

Is Dr House is a good diagnostics teacher for medical students?

Sir,

One of the most difficult courses for medical students is teaching of diagnostic strategy. The Bayesian approach to pre- and post-test probabilities, likelihood ratios and the other diagnostic test validity parameters are difficult for young students with limited clinical experience to understand. However, these concepts are essential for a rational approach to clinical examination and complementary investigations. The teaching approach based on clinical cases and examples helps to facilitate understanding of these concepts, but we have also tested another method.

In each episode of the Fox television series, Gregory House, the so-called Sherlock Holmes of physicians, repeats his catch phrase 'everybody lies'. Without actually seeing his patients, and basing his approach exclusively on the patient's symptoms and the results of new and aggressive complementary investigations, Dr House and his team consider exceptional diagnoses and then try various treatments which generally lead to deterioration of the patient's condition. At the end of the episode, Dr House finally

proposes the right diagnosis (the least probable) and treats the patient. It is obviously only a television show, but its worldwide distribution means that most students are familiar with and play at being Dr House. We have developed a diagnostic strategy course based on an episode of *House* by analysing the hero's diagnostic strategy.

After a brief introduction to the scientific basis of the diagnostic strategy, part of an episode can be presented to the students and discussed. Guided by the teacher, students then analyse the strategy and correct it as a function of the test validity parameters and according to the most likely order of possible diagnoses (probability, 'severability', 'diagnosability' and 'treatability'). Another example based on real data is then presented to check whether the students have clearly understood these concepts.

It is interesting to think about how our students' leisure activities can be used as teaching tools, even in the medical sciences.

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The last of the general surgeons?

Sir,

There was a time, not so long ago, that general surgeons did exactly what their name suggested. They were generalists – they could and literally would do most operations. Their training was so extensive that it was unsurprising to find them undertaking different and unrelated operative procedures on their theatre lists. For example, a typical list may have encompassed a colectomy followed by a thyroidectomy and then perhaps an inguinal hernia repair. Another day may have featured a mastectomy instead.

Over the last 30 years, surgery, like most areas of medicine, has become increasingly specialized owing to a number of factors such as various health-care reforms and

rationalization of services. Surgical training has also significantly changed mainly as a result of a reduction in working hours that has understandably impacted on the level of surgical exposure.

This has created a system where it is simply not feasible to gain the same level of experience as before with the result that surgeons are required to sub-specialize and devote their time and expertise to one area. Participation on the on-call surgical rota permits the preservation of small ties with certain aspects of general surgery, but the general surgeon who could dabble in any operation regardless of specialty has become a dying breed.

This would appear to be a universal picture across the country, but there is a little known group of surgeons who represent the nearest thing to the 'old school' general surgeon of the past. They operate on most areas of the body and so require

an encyclopaedic knowledge of anatomy and different surgical approaches. These are the sarcoma surgeons who specialize in resecting and excising soft tissue malignancies almost anywhere in the body. Sarcomas are rare tumours accounting for 1% of all cancer diagnoses. They can present in locations such as the limbs, back, head and neck area, as well as in the abdomen and pelvis. Given the rarity of these tumours, most patients are seen in regional centres; one example is the Royal Marsden Hospital in London which sees approximately 500 referrals a year from all parts of the UK.

The variable location, nature and size of these tumours poses a variety of operative challenges and the sarcoma surgeon is therefore required to be both familiar with and competent in different surgical techniques. For example, a patient may present with a retroperitoneal sarcoma while another may have a soft tissue mass on the neck or thigh area. Alternatively an extensive dissection of the palm of a hand is required to remove a large lump that has been interfering with short muscle function.

No two soft tissue malignancies are the same and despite the most thorough of preoperative planning, the unpredictable nature of these malignancies can often mean that the sarcoma surgeon has to improvise and change plans accordingly, which may have profound implications on the functional ability of the patient. A thorough knowledge of all aspects of anatomy is essential rather than of a confined area as is the case for most of today's specialties. As sarcoma surgeons frequently find themselves crossing the territory of different specialties in their role, this gives them a label that is more akin to the generalist nature of the surgeons of the past.

So, if you fancy taking a glimpse into the way surgeons used to operate, track down your nearest sarcoma unit where not only will you see some interesting and rare pathology, but you can also witness this unusual breed of surgeon dabbling in different types of surgery and quite frequently improvising along the way.

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