DAMAGE CONTROL SURGERY VERSUS EARL Y TOTAL CARE

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As discussed in Chapter 26 , the concept of damage control surgery (DCS) was developed because severely traumatised patients with impaired physiology have poor outcomes after lengthy and complex surgical reconstructive procedures performed shortly after their trauma. Prolonged procedures result in additional trauma and further immune and physio logical derangement; the ‘triad of death’ – a cycle of acidosis, coagulopathy and hypothermia – may develop and result in multiorgan failure and death. Consequently , surgical interventions in the trauma patient with physiological abnormality are limited to rapid life- and limb-saving procedures: control of haemorrhage, decompres sion of ca vities (e.g. craniotomy , fasciotomy), revascularisation of ischaemic organs and limbs and removal of contamination. This damage control approach aims to rapidly achieve these objectives and then mo ve the patient to a critical care environ ment and continue with resuscitation. Subsequent definitive reconstructive procedures are deferred until the patient is adequately resuscitated and physio logically optimised. DCS in the abdomen is limited to packing and control of haemorrhage, debridement and resection of ies or faeces. Damage control orthopaedic sur gery is limited to debridement of severe open fractures, rapid temporary splin - tage or stabilisation of long bone fractures and decompression of limb compartment syndrome where requir ed. a pel - Revascularisation of a limb following arterial injury may be appropriate f or isolated injuries but in the patient with severe multiple system trauma it may increase the threat to life and therefore amputa tion may be the better option. Such patients are then transferred to critical care for further resuscitation and physiological stabilisation before definitive surgical procedures can be planned. The majority of trauma patients respond well to resusci - tation, are not physiologically compromised after appropriate resuscitation and are therefore suitable for early total care (ETC). A number of physiological indices are used to evalua te the response to resuscitation, including a pulse rate less than 100 per minute, normal blood pressure and respiratory rate, as well as urine output >30 /uni00A0 mL/h. The patient should not have hypothermia (temperature <35°C) nor evidence of acidosis on arterial blood gases and should have a normal coagulation screen. Lactate levels are also a good indicator of tissue perfusion - and should rapidly return to normal. In this situation, it is usu - ally safe for the surgeon to proceed with definitive repair or reconstruction of injured organs. For musculoskeletal injuries, ETC allows definitive fixation of all unstable long bone, spinal and pelvic fractures within - 36 hour s of injury . This facilitates nursing care, allows early mobilisation of the patient and reduces pulmonary complica - tions and length of stay on intensive care. If a sequence of fracture fixations is required,

at the con - clusion of each procedure the surgeon and anaesthetist should determine whether the patient’s physiological status has been maintained su ffi ciently to allow the next procedure, or whether the pa tient should return to critical care for a further period of resuscitation. Summary box 27.5 ETC versus DCS /uni25CF - /uni25CF /uni25CF -

ETC describes the de /f_i nitive management of a patient’s injuries within 36 hours of injury after a period of initial resuscitation DCS describes simultaneous resuscitation with early rapid life- and limb-saving surgery. Time-consuming de /f_i nitive surgery is deferred until the patient’s physiological status allows An ETC approach can be changed to a damage control approach if the patient’s physiology deteriorates during de /f_i nitive surgery

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