Standing in a canoe

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A patient presented with extensive subcutaneous emphysema 12 hours after falling onto his lower ribs. Making a clinical diagnosis of pneumothorax, I ordered a chest x-ray and mentioned to a senior resident that there was a patient waiting for an x-ray who would probably need a chest tube.

Later, as the resident was preparing to place a chest tube, I looked at the x-ray, which showed considerable subcutaneous emphysema, a fractured rib, and a small pneumothorax. After some consideration, I suggested that we should treat the patient conservatively. The resident pointed out that in traumatic pneumothoraces, the "standard of care" is to put in an intercostal drain. Later, after ascertaining the social situation and confirming that his pain was being adequately managed by oral narcotics, I suggested that we should manage him as an outpatient. The resident became alarmed at the suggestion of such a departure from principles that she had read and been taught; indeed, she would fail her examinations if she forgot them. Further discussion included her supposition that my level of risk acceptance was higher because of greater experience.

The patient was happy to avoid the procedure and hospital admission, and after discussion with a thoracic surgeon to organize follow-up and careful instructions on when to return, he was discharged. Afterward, I wondered about what the resident had said. Was I accepting more risk on behalf of the patient than was appropriate? Were the risks of hospitalization less than those of outpatient management? I could not use 20 years of experience to explain my conviction that outpatient treatment was in the patient's best interests; I have seen and managed many traumatic pneumothoraces yet have only managed a handful conservatively, and none with such dramatic clinical findings.

My eventual (sanctimonious) conclusion was found in the metaphor of the rule taught to many of us by our parents that we should never stand up in a canoe. Standing in a canoe is a bad idea. To raise the centre of gravity of the contents of a flat-bottomed vessel considerably increases the likelihood of an unscheduled swim. Our parents knew that and taught us the simplest way to avoid the danger—by keeping our centre of gravity low. As we grow and canoe more (and fall in occasionally), we discover many instances where standing in a canoe provides advantages that make the extra risk worthwhile (e.g., to look for oncoming rapids or cast an extra distance). So we take the risk. The law is not forgotten, however, and as we break it, we are conscious of the fact that we are assuming a risk and take extra care accordingly. We still believe that the law is appropriate, yet our understanding of the situation allows us to disobey it in certain circumstances.

Solaas said that "the value creation of any worker is the result of the use of his discretion, not of abiding by the rules."[1] This does not mean that anyone should feel free to ignore rules. It does suggest, however, that someone who is competent to carefully break rules on occasion brings more value than a person who will always apply rules in places where they are prescribed.

Clinical medicine has many "canoe" laws. Advanced life support courses (e.g., Advanced Trauma Life Support, Advanced Cardiac Life Support) are ideal for practitioners who will use the skills occasionally. The protocols and procedures are appropriate the majority of the time, and the times when they are not are "sacrificed" because the complexity required to

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identify exceptions would negate the ability to teach the basic laws to people who will only rarely need them. Practitioners who see many patients requiring advanced life support are so much more likely to see these "outliers" that it is incumbent on them to know and recognize situations in which the laws should be broken. Those who will see few patients in extremis (and even fewer outliers) should concentrate only on essential knowledge (to do the most with the least). This does not mean that they are lesser physicians, only that they represent a different audience with different objectives.

So who should be "allowed" to disregard clinical rules? We will, in the case of litigation, be judged by our peers—how will they know if a departure from accepted practice was reasonable?

Experience? Perhaps, although we have all witnessed physicians stepping out of residency with extraordinary clinical judgment, whereas others with years of experience continue to wallow in indecision, conducting myriad tests of dubious benefit.

Can discretion (and the requisite wisdom to apply it) develop, or is it a result of genetics and early environment? Perhaps both—having managed many patients with similar conditions does give us a more accurate idea of what to expect from different interventions. Many of us, however, allow the scars of our earlier diagnostic failures push us to overinvestigate cases that might only vaguely be related to the condition we once missed.

What about education? The espousal of evidence-based medicine has given us more confidence in the belief that a best practice has often been established, whereas an understanding of bayesian principles, clinical uncertainty, and variable patient responses to interventions reassures us that we are still practicing an art that requires a level of discretion.

This field clearly requires more work. In the meantime, we should remember that clinical decision making involves far more than a fund of knowledge. Every decision needs to be made in light of the physiologic, psychosocial, and disease states of the particular patient. The extent to which clinical laws should be blindly followed will continue to depend on the physician's depth of knowledge of, understanding of, and experience in the situation in question. The way in which these attributes can be used to steer clinical decision making should be taught to trainees so that they can actively seek and develop these skills rather than come upon them unexpectedly at a later age.

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