Role of critical care and outreach services

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Reports from the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) show that the majority of postoperative deaths in the UK occur more than 5 days after surgery . Admission to a critical care unit allows for early treatment of complications and a level of care that is di ffi cult to deliver in the ward environment during this crucial period. Common complications include myocardial ischaemia, cardiac, respiratory or renal failure and sepsis. Perioperative MI is associated with a high mortality (15–25%). Critical care uses invasive cardiac monitoring and vasoactive drugs to help provide cardiac stability postopera tively to minimise ischaemia and guide fluid management to prevent cardiac failur e. Thomas H Lee , Professor of Medicine, Harvard Medical School, Professor of Health Policy and Management, Harvard School of Public Health, Boston, MA, USA. Friedrich Trendelenburg , 1844–1924, successively Professor of Surgery at Rostock (1875–1882), Bonn (1822–1895) and Leipzig, (1895–1911), Germany . The Trendelenburg position was first described in 1885. - - - - Postoperatively , 1.5% of patients develop lower respiratory tract infection after surgery , with a 30-day mortality of >20%. Respiratory failure, which is defined as PaO <8 /uni00A0 kPa in air, 2 PaO /F O (the ratio of arterial oxygen partial pressure to the 2 i 2 fraction of inspired oxygen) <40 /uni00A0 kPa or the inability to extubate a patient 48 hours after surgery , is by far the most significant of these and is associated with a mortality of 27–40%. Elective non-invasive ventilation, chest physiotherapy and incentive spirometry should be considered for patients at increased risk of respiratory complications. These are commonly delivered on the critical care unit (Figure 21.11). The high-risk surgical population accounts for 80% of postoperative deaths, but only about 15–30% of high-risk surgical patients are admitted to a critical care unit at any time following surgery . W ork by the National Emergency Laparotomy Audit in the UK is seeking to standardise treatment of this high-risk group with many recommendations, including admission to critical care where predicted mortality is >5%. In the last decade, the role of critical care has been expanded - to the concept of ‘critical care without walls’. The intensive care outreach services (ICORS) grew from a recognition that

Risk factors Risk of major cardiac complications (%) Number of factors History of ischaemic heart disease 0 = 0.4 History of compensated or prior heart failure 1 = 0.9 History of cerebrovascular disease 2 = 7.0 Diabetes mellitus 3+ = 11.0 Renal insuf /f_i ciency (creatinine >177 /uni00A0/uni03BC mol/L) High-risk surgery Figure 21.10 Robotic surgery

there were many patients in hospital who are at risk of being critically ill and that early identification of these patients using ‘early warning scores’ could allow for early intervention. The outreach team functions to bridge the gap between the critical care unit and ward.

Figure 21.11 A high-risk patient admitted to critical care postopera tively.

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