

Specialty guides for patient management during the coronavirus pandemic

Clinical guide for the management of neuro trauma patients during the coronavirus pandemic

16 March 2020

“...and there are no more surgeons, urologists, orthopaedists, we are only doctors who suddenly become part of a single team to face this tsunami that has overwhelmed us...”

Dr Daniele Macchine, Bergamo, Italy. 9 March 2020

As doctors we all have general responsibilities in relation to coronavirus and for these we should seek and act on national and local guidelines. We also have a specific responsibility to ensure that essential neuro trauma care continues with the minimum burden on the NHS. We must engage with those planning our local response. We may also need to work outside of our specific areas of training and expertise, and the General Medical Council has already indicated its support for this in the exceptional circumstances we may face: www.gmc-uk.org/news/news-archive/how-we-will-continue-to-regulate-in-light-of-novel-coronavirus

Neurotrauma may not seem to be in the frontline with coronavirus but we do have a key role to play and this must be planned. In response to pressures on the NHS trauma patients will continue to need care. Currently we have a relative luxury to admit patients where we believe advanced neuroscience treatment may provide benefit. At a time of resource limiting, that need of potential benefit, and the likelihood of it occurring in the patient in front of you, has to be greater than others needing critical care. We should seek the best local solutions to continue the proper management of these trauma patients while protecting resources for the response to coronavirus.

In addition, we need to consider the small possibility that surgical facility for emergency surgery may be compromised due to a combination of factors including staff sickness, supply

chain and the use of theatres and anaesthetic staff to produce ITU pods. This is an unlikely scenario but plans are needed.

Categories of neuro trauma patients to consider

- **Obligatory in-patients:** Continue to require admission and surgical management. We must expedite treatment to avoid pre-operation delay and expedite rehabilitation to minimise length of stay.
- **Those who will benefit from admission:** Patients with injuries that can reasonably be managed either operatively or non-operatively. We must consider non-operative care if that avoids admission.
- **Maximal remote support**
- **Devastating brain injuries**

When planning your local response, please consider the following:

Obligatory in-patients

- **A consultant must be designated as ‘lead consultant’.** This duty can be for one day, a few days or even five days in small units. This is an essential role during crisis management. It cannot be performed by the consultant ‘on-call’ or the consultant in clinic or the consultant in theatre. They must be free of clinical duties and the role involves co-ordination of the whole service from emergency department (ED) to theatre scheduling and liaison with other specialties and managers.
- It can be very stressful during a crisis. Support each other and share the workload. Do not expect the clinical director to do all the co-ordination!
- **A leadership team should support the lead and include relevant members of the multidisciplinary team (MDT).**
- Establish a daily sitrep and dashboard with critical data to share across the workforce. That should include patient flows, workforce issue, stock levels and other key messages (eg state of coronavirus response, personal protective equipment (PPE) requirements).
- An anaesthetic guideline for patients requiring surgery and who are coronavirus positive will be required.
- Make contingency plans for supply chain issues.

Those who will benefit from admission

- Those who will benefit most greatly are those with easily reversible conditions. These are usually **extra-axial haematoma (extradural/subdural) with mass/clinical effect.**

- Diffuse injuries would normally be transferred to an MTC/neurosciences centre for advanced monitoring. However, in a situation where critical care resources are extremely limited, the benefit of advanced monitoring is relatively limited.
- Many injuries, both cranial and spinal, can be managed conservatively and the threshold for intervention changes with resources available. It is important however, that the condition is still managed, and this may require joint working between local non-specialists and MTC specialists requiring good communication. This may be by phone or by telemedicine. For these reasons, as the situation with coronavirus escalates, the flowcharts below may be useful.
- A number of injuries can be managed either operatively or non-operatively. Clinical decisions during a serious incident must consider the available facility for the current patient and also the impact this may have on the whole community.
- As the system comes under more pressure, there may be a shift towards non-operative care.
- Non-operative care may reduce the in-patient and operative burden on the NHS.
- It may also protect the individual from more prolonged exposure in a hospital setting.
- It may free up beds for more urgent cases

Maximal remote support

- Communication will be key to providing good care remotely. This can be via regular telephone or tele/video discussion and patient review.

Staffing issues

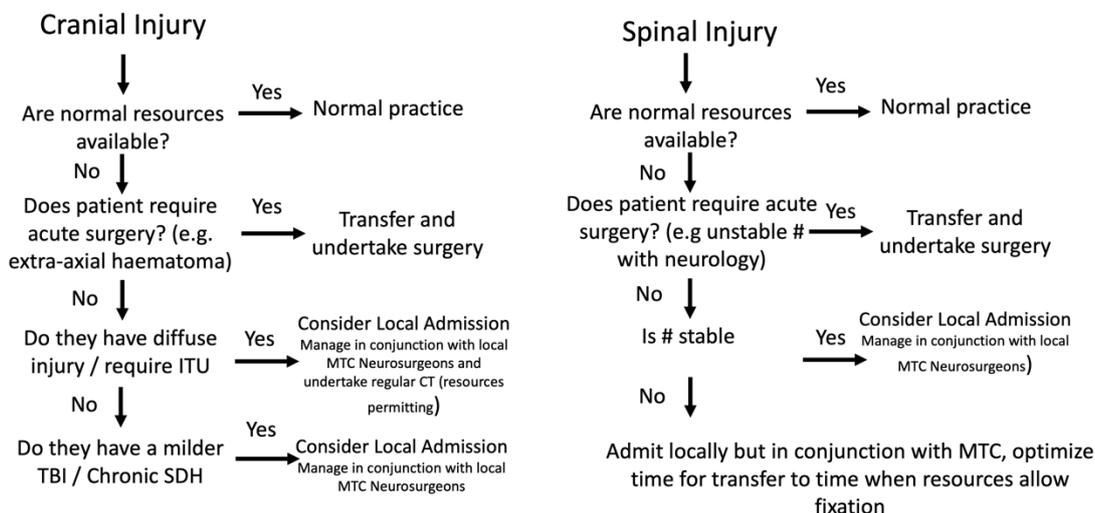
- At a time when staffing levels are likely to be poor, it is important to allocate appropriate work accordingly. For example, staff who are well but self-isolating can still take referrals, review scans (from home) and triage patients leaving those in hospital to provide direct clinical care.

Devastating brain injury

- The current guidelines for devastating traumatic brain injury considered to be unsurvivable are written for times of normality, when critical care is available. They are designed to provide time for diagnosis to be confirmed and reversible factors corrected; time to allow family involvement and organ donation options. In the event of very limited critical care capacity rapid decisions of futility may be required and withdrawal of care earlier than would occur in normal circumstances.
- Emergency departments will continue to take patients requiring resuscitation, the trauma team, etc.
- We should avoid unproductive attendances at hospital.

- Senior decision-making at the first point of contact should reduce or even prevent the need for further attendances.
- A decrease in elective work will allow for a greater senior presence at the front door.
- Clinicians may need to work in unfamiliar environments or outside their sub-specialist areas. They will need to be supported.
- No patient should be scheduled for surgery without discussion with a consultant.
- The possibility of a 7-day service may need to be considered.
- Consider postponing long-term follow-up patients until the crisis has passed.
- CT scanning may be limited as it is the investigation of choice for coronavirus pneumonitis.
- Outpatient appointments may be conducted remotely rather than face to face.

Cranial injury and spinal injury flowcharts



* Joint Management will require regular telephone / tele-video discussions