

In 1889, Sir William Osler regularly led medical students in large groups along the winding spiral staircase of Johns Hopkins, known as the rotunda, "rounding" on patients at each floor.1,2 The students would watch carefully as Osler examined each patient, listening to his every word and watching his every action. This is what many believe was the birth of what we know today as "grand rounds" - where teaching through clinical experience became a cornerstone of medical education.

Grand rounds today, while often include bedside teaching, also include lectures and/or round-table forums with or without real life clinical case discussions where visiting professors present cutting-edge research and brief case histories over PowerPoint.2 In the coming years, it is not unlikely that virtual reality headsets will be given to medical students and trainees to simulate the "real deal". Reading this, did you notice that the physicallypresent patient is disappearing in many of the present and future scenarios? It is as if Osler had a premonition. In his own words: "He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all." Let me pose another question to you. How many times did you look up from your computer screen, tablet or mobile device to speak to any of your patients during your consultations today? Just some food for thought: research has found that point-of-care systems increase documentation time by 17.5% and reduce face time with patients.3

At the same time, however, implementation of technology into daily medical practice has tremendous potential to improve workflow across multiple care settings, increase efficiency and productivity, and reduce costs. Technological innovations can help ease the pressure on health systems that stem from the ever-increasing disease burden and rising cost of healthcare. The burden of maintaining what I call the 3As (affordable, accessible and A+ quality care) is indeed a substantial one, with technological solutions being very appealing. And why not? Technology often allows care provision to be cheaper, easier, more convenient, and yet still ensures quality. However, we clinicians must become increasingly aware of how it can also be a doubleedged sword. While we focus on using technology to facilitate education, training and delivery of care, we risk alienating doctors from patients. The patient has always been and must always remain at the heart of compassionate and empathic care in the traditional practice of medicine. Socratic dialogue encouraged thinking and learning beyond a "binge and purge" approach.4 In the present endeavours for highvalue, low-cost care, current approaches to technology are threatening to replace good medical practice. This has caused wariness among more senior clinicians when technology-driven solutions are being implemented in practice. For example, many healthcare professionals have been voicing their concerns over documentation time, and resisting the adoption of Electronic Health Record

(EHR) or Electronic Medical Record (EMR) systems. Only 4% of ambulatory physicians in the US are reported to have a full-service EMR in place, while only 13% have a basic EMR.5 This is in stark contrast to our local healthcare system, where almost all hospitals in Singapore are at around level 6, with Ng Teng Fong General Hospital recently becoming the first in Singapore and ASEAN to achieve level 7, of the Healthcare Information and Management Systems Society Analytics' **Electronic Medical Record Adoption** Model.6

Prof Abraham Varghese, physicianauthor at Stanford University School of Medicine, coined the term "iPatient" to describe how the influx of technology in medical practice today is increasingly distancing and isolating the patient from the medical doctor. It epitomises my concern as well as that shared by many other clinicians today: a concern that healthcare professionals are becoming increasingly remote and distant from their patients, whom they view as the product of countless investigations as opposed to fellow human beings. Is the digital era heralding the demise of the art of medicine? How do we stop our young colleagues today from allowing their patients to become "iPatients"?

## The way forward

We should be proponents of ensuring that technology complements, instead

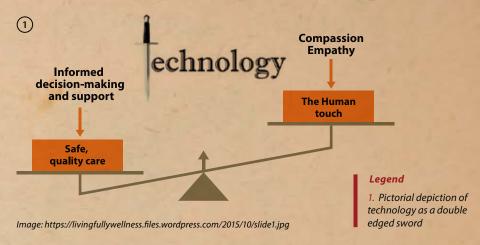
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of replaces, medical practice. Allowing technology to integrate into our clinical practice culminates in a holistic systems approach to care – so that we can achieve the 3As. While technology is evolving at an exponential rate, we need not scale back or shun its adoption. Instead, we must embrace it by applying it appropriately to our patients' needs with the aim of treating the patient and not just the disease. In an excellent example of appropriate integration, artificial intelligence and automation in radiology and pathology have begun to be regarded as complements rather than replacements.7 While implementation will automate several processes and improve detection capabilities, the medical professional will have more time to communicate the result to the patient and ensure that the doctor-patient relationship remains intact.7 As far as technology goes, the human-only traits of compassion and empathy, which are crucial to "healing" our patients, can and must only come from us.

## From a clinical perspective

Medical education will play a crucial role in preparing our medical students of today (our doctors of tomorrow) cope in this fast-evolving environment and effectively integrate technology into their practice. There is a growing concern over medical students spending more time in front of monitors, diving into EMRs which are their gateway to consultative teams, the laboratory, radiology and pharmacy. While it allows them to quickly understand their patients' cases, it is only supposed to serve them and support their decisionmaking process. Unfortunately, they



are found spending most of their time analysing the data in the EMR, treating these records and "iPatients" as their real patients. If these "iPatient" interactions dominate, will medical simulations, virtual reality and data analytics aimed at better preparing future doctors to practise safe, quality and timely care delivery, ensure the same in reality?

In an attempt to combat this trend, new pillars of medical education have arisen in many medical school curriculums worldwide,8,9 particularly in the development of communication and soft skills to strengthen the doctorpatient relationship. Holistically treating patients often goes beyond just the clinical aspect. The elderly, for example, often come not only to seek treatment for their ailments, but also to feel included, cared for and be consoled. I will never forget the gleam in the eyes of my elderly patients in Ireland, whom I used to follow up with after a hip fracture, at the end of the consultation. Men and women alike would be dressed in their best. The women are often made-up, accompanying or being accompanied

by their loving husbands. There was a gleam evident on them when I gave them a warm goodbye handshake and told them I would see them in a year's time. To which they would either reply, "Yes, dear" or "Yes, young man. See you then. Thank you, doctor." If nothing else, these interactions gave hope. In our fast-paced clinics today with pressure on high throughputs and ensuring all follow ups are "necessary" follow-ups, we must remember this hope and the holistic role we should play for our patients.

More recently, I am happy to say that emphasis is being placed on helping our future doctors empathise with their patients.9 As my late father and orthopaedic surgeon, Prof Jimmy S Daruwalla, once remarked: "In my humble opinion, the aim of education should be to teach us how to think rather than what to think." Compassion and empathy make for better doctors - they heal, not just cure. As doctors, we must uphold this humanistic tradition, even in the midst of the forces evolving the healthcare environment today. In the words of Hippocrates, "First, do no harm." ◆

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