GROWTH AS A PHYSICIAN

Text by Dr Nigel Fong

A junior doctor's reflections on what he has learnt so far, and how much more he has to go.

I'm rarely sentimental, but recent conversations with starry-eyed 19-year-olds considering a career in medicine (or otherwise) has made me ruminate about "old times" as a pre-clinical student.

As a student, it often seemed that the journey as a physician was all about clearing the next hurdle – passing MBBS, entering a residency of choice, passing more exams, becoming a registrar, passing even more exams, before finally exiting.

As a house officer (HO), priorities changed. Most of us wanted to grow an extra pair of hands to cope with the never-ending admissions and incessant phone calls. We learnt how to keep sick patients alive till dawn and not get scolded the next morning.

But what truly is growth as a physician? I've come to realise that it is so much more than jumping through hoops or becoming battle-hardened.

Dr Fong is a SingHealth Internal Medicine resident. He enjoys teaching juniors and medical students, and hopes that his recent book *Algorithms in Differential Diagnosis* is helpful for future generations of medical students and house officers.

A physician grows by…

Developing clinical reasoning

Clinical reasoning – not knowledge – makes the difference between a student and a seasoned medical officer. When I teach students, I find that many can quote evidence-based treatment of heart failure, yet are stumped when given a breathless patient and told to "figure out what is wrong". Many can list differentials for a symptom, but struggle to interpret what the patient in front of them says.

One critical aspect of clinical reasoning is the ability to diagnose – if one can't diagnose, one can't treat. Suppose a 40-year-old lady presents with a three-month history of progressive quadriparesis. Examination finds symmetrical weakness with wasting, fasciculations, brisk reflexes and normal sensation. A student might connect wasting to nerve or muscle disease, or equate brisk reflexes to stroke. A resident might use an algorithm and localise the lesion to bilateral brain or motor neuron pathology. A registrar might immediately and intuitively recognise motor neuron disease. Finally, a consultant might think hard for treatable differentials, trying not to diagnose motor neuron disease, because it is such a terrible disease. So the process of diagnostic reasoning matures from guessing, hypothesis testing, to a combination of structured algorithms and unstructured intuition.

Algorithms can be learnt and I have put together some of these with the caveat that they are not a substitute for seeing real patients. That would be a tragedy, for an algorithmic framework without illness scripts is akin to a well-organised library with no books. Indeed, patients have proven to be my best teachers time and time again.

Another critical aspect of clinical reasoning is the ability to ask the right questions – going beyond "this patient has asthma" to "why is she having such frequent flares?" or "is this simply asthma, or something more?" This requires intellectual curiosity, plus the discipline of deliberate reflection to extract key lessons from patients seen, integrate new insights with existing knowledge and apply these takeaways to new patients.

Learning to manage uncertainty

Clinical reasoning is important, but sometimes not enough. Patient cases are increasingly complex and one often faces acutely unwell patients with no clear diagnosis. This makes many of us uncomfortable. But a physician grows by learning to manage uncertainty.

First is to have situational awareness. In a sick patient, stabilising physiology (airway, breathing and circulation) often requires little knowledge of the exact diagnosis. When there is little to lose, multiple possibilities must be pursued and even empirically treated in parallel. Conversely, in an elective setting, there ought to be some diagnostic certainty before starting higher-risk treatment.

Secondly, I have learnt to think ahead and strategise how to go forward. For example, in a patient with recent cerebral haemorrhage, a CT pulmonary angiogram is of little value, for even if a pulmonary embolism is diagnosed, treatment (ie, anticoagulation) would be contraindicated.

Thirdly, I have also learnt to engage the patient (and family) to have an honest conversation about treatment options and their risks and benefits, and also to make a shared decision.

Discerning when to pull back and when to push hard

My instinct is often to treat. Knowing when to pull back takes wisdom and courage. I remember a patient with end-stage motor neuron disease who presented with respiratory failure from pneumonia. Although she was bedbound with a power of 1 in all limbs, we intubated her because pneumonia was "reversible". She recovered from this pneumonia, but persistently failed extubation because of profound respiratory muscle weakness. She eventually communicated – by blinking eyes – that she had enough, and asked to be terminally extubated. I think I did her more harm than good.

Conversely, I've also learnt that I sometimes need to push hard. Another patient I vividly remember is a young gentleman who became dialysis dependent after sepsis-induced acute-on-chronic kidney injury. He had ischemic cardiomyopathy with an ejection fraction of only 17% and regularly complained of intra-dialytic chest pain with ECG changes. He required "gentle dialysis" – sustained low-efficiency dialysis (SLED), which meant that he could never go home, for he would not tolerate regular dialysis in the community. We pushed hard for him to have peritoneal dialysis – although tenckoff catheter insertion was high-risk, it was his best chance; indefinite inpatient SLED is not a viable plan. The operation went smoothly; he completed peritoneal dialysis training, and was due for discharge.

But that very last night before discharge, he suffered a massive myocardial infarction. As fate would have it, I signed his death certificate on call. As I did so, I was filled with doubt – why did it end this way? Did I cause more suffering by pushing hard? But I could not have known. It was his only way out then, and I could not have written him off. It was sobering indeed.

Remaining keenly aware of human fragility, despite seeing the wonder of modern medicine

Through many patients like him, I have often been put face- to-face with the brokenness of the human condition, the fragility of the human body and the transience of human life. It often makes me open my Bible and ask God, "why?" I don't have easy answers. Regardless of one's religious inclination, I'd dare say that a keen awareness of human fragility helps us better empathise with patients, better cherish life and become wiser, more compassionate physicians.

Conversely, I've also seen my share of miracles. Perhaps the most amazing experience was to administer thrombolysis to a comatose patient with total basilar artery occlusion, only to see him wake up before my eyes and eventually walk out of hospital. But not every patient does well.

Journeying with our patients, not simply treating the disease

As a student, my patients were "the hepatomegaly in Bed 5", and as a HO, it quickly became "the sickie in Bed 20 who is bleeding AGAIN". But I've learnt that my patient with a lipoma is seeing me not because he wants the lump removed, but because he wants to hear that it is not cancer. I've realised that in the same breath that I diagnose epilepsy, I destroy the livelihood of my patient who is a bus driver, and I shatter the hopes of a young female newlywed who wants to start a family – how is she going to do so now that I have told her of all the teratogenic effects of anti-epileptic drugs? I realise that communication is more than simply a set of core skills or templates (think S-P-I-K-E-S for breaking bad news), where one is marked based on saying the correct things. In all this, I cannot simply treat the disease and neglect the patient.

And I realise that I often get it wrong, and am still learning – learning to meet my patients in their need, learning to truly take an interest in their lives, and learning to journey with them through their hopes and fears.

Looking beyond immediate clinical management

Medicine is so much more than the immediate treatment of the patient in front of me. Suppose my patients with chronic obstructive pulmonary disease show zero desire to quit smoking, despite my painstaking counselling. I could become jaded and nag less – why waste my breath?

Or I could be inspired to study the barriers to smoking cessation so that they can be addressed. I could create a clinic ecosystem to promote smoking cessation – for instance, with smoking cessation counsellors and product demos of nicotine patches. At a public policy level, I could even work with behavioural scientists to craft nudges that persuade smokers to quit, or design regulatory responses to emerging trends like vaping. Whichever way I am inclined, there is a huge potential to benefit more than just one patient at a time.

Growing as a person

Personally, medicine has been a springboard for incredible personal growth. It is a privilege, for few other professions grant us this opportunity to meet people at their most vulnerable, to hear their stories and to journey with them. Few other professions put us face-to-face with hope and despair, joy and suffering, and the beginnings and ends of lives. Few other professions grant such opportunities to do so much good – or so much harm.

At the same time, this journey is one with many frustrations and temptations. While one can grow and blossom, it is also easy to become disillusioned or self-interested. In this, I've learnt that I can become a better physician only when I first grow as a person, and this takes disciplined reflection. I've learnt to know the principles by which I stand, and be careful of my wants and desires, for they can lead me astray. I've learnt to *learn* – and in this, I am immensely grateful to the many tutors and mentors who have trodden this path before me.

My journey has only just begun. In many ways, my reflections here are statements of aspiration, rather than declarations of achievement – things I am working on, rather than things that I have gotten right. But it has been a fulfilling journey thus far, and I have every faith that the road ahead will be equally meaningful. ◆