



Palliative medicine and modern technology

John F. Seely, MD; Balfour M. Mount, MD

Palliative care and modern technology are often viewed as being somehow antithetical.¹⁻³ This misunderstanding arose with the development of palliative care in the late 1960s and early 1970s as a response to care that was seen as impersonal, dehumanized and overly dependent on technology. The successes of the scientific method and the biomedical model had led Western health care to an almost exclusive focus on the pathophysiology of disease rather than the experience of illness.^{4,5} Investigation, diagnosis, cure and the prolongation of life — initially the means to the broader end of alleviating suffering — became ends in themselves, and the human focus in medicine exemplified by the Oslerian approach⁶ was sacrificed to science and technology. Terminally ill patients, especially those with cancer, were often subjected to aggressive attempts at cure even when they were likely to be futile. All too frequently, patient care was portrayed as a war to be won or lost. On such a battlefield, patients in the process of dying could only be seen as the ultimate losers.

These attitudes persist today. Although over a generation has passed since the development of modern palliative medicine, patients are still being told that “Nothing more can be done” when further therapy is unlikely to prolong life. A sense of therapeutic impotence frequently leads to therapeutic excess. Singer and colleagues recently showed that fear about the unwanted application of technology to prolong life was the most prevalent concern voiced by patients on dialysis, with AIDS, or receiving long-term care.⁷ Other researchers have drawn attention to the frequency with which patients’ wishes for treatment at the end of life are not discussed⁸⁻¹¹ and advance directives are ignored.^{12,13} The fear of excessive measures to prolong life contributes to popular support for euthanasia and assisted suicide and fuels the sense that modern technology is at odds with the care of the terminally ill.

Nevertheless, progress in palliative medicine remains critically dependent on modern technology. Advances in diagnosis and therapeutics have redefined the field. These include ultrasonography, laparoscopy, CT and MRI scanning, palliative radiotherapy, surgically and endoscopically inserted stents to relieve a variety of obstructing lesions, and “designer drugs” such as bisphosphonates for bone pain and metastases and serotonin antagonists and somatostatin analogues for the management of intractable nausea and bowel obstruction.

Pain relief has been enhanced by the ability to administer opioids via multiple routes and by formulations that offer varied lengths of action. Small portable battery-driven

pumps permit continuous subcutaneous administration of multiple agents, dramatically simplifying and improving management in a variety of clinical settings. The addition of devices that permit bolus administration for patient-controlled analgesia has fostered patient independence, and the patient’s increased sense of control often reduces the total amount of medication needed.

If technology is defined as applied science, there are many other examples of its impact on palliative care. Objective assessment scales have been developed to quantify pain and other symptoms and evaluate outcomes. Modern information technology has simplified access to and analysis of the medical literature, promoted the growth and application of evidence-based medicine and enhanced communication among physicians throughout the world. Qualitative research, relatively new to biomedicine, has opened new avenues of study that are especially applicable to palliative medicine, where many of the most interesting and challenging phenomena do not lend themselves to quantitative analysis.

The link between palliative care and technology also becomes evident when deficiencies in the latter result in inadequacies in the former. For example, the continuing failure to provide adequate pain management is in part related to our inability to measure subjective symptoms objectively. Studies consistently demonstrate that pain relief in various patient populations is inadequate, despite the fact that we have known the principles of pain relief for over a generation.^{12,14-23} It is instructive to compare this deficit with the attention paid to fever and other phenomena that can be measured with greater objectivity. Might symptoms such as pain, nausea, dyspnoea, anxiety and existential concerns become higher priorities if they could be more readily measured?²⁴ Although various well-validated scales can measure subjective symptoms, all too often we fail to use them or dismiss results that do not fit our own, subjective, assessments.

Technology has to do with the material world. By nature it is impersonal, objective, reproducible and generalizable. By contrast, the patient is subjective and unique. He or she is comprised of a body, mind and spirit and is subject to suffering modified by each of those domains.²⁵ It is little wonder that medical technology is perceived as dehumanizing and depersonalizing.

As a profession we appear to assign disproportionate importance to technology and its practitioners, as evidenced by the implicit and explicit values attached to different disciplines. In focusing on technology, we lose sight of and devalue those things that cannot be easily and reliably



quantified. Our fascination with technology seduces us into thinking that results obtained with machines provide something closer to the truth than information obtained directly from the patient. Technology can become a means of distancing ourselves from the patient to the point where we carry out ward rounds at the conference table or blackboard. Faced with concerns that require us to spend more time listening to the patient, or being asked questions for which we have no answers, how much easier it seems to carry out an additional procedure or more investigations.

Body, mind and spirit are interdependent and indissoluble. Each domain modifies subjective experience. The essence of palliative care is the attention that it gives to physical, psychosocial and spiritual needs. Technology offers little in our quest to understand the whole person, to make sense of spiritual and existential concerns, to help patients find meaning in dire circumstances, or to address the need for reconciliation. Technology is not likely to help us resolve fears and anxieties, to eliminate the sense of hopelessness and loss of control that comes with illness, or to truly heal the patient. Attempts to provide a technological response to these issues run the risk of missing the very essence of the phenomena in question.

We must be careful not to reduce medical practice to that which deals only with what is measurable and objective. Technology must be tempered by unconditional respect, empathy and compassion. In many cases, there is no "medical" solution to a problem. What is required, as Cicely Saunders has pointed out, is for the physician to be fully present and to accompany patients on their particular journey.²⁶

Palliative medicine highlights both the strengths and potential pitfalls of modern technology in modern practice. Human needs, fears, hopes and strengths are never more openly displayed than at the bedside of the dying. The issue is not whether, but how, to apply modern technology in palliative care. Attention must be given to those aspects of the patient that cannot be measured, irrespective of the clinical setting. The central goal of all medical practice includes improving quality of life and relieving suffering. Our therapeutic armamentarium must reach beyond technology to achieve this end.

Dr. Seely is from the Department of Medicine, University of Ottawa, Ottawa, Ont. Dr. Mount is from the Department of Oncology, McGill University, Montreal, Que.

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Correspondence to: Dr. John F. Seely, SCOHS — Bruyère



*Pavilion, 43 Bruyère St., Ottawa ON K1N 5C8;
fax 613 562-6371; jseely@scohs.on.ca*