

## Managing risks: a surgeon's perspective

Michael Gross, MD

Risk assessment takes place daily in orthopedic practice; part of the consultation with a patient is the gathering of data that will allow the surgeon to give a frank opinion as to the risks of any proposed orthopedic procedure. The way the risks are perceived and the way the surgeon is trained to analyze those risks are of greater concern to those who deal with the aftermath of procedures that go wrong as a result of mistakes, errors or omissions in dealing with risks. It should be a concern for us all, trainers and trainees.

The paper by Mark Bernstein in this issue (see pages 144–146) deserves careful reading and analysis by all surgeons and educators. The debate needs to be wider and some basic principles need to be revisited.

In dealing with risk, one person has to be responsible for the risk assessment and the risk reduction. This is problematic in teaching institutions where there is a chain of command such that the person ultimately responsible may not be involved in risk assessment but is ultimately responsible for what happens to the patient managed by his or her team. This was the case for the patient whose history is so clearly described by Dr. Bernstein.

The question that educators need to ponder is why did the team fail? Were they so fatigued that the mistake was a momentary error? If so, are we as a profession and the hospi-

tal as an institution culpable in that we know the risks of fatigue and the increasingly well-documented mistakes that occur as a result?

At the same time, the denial by junior staff of wrongdoing may be excusable early in their career, but for a senior resident to engage in similar action indicates that there may be a culture of denial that compounds the issue of dealing clearly with medical or surgical mistakes. The fact that the charge nurse informed the staff person concerned suggests that a parallel system of checks and balances, information-sharing and actions directed solely to the benefit of patients is essential when responsibility for care is shared. The saving grace in this particular incident was that a policy of complete honesty with the patient's family probably did most to redeem the trust that was undoubtedly lost as a result of the mistake.

Marking the limb to be operated on has improved the statistics on wrong-sided surgery. The question is why does it still occur. System breakdowns are common when responsibilities are not clearly defined; yet overly complex systems also present a problem because there is a natural tendency to skip steps that do not seem relevant to the case in hand. Marking a limb is simple and not administratively complex, and that is one reason why it has become popular. Being dependent on radiographs,

which can be mislabelled, is also problematic. What we need is not just access to current real-time imaging but a universal marker applied by a person with responsibility for the patient. How often at night do we find technicians and junior staff caring for patients with no staff person in sight? Either we take note of the trend in major European trauma centres to have staff people paid to be in the hospital and directing care or we must more clearly empower junior staff by defining their responsibilities, limiting their work hours, and assessing their ability to do the job and report the results of their work better. Denial has no part in patient care.

A second paper in this issue (see pages 129–135), concerning risk of a different kind, is from a centre of excellence in treating thromboembolism. This presents a challenge for surgeons, who must deal with the added complications induced by the medications that we give patients to prevent a silent and potentially deadly complication. The main difficulty is that the presence or absence of a deep venous thrombosis (DVT) in the calf is taken as a surrogate marker for the potential incidence of pulmonary embolism. There are potentially serious drawbacks to this approach. Isolated calf DVT rarely causes clinically important pulmonary embolism.<sup>1</sup> Patients who have symptomatic proximal DVT

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*Professor of Surgery, Dalhousie University; Division of Orthopedics, Queen Elizabeth II Health Sciences Centre, Halifax, NS*

**Correspondence to:** Dr. Michael Gross, Rm. 4879, Queen Elizabeth II Health Sciences Centre, 1796 Summer St., Halifax NS B3H 3A7; fax 902 473-2042; grossm@dal.ca

have a 40% incidence of pulmonary embolism on "high probability" lung scans.<sup>1</sup> Only 75% of patients with pulmonary embolism will have DVT, and two-thirds of those cases will involve the proximal veins.<sup>1</sup> In other words all cases of DVT are not the same, and there are temporal variations in the incidence of DVT in that the frequency can increase after discharge.<sup>2</sup> The transatlantic debate about the link between the incidence of DVT and the death rate from pulmonary embolism has been well summarized by Bulstrode,<sup>3</sup> who questioned whether the literature has demonstrated a reduction in the death rate after joint arthroplasty.

One observation is that much of the literature is driven by the pharmaceutical industry, and although the randomized trials are impressive, they are based on the surrogate use of DVT reduction in the limbs, not the reduction in death rate after surgery, which is the real concern for most surgeons. The incidence of fatal

pulmonary embolism is at or below 1%, and this figure is remarkably constant in the literature.<sup>4</sup> There may be a better way shed light on this complex subject. Sackett<sup>5</sup> has discussed the issue of "noise" in clinical trials, and although his paper is weighted more to clinical researchers, there is one quote that deserves repetition: "The important number in an RCT is not the number of patients in it, but the number of outcome events among those patients." The need is for clinical trials that address the issues, not surrogate markers, in this case death after surgery. As professionals, we need to bring pressure to bear on the pharmaceutical industry to address our issues, not theirs.

Surgeons are unique in that they are prepared to embark on a course of treatment in which some of the risk is directly controllable by their skill and actions. When discussing risks with patients it is wise to identify those that are directly the re-

sponsibility of the surgeon and those that are more generic in nature. Patients are capable of accepting risk and the dualities of those risks, the potential benefits from a proposed course of action.

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