Teaching how to think

Somewhere between entering medical school and leaving specialty training, a young doctor makes a transition from being a complete novice to a physician capable of making diagnostic and treatment decisions more or less independently. How exactly does that happen?

Two articles in this month’s issue, along with a commentary by Damien Roland, attempt to shed some light on this murky metamorphosis. The study by Bowen et al examines a cross-section of clinicians at different phases in their careers, looking at how decisions are made. In this study, 15 Paediatric Emergency clinicians (consultants, trainees and nurse practitioners) were interviewed about their decision making when treating patients under 5 with respiratory illness. Junior clinicians were more risk averse, and relied heavily on guidelines and second opinions; experienced physicians appeared to use more tacit knowledge and take more risks.

In this month’s Editor’s Choice selection, Adams et al, studied 37 junior EM doctors who were asked to recall two recent cases and discuss how they approached their clinical decision making. In the language of dual-cognition theory, the authors found that the trainees essentially described that throughout the diagnostic and disposition process, they used so-called Type 1 thinking (intuitive), countered by Type 2 (analytical) thinking to keep themselves and their patients safe. A high level of diagnostic anxiety was seen in this group of doctors. The authors suggest that teachers could do more to prevent premature closure, speed up learning of pattern recognition to decrease cognitive loads, and routinely employ methods of reflection after a case to improve awareness of the reasoning process. They provide a helpful set of questions for the teacher of emergency physician to walk the learner through this process. To bring this all together, Dr Roland’s commentary ‘Have we forgotten to teach how to think?’ challenges us all to consider if we are paying enough attention to this aspect of the transition from novice to expert.

Smile, though your heart is breaking

Arguably, the antithesis of thinking is acting on instinct, or gestalt. Much has recently been made of physician gestalt, with several studies suggesting that physician gestalt is about as good as many tests or decision rules. Jeffrey Kline, who most of us know for his work in pulmonary embolism (PE), and specifically the PERC rule, has an avocation in physician gestalt, questioning what it is about our patients that gives us this ‘sixth sense’ about whether they are sick or not. Some will remember Dr Kline’s EMJ publication in which he demonstrated that patients who are sick (in that case, have a PE or a serious cause of chest pain) have less facial reaction to stimuli than those who are well. Based on this finding, he hypothesized that patients who do more smiling – and physicians perceive as smiling – are less likely to have a serious diagnosis. In this month’s issue, we reveal the results of a study by Kline and colleagues of 208 patients about to undergo a CT scan for pulmonary embolism. The pretest probability of a PE was estimated using the gestalt method (visual analogue scale, 0%–100%), the Wells score (0–12) and physicians’ impression of whether the patient smiled during the initial examination (smile+). Patients’ faces were also analysed with an automated neural network-based algorithm for happy affect. Without being too much of a spoiler, let’s just say ‘don’t let that smile fool you’. The results may have you rethink your initial impression of that chipper patient in room 3.

Is it time to embrace the Shock Index?

The Shock Index was introduced in 1967 as a prognostic marker for hemorrhagic and infectious shock. It has shown promise as a marker of high risk patients in several ED studies since then, having an association with increased lactate, and, in another study, increased incidence of post-intubation hypotension. But the Shock Index has not generally been adopted into routine EM practice. Balhara and colleagues from The Johns Hopkins University School of Medicine studied over 50 000 patients seen in their ED over 12 months, and demonstrated that increasing values of the Shock Index were associated with an increasing likelihood of admission and mortality. An SI of >1.2 was a strong predictor of both inpatient admission and mortality. The Shock Index is remarkably simple to calculate: heart rate/systolic BP. If you can calculate a MAP, you can certainly calculate a shock index!

Candy is dandy, but glucose is quicker

This systematic review by Carlson and colleagues answers the question of whether dietary sugars are as good as oral glucose for patients with hypoglycaemia (and no IV). The simple answer is no, they are not. However, knowing the ‘bottom line’ should not dissuade you from reading this interesting paper, which looks at the effects of some of your favourite confections.