Debridement

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Taken from the French, meaning to ‘unleash or cut open’, debridement plays a crucial part in the management of trauma. Wounds sustained in disasters are often heavily contaminated, containing foreign bodies and non-viable tissues (Figure 33.9 Debridement reduces the chances of anaerobic and necrotis ing infections and can prevent systemic sepsis. The following principles of debridement apply to all contaminated wounds: /uni25CF After the administration of anaesthesia, the injured area is copiously irrigated with normal saline. Lavage using a pressurised system is controversial, with concerns over tis sue trauma and spread of debris (Figure 33.10). A water- jet based system that simultaneously clears the debris after debriding is very useful. The wound is palpated and all foreign matter removed. Dirt and debris enmeshed in soft tissues can only be removed by excision of those tissues. Open joints should be thoroughly irrigated and all foreign material removed. /uni25CF Wounds with extensive cavitation should be enlarged longitudinally to gain better access and allow full decom pression of the underlying muscles. This should be carried structures and allows the surgeon to gain proximal and distal control of vascular injuries and to identify severed ends of major nerves and tendons. /uni25CF The next step is excision of all dead and devitalised tissue. At this stage the tourniquet is let down to check the vas - cularity of the tissues. Skin excision is kept to a minimum and only the margins of the wound need be trimmed back to healthy bleeding edges. Excision of devitalised muscle should be undertaken generously . Muscle that is pale or). dark in colour, that does not contract on pinching and tha t - does not bleed on cutting must be removed. In patients with traumatic amputations, the bone ends are tidied, the skin and muscle edges trimmed to the lowest level possible and the wound left open. /uni25CF In patients with associated fractures, skeletal stabilisation - should be obtained before embarking on any repairs. External fixators are invaluable for this and make wound management much easier (Figure 33.11). /uni25CF In the acute setting, only vascular repairs are justified. For lacerated vessels the ends are trimmed and an anastomosis performed. In the case of loss of substance of the vessel wall, a vein patch or reversed vein graft may be employed. Silicone tubing may be used as a temporary bypass (stent) while vascular repair is being carried out in patients with - critically compromised distal circulation. /uni25CF Nerves and tendons should not be dissected out nor should any attempt be made at definitive repair in wounds with tissue devitalisation, as this leads to poor results. The key

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wounds sus tained in disasters. The radiograph shows numerous radio-opaque foreign bodies in the soft tissues. Figure 33.10 Lavage with normal saline to decontaminate a wound.

Figure 33.11 External /f_i xators provide skeletal stabilisation and allow easy management of the soft tissues.

tagged with non-absorbable sutures to facilitate repair during subsequent exploration. /uni25CF Wounds sustained in disasters are heavily contaminated and are not suitable for primary closure. However, blood vessels and exposed joint surfaces need to be covered. This can be achieved by loosely tacking adjoining muscle over the exposed area. The wound is then covered with flu ff ed gauze and sterile cotton and the extremity splinted with a plaster of Paris slab. For extremity injuries, elevation is critical to reduce oedema. /uni25CF Broad-spectrum antibiotics, such as third-generation ceph alosporins, are started prophylactically and continued for 5–7 days. /uni25CF The wound is reinspected at 24–48 hours to assess the via bility of the tissues. Wounds are closed between the fourth and sixth day if there is no infection. Tension should be avoided and one should not hesitate to use skin grafts to obtain cover. /uni25CF In wounds with gross infection no attempt at closure is made until infection is eradicated. These wounds are re-explored to make sure that there are no residual foreign bodies or devitalised tissue. Tissue should be taken for microbiological culture. Vacuum-assisted closure (Vac-Pac) has emerged as a very useful tool for deeply cavitating wounds. It utilises low-pressure suction to evacuate exudate, promote granulation tissue and reduce the size of the wound (Figure 33.12). Once the wounds are free from infection secondary closure can be undertaken. Debridement

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