

1. Context

7 Day services programme

The Government's Mandate to the NHS for 2016/17 sets a priority deliverable to:

“Roll out 4 priority clinical standards in all relevant specialties to 25% of the population in 2016/17; by 2020 roll out 7 day hospital services to 100% of the population (with progress also made on the other six standards identified by the NHS Services, Seven Days a Week Forum), so that patients receive the same standards of care in hospitals, seven days a week.”

[NHS Services, Seven Days a Week Forum - Summary of Initial Findings, December 2013](#)

The 4 priority clinical standards are:

- **Standard 2 - Time to consultant review**

All emergency admissions must be seen and have a thorough clinical assessment by a suitable consultant as soon as possible but at the latest within 14 hours of admission to hospital. Although the December 2013 document stipulated that the standard was to be measured 'from time of arrival' this has now been changed to reflect the original source document for this standard (Royal College of Physicians acute care toolkit number 4).

- **Standard 5 - Access to diagnostics**

Hospital inpatients must have scheduled seven-day access to diagnostic services such as x-ray, ultrasound, computerised tomography (CT), magnetic resonance imaging (MRI), echocardiography, endoscopy, bronchoscopy and pathology. Consultant-directed diagnostic tests and their reporting will be available seven days a week:

- within 1 hour for critical patients;
- within 12 hours for urgent patients; and
- within 24 hours for non-urgent patients

1. **Standard 6 - Access to consultant-directed interventions**

Hospital inpatients must have timely 24 hour access, seven days a week, to consultant-directed interventions that meet the relevant specialty guidelines, either on-site or through formally agreed networked arrangements with clear protocols, such as:

- critical care;
- interventional radiology;
- interventional endoscopy; and
- emergency general surgery.

2. **Standard 8 - On-going review in high dependency areas**

All patients on the AMU, SAU, ICU and other high dependency areas must be seen and reviewed by a consultant twice daily, including all acutely ill patients directly transferred, or others who deteriorate. To maximise continuity of care consultants should be working multiple day blocks. Once transferred from the acute area of the hospital to a general ward patients should be reviewed during a consultant-delivered ward round at least once every 24 hours, seven days a week, unless it has been determined that this would not affect the patient's care pathway.

NHS England and NHS Improvement have joint responsibility for delivery, working with other organisations, to achieve this. To achieve the ambition of 25% of the population having access to 7 day hospital services by March 2017, a number of trusts have been identified to be early implementers. They are being supported to achieve the four priority clinical standards from the Sustainable Improvement Team. In response to clinical feedback, NHS Improvement has clarified the guidance on the four priority clinical standards for providers completing the self-assessment survey.

[Seven-day services: clarification of the four priority clinical standards](#)

Urgent and Emergency Care Review and the 5 urgent network specialist services

The U&EC Review aims to ensure that by 1st November 2017, 100% of five urgent network specialist services provide urgent care that meets the 4 prioritised 7DS clinical standards. These services are: major heart attack centres, paediatric intensive care units, major trauma centres, hyperacute stroke units and vascular surgery centres. The 23 U&EC Networks will have a key role in ensuring the services progress towards said achievement, and will be supported by the 4 regional U&EC PMOs.

2. Service-specific context

Major trauma care is now delivered through an inclusive trauma network delivery model. These networks include all the providers of trauma care. The aim of the service is to provide care to major trauma patients (Injury Severity Score >8) at a major trauma centre (MTC) which has all the services available to receive and manage these seriously injured patients. There are three types of MTC – those that treat only adults, those that treat only children and those who can treat both adults and children.

The services are designed to deliver high quality specialist care to patients of all ages from admission to the relevant MTC. These services include assessment, diagnostics, operative treatment if required and rehabilitation for those patients that need it.

Major trauma patients admitted to a MTC and then managed on critical care (ITU or HDU) will have twice daily consultant led ward rounds. Major trauma patients admitted to a MTC and then managed on the major trauma ward or another surgical ward will be seen within 5-30 minutes by a consultant leading the trauma team. If they do not require critical care, they will then receive a consultant review every 24 hours.

The start of the consultant-led intervention is the primary and secondary survey of the trauma patient in the emergency department. TARN collects time of ED arrival and time at which the consultant review commenced. The primary and secondary survey aims to detect all injuries and provide any immediately life-saving treatment. So the consultant will use their primary and secondary survey to direct interventions such as CPR, instituting life support ventilation, emergency room operations such as chest drain and thoracotomy, fracture and dislocation reduction and will specify transfer for CT or operations as required. Immediate consultant-led treatment includes “straightforward” surgical interventions that can be done or supervised by the consultant at the bedside, such as insertion of a chest drain. More complex but urgent treatment is focused on people that need major surgery within 60 minutes by a surgeon. For these interventions, TARN provides data for: neurosurgery, orthopaedics and abdominal surgery.

Some patients will remain in the MTC for their entire episode of care. When fit, some patients will be transferred to another hospital for continued care and rehabilitation. These patients are selected so that by definition they do not need 24 hour consultant care or review.

3. Guidance

3.1 NHS England Guidance including specialised commissioning [NHS England Major trauma service specification](#)

Major trauma is commissioned by specialised commissioning from NHS England and the service specification covers patients who have been triaged as major trauma patients (adult or child) with an ISS>8 using a major trauma triage tool and treated in a Major Trauma Centre. This is a comprehensive service specification covering all aspects of patient care.

Elements of the service to manage these patients will include:

Emergency Care and Surgery:

- 24/7 consultant available on site to lead the trauma team
- The trauma team should be appropriately trained and competent to deliver their role
- Trauma team present 24 hours a day for immediate reception of the patient
- 24/7 immediate availability of fully staffed operating theatres
- All emergency operative interventions performed within the first 24 hours should have evidence of consultant involvement, and consultant presence in the operating room for life- or limb-threatening injuries. A consultant will be involved in surgical decision making.
- Emergency trauma surgery will be undertaken or directly supervised by consultants
- There will be a network protocol in place and operational at the MTC for assessing the whole spine in Major Trauma patients
- Consultants available on site within 30 minutes when required;
 - Neurosurgery
 - Spinal and spinal cord surgery
 - Vascular surgery
 - General surgery (adult or child)
 - Trauma and Orthopaedic surgery
 - Cardiothoracic surgery
 - Plastic surgery
 - Maxillofacial surgery
 - Ear nose and throat surgery
 - Anaesthetics
 - Interventional radiology (IR)
 - Intensive care
- For Children's MTC, where the incidence of major trauma overnight is demonstrably low, a consultant should be immediately available on site to lead the trauma team between 8am to midnight. They should be available on site within 30 minutes of receiving an alert call at all other times.

Diagnostics and Radiology

- Immediate (defined as within a maximum of 60 minutes, ideally within 30 minutes) access to computerised tomography (CT) scanning and appropriate reporting within 60 minutes of scan;
- Availability of interventional radiology within 60 minutes of referral.

On-going Care and Reconstruction

- Immediate access to critical care or high dependency care (adult or paediatric) when required

One highlighted in discussion for attention is **rehabilitation** and the relevant parts of the service specification are below:

Early/Hyper Acute Phase Rehabilitation

- A defined service for early/hyper acute trauma rehabilitation which meets the needs of patients with ISS >8.
- Review within 3 calendar days by a Rehabilitation Medicine consultant or alternative consultant with skills and competencies in rehabilitation (allowing up to 4 calendar days if seriously at risk of dying or if review prior to 4 calendar days is not clinically possible), with the output being an initial formulation (analysis of relevant factors) and plan to complete and inform the initial rehabilitation prescription.
- The prescription for rehabilitation reflects the assessment of the physical, functional, vocational, educational, cognitive, psychological and social rehabilitation needs of a patient.
- An initial assessment by the relevant members of a specialist rehabilitation team (including nurses) to add to the medical review.
- The output of the above two actions will be that all patients covered by this specification have an initial rehabilitation prescription within 2-4 calendar days of presentation. Note that the prescription may identify no further need for rehabilitation, or may simply recommend monitoring or may require full active engagement of the wider rehabilitation team.
- All patients to receive early phase rehabilitation as indicated by the Rehabilitation prescription, and all other actions identified in the rehabilitation prescription to be undertaken; if action or input cannot be delivered, the reason should be recorded and intervening action to be undertaken.
- All patients needing rehabilitation input or monitoring to be under the care of a Consultant-delivered team that includes rehabilitation nurses, allied health professionals and a consultant in rehabilitation medicine or alternative

3.2 National Guidance i.e. NICE

[NICE – Major Trauma – Service Delivery](#) (2016)

This guideline covers the organisation and provision of major trauma services in pre-hospital and hospital settings, including ambulance services, emergency departments, major trauma centres and trauma units. It aims to reduce deaths and disabilities in people with serious injuries by providing a systematic approach to the delivery of major trauma care. It does not cover services for people with burns.

The guideline should be read alongside the NICE guidelines on [major trauma](#), [spinal injury](#) and [complex fractures](#), which provide clinical recommendations for major trauma care.

NHS England's clinical reference group (CRG) produce the service specification for major trauma. The CRG intends to consider the NICE guidelines on [major trauma](#), [major trauma: service delivery](#), [spinal injury](#) and [complex fractures](#) in future updates to the service specification which are planned for 2017.

Major Trauma: service delivery guidance includes:-

- 1.1 Pre-hospital triage
- 1.2 Transferring patients with major trauma
- 1.3 Pre-alert procedures
- 1.4 Procedures for receiving patients in trauma units and major trauma centres
- 1.5 Transfer between emergency departments
- 1.6 Organisation of hospital major trauma services
- 1.7 Documentation

- 1.8 Monitoring and audit
- 1.9 Information and support for patients, family members and carers
- 1.10 Training and skills
- 1.11 Access to major trauma services

[NICE – Head injury assessment and early management](#) (2015)

This guidance covers the management of head injury in both adults and children and is an update on previous NICE guidance and covers:

- [1.1 Pre-hospital assessment, advice and referral to hospital](#)
- [1.2 Immediate management at the scene and transport to hospital](#)
- [1.3 Assessment in the emergency department](#)
- [1.4 Investigating clinically important brain injuries](#)
- [1.5 Investigating injuries to the cervical spine](#)
- [1.6 Information and support for families and carers](#)
- [1.7 Transfer from hospital to a neuroscience unit](#)
- [1.8 Admission and observation](#)
- [1.9 Discharge and follow-up](#)

3.3 National Clinical Guidance e.g. Royal Colleges and Specialist Associations

[RCoA – Guidance on the provision of anaesthesia services for trauma & orthopaedic surgery](#) (2016)

This document covers details relevant to both emergency and elective surgery and surgery in children

- There should be appropriately staffed and equipped operating theatres and a hybrid care suite for radiological or surgical interventions immediately available for injured patients who need life-saving interventions.
- All MTCs and trauma units (TUs) that receive acutely injured patients should have a defined response to major trauma that includes the prompt assembly of a multidisciplinary trauma team in the emergency department. An anaesthetist with appropriate skills and training to deal with major trauma should be involved in the immediate management of such cases.
- Anaesthetists have an important role to play in pre-hospital care, as members of enhanced care teams, treating patients at the scene and transferring them to or between hospitals. Anaesthetic departments in MTCs (and TUs) should support this role in a limited number of individuals.
- Trained assistance must be available for the anaesthetist in all locations where anaesthesia is conducted, including the emergency department and the imaging suite, as well as in the operating theatre
- Children undergoing surgical care require all the facilities and staffing required for paediatric practice. Members of the team conducting anaesthesia for children must be trained and skilled in paediatric anaesthesia and resuscitation.
- Specialised equipment for difficult airways must be readily available in all areas where trauma patients are anaesthetised. Anaesthetists and assistants providing anaesthesia for these patients must be competent in difficult airway management.
- Flexible management of trauma lists, exclusive daytime trauma lists, or additional evening and weekend sessions in dedicated, fully staffed and suitably equipped operating theatres will improve the efficiency of dealing with trauma during the normal working day and reduce the need to operate out of hours

- Healthcare providers have responsibilities to ensure the health and safety of their employees and others, and to control and manage the risk of infection, blood spray and exposure to radiation.

[RCS – Major Trauma Systems in England](#) (2014)

This paper sets out the vision of the Royal College of Surgeons with regard to supporting the development of a cadre of surgeons who will lead and develop Major Trauma services in England. It explains what is meant by the term “Trauma Surgeon” and discusses different training requirements.

<https://www.rcseng.ac.uk/surgeons/supporting-surgeons/regional/docs/trauma-systems-in-england-a-strategy-for-major-trauma-workforce-generation-and-sustainability-march-2014/>

[RCR - Standards of practice and guidance for trauma radiology in severely injured patients, second edition](#) (2015)

The standards are intended to outline good practice for the provision of trauma radiology to severely injured patients, covering management of the patient, when imaging is appropriate, the use of quality indicators and the provision of protocols for imaging and reporting. This document has been developed to complement the NHS *Regional Networks for Major Trauma* report.

[RCR – Paediatric trauma protocols](#) (2014)

This guidelines assists radiologists and clinicians dealing with a severely injured child to base imaging decisions on the best available evidence. The emphasis is on careful, competent clinical evaluation and knowledge of injury patterns in children of various ages, judicious use of plain radiographs and target use of CT with relevant paediatric protocols. The use of adult protocols and in particular the ‘whole-body’ CT trauma survey is not appropriate as a routine investigation in childhood.

[RCR & British Society of Interventional Radiology - Provision of interventional radiology services](#) (2013)

This document demonstrates the range of services offered by interventional radiologists and sets out the core requirements for the provisions of an IR service both in district general hospitals and tertiary or teaching hospitals, advising on how services may be set up collaboratively within regions to offer the highest quality of care to all patients, both in and out of hours. This highlights that access to robust 24/7 interventional radiology should be a priority for all acute hospitals and reconfigurations to individual series should ensure that continuity of access to IR services, particularly for emergency care is maintained.

The number of interventional radiologists within a unit is clearly a key factor in determining the approach to developing a safe and sustainable rota. The following guidance should be applied:

- Services with fewer than four interventional radiologists should liaise with neighbouring units to develop a model of care that will permit robust IR rotas
- Services with between 4-6 interventional radiologists may be able to provide an independent on-call rota depending on the intensity of activity. Most services in this range should consider networking with neighbouring units to ensure a more robust long-term service.

- Services consisting of six or more interventional radiologists will usually be able to provide a robust 24/7 services which is compliant within the EWTD. For populations greater than one million, a 1:8 rota may be more sustainable.

4. Relevant data and intelligence including national audits

[The Trauma Audit & Research Network](#)

[British Orthopaedic Association Standards for Trauma \(BOASTs\)](#)

5. Key areas of required attention

One area that has been raised for attention is rehabilitation of patients following major trauma and that the provision of such services are variable across the country.

With regards to data collection for TARN, the standards are widely met in MTCs. However, further work is required to bring the TUs up to a similar level in data collection. Some TUs need to improve their submission rates to TARN – otherwise it will not be possible to accurately measure the uptake and usage of NICE guidance and other national clinical guidance.

With regards to radiology – the intelligence below is from a survey of the British Society of Emergency Radiology Board to yield the following information based on Audits and information from 3 MTCs in London and 4 Major Trauma Networks outside London:

- For all MTCs where On Call is still covered by Departmental Radiologists (i.e. not outsourced), the local target set is for a Consultant Radiologist to check the CT Report within 24 hours of images being acquired. A full written report from a Radiology SpR is usually available 1 hour after image acquisition. Several Trauma Radiologists have commented that 12 hour standard is completely unachievable with current staffing levels are other demands on the Imaging Service. Most Centres have audited their reporting times and on average Trauma CTs are checked within 24 hours by a Consultant.
- For Major Trauma Networks where reporting is outsourced, a report is usually issued within 2 hours, but several problems have been highlighted:
 - Slow transfer of data to the Outsourcing Centre introduces significant delay to reporting time (at one centre, mean outsourced CT reporting time was >1hr, and mean in house CT reporting time was <1hr).
 - Outsourced Reporting Radiologists are excluded from the Trauma Team (both at the Trauma Call and in the Multidisciplinary Outcome Meetings). This reduces learning opportunities.

6. Other relevant documents

[National Peer Review Standards for Major Trauma](#)