Management of Adult Major Burns

Treatment Initialisation (first hour of intervention)

NHS Greater Glasgow and Clyde

A	Intubation indicated for extensive burns, stridor, respiratory distress or GCS ≤ 8 Suxamethonium can be used safely up to 48 hours post burn injury Use the largest bore possible, uncut endotracheal tube Secure with ties or tube holder
B	Give maximal FiO_2 until carboxyhaemoglobin level known to be ≤3%
C	Obtain IV access (through burned skin if necessary; securing with suture / bandage) Revert to IO access after two failed attempts Give 1000ml Hartmann's or 0.9% saline (preferably warmed) stat Consider Hydroxycobalamin 5mg IV if cardiovascular instability
D	Titrate intravenous analgesia
E	Search for other injuries Categorise burn size as 20-50% or >50% Cool burn (omitted only if threat to life) • Cool running water for 20 minutes up to 3 hours post injury • Amphoteric solutions if available (or Hartmann's / 0.9% saline if not) for as long as possible in chemical burns • Stop if core temperature < 35°C Remove non-adherent clothing and jewellery Dress burn with cling film (avoid circumferential application) Warm patient by removing wet sheets / clothing, applying blankets, minimising exposure and raising ambient temperature Insert nasogastric tube if intubated

Management of Adult Major Burns

Treatment Optimisation (1 – 12 hours)

NHS Greater Glasgow and Clyde

A	Isolated facial burns should have skilled (and if necessary repeated) airway assessment prior to intubation Ensure endotracheal tube ties not overly tight if face swelling
B	Give maximal FiO_2 until carboxyhaemoglobin level known to be ≤3%
C	Give warmed balanced crystalloid initially as per Parkland formula: • 4ml/kg/% body surface area burned over 24 hours from burn • Half in first 8 hours from burn • Half in subsequent 16 hours Titrate fluid input to urine output 0.5 – 1 ml/ kg ideal body weight / hour* Consider A-line and CVC (through burned skin if necessary) Give Hydroxycobalamin 5mg IV if cardiovascular instability / raised lactate not responding to fluid resuscitation
D	Titrate analgesia
E	Estimate burn size using Lund & Browder chart (or Mersey Burns app) Consider chest / limb escharotomy if circumferential full thickness burns Warm patient by removing wet sheets / clothing, applying blankets / forced air warmer, minimising exposure, warming intravenous fluids and raising ambient temperature Start nasogastric feed if intubated Position 30° head up and elevate limbs on pillows Consider tetanus prophylaxis

*Further guidance is provided in the GRI ICU Fluid Resuscitation for Burns protocol