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## **A good surgical death**

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In a study of the more than 1.8 million elderly Medicare beneficiaries, approximately a third (31.9%) underwent an inpatient surgical procedure during their last year of life, and nearly one in five (18.3%) underwent a procedure in their last month.(1) Considering only patients with advanced cancer, one in four (25%) underwent an inpatient surgical procedure in the year before death. It is estimated that 20% of the National Health Service budget in the UK is spent on care in the last year of life. Whilst interventions at the end-of-life (EoL) may be valuable, they may cause unnecessary suffering and waste resource. Surgery for cancer in the last year of life is now recognised as a potential indicator of poor EoL care.(2) It is critical that surgeons make good decisions with patients about invasive procedures at the EoL.

Surgical decision-making at the EoL is about when and how to operate (or not), and about when to refer for supportive and palliative care. Surgical patients receive less hospice or palliative care than their medical counterparts.(3) This is despite data to show that when frail patients are given the opportunity to be referred to palliative care this lowers uptake of surgery,(4) and that advance care planning, a hallmark of good palliative care, is associated with less time spent in hospital in the last year of life.(5) Conversely, aggressive care of patients with non-beneficial treatment is associated with worse quality of life (QoL) and poor bereavement outcomes for loved ones.(6)

Conducting potentially non-beneficial operations has been attributed to different prognostic estimates among surgeons, inadequate perceptions about postoperative QoL and the role of palliative care, a lack of preparation for EoL conversations, and time constraints.(7) In addition, it was found that sometimes surgeons performed operations they knew would not benefit the patient to give the family time to come to terms with the patient's demise.(7) The rescue culture inherent in surgery and death denial can result in the medicalisation of death. Atul Gawande, surgeon, author

and public health figure, describes a need to “understand that damage is greatest if all you do is battle to the bitter end”.(8) The *Lancet* Commission on the Value of Death is investigating these embedded cultural and health care questions and palliative surgery and non-beneficial treatment are under scrutiny.(9) One study of elective surgery found that before major surgery, 13% of patients could not recall the procedure to be performed, its indications, risks, or alternatives and 33% of patients reported that the decision to proceed with surgery did not address their preferences, values, or goals.(10) This clearly raises concern about the quality of shared decision-making preoperatively and increases the risk of non-beneficial treatment.

A good surgical death requires clear communication to understand patients’ goals of care and timely and appropriate referral to supportive and palliative care services, when appropriate. There has been limited research on the value of palliative procedures and there is little evidence about the effect of integrating early palliative care with major surgery. Practice is therefore inconsistent and inequitable. Better care involves improved communication with patients and loved ones and includes: optimal timing of shared decision-making, better evidence about outcomes for surgical patients approaching the EoL, timely referral to palliative care, and most importantly, culture change to recognise that providing good palliative care is sometimes the best thing to do.

It is unclear how best to educate surgeons to talk about death and improve shared decision-making. Suggestions specific to surgical or oncology patients include using the best case/worst case surgical communication framework;(11) serious illness conversation training and system change;(12) sharing decision-making with other specialties through the perioperative surgical home(13) and use of an multi-disciplinary team approach. A specific emphasis on preoperative palliative care consultations is suggested as a means to avoid non-beneficial or overly-aggressive care, aligning care decisions with patients’ values and weighing the QoL implications of significant surgery more holistically.(14) The preoperative phase may be fraught due to an emergency presentation, or a patient lacking capacity

with relatives uncertain of a patient's wishes. Advance care plans are increasingly recognised as key to optimise patient-centred care and reduce the need for best interest discussions. The Department of Surgery at Rutgers in New Jersey has defined a list of procedures that should trigger a preoperative outpatient palliative care consultation.<sup>(14)</sup> The Royal College of Surgeons has produced a guide to Caring for patients nearing the end of life, which includes a table of serious illnesses and acute surgical conditions where non-surgical treatment may be preferred and advance care plans made, if possible. Whatever the approach, earlier assessment of patients' goals and shared decision-making will improve patient care. Better confidence in this process could even reduce burnout and improve well-being for surgeons.<sup>(15)</sup>

There are several potential areas for future research. Identification of the number and type of procedures being done at the EoL will direct further research. Understanding 90-day postoperative mortality, compared with 30-day postoperative mortality after elective and acute surgical procedures will help identify a higher-risk surgical population. These data will inform where targeted pre-operative shared decision-making is of benefit to patients, their families and the health system. Well designed and conducted studies to examine the role of preoperative integrated palliative care are also needed. Escalating medical and surgical care at the EoL is reduced with patient involvement in decisions. Redefining surgical success in advanced illness may not be about doing a procedure, but about engaging with patients' beliefs and values about their health and mortality and sometimes deciding not to operate. Surgical bravery takes place not only in the operating theatre, but in all surgical settings. Courage is needed to optimise EoL for surgical patients, including measuring outcomes that are meaningful to patients, ensuring decision-making is shared, and accepting that the introduction of palliative care may represent a success for the patient, their loved ones, and the health professional team.

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