remuneration:** A temporary reduction in remuneration, and uncertainty regarding funding is a common issue faced by trainees when considering beginning their fulltime research.⁹
- **Decay in technical skill:** There is a fear that a reduction in operating time while undertaking research may detrimentally affect technical ability. This is not borne out with time, and is usually a temporary phenomenon.

Surgical research is an essential component of modern evidence-based surgical practice, and a cornerstone of the profession. As such, all SET trainees require training in research method, critical analysis, scientific writing and presentation. The amount of training

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and its quality can, to a large extent, be determined by the trainee. A period of full-time research provides a level of expertise in this area that cannot be achieved by other means, and while this comes at a cost, for some the benefits may well outweigh the drawbacks ($P < 0.05$).

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Use of camera phones for hospital clinical communication: patient perspectives

The use of camera phones for hospital clinical communication has been increasingly debated since its description in Australian hand trauma assessment in this Journal in 2004.¹ Camera phones are now ubiquitous and doctors commonly use them to send images as an adjunct to diagnosis and management.

Patients increasingly take camera phone photographs of their injuries, wounds and X-rays. Photographs are an accepted adjunct in telemedicine and can permit immediate decision-making by an offsite specialist, facilitating timely and appropriate management. In paediatric patients, dressing removal can be a traumatic experience; photography can prevent the distress of repeated preoperative examinations.

However, the practice of camera phone photography is a privacy minefield. Currently, three Australian Medical Association committees are working urgently to develop guidelines for doctors.² While privacy and medical experts have had much to say, the patient's perspective has not been examined. In 2012, we conducted a patient survey on the use of camera phone images in hospital clinical communication. We obtained ethics approval from the Hunter New England Research Ethics and Governance Unit, and asked outpatients attending hand surgery clinics at the Royal Newcastle Centre to complete a confidential two-page survey.

The 172 respondents (101 males, 71 females) had high rates of mobile phone ownership (94%) and regular email use (70%). Eighty-six per cent had previously taken a camera phone photograph and 77% had presented to an emergency department with their current injury.

Respondents agreed that sending photographs (97%) and X-rays (95%) to health professionals via mobile phones may improve the accuracy of communication. Respondents agreed to the transmission of photographs (98%) and X-rays (98%) from a treat-

ing emergency department doctor to a treating specialist via mobile phone. Respondents agreed to the discussion of X-rays (96%) and photographs (95%) at audit meetings and the use of clinical X-rays (99%) and photographic images (98%) for teaching purposes.

Respondents agreed or strongly agreed (99.4%) that their treating surgeon should be permitted to take a photograph of their hand during an operation if the surgeon felt it was desirable and would be helpful in seeking advice from other surgeons on the best future treatment.

These results demonstrate extremely high acceptance by hand surgery patients of the clinical use of camera phone images. Respondents were as accepting of the transmission and display of clinical photographs as they were of the transmission and display of radiological images.

Research shows many Australian clinicians do not understand legal restrictions regarding clinical camera phone images.^{3,4} Our profession is yet to adequately address issues of informed consent, ownership and storage of images, provision of devices and data security. Smartphone advances have not been accompanied by policies and procedures that would facilitate clinical use that complies with hospital policy and legislation.

With a power inequity in the doctor–patient relationship, some argue that photographic consent may not be freely given in emergency settings. Our survey sought the opinions of many individuals who have traversed the emergency department setting. The results suggest that patients and carers do freely give consent. Our study did not explore the reasons that patients agree to the use of camera phone transmission of images despite the inherent lack of security of this medium, but we suggest that patients are capable of weighing privacy risks versus a perceived opportunity to improve clinical communication and management.