

Title: What junior doctors think about choosing a surgical career

Short Running Title: Perceptions of a surgical career

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## What junior doctors think about choosing a surgical career

### Abstract

**Objective:** To identify the reasons why interns would not choose a surgical career.

**Methods:** This qualitative study used semi-structured telephone interviews to explore the future career choices of 41 junior doctors (14 men, 27 women). Doctors were asked to identify specialties that stood out for them as ones they would not take up, and state why this was the case.

**Results:** Thirty (73.2%) of the 41 interns nominated surgery as a specialty they would not choose. Themes relating to reasons for not wanting to pursue a surgical career included the lifestyle associated with surgery (66.7%), the culture within the surgical work environment (53.3%), the lack of interest in performing surgical work (36.7%), and the training requirements associated with surgery (33.3%). Both sexes had similar reasons for not wanting to choose a surgical career; but additionally, women referred to the male-domination of surgery, and the difficulty and inflexibility of the training program as deterrents.

**Conclusions:** Efforts are needed to promote interest in surgery as a career especially for women, to improve the surgical work environment so that medical students and junior doctors have exposure to positive role models and surgical placements, and to provide a more flexible approach to surgical training.

**Key Words:** career choice, deterrents, interns, surgery

## Key Question Summary

### **What is known about the topic?**

In Australia, there is an anticipated shortage of surgeons in the future and acute shortages in some areas with lifestyle issues reported as the primary contributing factor.

### **What does this paper add?**

Little is known about Australian junior doctors' perceptions of surgery as a possible specialty choice. The results of this qualitative study reveal that perceived lack of lifestyle, the culture within the surgical environment, the lack of interest in performing surgery, and concerns relating to the training program were the main disincentives to choosing a surgical career. These results are consistent with the international literature in this area.

### **What are the implications for practitioners?**

To meet current and future workforce needs, educators need to be aware that positive role modelling and a positive work environment are very important in attracting more medical students and graduates to choosing surgery as a career.

## What junior doctors think about choosing a surgical career

The number of applicants selecting surgery as their specialty choice is declining in the UK, US and Canada (1-3), with lifestyle issues reported as the primary contributing factor (4). In Australia, the latest research suggests an anticipated shortage of surgeons in the future due to the number of surgeons (42%) aged 55 or over nearing retirement (5), and acute shortages in New South Wales, pockets of South Australia and Western Australia, regional Queensland, Tasmania and the Northern Territory (6). In addition, even though the number of women entering medical school is exceeding 50%, the proportion of women choosing a surgical career (16.5% in 2007) is significantly less than men (7).

While surgery is perceived as a highly respected and prestigious specialty, it is not perceived as a lifestyle friendly specialty choice (8). There is strong evidence that medical students and doctors of both sexes are turning their backs on surgery in favour of a more lifestyle friendly specialty career (9). Many medical students are concerned about working long hours (10) and want to be able to balance career and family responsibilities (11, 12). The length and flexibility of training associated with a surgical career is also a concern for both men and women (4, 13), with one study reporting that interest in a surgical career would increase if the option of part-time training was available (14).

Studies investigating why women are less likely to choose a surgical career have reported deterrents such as lack of role models (15, 16), gender-based discrimination and male domination (17-19), the “surgical” personality (18, 20-22), and the need for postponing family plans (16, 23).

We found no Australian studies that have investigated junior doctors’ perceptions of surgery as a possible specialty choice. In order to attract more medical students and graduates to surgery to meet future workforce needs, it is essential to identify and understand the

deterrents to choosing a surgical career for this generation of doctors. In light of this, this qualitative study was designed to identify the reasons why interns would not choose surgery as a career.

## Method

### *Design and Participants*

This study is part of a wider project that is tracking the career choices of medical students and junior doctors. It reports on responses from junior doctors who participated in a 40 minute telephone interview at the end of their intern year in 2008. Participants were recruited to the study in 2007 when in their final year of medical school via emails and flyers distributed by the eight participating medical schools across seven Australian states/territories. All of the final year students who volunteered to participate in the quantitative component of the wider project were asked to participate in the qualitative component of the research. We sought to recruit both Australian and International students and an equal number of males and females and to interview them once each year over a five year period. Fifty-two final year students volunteered to participate in the interviews; however theoretical saturation was achieved by conducting interviews with 41 participants.

### *Materials*

Participants were asked about their career goals, specialty interests, challenges, and desired practice location. The focus of this paper centres on responses to two of the questions asked at interview: “What specialties stand out that you would not choose; and why is this the case?”

### *Procedure*

The interview questions were designed to identify factors influencing future medical career choices. The questions were developed, shown to experts in the qualitative area, refined, pilot tested and revised. The interviews were conducted by an experienced

interviewer and were audio-recorded. A semi-structured interview approach was used. This allowed the interviewer to ask set questions, as well as to determine the timing, order and prompts appropriate to the discussion. Ethics approval was provided by Human Research and Ethics Committee of Griffith University. Consent was obtained from all participants and participants were given assurances that anonymity would be maintained.

### *Data Analysis*

The interviews were transcribed verbatim and each participant was allocated a number to protect anonymity. Data analysis sought to identify the prevalent issues associated with specialties that the young doctors were clear that they did not want to pursue. Thematic content analysis was conducted manually using the following steps: (a) the first author read the transcripts of the interviews several times to identify themes occurring in the scripts; (b) themes and sub-themes were identified to form categories, which were further refined and coded by both the first and second author; and (c) illustrative quotes, which were representative of each category, were then selected. To provide transparency and accountability for the points made, we have chosen to display verbatim quotes.

### Results

Forty-one junior doctors (14 men and 27 women) aged between 23 and 42 years (mean 27.0, SD 3.60) participated in the interviews. Thirty-three (80.5%) were Australian or New Zealanders, and the remaining eight were of European (12.2%) and Asian (7.3%) background. All participants were working as interns located in various hospitals across several states/territories in Australia. At the time of interview, only three (7.3%) of the 41 doctors intended to become a surgeon; all three were men. Participants named between one and four specialties that they would not choose as a specialty. Thirty doctors (73.2%) nominated surgery in this category. Other specialties nominated included emergency medicine (N = 1), dermatology (N = 2), geriatrics (N = 3), pathology, anaesthetics and

obstetrics/gynaecology (N = 4), radiology and paediatrics (N = 5), psychiatry and general practice (N = 6), and physicians training (N = 8). Given the predominance of the rejection of surgery, the current study focuses on this specialty.

Of the 30 doctors who named surgery as a specialty that they would not choose, eight were men and 22 were women. Based on the content coding of the responses from this group of doctors, Table 1 presents the frequencies and percentages of the four main categories (lifestyle, culture, type of work, training) associated with not wanting to pursue a surgical career split for males and females. The doctors' comments related to one or more of these categories, with most mentioning at least two or three, and one doctor talked about all four categories. The most frequent response category for both men and women was the lifestyle associated with surgery, which they perceived as involving long hours of work and on call requirements. The next most frequently reported category was that of the culture within surgery, which included the pressured work environment, the hierarchical structure of the profession, the particular person or personality type attracted to surgery, and the specialty being male dominated. The third most frequently given reason was lack of interest in surgical work, followed by the last category of training concerns, which included general comments about the training associated with surgery, perceived difficulty with completing the training program, and the inflexibility of the training program. Comments specifically made by women referred to the male-domination of surgery, difficulty with completing the training program, and the inflexibility of the training program. Table 2 presents sample comments from both male and female doctors relating to reasons for deciding against a surgical career.

## Discussion

This study contributes to an understanding of what junior doctors think about choosing surgery as a career. Junior doctors of both sexes had similar reasons for not wanting to choose a surgical career. The main disincentives were the perceived lack of lifestyle, the

culture within the surgical environment, the lack of interest in performing surgery, and issues relating to the training program. The long hours and on-call requirements associated with becoming a surgeon were deemed incompatible with achieving a work life balance. Further, the persona, attitude and manner of attending staff towards interns were described as discouraging and unacceptable. These results are consistent with the results of other studies and commentaries in this area (9, 18, 20, 21, 23). Interestingly, lifestyle and the culture within surgery were the main deterrents for men in this study, suggesting that these two factors are clearly not just issues that concern women (20).

This study also demonstrated that lack of interest in performing surgery and the training involved in becoming a surgeon were more of a deterrent to women than men. Consistent with the extant literature, other deterrents were also gender specific. Women perceive the surgical work environment as male-dominated and difficult to work in (20), and describe the training as “hard” and inflexible (13). While the number of women choosing a surgical career has increased slightly from 13.5% in 2005 and 2006 to 16.5% in 2007, relative to other specialties, surgery, as well as intensive care medicine (13.9%), rural and remote medicine (14.3%), and occupational medicine (16.7%), has the lowest proportion of female new fellows. The proportion is similar for advanced female trainees choosing surgery: there were 16% in 2005, 18% in 2006, and 18.3% in 2007. In 2008, surgery (23.3%), occupational medicine (16.4%) and medical administration (10.0%) had the lowest proportion of women, while obstetrics and gynaecology (68.8%) had the highest proportion (7).

Our findings show that both real and perceived barriers can deter junior doctors from pursuing a surgical career. Today’s doctors have different expectations regarding training and future practice compared to previous generations of doctors. They are less willing to sacrifice lifestyle and family, and less willing to work long hours (11, 24); a perception that is

reflected in a statement by Intern 10, "...if that [working hours] wasn't the case, I would probably have picked surgery as a job because I really enjoy it" (Table 2).

The Royal Australasian College of Surgeons is committed to attracting more women into surgical training and ensuring that training programs do not disadvantage them (25), however, it would appear that more has to be done to promote a surgical career especially to women. It is also evident that further efforts need to be made to improve the surgical work environment for both men and women so that medical students and junior doctors have exposure to positive role models and positive surgical placements. In addition to this, a more flexible approach to training may encourage more women to choose a surgical career by giving them the opportunity of not having to choose between their career and family (14).

The use of qualitative methods allowed the researchers to present the opinions of interns in an organized way and using their own words to reflect the intensity of their perceptions of a surgical career. Whilst the sample of junior doctors in this study was small, self-selected and included more female participants than male, the sample included interns from multiple hospitals and states/territories across Australia, and our results have identified similarities with the international literature in this area. In order to attract more medical students and graduates to surgery to meet current and future workforce needs, changes in these areas are needed if the perception of a surgical career is to be altered to become more attractive to potential applicants.

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Table 1

*Categories Relating to Reasons for Rejecting Surgery as a Career, for Men, Women and Total Sample*

Categories	Men ( <i>N</i> = 8)		Women ( <i>N</i> = 22)		Total ( <i>N</i> = 30)	
	Frequency	%	Frequency	%	Frequency	%
Lifestyle	8	100.0	12	54.5	20	66.7
Culture	7	87.5	9	40.9	16	53.3
Type of work	2	25.0	9	40.9	11	36.7
Training	2	25.0	8	36.4	10	33.3

Table 2

*Comments Relating to Reasons for Rejecting Surgery as a Career*

Category	Sub-category	Males	Females
Lifestyle	Long hours of work	The amount of hours that the registrars do, I find absolutely ludicrous... it's very difficult to get a proper life balance... you need to be single because your first commitment has to be to the job. [Intern 3]	There is no opportunity really to scale down your working hours... if you cut down your hours you compromise your skill levels, but if that wasn't the case I would probably have picked surgery as a job because I really enjoy it. [Intern 10]
		I am not interested in the amount of work you have to do, the overtime work and just the general hours that you have to spend in the hospital working. [Intern 12]	Surgery would be the only thing that I've absolutely crossed off my list... in terms of the hours that surgeons work... [Intern 18]
	On-call requirements	I don't really want to do huge amounts of on-call or overtime and things like that and certainly that would be an issue with surgery and that's something that doesn't appeal. [Intern 6]	...lot of on-call, a lot of operating times and very long days and that just seems a bit too stressful. [Intern 28]
	Associated lifestyle	The lifestyle is really not attractive to me. [Intern 24]	I am not willing to make the lifestyle sacrifices that are required... [Intern 14]
Culture	Work environment	I didn't enjoy working for them... I don't think I'd like to be working in that environment. [Intern 25]	I had not seen a happy surgical trainee the whole year; they were all miserable and cranky. [Intern 16]
		Surgical registrars can seem extremely miserable. [Intern 6)	Surgery doesn't interest me for all the training that is involved and the work environment. [Intern 2]
	Hierarchical system	Strict hierarchy and bosses answering to people above you, which is similar to most jobs I think actually, but it's the culture of working the juniors really hard and not particularly treating them well. [Intern 13]	The hierarchical structure is everywhere, but it is more so in surgery, the way that it is ok for doctors and senior surgeons to speak to junior surgeons, ...the very abusive way... I find absolutely atrocious. [Intern 4]
	Culture	I didn't like a lot of the colleagues that I met. I didn't like the way some of them related to me, or didn't talk to me, didn't acknowledge me. ...I think it was the way that they saw themselves, and the system as being completely subservient to them, which doesn't make me feel good. [Intern 29]	Well, to be honest I think as a female it's still very hard to be a surgeon. A lot of female interns and residents are put off from their experience as interns and residents to do surgery. [Intern 8]  I guess the other thing that puts me off is that often surgeons have a poor reputation with their other medical colleagues and that quite often they might behave and speak to other members of staff in ways that would be completely unacceptable if they were working in public service. It would be considered harassment or bullying in other publicly funded work places. And there doesn't seem to be anything being done about that by the college as a whole. So that's what I found disappointing. [Intern 26]

	Personality types	I have trouble with the whole medical surgical divide type of environment within a hospital, and the personality types that go into surgery. [Intern 12]	You can predict it based on their personality. You can sort of look at them and go you're definitely going to be a surgeon. [Intern 9]
	Male dominated		It is a very male dominated field and I think it's quite hard for women to progress without being quite strong and very passionate about what they are doing. [Intern 14]  There are predominately men in surgery and I think you have to be quite a tough woman to survive in that environment. [Intern 26]
Type of work	Lack of interest in surgical work	I don't find surgical work particularly interesting. [Intern 20]  I don't particularly like surgeons. I've just never really been interested in surgery. [Intern 25]	Maybe it's because I've never liked surgery. I imagine that if you want to do surgery you get some kind of thrill when you open up the patient, whereas I really don't. I don't feel ill or anything like that; I'm just not very excited by it. [Intern 5]  Doesn't feel like it fits with my personality. It's not the kind of medicine I want to practice. [Intern 1]  I don't want to be stuck in a theatre scrubbed up all day. [Intern 7]  I don't enjoy surgery, just the whole of what they do. I don't do well in theatre and scrubbed. [Intern 11]
Training	Associated training	I'm not interested in surgery and that's probably because of the training associated with it. [Intern 6]  I do enjoy the practical side of it. I am just not interested in the training, the amount of work you have to do. [Intern 12]	Surgery doesn't interest me for all the training that is involved... [Intern 2]  The training program is not very, how do I put it, you basically move around every 6 months, and you have no say over where you go over the majority of the training program, and that just wouldn't be fair on my partner, and isn't something that I am really interested in doing. I'd like to choose where I am and you know, make friends and make lifestyle choices and the surgical training program doesn't allow for that. So as much as I like surgery I can't be bothered with the training program, I don't like it enough to go through all of that. [Intern 22]
	Training difficulty		I think partly because the training program just seems such a hard training program [Intern 28]
	Inflexibility of training		The inflexibility of the training program... can be very harsh on people, emotionally draining and socially destructive, from what I've seen. [Intern 30]