Policy for the management of intubated ventilated patients in ED with no significant life threatening injury / pathology

Background
With the advent of the helipad, it is estimated that 20-30% of patients delivered by helicopter have only minor injuries. However, for safety during transfer, they are often intubated and ventilated at scene. It is anticipated that unless haemodynamically unstable, these patients will go direct to CT in ED and from there to resus. In the event that no significant injuries are detected and there is no clear indication for ongoing sedation / airway protection / ventilatory support, then the patient should woken so that they can be assessed with a view to extubation, if appropriate. This policy aims to outline the pathway for such patients.

Referrals
As soon as the patient is stable and in resus, the trauma team leader should make contact with the GICU SpR on bleep 7980 or via x1307 to inform them of the details of the case. Unless the patient has an obvious single system, non-orthopaedic injury, they should be admitted under the Trauma team

Plan A
The patient is transferred to GICU to be woken up and assessed.

Before transfer, it is expected that the following will have been completed and documented in the patient's Trauma booklet. The original booklet should stay with the patient and the photocopy retained in ED.

- A CT "primary assessment", including radiological spinal clearance
- A repeat primary survey (compared to the on scene HEMS primary survey)
- As comprehensive a secondary survey as possible, including a log roll
- A list of injuries and plan for each
- A completed spinal clearance form and removal of all unnecessary immobilisation
- All wounds cleaned, sutured and dressed, or a documented plan to go to theatre for this including the surgical team responsible
- A nasogastric (or orogastric) tube inserted and the stomach effectively decompressed
- A urinary catheter inserted and urine drained (if there is a distended bladder on CT)
- A clear management plan regarding Tetanus prophylaxis made and acted upon
- Blood sent for FBC, clotting profile (including fibrinogen), U&E, LFTs, Ca, PO_4, Mg, Troponin, alcohol, group and save
- Urine sent to biochemistry for a drugs of abuse screen

It is suggested that this list be used as a checklist.

The reasons for these expectations are as follows:

- Regrettably, there is often an unavoidable delay of 30-60 minutes whilst an ICU bed is prepared.
- Most patients who are intubated at scene have an altered level of consciousness / agitation and the assumption should be that they HAVE a diffuse brain injury.
- Spinal immobilisation is a significant cause of preventable pressure area injury and should be removed at the earliest opportunity.
- If a peripheral injury requires an x-ray this can be done more easily in ED
- The GICU team are not well equipped nor necessarily skilled, at wound closure
- Many trauma patients arrive in ICU without gastric decompression, which compromises their ventilation, places them at risk of aspiration and is essential if the patient is to be woken up. Similarly, the urinary catheter.
- Tetanus vaccine and human anti-tetanus immunoglobulin are kept in ED
- The blood alcohol and urinary drugs of abuse screen may inform the differential diagnosis of the on scene, or, on waking, agitation.

Plan B
GICU does not have a bed but CTICU and / or Neuro ICU have a bed
The GICU SpR will liaise with the CTICU / Neuro ICU consultant to arrange that the patient be admitted to the unit with the least bed pressures. This is preferable to transferring a GICU patient to one of the other units to facilitate the admission of the ED trauma patient to GICU. The reason this is preferable is that the latter scenario involves moving 2 patients and involves a non-clinical transfer for the ICU patient, which cannot be in their best interests and for which we are penalised by commissioners.

Plan C
There is no bed that can be made available on any of the 3 units within 60 minutes
If the available ED and Anaesthetic personnel believe that there is a high clinical probability that the patient should be a straight forward to wake, wean and extubated then they should proceed with this, in resus. If the Anaesthetist feels that transferring the patient to a recovery area is more practical / desirable, then they should liaise with senior members of the team in that area and execute their plan. If neither of these options are practical then the patient should be kept on minimal sedation in ED whilst the ICU consultants and senior nurse (SG591) create a bed solution.

Guidelines for referral trauma patients WITH injuries

Patients with ANY of the following criteria should be discussed with the GICU SpR via pager 7980 or extension 1307.

Patient criteria
- >65 years of age with 1 or more major injuries (NOT including # neck of femur)
- Any limiting / severe co-morbidities

ABCD (physiological) criteria
A. Injury to, or that might compromise, the airway
B. Hypoxaemia and / or hypercapnia post resuscitation
C. Haemodynamically unstable (persistent tachycardia and / or hypotension post resuscitation and surgical control of bleeding)
D. GCS ≤13 (any cause) post resuscitation

Injury criteria
- 2 or more major injuries
- Suspected or proven, unstable, spinal injuries

Treatment criteria
- >4 units of packed RBC transfusion during resuscitation
- >2 hours in theatre

Post treatment criteria
- Any significant acute organ or metabolic dysfunction post resuscitation
- High risk of deterioration or complications
-

The GICU SpR will decide (in consultation with the GICU consultant, if necessary) which of the 3 adult ICUs the patient should be admitted to. As a general guide:
- Isolated head or spinal injuries should go to Neuro ICU (whether they need neurosurgery or not).
- Isolated chest injuries should go to CTICU.
- Polytrauma patients should go to GICU.
- Polytrauma patients requiring neurosurgical intervention (craniotomy) and / or intra-cranial pressure monitoring and management, can be managed on either Neuro ICU or GICU and each case should be judged on it own merits.

In order to take an acute admission onto any of the 3 units, a stable patient can be transferred to one of the other units to create a bed for the acute admission.

Immediate secondary transfers (from base hospital's EDs) should be delivered to St George's ED and the patient treated in identical manner to primary reception:
- Please inform GICU SpR at the earliest opportunity.
- Immediate lack of an ICU bed should not delay transfer to St George's (Vascular surgery model).

Delayed secondary transfers requiring 1 or more surgical specialties and ICU / HDU care:

- Whoever takes referral must get a comprehensive list of injuries, co-morbidities and current clinical state (GICU & Pelvic surgery template).
- Team accepting patient must liaise with trauma team and other specialist teams at the earliest opportunity.
- Patients should arrive with radiological spinal clearance / diagnosis and appropriate immobilisation. (ICS guidelines)
- Inform the relevant ICU of the patient and the acuity of the need to transfer.
- Ensure all radiology travels with patient, preferably pre-transfer via the Image Exchange Portal (IEP).
- Ensure tertiary survey completed within 24 hours of patient arrival.