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PERSONAL VIEW

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Our first steps into surgery: The role of inspiring teachers

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I. INTRODUCTION

Surgery is an apprenticeship – an art to be learned by the operating table from our mentors and a skill to be honed through years of training. This article is a discussion of the significance of good role models in surgical education with personal examples given from our fresh experiences with the intricacies of surgery during our undergraduate medical education years.

II. PERSONAL VIEW

Many papers have explored the recent decline in the number of surgical residency applicants, and a large majority have attributed a lack of role models in surgery to be one of the key factors responsible for this decline (Maker et al., 2004). The history of surgery is filled with horror stories of raging and difficult surgeons. A recent study done on Korean surgeons confirmed that the much higher number of hours spent at work by surgeons is an important contributor of occupational stress and burnout (Kang et al., 2015). Similarly, in the United States, burnout and poor psychological well-being are common amongst surgeons and can negatively affect work performance, job satisfaction, career longevity and even the risk of suicide (Shanafelt et al.., 2012). We therefore qualify that surgery is a very stressful career with long working hours that could deprive a person of sleep and social life, hence logically speaking, even someone who is good-natured can snap in the heat of the stress. However, a good mentor-mentee relationship within the surgical discipline can translate into higher job satisfaction, and one is motivated to persevere on in spite of the high stress levels (Sinclair et al., 2014).

Good role models inspire and lead by example in their daily work. The importance of good role models in the surgical discipline is particularly important in view of high occupational stress levels. In spite of this tremendous occupational stress levels, we stood witness to many examples of surgeons who are willing to mentor their juniors, be it medical students, surgical residents or their fellow nurses: A surgeon who was post-call kindly took time off his busy schedule to provide an extra tutorial for his medical students out of goodwill as this tutorial was not counted as part of his teaching schedule. This same surgeon, sat his jaded residents down to provide them with sound advice on how to adapt to surgical residency life. Another surgeon calmly managed a scrub nurse who was new to work, and gave her a small tutorial on how to perform her job well instead of being displeased by her unfamiliarity with the surgical setup, and hence the multiple mistakes she made when asked to hand over certain surgical equipment at the operating table. A third surgeon took time to visit his surgical oncological patients outside of his working hours, just to walk the journey in battling a terminal illness with them.

The list goes on and on, but one mentor of ours probably summarized it best for us, “I often think about whether or not to quit surgery. Missing out on the birth of my brother’s daughter… not being able to attend many of the social invitations from my friends… slogging away whilst my friends of the same age were working much less hours yet earning much more. However, a large part of why I stayed on could be attributed to having good mentors. Mentors who are willing to let you do all the colonoscopies, even though they could probably do a faster job and go back home at an earlier time. Mentors who are willing to go the extra mile to make you feel appreciated for the amount of effort you put into your work… And because they did that for me, I pay it forward to my juniors.”

Teaching is a skill that a good role model in the surgical discipline should have. We were privileged to be under the tutelage of several surgeons who were awe-inspiring teachers. The first heart surgery we saw was by Dr. C for

the repair of an atrial septal defect during an overseas clinical attachment to a tertiary hospital in Bangalore, India. Witnessing our first live beating heart, of a 10-year-old boy, was, by itself, a magical experience. To add to that, Dr. C, took time to explain the procedure and break down the intricacies to a simple enough form for us to comprehend.

If cardiac surgery is bold and daring, neurosurgery is delicate and intricate - that is what we have to say of the first neurosurgery we watched with Dr. K as the main operating surgeon in the same overseas clinical attachment that we were involved in. The neurosurgery involved a removal of a glioma (a type of brain tumour) from an elderly man. Our previous encounters with living brains were purely through the eyes of Derek Shepherd (a renowned fictional neurosurgeon in Grey's Anatomy) and through the eyes of Cheung Yat Kin (a Hong Kong neurosurgeon in the Hong Kong television drama series - On Call 36 Hours). However, nothing could beat personally witnessing a live neurosurgery. Seeing the neurosurgeons expose the brain, the cerebral vessels, the meninges - the dura mater, arachnoid mater and pia mater - was truly awe-inspiring. The screwing back of the pieces of the skull created a beautiful anatomical jigsaw puzzle, which was then overlapped by the patient's scalp.

A gentle yet firm mentor and a man of few words, who goes his way out in small and big ways to make us feel comfortable with him and his colleagues - that's Dr. K. The neurosurgery team consisted of very approachable doctors who did not mind going back to the basics of neurosurgery to make us understand better and see how these fundamental building blocks of neurology and anatomy of the brain build a castle of applied neurosurgery.

Passionate about neurosurgery research, Dr. K's eyes gleamed with excitement as he was sharing about new frontiers in research that he was engaging in, involving the use of advanced brain mapping to provide sensory input to arm prostheses to mimic a real-life arm. His passion rubbed off on us, allowing us to explore and read up on similar upcoming frontiers in Neurosurgery.

On a parallel note, the ward experience was equally enriching and heart-warming. While the both of us could not speak Hindi or the local language, we could tell from the patients' facial expressions and gestures that the patients were very grateful towards the doctors and there was a genuine bond and relationship between the doctors and the patients. On a clinical front, there were plenty of opportunities for us to hone our clinical skills and it was indeed enjoyable interacting with all the patients.

Back at home, a study conducted in Singapore (Ibrahim et al., 2008) aimed at reviewing the local general surgical training programme in terms of patient safety and the performance of their trainee surgeon during the training and beyond found that there was no significant difference between consultant surgeons, trainee surgeons and newly trained surgeons in terms of operative complications, and length of hospital stay. This is largely, in part, due to the supervision of trainee surgeons and newly trained surgeons by consultant surgeons. During our surgical posting, we witnessed several such instances of apprenticeship by different surgeons across all sub-specialties. One such instance would be the unwavering guidance given by a senior consultant, Dr. T to his first-year surgical resident intra-operatively for creating flaps to gain access to the thyroid gland in a total thyroidectomy. There was a mixed thrill of excitement and trepidation as the first-year surgical resident dissected across the subplatysmal plane. Next to the first-year surgical resident, Dr. T's eyes were fixated on the operating table, intently observing the surgical resident's each and every surgical move, and stating clear instructions for his mentee to follow. Many such instances reassure us, young medical students, that in one or two years' time, when we ourselves are in the same shoes as those of that of the first-year surgical resident, we would be able to also tap upon this apprenticeship, and learn our art and skills of surgery as well.

Whilst coming to the end of medical school, we are actually at the start of our journey to become a good clinician and a good teacher. All these experiences have not only piqued our interest in exploring Surgery as a residency option, but also to remember and keep close to our hearts, the value of being a lifelong teacher.

Notes on Contributors

Both authors are final year medical students from Yong Loo Lin School of Medicine, National University of Singapore.

Declaration of Interest

All the authors declared no competing interests.

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