Haemorrhage control in severely injured patients.

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ABSTRACT: Most surgeons have adopted damage control surgery for severely injured patients, in which the initial operation is abbreviated after control of bleeding and contamination to allow ongoing resuscitation in the intensive-care unit. Developments in early resuscitation that emphasise rapid control of bleeding, restrictive volume replacement, and prevention or early management of coagulopathy are making definitive surgery during the first operation possible for many patients. Improved topical haemostatic agents and interventional radiology are becoming increasingly useful adjuncts to surgical control of bleeding. Better understanding of trauma-induced coagulopathy is paving the way for the replacement of blind, unguided protocols for blood component therapy with systemic treatments targeting specific deficiencies in coagulation. Similarly, treatments targeting dysregulated inflammatory responses to severe injury are under investigation. As point-of-care diagnostics become more suited to emergency environments, timely targeted intervention for haemorrhage control will result in better patient outcomes and reduced demand for blood products. Our Series paper describes how our understanding of the roles of the microcirculation, inflammation, and coagulation has shaped new and emerging treatment strategies.