

# TEACHING & MENTORSHIP: LIFE IS SHORT, THE ART IS LONG

***"Life is short, and the Art is long; the occasion fleeting; experience fallacious; and judgement difficult."***  
– attributed to Hippocrates, c. 400BC

Few would disagree that the field of medicine is becoming increasingly technological, with the latest advances pushing the boundaries of scientific discovery, utilising precision instruments for diagnosis, and state-of-the-art machines and robotics for treatment and rehabilitation.

Is medicine becoming more of a science and less of an art? Will we still need master teachers and dedicated mentors in medicine, or would they eventually be replaced by electronic textbooks, team-based learning and computer-aided instruction? What is the role of the teacher and mentor in today's society, where learning is compressed, information is online and advice only a swipe away on one's mobile phone?

The aphorism or expression of truth at the beginning of this article is perhaps one of the most well-known by the ancient Greek physician, Hippocrates, and makes up the opening lines of his medical text. In those days, medicine was truly an art form and that "art is long" because the learning and perfection of it requires many long years, yet it has to be achieved during one's short lifespan. Indeed the term "Life is Short" holds true when it involves acquiring the skills of a physician and mastering the art of medicine. You can argue that the life expectancy at birth in Singapore – of approximately 82 years – is probably double or triple that of the ancient Greeks, but certainly the accumulation of knowledge has followed such an

exponential trajectory that it is now impossible for any single human to grasp the full knowledge of medicine.

In human history, the practice of medicine was inexact and doctors had to operate in an environment defined more by the unknowns than by the certainties. It was not until the inexorable march of science in the past century that the lives of ordinary people turned for the better. The scientific method whereby knowledge is systematically gained through hypothesis, observation, measurement and experimentation made it possible to diagnose and predict the course of a disease based on probability. Science is therefore able to minimise uncertainty, but unfortunately it is



Passing on the Kung-Fu

Illustration: Dr Kevin Loy

## PROFILE



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not the panacea in our search for a promise of cure, because it cannot eliminate uncertainty entirely.

## THE UNCERTAIN ART

Sherwin B Nuland, a clinical professor of surgery at Yale University compiled the essays that he wrote for *The American Scholar* into a book entitled *The Uncertain Art: Thoughts on a Life in Medicine* (2008). He wrote, "To become comfortable in uncertainty is one of the primary goals in the training of a physician."

Nuland argued in his essay that uncertainty in medicine will always exist and therefore, medicine cannot be a completely scientific endeavour. Individuals will vary in their biological makeup, their susceptibility to disease, and their perception and response to illness. Many external factors are also at play, such as the social setting, occupational exposure and cultural expectations, which will alter the context of each individual patient presenting to the doctor.

## INEVITABLE CHALLENGES

The second part of the aphorism highlights some of the challenges in learning this "art"; the initial declaration "*Life is short, and the Art is long*" is followed by the phrase "*the occasion fleeting; experience fallacious; and judgement difficult*".

A *fleeting occasion* refers to brief windows of opportunity that typically presents early in the stage of a disease, which lends the patient a chance at early diagnosis and effective intervention. This could be the initial symptoms of respiratory infection before the onset of pneumonia or a chest discomfort exacerbated by effort heralding a heart attack. Such symptoms are subtle but may be easily picked up by an astute and experienced clinician. Timing and circumstance are critical factors that can drastically alter the course of disease between one individual and another presenting with similar symptoms.

The effectiveness of a doctor is directly related to his clinical experience. However, to rely on

it entirely can be misleading. An *experience fallacy* occurs when the premise of one's decision is based on one's past experience, which may not be comprehensive enough to account for variations in individuals. In this case, having someone with a wider breadth of experience based on many more years in practice helps to reduce error, by considering each case in the proper context.

Hippocrates was right to remark that *judgement is difficult*. The doctor has to gather all the data available, to take into consideration the circumstances of the patient's visit and, in some cases, be aware of his own personal biases. He is then called upon to make a *clinical decision*, sometimes in the face of incomplete data and unfavourable circumstances, and may even have to act against personal beliefs. Many decisions cannot be reversed once they are made and the patient lives with it for better or for worse. Doctors at the beginning of their career will face the stress and pressure of clinical decision-making and usually learn from experienced colleagues who are more adept at pattern recognition for making fast decisions and analytical thinking for making complex decisions.

Given all these challenges and complexities in the practice of medicine, we begin to see the importance of having good mentors in professional development.

## ROLE OF MENTORS

Mentoring is widely practised in medicine and is perhaps a descendant of the apprenticeship system of training medical practitioners in earlier days. Apprentices learn through direct observation, guided practice and by living together with their teachers. However, in the present world, knowledge and concepts can be taught through formal coursework without going through apprenticeship. It can therefore be argued that the role of mentors is not primarily to transfer knowledge; otherwise they would have long been relegated to obscurity by technological advances in teaching and instruction.

The role of mentors is to facilitate learning and it includes (this list is non-exhaustive):

- Experience sharing – maximise learning by applying knowledge gained through experience in clinical medicine.
- Guidance – help students to find their way in the healthcare landscape and encourage critical thinking necessary for clinical decisions.
- Counsellor – provide support on personal problems, give feedback on performance and encourage self-reflection.
- Role model – provide students with an observable embodiment of professional behaviour that they can eventually emulate.

In the context of the "uncertain art", I think the role of mentors is to help students navigate the wide ocean of uncertainties in medicine. Book knowledge can bring junior doctors up to a certain level of expertise, but they still need the benefit of experience in the real world in dealing with unique individuals. Mentors are there to help junior doctors close that gap, to enable them to find the confidence to press ahead and to guide them in making the right clinical decisions.

Great mentors can inspire a whole generation of doctors through their dedication to teaching, the mastery of their discipline and their practice of the highest level of professionalism. You can have a sense of how much some of our mentors are deeply appreciated, in this issue of *SMA News*.

On the topic of uncertainty in medicine, I will explore the role of intuition in clinical decision-making in another article. Watch this space. ♦