Blood transfusions have long been a common component of the therapy of critically ill patients, yet knowing when to transfuse a particular patient is often difficult and necessitates careful consideration of both the potential benefits and risks. This commentary briefly discusses some of the considerations both for and against blood transfusion in the setting of critical illness and reviews a landmark clinical trial in this area. Finally, we reflect on the changes in attitudes towards the transfusion of blood and blood products that have taken place over the last 20 years.

**Keywords** anemia, blood transfusion, critical care, hepatitis, HIV
12.0 g/dl. There were a number of exclusion criteria including patients with ongoing bleeding or chronic anemia and patients undergoing cardiac surgery. The study enrolled over 800 patients and demonstrated no difference in 30-day mortality rates between the two groups. In-patient mortality was significantly lower in the restrictive transfusion group, and subgroup analyses in patients <55 years of age or in those with acute physiological and chronic health evaluation (APACHE) II scores ≤20 favored the restrictive transfusion strategy. The average number of units of blood transfused was 54% lower in the restrictive group than in the liberal group. The implications of this study were that the classic transfusion threshold of 10 g/dl [13] was unnecessarily high for many patients in the critical care unit, and that excessive transfusion might be harmful.

Although the results of this trial cannot be generalized to patients with acute coronary syndromes [14] or to patients specified in the exclusion criteria, the practical effect of this trial has been to lower the transfusion threshold to 7 g/dl for many patients. For those patients with a hemoglobin level above 7 g/dl, this trial has put the onus on clinicians to justify blood transfusion.

Notwithstanding the momentous and influential nature of this study, it is likely that this shift in attitudes towards blood transfusion had its roots earlier and elsewhere. No clinician in practice in the last 20 years could miss the hesitation and frank apprehension in the public consciousness engendered by the widely publicized infectious hazards of the transfusion of blood products. This underlying trepidation, spanning continents and cultures [15–17], spurred the careful examination of blood transfusions [18–19] or trauma [19]. Indeed, if there was any key moment that changed clinical practice, one could argue that it was a simple two-page report that appeared almost 20 years ago in Morbidity and Mortality Weekly Report. Entitled ‘Possible transfusion-associated Acquired Immune Deficiency Syndrome (AIDS) – California’, the case report [20] was a harbinger of the transfusion-associated AIDS epidemic. Two decades later, even after significant improvements in the field of transfusion medicine which have made transfusion safer than ever, patients and their physicians will never view transfusion of blood and blood products in quite the same way.

Competing interests
None declared.

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