GIG CYMRU NHS WALES

Pwyllgor Gwasanaethau Iechyd Arbenigol Cymru (PGIAC)

Welsh Health Specialised Services Committee (WHSSC)

Specialised Services
Service Specification: CP188

Major Trauma Centre

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PARCH - RESPECT

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Description	NHS Wales routinely commission this specialised service in accordance with the criteria described in this document
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Contents

Statement

Welsh Health Specialised Services Committee (WHSSC) commission the service of a Major Trauma Centre (MTC) in accordance with the criteria outlined in this specification.

This service specification applies to the population of South Wales, West Wales and South Powys.

North Wales forms part of the North West Midlands and North Wales Trauma Network, with patients from Trauma units in Ysbyty Gwynedd, Ysbyty Glan Clwyd and Wrexham Maelor Hospital going to the Major Trauma Centre at Royal Stoke University Hospital. The Major Trauma Centre at Royal Stoke University Hospital is currently commissioned by Betsi Cadwaladr University Health Board.

In creating this document WHSSC has reviewed the requirements and standards of care that are expected to deliver this service.

Disclaimer

WHSSC assumes that healthcare professionals will use their clinical judgment, knowledge and expertise when deciding whether it is appropriate to apply this document.

This document may not be clinically appropriate for use in all situations and does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

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1. Introduction

This document has been developed as the service specification for the planning and delivery of a Major Trauma Centre (MTC) at the University Hospital of Wales in Cardiff for people resident in South Wales, West Wales and South Powys. This service will only be commissioned by the Welsh Specialised Services Committee (WHSSC).

1.1 Background

Major trauma is the term used to describe a serious injury that could cause permanent disability or death. Examples of major trauma include serious injuries to the head, the spine or the chest, injuries that cause someone to lose a lot of blood, and complicated breaks to the bones called complex fractures (such as a broken pelvis or a broken bone that is sticking out through the skin)[1].

People with major trauma should usually be taken to a hospital that has a Major Trauma Centre.

Major trauma is the leading cause of death in people under the age of 45 and therefore represents a serious public health problem[2]. Seriously injured adults and children are described as having suffered from major trauma if they meet the criteria of an Injury Severity Score (ISS) of 15. The ISS scores injuries from 1 to 75, the latter being the most serious and assumed unsurvivable.

In 2017 an independent panel review and a public consultation took place regarding a Major Trauma Centre which recommended that:

- A major trauma network should be quickly established for South and West Wales and South Powys with a clinical governance infrastructure.
- Adults' and children's major trauma centres should be on the same site.
- A major trauma centre should be at University Hospital of Wales, Cardiff.
- Morriston Hospital, Swansea, should become a large Trauma Unit (TU) and should have a lead role for the major trauma network.

In March 2018, the six involved Health Boards approved the establishment of the Major Trauma Network, taking into account the recommendations made in the independent panel review.

[1] https://www.nice.org.uk/guidance/ng39/resources/major-trauma-pdf-2993084064709
[2] http://www.londonscn.nhs.uk/networks/others/operational-delivery-networks/major-trauma/

Since 2012, North Wales has formed part of the North West Midlands and North Wales Trauma Network, with patients from Trauma units in Ysbyty Gwynedd, Ysbyty Glan Clwyd and Wrexham Maelor Hospital going to the Major Trauma Centre at Royal Stoke University Hospital. The Major Trauma Centre at Royal Stoke University Hospital is currently commissioned by Betsi Cadwaladr University Health Board.

The trauma network consists of a Major Trauma Centre (MTC), with a number of Trauma Units (TU's), Local Emergency Hospitals (LEH's), Rural Trauma Facilities (RTF) and rehabilitation services. Patients who are most severely injured are rapidly transferred from the scene of an incident or from other hospitals to the MTC in order to benefit from timely and efficient specialist care, with care continuing closer to home or in the community once specialist care is completed.

As determination of the ISS is undertaken retrospectively, all 'candidate' moderate and major trauma patients will be treated as actual moderate and major trauma from the outset of their MTC care.

Patients who have an ISS>15 are defined as having suffered from major trauma and patients with an ISS of 9 -15 are defined as having moderately severe trauma. It is not possible to determine the ISS at the time of injury as it requires a full diagnostic assessment and often surgical intervention in hospital. For these reasons a system of pre hospital triage is used which identifies those patients who are most likely to have had major trauma. These patients are referred to as "candidate major trauma" patients. Pre-hospital emergency services have developed major trauma decision protocols for use by crews to determine the most appropriate destination of injured patients. Those with potential major trauma injuries ("candidate major trauma" patients) will be taken directly to a Major Trauma Centre (MTC) where travel times allow. Otherwise they will be taken to the nearest Trauma Unit (TU) for rapid stabilisation and onward transfer to the MTC where those injuries exceed the capability of a Trauma Unit and in line with local protocols.

1.2 Aims and Objectives

The aim of this service specification is to define the requirements and standard of care essential for care delivered at the Major Trauma Centre.

The objectives of this service specification are to:

- Improve outcomes for people accessing major trauma services.
- Details the specifications required to deliver Major Trauma Centre services for people who are residents in Wales.
- Ensure minimum standards of care are set for the Major Trauma Centre.
- Ensure equitable access to the Major Trauma Centre.

- Identify major trauma centres that are able to provide major trauma services for Welsh patients (in Wales and in England).

1.3 Relationship with other documents

This document should be read in conjunction with the following documents:

- **NHS Wales**
  - All Wales Policy: Making Decisions in Individual Patient Funding requests (IPFR).
  - South Wales Health Collaborative: Service Model Overview Major Trauma Network (May 2015
  - Together for Health – A delivery plan for the critically ill: Welsh Government (2016)
  - A Healthier Wales: Our Plan for Health and Social Care: Welsh Government (2019)
  - Task and Finish Group on Critical Care Final Report, July 2019
- **WHSSC policies and service specifications**
  - Prosthetic and Amputee Rehabilitation Services (CP89), Service Specification
  - War Veterans - Enhanced Prosthetic Provision (CP49), Commissioning Policy
  - All Wales Posture and Mobility Services (CP59), Service Specification
  - Specialised Neuropsychiatric Rehabilitation (CP128), Commissioning Policy
  - Specialised Neurological Rehabilitation (CP140), Commissioning Policy
  - Specialised Spinal Cord Injury Rehabilitation (CP141) Commissioning Policy
  - Paediatric Specialised Neurological Rehabilitation, (CP160) Commissioning Policy
- **NHS England**
  - NHS Standard Contract for Major Trauma Service (All Ages), D15/S/a (2013) NHS England
- **Department of Health**
  - Department of Health, Operating Framework for the NHS England 2011/2012 (December 2010)

- **National Audit Office**
  - Major trauma care in England: National Audit Office (February 2010)

- **National Institute of Health and Care Excellence (NICE)**
  - Major trauma: assessment and initial management, NICE Guideline (NG39), February 2016
  - Major Trauma: service delivery, NICE Guideline (NG40), February 2016
  - Spinal Injury: assessment and initial management, NICE Guideline (NG41), February 2016
  - Fractures (non-complex): assessment and initial management, NICE Guideline (NG38), February 2016
  - Fractures (complex): assessment and management, NICE Guideline (NG37), November 2017
  - Head injury: assessment and early management, NICE Clinical Guideline (CG176), September 2019
  - Rehabilitation after critical illness in adults, NICE Clinical Guideline (CG83), March 2009

- **Other published documents**
  - Regional Networks for Major Trauma NHS Clinical Advisory Groups Report;
  - National Confidential Enquiry into Peri-Operative Deaths (NCEPOD), "Trauma who Cares", 2007.
  - The Royal College of Surgeons of England, 2009. Regional trauma systems - interim guidance for commissioners. London: The Royal College of Surgeons of England.
  - Royal College of Radiologists, Standards of practice and guidance for trauma radiology in severely-injured patients (2011).
  - The British Orthopaedic Association Standards for Trauma (BOAST)
  - NHS Clinical Advisory Groups Report, Management of People with Spinal Cord Injury (August 2011)
  - Brain Trauma Foundation guidelines for management of severe TBI
  - BSRM Core standards for Major Trauma (Rev 2.1-Nov2018)
  - Rehabilitation for patients in the acute care pathway following severe disabling illness or injury: BSRM core standards for specialist rehabilitation
  - London Major Trauma System: Management of elderly major trauma patients, Second Edition, December 2018.

- NHS Confederation: When tragedy strikes. Reflections on the NHS response to the Manchester Arena bombing and Grenfell Tower fire, 2018.
- The National Clinical Audit of Specialist Rehabilitation following major Injury (NCASRI), 2019.
- World Health Organisation, Fact Sheet, Rehabilitation. October 2020.

2. Service Delivery

Major Trauma care is delivered through an integrated Trauma Network delivery model. A Trauma Network should include all providers of trauma care, particularly pre-hospital services, other hospitals receiving acute trauma admissions (Trauma Units), Rural Trauma Facilities (RTF), Local Emergency Hospitals and rehabilitation services. The network should have appropriate links to social care and the voluntary/community sector.

Major Trauma Centres (MTC) (covered by this specification) sit at the heart of Trauma Networks as the centre of excellence, providing multi-specialty hospital care to seriously injured patients, optimised for the provision of trauma care. They are the focus of the Trauma Network and manage all types of trauma but specifically have the lead for managing specialised level services.

Within the Trauma Network the MTC:

- Is optimised for the definitive care of injured patients. In particular it has an active, effective trauma Quality Improvement programme. It also provides specialist early/hyper acute rehabilitation as well as a managed transition to rehabilitation and the community.
- Takes responsibility for the care of all patients with Major Trauma in the area covered by the Network. It also supports the Quality Improvement programmes of other hospitals in its Network.
- Provides all the major specialist services relevant to the care of major trauma, i.e. general, emergency medicine, vascular, orthopaedic, plastic, spinal, maxillofacial, cardiac, thoracic and neurological surgery, specialist early/hyper acute rehabilitation and interventional radiology, along with appropriate supporting service, such as critical care.

Within South Wales, Morriston Hospital also has a role in supporting the MTC at University Hospital Wales with specialist services.

2.1 Access Criteria

The MTC accept patients via any of the following routes:

- network pre-hospital triage tool
- silver trauma pre-hospital triage tool
- secondary transfer protocols
- arrive by direct primary transfer
- emergency secondary transfer from a trauma unit (TU)
- self-presentation.

Patients within the network who require secondary transfer because of under-triage, self-presentation or because initial travel times to specialist

MTC are greater than the agreed network protocols, will be transferred to the MTC using an "automatic acceptance" policy.

Eligible patients are those who meet the Trauma Audit and Research Network (TARN) eligibility criteria and have an ISS>8 and are treated in the designated MTC. As determination of the ISS is undertaken retrospectively, all 'candidate' moderate and major trauma patients will be treated as actual moderate and major trauma from the outset of their MTC care.

This includes people:

- Who have suffered traumatic amputation of one or more limbs.
- With a serious head injury.
- Who have suffered a number of injuries (known as polytrauma) such as combination of abdominal and chest injuries.
- With ISS of <8 who require an early/hyper acute phase rehabilitation.
- Who have suffered Major Trauma due to self-harm.

2.2 Care pathway

The whole specialised pathway of care for major trauma patients is illustrated in Annex i.

The elements which will be commissioned under this service specification relate to the MTC. The MTC will be required to work with partners such as the Welsh Ambulance Service (WAST), the Emergency Medical Transfer and Retrieval Service (EMRTS) Cymru and other pre-hospital providers, Trauma Units, Local Emergency Hospitals (LEH), Rural Trauma Facilities (RTF) and specialist and general rehabilitation providers to ensure delivery of the whole pathway including the specialised component described here. The commissioning arrangements for these partner organisations is presented separately in Appendix 1.

As part of this pathway, the MTCs themselves deliver services that can be described as acute care and surgery, on-going care and reconstruction and acute/early phase rehabilitation.

2.3 Service Description

The Major Trauma Centre (MTC) (covered by this specification) sits at the heart of the South Wales Trauma Network as the centre of excellence providing multi-specialty hospital care to seriously injured patients, optimised for the provision of trauma care. It is the focus of the Trauma Network and manages all types of trauma but specifically has the lead for managing candidate major trauma patients, providing consultant-level care and access to tertiary and specialised level services.

Within the Trauma Network the MTC:

- Is optimised for the definitive care of injured patients. In particular it has an active, effective trauma Quality Improvement programme.
- Provides specialist early/hyper acute rehabilitation.
- Manages the transition to rehabilitation and the community.
- Takes responsibility for the care of all patients with Major Trauma in the area covered by the Network.
- Supports the Quality Improvement programmes of other hospitals in its Network.

It provides all the major specialist services relevant to the care of major trauma, i.e. general, emergency medicine, vascular, orthopaedic, plastic, spinal, maxillofacial, cardiac, thoracic and neurological surgery, specialist early/hyper acute rehabilitation and interventional radiology, along with appropriate supporting services, such as critical care.

Additionally, the Network also comprises of an adult and paediatric Trauma Unit (TU), with specialist services, at Morriston Hospital, Swansea. This provides specialist support to the MTC and specialist surgery (burns, plastic, spinal and cardiothoracic surgery).

Due to the nature of major trauma care and its system, network and inter specialty delivery model there are a number of interdependent services and specialties required to work in partnership within the Network to deliver seamless and high quality care. These are described in section 2.5.

Referral

Trauma Networks will comprise one or more MTCs linked to a number of Trauma Units (TU's). Patients will be triaged to a MTC if they trigger the pre hospital triage tool or secondary transfer protocol. MTCs will have a policy of automatic acceptance for patients requiring MTC care from within the network from scene or who have been correctly triaged to a Trauma Unit/Local Emergency Hospital/Rural Trauma Facility, under triaged or self-presented. Networks will work together collaboratively ensuring patients have seamless access to care and transfer back to their locality hospital or host TU when fit for discharge from the MTC. The network will operate a policy of automatic acceptance back once MTC care is complete.

Major Trauma Centre (MTC)

A MTC (adult, child or as in this case combined) has all the facilities and specialties required to be able to treat patients with any type of injury in any combination. Patients who have an ISS greater than 8 and are treated in a MTC are covered by this specification.

Examples of such patients are those who have suffered traumatic amputation of one or more limbs, patients with a serious head injury and

patients who have suffered a number of injures (known as polytrauma) such as a combination of abdominal and chest injuries.

Elements of the service needed to treat people with major trauma should include the following:

Emergency Care and Surgery

- 24/7 consultant available on site to lead the trauma team.
- The trauma team leader should be available in 5 minutes of arrival of the patient.
- The trauma team should be appropriately trained and competent to deliver their role.
- Trauma team should be present 24 hours a day for immediate reception of the patient.
- Ability to undertake resuscitative thoracotomy in the emergency department (ED).
- A massive haemorrhage protocol should be in place for patients with severe blood loss which includes the administration of tranexamic acid within 3 hours of injury, and transfusion specialist advice should be available 24 hours a day.
- There should be 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 should be involved in surgical decision making. Emergency trauma surgery will be undertaken or directly supervised by consultants.
- A neurosurgical consultant should be involved in all decisions to operate for traumatic brain injury. There should be a network protocol in place and operational at the MTC for assessing the whole spine in Major Trauma patients.
- The following consultants should be available to attend an emergency case within 30 minutes:
    - emergency department physicians
    - general surgeon
    - anaesthetist
    - intensivist
    - trauma and orthopaedic surgeon

  - neurosurgeon
  - interventional radiologist
  - radiologist
  - cardiac surgeon
  - vascular surgeon
  - urology surgeon
  - plastic surgery
  - maxillofacial surgeon
  - ENT surgeon.
- For paediatric cases, 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.
- The MTC will ensure that thoracic surgery provision aligns with the recommendations of the Society of Cardiothoracic Surgery in Great Britain & Ireland contained within Provision of Cardiothoracic Surgical Cover for Trauma in United Kingdom & Ireland.

Diagnostics and Radiology

- Immediate (with a detailed radiological report documented within 1 hour from the start of scan, ideally within 30 minutes).
- Access to computerised tomography (CT) scanning and appropriate reporting within 60 minutes of scan.
- Availability of interventional radiology within 30 minutes of referral.

On-going Care and Reconstruction

- Immediate access to critical care or high dependency care (adult or paediatric) when required.
- A defined team to manage on-going patient care, including a trauma and rehabilitation co-ordinator to support patients through the pathway and into rehabilitation.
- A Multi-Disciplinary Team of allied health professional's (AHPs) is required providing specialist nursing and allied health professional trauma roles.
- Access to cross speciality supporting services which should include pain management, rehabilitation medicine (which usually includes management of disturbed behaviour) and neuropsychology and neuropsychiatry.
- A defined ward for major trauma patients.

- A ward environment suitable for people with disability to practice and maintain their activities, specifically having enough space for people to get up and dress with some privacy, having toilets and baths/showers safely accessible for assisted or independent use by patients, and having facilities to allow the making of snacks and hot drinks.
- A nursing team in the ward, who are able to facilitate practice of and independence in functional activities by the patient, and undertake activities with the patient as advised, by the rehabilitation team.

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, the output being an initial formulation (analysis of relevant factors) and plan to include a documented rehabilitation prescription.
- The prescription for rehabilitation reflects the assessment of the physical, functional, cognitive, psychological, social rehabilitation, vocational and educational needs of a patient. The prescription for rehabilitation should be coproduced with the patient to ensure alignment with their goals and realities of their life.
- 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 (without exception) 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 are involved in deliberations and decisions about their care and rehabilitation.
- All patients needing rehabilitation input or monitoring to be under the care of a Consultant-delivered team that includes rehabilitation nurses, identified allied health professionals and a consultant in rehabilitation medicine or alternative Consultant such as an Allied Health Professional or Nurse Consultant with skills and competencies in rehabilitation as a Multi-Disciplinary Team approach is required. This team will meet weekly to discuss all patients within the scope of

this specification in the MTC (Including those in Intensive Care Units (ICU) and ward areas); a speciality trainee registrar (StR) at St4 or above in rehabilitation may deputise for a consultant on occasion but a consultant should attend over 80% of meetings and continue to provide supervision and support to the team.

Psychiatry

Patients who suffer Major Trauma due to self-harm should have access to acute psychiatric services in Major Trauma Centres with a 24/7 on-call consultant psychiatrist/child psychiatrist & liaison mental health service available on site to provide timely advice and support. Where necessary, access to a neuropsychiatric assessment should be available, Staff on major adult or paediatric trauma units should be provided with training to help them identify the common mental health disorders which occur in response to major trauma, and to manage the related risk behaviours. This service should be available with equity for adults and children.

Burns

Where burn injury occurs in isolation or alongside less serious injury then patients should be transported in accordance with local pre-hospital triage protocols. Ideally this would be to an Emergency Department associated with a Specialised Burn Service. This would ensure that burns expertise is available on site and thus reduce the potential need for a secondary transfer. Where this is not possible, transfer to an appropriate specialised burn service should occur as early as possible after injury.

Network Delivery

- MTCs should provide clinical advice to other providers within the network. This should include; in pre-hospital stage and whilst patients are awaiting transfer to the MTC for definitive treatment or following acute care when the patient is discharged to on-going specialised or local rehabilitation services.
- For major trauma patients triaged to a TU (due to local geographical or triage tool arrangements) requiring secondary transfer, this should occur within 48 hours of referral. For those patients that require definitive care at the MTC and those with a serious head injury, they should be transferred to the MTC without delay.
- The MTC should commit to being actively engaged and contributing to the Trauma Network, particularly in operational requirements, training, governance and audit.
- The MTC should deliver care and access to treatment in line with locally agreed network protocols and guidelines.
- The MTC as a part of its role within the network should effectively collaborate with all other organisations within the trauma network

system in order to ensure benefits for patient's right across the pathway.

Communication

- Patients are active contributors to developing plans for themselves and implementing these. Therefore effective communication is needed between all those responsible for the patient's care, the patient and where appropriate their family and other carers.
- Patients should be provided with a full range of condition-specific information in appropriate formats.
- Operational Delivery Network (ODN) for Major Trauma should take an active role in supporting network-wide communication.

Audit, Data Management, Governance and Quality Improvement

- Full data submission to the Trauma Audit and Research Network (TARN) within 25 calendar days following a patient's discharge
- The MTC should be responsible for drawing down from TARN their report and ensuring the ISS is confirmed within the Commissioning data set
- The MTCs should be responsible for their clinical governance, and will collaborate in a quality improvement programme using TARN data as its basis as members of the Network.

Networks should meet regularly to examine performance through formal governance processes, as defined in the Operational Delivery Network (ODN), Service Specification. Performance improvement should be undertaken through TARN assessment meetings, morbidity and mortality meetings, and the clinical governance, audit and quality committees and from full participation in the ODN and the Commissioner led Delivery Assurance Group.

Where an MTC has key services located across more than one site, an operational plan should be available that describes how major trauma patients are treated and patient outcomes delivered.

The MTC takes responsibility for the care of all patients referred with major trauma in the area covered by the Network; as defined by local protocols and capabilities of local Trauma Units and transfer arrangements to a MTC for under triage and secondary transfer protocols. It also supports the Quality Improvement programmes of other hospitals in its Network

Education and Training

The MTC should ensure that each healthcare professional within the major trauma service has the training and skills to deliver, safely and effectively, as defined by the Operational Delivery Network.

Referral processes and sources

The major trauma patient pathway is an emergency pathway with patients triaged through the local ambulance service or referred on by Trauma units (TU)/Local Emergency Hospitals (LEH) /Rural Trauma Facilities (RTF).

Some patients who are triaged into a MTC may require immediate onward referral. The appropriate guidelines for each condition should be used in this situation.

Discharge criteria and planning

Patients may be discharged to a number of on-going destinations. A number will be discharged home from the MTC following assessment in the emergency department or after a period of in-patient treatment. Others will require on-going management and will be transferred to an appropriate healthcare provider within the same or a different network.

A few patients will be transferred rapidly for further acute specialist care – this includes patients with severe burns, and those requiring reconstructive surgery. Some patients will require admission to specialist rehabilitation centre such as those for neurological rehabilitation. It may also include onward referral for amputee rehabilitation, equipment and prosthetics and to local general rehabilitation services.

Patient-Centred Services

Across networks there should be a focus on delivery of patient centred services which consider all of the health and well-being needs of people who have sustained traumatic injuries. Patients should be active participants in all aspects of discussions about, plans for and delivery of their care needs. The important role of family and friends should be acknowledged and actively supported. Services should ensure:

- Every patient has a named coordinator for their care, and will work with consistently on all aspects of their needs
- Early identification of a responsible individual (either relative or independent advocate) for patients who have a lack of capacity either because of their trauma or because of pre-trauma issues.
- Routine involvement of the patient and their family/carers, including early and repeated case meetings wherever possible, to discuss all care and injury management decisions, including coordination and planning of interventions.

- A ”patient-welfare-centred” framework that permeates all stages of care for trauma patients. This should start with training of all medical and non-medical staff regarding the ethos of such a service and how it relates to personnel infrastructure.
- All patients should have a patient held record which continues their clinical information and treatment plan from admission through to specialised or local rehabilitation (supported by the prescription for rehabilitation). In the case of paediatrics, this can be an age related hand held record for the patient and a full hand held record for the parent or carer.
- A framework where all aspects of patients health, well-being, medical and non-medical needs are overseen by one team, and specifically coordinated by one member of this team. Consideration of the impact of the physical environment and care processes (ward rounds, discussions about medical and non-medical requirements) on patients, with paramount importance given to promotion of patient privacy, dignity and independence in functional activities.
- Evaluation of services should go beyond mortality rates and focus more on assessing patients’ well-being in the hospital environment and achievement of optimum function in the context of their personal preferences.
- A holistic trauma care framework which includes parents/family/carer in service design, to include:
    - Flexible visiting hours (according to local hospital protocols) Addressing transport and accommodation needs of Parents/family/ carer (e.g. providing car parking, kitchen facilities and accommodation for close relatives who have to travel a reasonable distance to the Trauma Centre.
    - Making available information for support services of relevant voluntary sector organisations in individual care plans from the outset which may include access to counselling, psychological and pastoral service for patients and family members.
    - Providing access to patient and carer support groups with other patients, carers, parents who have been through the major trauma pathway.
    - Coordination of medical, nursing and rehabilitation packages of care.
    - The Trauma and Rehabilitation team needs to have understanding of the psychological and social impact of disfigurement and impact of traumatic injuries sustained.
    - Early involvement of continuing care or social care where assessments for funding are required to facilitate onward referral and placement.

Care of the Older Person

Given the expected rise in the proportion of elderly patients within the trauma system, it is appropriate that all local and network guidelines relating to trauma should include elements which are specific to older and/or frail patients.

Adult patients aged 65 years and over (but this could be younger if frailty is deemed an issue in patients younger than 65 years) who are admitted to an MTC following traumatic injury should within 72 hours of admission (or extubation if intubated) receive:

- A review and assessment by a geriatrician (defined as Consultant, Non-Consultant Career Grade (NCCG) or Specialist Trainee ST3+) for:
  - comprehensive geriatric assessment including use of a clinical frailty scale (documented in the notes and on TARN database)
  - any need for mental health or psychology input (e.g. domestic abuse)
  - confirmed collateral history of premorbid level of function (i.e. further details added to admission information from primary care, family, carers etc.)
  - consideration of poor prognosis and pre injury baseline with 'watchful waiting' of the patient's progress. The lack of response to injury or treatment may take longer in elderly patients. This should include exclusion of reversible medical causes and decision about the optimum location for care
  - advanced care/palliative planning, rehabilitation and support services.

Operational Deliver Network (ODN)

Swansea Bay University Health Board hosts the ODN. The service standards, roles and responsibilities are defined within the service specification for Trauma Operational Delivery Network (ODN).

The ODN should ensure quality standards and networked patient pathways are in place. They will focus on an operational role, supporting the activity of Provider Health Boards in service delivery, improvement and delivery of a commissioned pathway, with a key focus on the quality and equity of access to service provision. This will allow for more local determination, innovation and efficiency across the pathway.

The ODN should ensure that there is a major trauma audit programme to evaluate systems, services and processes as part of the major trauma network's quality improvement programme. Working with WHSSC as the commissioners of the MTC, the ODN should take an active role in the

performance management of the operational delivery for the MTC and other component parts of the Major Trauma.

2.4 Interdependencies with other services or providers

Major Trauma generates complex clinical problems and injuries, successful management of patients involves a number of interdependent and/or co-located specialities and agencies. Each MTC is required to describe how a service which crosses speciality boundaries is delivered to produce a comprehensive trauma service, and to commit to a comprehensive governance framework.

Interdependent Services

Interdependencies with other clinical networks are:

- Neurosurgery and Neurosciences Centres
- Spinal Cord Injury Services
- Plastic Surgery Centre
- Burns Network
- Critical Care Network

Interdependencies with Local Health Boards' commissioned pathways and services are:

- Patients with ISS 1 - 8 and patients who do not meet the TARN criteria for inclusion
- Patients with an ISS 1 – 75 treated in a provider other than an MTC (NB. The Trauma Network should be maturing and using governance arrangements to ensure that patients with high ISS are triaged as either primary or secondary transfers to an MTC in line with local protocols).
- Welsh Ambulance Service, Emergency Medical Retrieval and Transfer Service (EMRTS) Cymru and the Wales & West Acute Transport for Children Service (WATCh)
- Rehabilitation, Reablement and Recovery services in non MTC providers i.e. TU, LEH, RTF
- Mental Health and Psychology Services
- Continuing Care commissioned pathways

Related services

Services either at the preceding or following stage of the patient journey:

- Welsh Ambulance Service
- EMRTS
- WATCh
- Trauma Unit Services
- Local hospitals and community rehabilitation services

- Search and Rescue Services (e.g. Search and Rescue, Mountain and Cave Rescue, Voluntary Rescue Services)
- Specialised rehabilitation services
- Spinal cord injury rehabilitation services
- Primary care
- Burns services
- Voluntary sector support services
- Community services

Co-located services

- Emergency Medicine
- Radiology
- Interventional Radiology
- Neurosurgery
- Spinal Cord Injury Services (acute)
- Vascular Surgery
- General Surgery
- Cardiac Surgery
- Trauma and Orthopaedic Surgery
- Maxillo-Facial Surgery
- Ear Nose and Throat Surgery
- Transfusion Services
- Pathology Services
- Anaesthetics
- Theatres
- Intensive Care
- Early/Hyper Acute Phase Rehabilitation Services
- Clinical Psychology
- Organ Donation

Thoracic surgery

Given the geographical configuration of cardiac and thoracic surgical units the Major Trauma Centre should ensure it demonstrates adherence to the recommendations of the Society for Cardiothoracic Surgery in Great Britain & Ireland.

The recommendations are as follows;

1. Given the variation in trauma cover by cardiothoracic surgical units throughout the United Kingdom & Ireland, it is not appropriate to be prescriptive about the required model of care. Nevertheless, it is vitally important that MTCs know how to obtain rapid cardiothoracic surgical advice and help when necessary. Therefore, all

cardiothoracic units should publish a rota or rotas detailing the arrangements for covering cardiothoracic trauma. This may take the form of separate thoracic and cardiac surgical rotas with both specialties taking equal responsibility. Alternatively, units may prefer to have one specialty 'first on-call' with the other reserved for specific cases and to be contacted by the first on-call service when needed. The first on-call service can be provided by either cardiac or thoracic surgery.

2. It is not practical for on-call cardiothoracic surgeons to be able to attend in an appropriate timeframe for salvage procedures (i.e. immediately). They should, however, be available for immediate telephone advice and attend urgently when available.
3. MTCs should ensure that there are on-site trauma teams available to perform salvage incisions, control major haemorrhage, relieve tamponade and insert chest drains. This should be the responsibility of the trauma team. Cardiothoracic surgeons, however, will be involved in the training of these trauma teams.
4. Cardiothoracic units should work with their local trauma teams for education and training, as well as audit.
5. Dedicated trauma theatres and wards are encouraged for improving care of cardiothoracic trauma patients. Alternatively, necessary capacity should be provided in cardiothoracic units.
6. Cardiothoracic units should define who has managerial accountability for trauma. The specifics of this role would depend on individual units but would include:
    a. setting up of a published rota, providing both thoracic and cardiac surgical cover for the local major trauma centre/trauma unit, and supervising the implementation of the rota
    b. organising education, training and audit of cardiothoracic trauma
    c. collaborating on the writing of local guidelines and standard operating protocols for trauma.

2.5 Acceptance Criteria

The service outlined in this specification is for patients ordinarily resident in Wales, or otherwise the commissioning responsibility of the NHS in Wales. This excludes patients who whilst resident in Wales, are registered with a GP practice in England, but includes patients resident in England who are registered with a GP Practice in Wales. However should a non-Welsh resident require treatment from the MTC within Wales then it is expected that they would receive the required care.

2.6 Exclusion Criteria

All patients who trigger the networks major trauma triage tool should be taken to a MTC and will be "candidate" major trauma patients, although in practice some patients will turn out not to have major trauma.

Patients with ISS<=8 will not be commissioned by WHSSC and will remain the commissioning responsibility of their Local Health Board. Local Health Boards will have commissioning responsibility for Major Trauma cases managed by Trauma Units.

2.7 Service provider/Designated Centre

Major Trauma Centre
University Hospital of Wales
Heath Park
Cardiff
CF14 4XW

2.8 Exceptions

If the patient needs to be moved as an emergency to a provider outside of the agreed pathway, this should be undertaken according to the protocols of the Operational Delivery Network. Patients requiring future access to specialised services will be subject to the acceptance criteria of the relevant commissioning policy for that particular service or treatment.

3. Quality and Patient Safety

The provider must work to written quality standards and provide monitoring information to the lead commissioner, usually via the ODN. The quality management systems must be externally audited and accredited.

The centre must enable the patients, carers and advocates informed participation and to be able to demonstrate this. Provision should be made for patients with communication difficulties and for children, teenagers and young adults.

3.1 Quality Indicators (Standards)

The Major trauma network for South Wales, West Wales and South Powys should adopt the NHS England Major Trauma Services Quality Indicators which are presented separately in Appendix 2.

Major Trauma Centre Quality indicators, Adult and Children's are divided into 3 sections:

- Reception and Resuscitation
- Definitive Care Quality indicators
- Rehabilitation Quality indicators

Where there is a phased approach to the adoption of any standards or variation in particular due to the current geographical configuration of services, clinically appropriate mitigation plans should be agreed with the Operational Delivery Network and WHSSC.

A number of protocols and standards should be developed and used, including a triage tool for the ambulance service and local protocols for management of specific conditions.

The responsibility for the quality indicators lies with the major trauma lead clinician for the MTC.

As a combined adult and children's centre it is expected the service will be reviewed against both adult and children's quality indicators. This will enable the service to demonstrate how they fulfil both roles.

3.2 National Standards and Guidelines

- NICE guideline: Major trauma: assessment and initial management [NG39], 2016
- NICE Head injury: assessment and early management Clinical guideline [CG176], 2014
- Brain Trauma Foundation, Guidelines for the pre-hospital management of Traumatic brain injury 2nd edition, 2007

- Brain Trauma Foundation, Guidelines for the treatment of traumatic brain injury 4th edition, 2016.
- Brain Trauma Foundation, Guidelines for the surgical management of brain injury, 2006.
- Brain Trauma Foundation, Guidelines for the Management of Pediatric severe traumatic brain Injury, 3rd Edition, 2019.
- British Society of Rehabilitation Medicine, Specialist Rehabilitation in the Trauma pathway: BSRM core standards v2.1, 2018.
- Royal College of Radiologists, Standards of Practice and Guidance for Trauma Radiology in Severely Injured Patients, 2nd edition 2015
- British Orthopaedic Society Standards for Trauma (BOAST)
- National Spinal Cord Injury Strategy Board (NSCISB), the Initial Management of Adults with Spinal Cord Injuries (SCI), 2012
- NHS Wales, Health and Care Standards, April 2015.
- Welsh Government, National Standards and Outcomes Framework for Children and Young People in Wales, 2019.
- Trauma Operational Delivery Network, Service Specification (CP199), Welsh Health Specialised Services Committee, February 2021.

3.3 Other quality requirements

- The provider will have a recognised system to demonstrate service quality and standards.
- The service will have detailed clinical protocols setting out nationally (and local where appropriate) recognised good practice for each treatment site.
- The quality system and its treatment protocols will be subject to regular clinical and management audit.
- The provider is required to undertake regular patient surveys and develop and implement an action plan based on findings.

4. Performance monitoring and Information Requirement

4.1 Performance Monitoring

WHSSC is responsible for commissioning services in line with this policy. This will include agreeing appropriate information and procedures to monitor the performance of organisations. Performance monitoring and reporting will be through the ODN and discussed at the Delivery assurance Group (DAG).

For the services defined in this policy the following approach should be adopted:

- Service providers to evidence quality and performance controls
- Service providers to evidence compliance with standards of care
- Service providers to participate in the TARN audit, Patient experience (PREMS) and data completeness and accreditation figures should be reviewed at network audit meetings and improvement plans put in place.
- Service providers to participate in national peer review.
- Service efficiency and productivity will be reviewed via benchmarking with other Centres.
- Service providers to demonstrate evidence of collaboration with the wider network.

WHSSC should conduct performance and quality reviews on an annual basis

4.2 Key Performance Indicators

The providers are expected to monitor against the full list of Standards and Quality Indicators described in Sections 2 and 3

The provider should also monitor the appropriateness of referrals into the service and provide regular feedback to referrers on inappropriate referrals, identifying any trends or potential educational needs.

4.3 Date of Review

This document is scheduled for review before 2024 where WHSSC will check if any new evidence is available.

If an update is carried out the policy will remain extant until the revised policy is published.

5. Equality Impact and Assessment

The Equality Impact Assessment (EQIA) process has been developed to help promote fair and equal treatment in the delivery of health services. It aims to enable Welsh Health Specialised Services Committee to identify and eliminate detrimental treatment caused by the adverse impact of health service policies upon groups and individuals for reasons of race, gender re-assignment, disability, sex, sexual orientation, age, religion and belief, marriage and civil partnership, pregnancy and maternity and language (Welsh).

This policy has been subjected to an Equality Impact Assessment.

The Assessment demonstrates the policy is robust and there is no potential for discrimination or adverse impact. All opportunities to promote equality have been taken.

6. Putting Things Right

6.1 Raising a Concern

Whilst every effort has been made to ensure that decisions made under this policy are robust and appropriate for the patient group, it is acknowledged that there may be occasions when the patient or their representative are not happy with decisions made or the treatment provided.

The patient or their representative should be guided by the clinician, or the member of NHS staff with whom the concern is raised, to the appropriate arrangements for management of their concern. Concerns should be made to the ODN and/or the respective Health Board.

If a patient or their representative is unhappy with the care provided during the treatment or the clinical decision to withdraw treatment provided under this policy, the patient and/or their representative should contact their own Health Board as they are responsible for the patients' care.

6.2 Individual Patient Funding Request (IPFR)

If the patient does not meet the criteria for treatment as outlined in this policy, an Individual Patient Funding Request (IPFR) can be submitted for consideration in line with the All Wales Policy: Making Decisions on Individual Patient Funding Requests. The request will then be considered by the All Wales IPFR Panel.

If an IPFR is declined by the Panel, a patient and/or their NHS clinician has the right to request information about how the decision was reached. If the patient and their NHS clinician feel the process has not been followed in accordance with this policy, arrangements can be made for an independent review of the process to be undertaken by the patient's Local Health Board. The ground for the review, which are detailed in the All Wales Policy: Making Decisions on Individual Patient Funding Requests (IPFR), must be clearly stated

If the patient wishes to be referred to a provider outside of the agreed pathway, and IPFR should be submitted.

Further information on making IPFR requests can be found at: Welsh Health Specialised Services Committee (WHSSC) | Individual Patient Funding Requests

7. Annex and Appendices

Annex

Annex i Patient Pathway

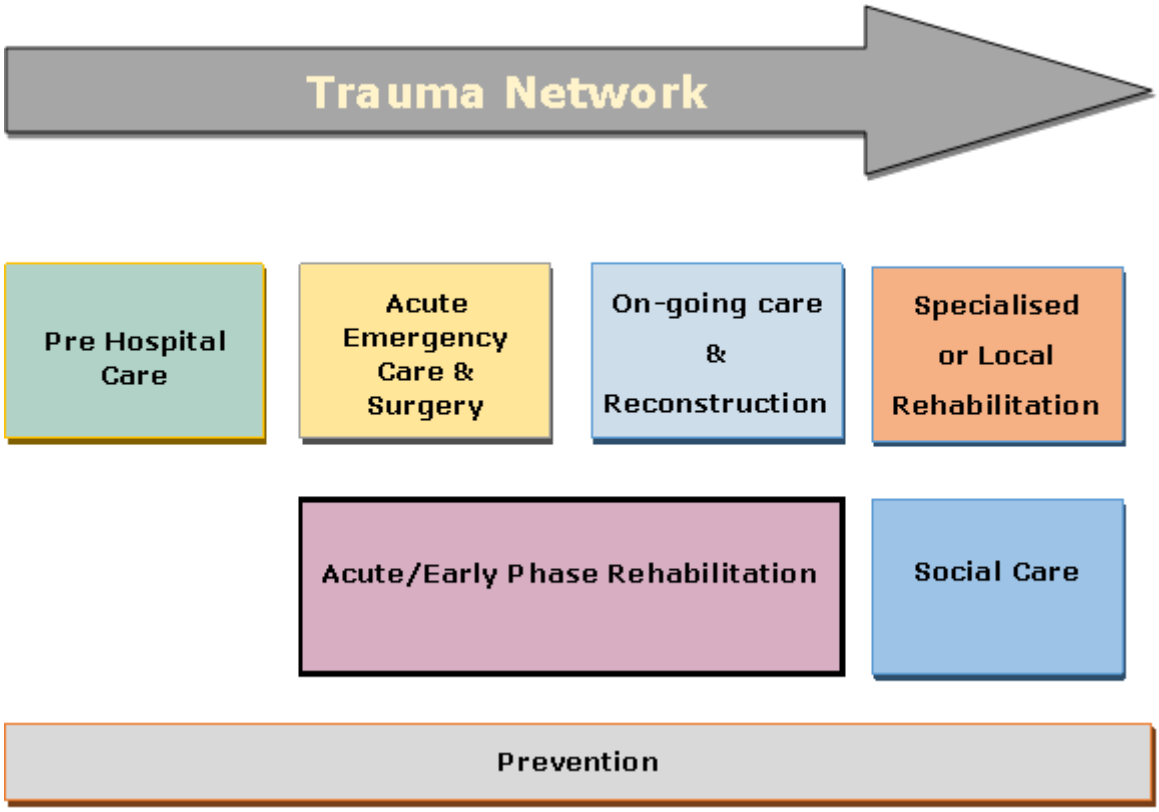
Annex ii Abbreviations & Glossary

Appendices

Appendix 1 Commissioning & governance arrangements for partner organisations within the Major Trauma Network.

Appendix 2 Major Trauma Services Quality Indicators

Annex i Patient Pathway



Annex ii Abbreviations and Glossary

Abbreviations

BOAST	British Orthopaedic Society Standards for Trauma
CT	Computerised Tomography
ED	Emergency Department
EMRTS	Emergency Medical Retrieval and Transfer Service
EqIA	Equality Impact Assessment
FRI	Fracture Related Infections
ICU	Intensive Care Unit
IPFR	Individual Patient Funding Request
ISS	Injury Severity Score
LEH	Local Emergency Hospital
MTC	Major Trauma Centre
NCCG	Non consultant Career Grade
NICE	National Institute of Health & Care Excellence
NSCISB	National Spinal Cord Injury Strategy Board
ODN	Operational Delivery Network
SCI	Spinal Cord Injuries
SR	Specialist Rehabilitation
StR	Speciality Trainee Registrar
TARN	Trauma Audit Research Network
TU	Trauma Units
WATCh	Wales & West Acute Transport for Children Service
WHSSC	Welsh Health Specialised Services Committee

Glossary

Computerised Tomography

A computerised tomography (CT) scan uses X-rays and a computer to create detailed images of the inside of the body. CT scans are sometimes referred to as CAT scans or computed tomography scans.

Emergency Department

An emergency department (ED), also known as an accident & emergency department (A&E), emergency room (ER), emergency ward (EW) or casualty department, is a medical treatment facility specializing in emergency medicine, the acute care of patients who present without prior appointment; either by their own means or by that of an ambulance.

Emergency Medical Retrieval and Transfer Service

The Emergency Medical Retrieval and Transfer Service Cymru is a pre-hospital critical care service in Wales. It is partnership between Wales Air Ambulance, Welsh Government and NHS Wales.

Equality Impact Assessment

An equality impact assessment is a process designed to ensure that a policy, project or scheme does not discriminate against any disadvantaged or vulnerable people.

Hyper Acute Rehabilitation

Hyper-acute rehabilitation refers to the very early stage of rehabilitation for patients who have been stepped down from critical care or high dependency units and still have unstable medical needs.

Inclusive Trauma System

An Inclusive Trauma System describes a model in which commissioners, providers, public health representatives and other stakeholders of trauma care in a geographical region collaborate to plan, provide and manage the treatment of people injured as a result of Major Trauma.

Intensive Care Unit

Intensive care units (ICUs) are specialist hospital wards that provide treatment and monitoring for people who are very ill. They're staffed with specially trained healthcare professionals and contain sophisticated monitoring equipment. ICUs are also sometimes called critical care units (CCUs) or intensive therapy units (ITUs).

Individual Patient Funding Request

An IPFR is a request to Welsh Health Specialised Services Committee (WHSSC) to fund an intervention, device or treatment for patients that fall outside the range of services and treatments routinely provided across Wales.

Injury Severity Score

The Injury Severity Score (ISS) is an established medical score to assess trauma severity. It correlates with mortality, morbidity and hospitalization time after trauma. It is used to define the term major trauma. A major trauma (or polytrauma) is defined as the Injury Severity Score being greater than 15.

Local Emergency Hospital

The Local Emergency Hospital (LEH) is a hospital in the Trauma Network that does not routinely receive acute trauma patients (excepting minor injuries that may be seen in an MIU). It has processes in place to ensure that should this occur patients are appropriately transferred to a MTC or

TU. It may have a role in the rehabilitation of trauma patients and the care of those with minor injuries.

Major Trauma

Major trauma is any injury that has the potential to cause prolonged disability or death. There are many causes of major trauma, blunt and penetrating, including falls, motor vehicle collisions, stabbing wounds, and gunshot wounds. Depending on the severity of injury, quickness of management and transportation to an appropriate medical facility may be necessary to prevent loss of life or limb. The initial assessment is critical, and involves a physical evaluation and also may include the use of imaging tools to determine the types of injuries accurately and to formulate a course of treatment.

Major Trauma Centre

A multispecialty hospital, on a single site, optimised for the provision of trauma care for all types of injuries through the provision of consultant level care. It will have access to all major trauma specialist services relevant to major trauma. It will provide a managed transition to rehabilitation and the community. It will take responsibility for the care of all patients with major trauma in the region covered by the network via an automatic acceptance policy. In addition to an active, effective quality improvement programme, it will collaborate and support other hospitals in the network. The adult and paediatric MTC for the region will be at UHW.

Non consultant Career Grade

A staff or associate specialist doctor—who is neither in training nor a consultant doctor.

National Institute of Health & Care Excellence

The National Institute for Health and Care Excellence (NICE) provides national guidance and advice to improve health and social care.

Operational Delivery Network

The term ‘ODN’ was developed in NHS England in 2012, to reflect the shift in the function of some clinical networks to focus on coordinating patient pathways between providers over a wide area to ensure access to specialist resources and expertise.

Specialist Rehabilitation

Specialist rehabilitation is delivered by a multi-professional team who have undergone recognised specialist training in rehabilitation, led/supported by a consultant trained and accredited in rehabilitation medicine.

Trauma Audit Research Network

Delivering, measuring and assuring the benefits of a trauma network all depend upon high quality process and outcome data. The Trauma Audit and Research Network (TARN) dataset provides for these requirements. TARN also provides the framework for PROMs and PREMs for trauma patients.

Trauma Units

A Trauma Unit (TU) is a hospital in a Trauma Network that provides care for most injured patients and:

- Is optimised for the definitive care of injured patients. In particular, it has an active, effective trauma Quality Improvement programme. It also provides a manged transition to rehabilitation and the community.
- Has systems in place to rapidly move the most severely injured to hospitals that can move the most severely injured to hospitals that can manage their injuries.
- May provide some specialist services for patients who do not have multiple injuries (e.g. open fibial fractures). The Trauma Unit then takes responsibility for making these services available to patients in the Network who need them. Other Trauma units may have only limited facilities, being able to stabilise and transfer serious cases but only to admit and manage less severe injuries.

Wales & West Acute Transport for Children Service

The Wales & West Acute Transport for Children Service (WATCh) is a jointly commissioned team responsible for the safe transfer of critically ill children across South West England and South Wales. The team co-ordinates and undertakes the transfer of children into the two regional PICUs in Bristol and Cardiff.

Welsh Health Specialised Services Committee (WHSSC)

WHSSC is a joint committee of the seven local health boards in Wales. The purpose of WHSSC is to ensure that the population of Wales has fair and equitable access to the full range of Specialised Services and Tertiary Services. WHSSC ensures that specialised services are commissioned from providers that have the appropriate experience and expertise. They ensure that these providers are able to provide a robust, high quality and sustainable services, which are safe for patients and are cost effective for NHS Wales.