# REHABILITATION

## Directory of Rehabilitation Services

1. It is a requirement that all Major Trauma Networks maintain an up-to-date Directory of Rehabilitation Services.

2. The Directory should be easily available to all clinicians working in the Severn Major Trauma Network (SMTN).

3. There needs to be robust and straight forward processes in place to ensure that services can be added or removed from the Directory in a timely manner.

4. There needs to be robust and straight forward processes in place to ensure that the data maintained in the Directory is accurate.

## Background

The Major Trauma Services Quality Indicators (T16-1C-112) stipulate that each Major Trauma Network should maintain a Directory of Rehabilitation Services. This requirement is not further qualified but it is presumed that the intent is to facilitate clinicians in obtaining the rehabilitation services required to meet any need that has been identified and assist in the handover of patients from one team to another.

It is recognised that with approximately 40% of patients admitted to the Major Trauma Centre (MTC) being either repatriated to their local Trauma Unit (TU) or the patient's local community services that such information is valuable to ensure that all patients receive the rehabilitation care they require.

A smaller number of patients, principally those with Traumatic Brain Injury, Spinal Cord Injury or complex amputations, may require onward referral to specialist units some of which may lie outside of the SMTN. The relevant contact information and a brief outline of the services they provide needs to be readily available.

## Nature of the Rehabilitation Directory

**The Directory of Rehabilitation Services will be maintained as a protected Excel Spreadsheet. The Directory will include:**

- A brief description of rehabilitation services relevant to the SMTN along with contact details to facilitate referrals- SMTN Rehabilitation Teams
- Network Rehabilitation Contacts
- List of National Major Trauma Centre coordinators and rehabilitation coordinators.

## Who the Directory is Aimed At

The Directory is aimed at all clinicians and support staff working within the SMTN. It is not intended as a patient or public accessible document as it contains personal contact information.

## How the Directory is Accessed

The Directory will be made available through the SMTN Website https://www.nbt.nhs.uk/severn-major-trauma/smtn-information

## Who is Responsible for Maintaining the Directory

The responsibility for ensuring the Directory is maintained and any significant changes communicated to the SMTN will reside with the Network Manager Victoria.Legrys@nbt.nhs.uk and Network Director of Rehabilitation (interim) Stephen.Novak@nbt.nhs.uk

## How Information can be Added or Removed from the Directory

Any changes such as addition and removal of contacts or services should be communicated to the Major Trauma Team at Southmead Hospital via email MajorTrauma@nbt.nhs.uk

## Tertiary Survey

1. Tertiary survey (TS) is a mandatory aspect of trauma management at North Bristol NHS Trust.

2. It should be conducted by a member of the specialist team looking after the patients inpatient care of at least registrar or more senior.

3. It should be conducted at 24 hours and once the patient is as fully alert, responsive and able to communicate as possible – at day 14 or at least 72 hours prior to discharge if less than 14 days.

4. The tertiary survey consists of 4 elements: clinical record review, laboratory review, radiological review and full top-to-toe examination.

5. Results of the tertiary survey should be documented on the specific proforma (see Appendix BB, page 294).

## Background

The tertiary survey (TS) is a patient evaluation that identifies and catalogues all injuries after the initial resuscitation and any subsequent emergent operative interventions. It is a comprehensive review of the medical record with emphasis on the mechanism of injury and pertinent co-morbid factors. The TS includes the repetition of the primary and secondary surveys, a review of all laboratory data, and a review of all related radiographic studies. Any new physical findings require further studies to rule out missed injuries.

Systematic re-evaluation of the multiply-injured trauma patient with the tertiary trauma survey reveals missed injuries that have the potential to be clinically significant factor and affect patient morbidity and mortality.

The evidence base suggests that that to understand the aetiology of missed injuries and to appreciate the significance of early detection improves morbidity and mortality in major trauma patients.

The incidence of missed injuries ranges from 9% to 65% of admitted blunt trauma patients following standard primary and secondary survey, though most studies reporting this data were conducted before routine use of CT as an adjunct to initial assessment in ED.

## Timing

The tertiary survey should typically be conducted at around 24 hours in all patients.
If the patient is not fully awake at this time, the tertiary survey should still be performed, but is repeated once again when the patient has extubated, is alert and responsive and able to communicate any complaints, or has achieved their best expected GCS, at 14 days following admission or at least 72 hours prior to discharge from the MTC.
For patients transferred into the MTC as tertiary referrals, the tertiary survey should be completed as soon as possible after admission.

## Responsible Clinician

The clinician accountable for ensuring correct completion of the tertiary survey will be the named consultant for the patient's inpatient specialty. This will likely be orthopaedics, neurosurgery, general surgery or plastic surgery.
The trauma team leader (TTL) for the patient's admission or a major trauma practitioner may also request that a clinician undertakes the tertiary survey or confirm it has been completed.
Compliance with the tertiary survey will be monitored via regular audit presented to the major trauma management committee.

## Performing the Tertiary Survey

**Tertiary survey consists of several stages:**

- Review of all documentation to understand mechanism and kinetics of injury and treatment interventions to date as well as relevant baseline clinical findings from earlier patient assessments.
- Review of all laboratory investigations
- Review of all radiologic investigation images and reports. (Recognising that occasionally, reports may not identify minor radiological abnormalities indicative of injury). The name and grade of the radiologist completing the report and certifying the report should be noted.
- Head to toe clinical examination of the alert patient.
- A further TS will be required once the results of any additional investigations are available.
- The results of the tertiary survey can be documented on the TS record, a copy of which is found in the appendix BB (page 294).

# Nutrition on ICU for Major Trauma Patients

1. Feeding should be started early (oral, enteral or parenteral nutrition)
2. Use validated predictive equations to accurate calculate nutritional requirements
3. There should be regular monitoring of biochemistry and timely appropriate supplementation when required

## Early Nutrition (Within 12 Hours of Admission to ICU)

Place NG tube (avoid Ryles)
Refer to ICU protocol to start appropriate feed and rate until Dietetic review at earliest opportunity
**Policy:** Enteral Nutrition Policy

## Requirements

**Calculated by Dieticians**
Ventilated patients: Penn State equation
Non-ventilated patients: Condition specific predictive equation

## Micronutrients

Additional vitamin, mineral and trace element supplementation is required should deficiencies present. If feeds prescribed are not nutritionally complete, a multivitamin prescription is required.
Long stay patients may require additional blood tests for specific vitamin, mineral or trace elements.
**Policy:** Enteral Nutrition Policy, Refeeding Guidelines

## Overcoming Delayed Gastric Emptying

**If gastric residual volumes <250mls or a large vomit:** Start metoclopramide 10mg IV TDS (24 hours)

**If ongoing large aspirates:** Place NJ feeding tube OR start erythromycin 250mg QDS IV

**Policy:** Enteral Nutrition Policy

## TPN

Should be considered in those who have confirmed ileus or where no enteral access is obtainable.

Out of hours TPN available on ICU only on Trust Intranet

During weekdays – Dietitian to prescribe

**Policy:** Parental Nutrition Policy

# Amputee Referral Pathway

1. All patients with traumatic amputations should be referred to the Bristol Centre for Enablement

2. All patients need a referral form signed by their consultant or registrar (electronic form in the J drive)

3. If unsure whether a referral form has been sent, contact the prosthetic secretaries – Joanne Sargent ext 04610 / Helen Ford ext 04609

4. Advice and support from the counselling service is available for inpatients

5. The centre provides advice and treatment options for post amputation phantom pain

## Referral Pathway

All traumatic amputees (i.e. amputations resulting from a traumatic cause including delayed primary amputation) should be referred to the Bristol Centre for Enablement (previously called the Disablement Service Centre (DSC)) for their multidisciplinary service.

This is regardless of whether you think they will be able / fit enough to use a prosthesis; patients will benefit from counselling and support as a minimum.

**Bristol Centre for Enablement General Number:** 0300 3000110

Patients in England now have the option to choose any limb centre they wish in England e.g. there is Bristol and Exeter. However, it is still worth referring to Bristol centre and they will pass on the details to the appropriate when patient is moved/repatriated etc.

**All patients need a referral form signed by their consultant or registrar.**
J:\Major Trauma Centre Designation\Rehab\Amputees )
The form can be completed by anyone – MT clinical team, or therapists or nurses on the ward, but does need to be signed by the consultant or registrar. They will aim to do their initial MDT assessment

The referral can be faxed to **0117 340 4654**

If you are unsure whether the DSC referral has been sent, you can contact the prosthetic secretaries Joanne Sargent ext 04610 / Helen Ford ext 04609.

You can also pre-warn them of a complex patient by this number/email them or Helen Harvey. (NBT email addresses).

The patient will then be seen in an MDT clinic as an outpatient.

If you think the patient may benefit from the counselling service or specialist expertise as inpatient, contact Helen Harvey or the secretaries listed above.

You can also contact the counsellor (Senna Cook senna.cook@nbt.nhs.uk ) or amputee specialist nurse (Kirsty Steventon, Kirsty.Steventon@nbt.nhs.uk ext 04618).
Stump shrinkers are encouraged to be applied as soon as possible, but once bulky dressings have been removed. Please contact Kirsty for advice, and she will try to come over and see the patient to measure etc.

They will send us a copy of their clinic letter for our information if requested.

## Psychological Support

**Counsellor:** Senna Cook: Senna.Cook@nbt.nhs.uk
**OT Specialist:** Karen Cook: Karen.Cook@nbt.nhs.uk
**Specialist Physio:** Katharine Atkin: Katharine.Atkin@nbt.nhs.uk

Post amputation phantom pain Bristol Centre for Enablement offer advice and other treatments options at our centre, all of which are discussed with the patients when they come for their primary assessment.

**The guidelines we follow for phantom pain includes:**

- Discussing appropriate analgesia and nerve pain medication such as gabapentin, pregabalin and amitriptyline etc
- Offering relax socks for phantom pain
- Offering acupuncture, provided by our physio
- Hypnotherapy, mirror therapy, as alternative management provided by Senna our counsellor.

## Referral Guidelines to Rehabilitation Services

Major Trauma Networks (MTN) are required to identify all patients that have on going rehabilitation needs.

1. MTN are required to have clear and agreed pathways established to ensure the needs of patients requiring on going rehabilitation and / or support with return to work are met.

2. MTN are required to collect information in accordance with the requirements of the British Society of Rehabilitation Medicine (BSRM) and the Clinical Reference Group for Trauma and where appropriate record this information on the TARN database.

3. This Policy will consider separately the Referral Pathways for patients with Specialist Rehabilitation needs (Category A and B) and those patients requiring the support of their local non specialist rehabilitation teams (Category C/D)

## Background

The Trauma Audit and Research Network database provides us with a breakdown of the rehabilitation needs of all Trauma patients (ISS <8) admitted through the Severn Major Trauma Network (SMTN).

The Department of Health Specialist Services National Definition Set (SSNDS) 3rd edition published in 2009 defined four categories of patient need (A,B,C,D) and three levels of specialist service (1, 2 and 3). These form a useful framework for planning and commissioning of specialist rehabilitation services.

The most recent figures from the SMTN suggest 2.8%, or on average 36 patients per year, will have Category A, the most complex, rehabilitation needs, at the time of their discharge or transfer out of the Major Trauma Centre (MTC). A further 4.1% or 52 patient will have Category B needs.

Thus a total of 88 patients on average will be judged to have Specialist Rehabilitation needs at the time of their discharge or transfer from the MTC. These patients will come from all over the SMTN. The majority will have suffered, in addition to other injuries, a traumatic brain injury, a smaller number a spinal cord injury and the remainder will have complex musculoskeletal injuries or multiple limb amputations. Such patients will generally all have an ISS >15

A further 54% of patients (or about 675) per annum will be judged to have Category C/D needs. These patients who generally have musculoskeletal injuries will require support from their local Recovery, Rehabilitation and Re-enablement (RR+R) services. These services, which may be delivered in community hospital beds, in the patient's own home or in outpatients are usually collectively referred to as Level 3 services. The variety of these services, across the SMTN, both in terms of locality and structure make it difficult to formulate a common referral policy.

Whilst an individual's complexity of rehabilitation is categorised as A, B or C/D, Specialist Rehabilitation Services are defined as Level 1, 2 or 3. The 'Level' of a service is defined principally on the case mix it caters for as determined by the patient's categorisation at the time of transfer. There are standards laid down by the British Society of Rehabilitation Medicine as to the expected staffing and services offered by different levels of Specialist Rehabilitation unit. Level 1 services are defined as having >85% patients with Category A needs at transfer. Level 1 services, because they cater for relatively small group of the most complex patients, are generally commissioned on a regional basis. Level 2 units are defined as taking between 50-80% (Level 2a) or 30-50% (Level 2b) patients with Category A needs.

From these definitions it can be seen that there is no restriction on a Level 2 unit taking Category A patients, indeed that is expect, so long as they have the skills and resources to manage this degree of complexity.

Commissioning of rehabilitation service within the SMTN is that NHS England commissions Level 1 services, but not on an individual patient basis, whereas level 2 and 3 services are commissioned by local Clinical Commissioning Groups (CCGs) using a variety of mechanisms including spot purchasing on an individual patient basis.

This Policy will principally be concerned with the onward referral of those patients with the most complex rehabilitation needs (Categories A and B). It will however attempt to address and provide solutions to the problems that arise when Category C/D patients fail to recover as anticipate and suggest possible routes of referral.

With the establishment of MTCs in 2012 it was anticipated that in many areas or networks adequate provision for Specialist rehabilitation would be lacking. This was one of the principal drivers behind the requirement that all major trauma patients would receive a Rehabilitation Prescription (RP) identifying those needs. This issue has been further addressed by the setting up of the National Clinical Audit of Specialist Rehabilitation following Major Injury (NCASRI). This audit, to which the SMTN was a contributor, was funded by the Health Quality Improvement Partnership.

Once analysed the NCASRI audit will determine the scope, provision, quality and efficacy of Specialist Rehabilitation services across England with the intent of improving the quality of care for adults with complex needs (Category A and B) following Major Trauma. A key component of the audit is to link, via the NHS number, the information held on TARN with the UK Rehabilitation Outcomes Collaborative (UKROC). It will be possible to track a MT patient from admission to discharge following rehabilitation.

## Key Standards

All Major Trauma Networks are required to comply with and are audited against the standards agreed with NHS England and need to comply with the NHS England Standard Contract for Major Trauma Services.
All Specialist rehabilitation services are expected to comply with the standards laid down by the British Society of Rehabilitation Medicine and are audit against these standards by reference to their returns to the UK Rehabilitation Outcomes Collaborative (UKROC). They also need to comply with the NHS England Standard Contract for Specialised Rehabilitation for Patients with Highly Complex Needs (all ages).

- All Major Trauma Networks (MTNs) should have an operational policy describing agreed guidelines for access to rehabilitation services. T16-1C-113 (T16-2D-108)
- Each MTU/MTC should have a rehabilitation coordinator (may be combined with Trauma Coordinator) responsible for coordinating and communicating a patient's current and future rehabilitation needs as well as having oversight of the rehabilitation prescription (RP). –T16-2D-103
- Each MTU/MTC should have referral pathways for patients requiring specialist rehabilitation and vocational rehabilitation. –T16-2D-104
- All patients should have a rehabilitation assessment including consideration of barriers for return to work with a RP being initiated within 48 hours of admission and completed by 96 hours. Thereafter it needs to be updated every week until the patient is transferred to a designated rehabilitation service or alternative service provider. Patients identified as having likely category A or B needs should have a 'Specialist' RP completed by a consultant in RM or their designated deputy. –T16-2D-106
- There should be a rehabilitation program for patients with a traumatic amputation which includes a linked prosthetic centre and a pain management service. –T16-2D-107
- The trauma rehabilitation service, if it does not include a clinical psychologist, should have details on how they access advice from a clinical psychologist. –T16-2D-109.

# Specialist Rehabilitation Services Serving the Severn Major Trauma Network

## Services for patients with Category A and B needs following a Traumatic Brain Injury

**Overview**

The most frequent need for specialist rehabilitation arises from persons who have suffered a traumatic brain injury. NHS England currently has a block contract with the Frenchay Brain Injury Rehabilitation Centre to provide 28 level 1 beds for Category A patients for the entire West Country.

It will be seen from the following that a number of the Trauma Units within the SMTN have locally CCG commissioned services for patients with Category B and in some cases Category A needs; specifically the Royal United Hospital in Bath, the Gloucester Royal Hospital and Musgrove Park / Yeovil District Hospitals.

The Bristol Royal Infirmary, Great Western Hospital in Swindon and Western General Hospital do not currently have identified specialist rehabilitation services for all acquired brain injury (although all three provide stroke services).

The role of the Major Trauma Centre is not to make good commissioning shortfalls in other localities. All hospitals are expected to comply with the NICE guidance and standards in respect of traumatic brain injury [9]. All hospitals should have in place the means to assess the inpatient rehabilitation needs of people with new cognitive, communicative, emotional, behavioural or physical difficulties continuing 72 hours after a traumatic brain injury. All hospitals should have in place the means to safely manage such patients until an appropriate rehabilitation service is identified. Concerns that a hospital may not be able to meet the needs of a brain injured patient is not a justification for delaying repatriation; rather it is a concern to be raised with the hospital, the Network Director and, if necessary, the CQC.

Where a Trauma Unit (TU) has clear arrangements in place to meet the needs of a brain injured patient the appropriate teams should routinely be notified that a patient is to be repatriated. The team should be provided with up-to-date information on the patient's cognitive and physical status as well as all other referrals that have been made.

**For all patients with a Traumatic Brain Injury:-**

- They should be identified as having likely category A or B needs by reference to the assessment carried out by the Major Trauma Practitioners and the Rehabilitation prescription which should have been initiated by 48 hours post admission.
- Patients should be assessed by a Consultant in RM or their deputy and their needs categorised by reference to the Patient Categorisation Tool (PCAT).
- All patients judged to have category A needs should be referred to Frenchay Brain Injury Rehabilitation Centre (BIRU) as below.
- Whilst such patients are still medically or surgically unstable a clear hyper-acute rehabilitation plan should be documented for their stay in NBT /MTC.
- When sufficiently stable to be transferred patients should be referred to their local services (if they come from outside the MTC catchment) and arrangement made for repatriation.
- Throughout their stay in the MTC and TU's it should be expected that patients will continue to improve and their rehabilitation needs reduce. Therefore reassessment of a patient's categorisation should be carried out regularly when there is a perceived change in their condition. If a patient previously assessed to have category A needs is later assessed to have category B or C needs, BIRU should be so informed and appropriate alternative arrangements made.
- All patients and / or their families should be offered information or referral to Headway. Headway, a national charity with local affiliate branches, is able to provide advice and support through their website and helpline (freephone helpline 0808 800 2244, helpline@headway.org.uk) as well as through the Headway Acute Trauma Support (HATS) nurses.
- All patients and / or their families should be offered referral to Stewart's Law, a pro-bono legal service, which can help with benefits advice, access to bank accounts, applying for court of protection and possible compensation.

## The Frenchay Brain Injury Rehabilitation Centre

**The Frenchay Brain Injury Rehabilitation Centre**
**Frenchay Park Road,**
**Bristol BS16 1UU**
**Tel: 0117 956 2697**

Known locally as BIRU, it specialises in the treatment of patients, from 16 years and upwards, who have severe physical and/ or cognitive problems resulting from a brain injury. It is a private facility managed by the Huntercombe Group. It historically has a close connection with North Bristol NHS Trust. It operates on a non-acute site.

The service comprises 29 Level 1 beds commissioned by NHS England to serve the West Country. It also provides 24 level 2 service beds which are funded by local CCGs on an individual patient basis.
It is registered with UKROC as a Level 1b service.
Medical staff includes not only consultants in Rehabilitation Medicine (RM) but also Neuropsychiatry.
The service is able to manage patients held under Deprivation of Liberty Safeguards (DOLS) and the Mental Health Act (MHA). It can provide 1:1 supervision of patients as well as catering for up to 2 patients with stable tracheostomies.

The agreed referral pathway is as follows:-

- For those patients judged to have Category A needs a referral should be made in writing, including all relevant medical and social information, to BIRU.referrals@nhs.net . (Patients may be referred when still acutely unwell but not so early as to make assessment / prognostication unrealistic i.e. still intubated with an intention to wean, still with intracerebral drain or monitor in place.)
- The PCAT score and date of referral should be clearly recorded in the notes.
- A consultant from BIRU will assess within 10 days of referral (often much sooner).
- If accepted will be placed on the BIRU waiting list.
- For patients assessed as having Cat B needs from the Bristol, North Somerset and South Gloucester (BNSSG) CCGs an application for assessment and possible funding should be made to Jo Kapp (KAPP, Jo (NHS BRISTOL CCG) (jo.kapp@nhs.net). *The process is still under development.* One potential option is for the BNSSG CCG is to agree funding on an individual patient basis for a Level 2 bed at BIRU.
- The repatriation of a patient to their local TU should not be delayed whilst awaiting a BIRU assessment. The BIRU consultants are quite happy to follow up patients wherever they may be in the SMTN.

## Royal United Hospital Helena Ward

**Royal United Hospital Helena Ward**
**Royal United Hospitals Bath NHS Foundation Trust**
**Combe Park**
**Bath BA1 3NG**

The RUH Helena Ward currently provides Level 1 and Level 2 rehabilitation for patients from the Bath and North East Somerset area and West Wiltshire.
It is registered with UKROC as a Level 2a service.

It provides a dedicated team of clinical psychology, physiotherapy, occupational therapy and rehabilitation support workers hosted on a general neurology ward. Currently medical input comes from consultant neurologists.

It operates on an acute site and is able to manage potentially medically unstable patients and those with tracheostomies.
The service has a limited number of beds and, whilst able to manage patients with Cat A and Cat B needs, may subsequently transfer a Cat A patient to BIRU if a longer period of rehabilitation is required.
The agreed referral pathways are as follows.

**For patients with Cat A needs:-**

- Patients should be referred to BIRU for assessment.
- When medically / surgically sufficiently stable for repatriation patients should be referred to the on call neurologist.
- Simultaneously a referral should be made to, Peter BISHOP (ROYAL UNITED HOSPITALS BATH NHS FOUNDATION TRUST) <peterbishop@nhs.net> and, Gina SARGEANT (ROYAL UNITED HOSPITALS BATH NHS FOUNDATION TRUST) <gina.sargeant@nhs.net>
- For patients with persisting Cat A needs the team will make the decision as to whether or not an onward transfer of a patient to a BIRU bed is ultimately required.

**For patients with Cat B needs:-**

- When medically / surgically sufficiently stable for repatriation patients should be referred to the on call neurologist.
- Simultaneously a referral should be made to, Peter BISHOP (ROYAL UNITED HOSPITALS BATH NHS FOUNDATION TRUST) <peterbishop@nhs.net> and, Gina SARGEANT (ROYAL UNITED HOSPITALS BATH NHS FOUNDATION TRUST) <gina.sargeant@nhs.net>
- The RUH Helena team will liaise with their local CCG if additional support to meet the needs of this patient cohort is required.

## Somerset Neurological Rehabilitation Unit (SNRU)

**Somerset Neurological Rehabilitation Unit (SNRU)**
**Dene Barton Community Hospital**
**Lydeard Ward**
**Dene Road**
**Cotford St Lukes**
**Tauton TA4 1DD**
**Telephone 01823 431953**
The Somerset Neurological Rehabilitation Unit is registered with UKROC as a Level 2b service. In is a 10 bedded service with the potential to expand to 20 beds. It provides neurological rehabilitation for patients from Somerset

It has a dedicated team of clinical psychology, physiotherapy, occupational therapy and rehabilitation support workers. The service is medically supported by a consultant in Rehabilitation medicine and a junior doctor. Staff are employed by Taunton and Somerset NHS Foundation Trust.

The service operates from a community hospital (managed by Somerset Partnership NHS Trust.) It shares this modern purpose built building with a number of community services including the Early Supported Discharge Team. It is a non-acute site with limited out of hours cover meaning patients have to be medically stable before transfer.

Currently all patients are first admitted or repatriated to the Neurology ward (Conservators Ward) at Musgrove Park Hospital. Conservators Ward has 12 acute neurological rehabilitation beds and 12 general neurology beds. The patients will then be assessed as to their suitability prior to transfer to the SNRU.

The agreed referral pathways are as follows

**For patients with Cat A needs.**

- Patients should be referred to BIRU for assessment.
- When medically / surgically sufficiently stable for repatriation patients should be referred to the on call neurologist.
- Simultaneously a referral should be made to, Dr Mohammed Inan Hai, Consultant in Neurological Rehabilitation.
- For patients with persisting Cat A needs the team will make the decision as to whether or not an onward transfer of a patient to a BIRU bed is ultimately required.

**For patients with Cat B needs:-**

- When medically / surgically sufficiently stable for repatriation patients should be referred to the on call neurologist.
- Simultaneously a referral should be made to Dr Mohammed Inan Hai, Consultant in Neurological Rehabilitation.
- When judged to be sufficiently stable the patient will be transferred to the SNRU if further inpatient rehabilitation is required.

## Gloucester Brain Injury Team

**Gloucester Brain Injury Team**
**Gloucester Royal Hospital**
**Ground Floor Beacon House**
**Great Western Road**
**Gloucester GL1 3NN**
**Telephone 0300 4225139**

Although Gloucester has no specialist rehabilitation services recognised by UKROC it nevertheless has a long established team based at the Royal Gloucester Hospital. The team provides a number of services which naturally fall under the umbrella of level 2 and level 3 services.
The team comprises clinical psychologists, physiotherapists, occupational therapists, speech and language therapists and therapy technicians.

For patients with Cat A or B needs the team provides a peripatetic rehabilitation service to the neurology ward 6a. Medical support comes from Consultants in Neurology.

For patients with Cat B needs requiring inpatient care beyond the point at which they are considered to be medically stable the Gloucester Brain Injury Team, as part of their early supported discharge program, will negotiate with local CCG for funding of on-going inpatient care at the Dean Neurological Centre (this is a private institution managed by Ramsay Health Care at the Winfield Hospital approximately 2 miles from the Royal Gloucester Hospital.) The team will inreach into the Dean to provide a peripatetic rehabilitation service.

For patients with persisting Cat A needs the team will continue to provide support until a bed becomes available at the Frenchay Brain Injury Unit.

The agree referral pathways are as follows.
**For patients with Cat A needs:-**

- Patients should be referred to BIRU for assessment.
- When medically / surgically sufficiently stable for repatriation patients should be referred to the on call neurologist.
- Simultaneously a referral should be made to,brain.injury@glos.nhs.uk

**For patients with Cat B needs:-**

- When medically / surgically sufficiently stable for repatriation patients should be referred to the on call neurologist.
- Simultaneously a referral should be made to,brain.injury@glos.nhs.uk

## The Dean Neurological Centre

**The Dean Neurological Centre**
**Winfield Hospital**
**Tewkesbury Rd**
**Longford**
**Gloucester GL2 9EE**
**Telephone 01452 420200**

The Dean is a purpose built unit with 60 beds managed by Ramsay Health Care. Currently it has no contract with local CCGs or NHSE. Nevertheless the majority of its patients are CCG funded as continuing health care placements. The centre primarily cares for patients who have long term or lifelong care needs. It particularly specialises in patients in low awareness states or with tracheostomies. The unit has a small dedicated team of therapists and a larger team of trained rehabilitation support workers. It is medically supported by a local GP practice with monthly visits from a very experienced Professor of Neurological Rehabilitation. It is not registered with UKROC.
There is no mechanism for direct referral of patients from the SMTN. A small number of beds have historically been funded by Gloucester CCG to provide inpatient care for Cat B patients with input from the Gloucester Brain Injury Team as part of their early supported discharge initiative.

Where no other suitable beds are available funding can be sought for Cat A patients in liaison with the NHS England Complex Patient advisors Rosie Yarnall (Rosie.yarnall@nhs.net) and Sally Plumb (splumb1@nhs.net)

## Glenside Manor Healthcare Services Limited

**Glenside Manor Healthcare Services Limited**
**Warminster Road**
**South Newton**
**Salisbury**
**Wiltshire SP2 0QD**
**Telephone 01722742066**
Glenside is an independent provider for the rehabilitation of adults with neurological injury and conditions, including people with challenging behaviours. Glenside operates a pathway of inpatient care from acute care and intensive rehabilitation within the Hospital, to slow stream rehabilitation within eight homes and ten simulated supported living bungalows.

It is registered with UKROC as a level 2a unit providing 28 beds for neurological rehabilitation led by a RM consultant and 14 beds for patients with challenging behaviour led by a consultant in Neuropsychiatry. It can manage tracheostomies.
Although it lies just outside of the SMTN it is well positioned for patients coming from the east of the region. It has no formal contracts with CCGs in the SMTN but if no suitable beds are available for Cat A patients funding can be sought in liaison with the NHS England (South) Case managers – Complex Rehabilitation Rosie Yarnall (Rosie.yarnall@nhs.net) and Sally Plumb (SPlumb1@nhs.net)

## Services for Patients with Spinal Cord Injury

**Overview**

Services for patients with a spinal cord injury are commissioned by NHS England [10]. Guidance on initial management as well as well as the Acute Secondary Admission Pathway is described in detail on the National Spinal Cord Injury Strategy Board website (www.nscisb.nhs.uk). Irrespective of the mechanism of injury or severity this is considered a Specialist Rehabilitation service. The patient is to be managed whilst in either the MTC or TU in line with protocols agreed with Spinal Cord Injury Centre [11].

A perennial problem is the management of a SCI patient with a concurrent TBI. The SCIC will decide whether, by virtue of cognitive impairment, a patient is able to benefit from rehabilitation. Whilst there is some logic to this approach as rehabilitation is for the most part an iterative (learning by repetition) process there is clearly a gulf between what a brain injury unit will consider reasonable in terms of a patient's ability to engage with or benefit from a rehabilitation environment and that of a SCIC.

The local SCIC is the Duke of Cornwall at Salisbury.

## Salisbury Spinal Cord Injury Centre

**Spinal Treatment Centre**
**Salisbury District Hospital**
**Salisbury**
**Wiltshire SP2 8BJ**
**United Kingdom**
**Telephone: 01722 336262**

Referral pathway for all traumatic spinal cord injured patients.

Within the first 4 hours:

- Acute resuscitation, assessment of injuries and completion of first 'ASIA'.
- Contact Duty Spinal Consultant on 01722336262
- Document agreed immediate management plan in patient's notes.
- Register the patients referral to the SCIC on nww.spinalreferrals.nhs.uk (note this website is only accessible from an NHS networked computer.)
- File registration confirmation email in patient's notes.
- Commence SCIC management plan.

The referral will automatically trigger review by the SCIC outreach team. They will be available for telephone advice and will review the patient within 5 days, advise on management and consider patients suitability for inpatient rehabilitation at the SCIC.

The Acute Outreach Team can be contacted as below:-

- Danilo Galila 01722 336262 Ext. 2451 email: danilo.galila@salisbury.nhs.uk
- Vangie Martinez 01722 336262 Ext. 2436 email.Vangie.martinez@salisbury.nhs.uk
- Sarah Hammond-Smith 01722 336262 Ext. 2108 email: sarah.hammondsmith@salisbury.nhs.uk
- Maddie Turner 01722 336262 Ext. 2108 email: Maddie.turner@salisbury.nhs.uk

**Significant exclusion criteria for MT patients with SCI are:-**

- Severe brain injury with significant cognitive deficits.
- Patients with significant mental health problems which might interfere with their engagement with a spinal rehabilitation program and/ or held under the MHA.
- Patients with significant comorbidities which might affect their ability to undertake spinal rehabilitation.

To save delay it should be anticipated whether or not a patient is likely to be refused admission to the SCIC. In most instances such patients will be considered to have Cat A needs and should be referred to BIRU (see above). BIRU has experience in dealing with patients with TBI and SCI. The SCIC acute outreach team will in this event continue their involvement with the patient and provide ongoing support and advice.

## Services for patients who have had a traumatic amputation

**Overview**

Only patients with multiple limb amputations are considered Cat A or B patients. The majority of amputees will undergo their rehabilitation in the community. For all patients an amputation is a life changing and psychologically challenging event.

All prosthetic services are funded through Specialist Commissioning (NHSE). A patient may choose to attend any prosthetic service. Patients will generally choose which ever is closest.

The SMTN is served by three Prosthetic services. Bristol serves Gloucester, Bristol, North Somerset and West Wiltshire. Exeter serves Somerset and Oxford serves patients living to the north of Swindon. However, only Oxford has access to inpatient rehabilitation beds.

Referral pathways for traumatic amputees or patients who are at risk of amputation:
All patients at the MTC should be referred, as soon as possible, in the first instance to the Bristol Centre for Enablement. The BCE will provide advice, counselling and support. The BCE or clinical team can arrange onward referral to a more local prosthetic service if this is required.
Contact:
Dr Swaroop Shanbhag, Consultant in Rehabilitation Medicine (swaroop.shanbhag@nbt.nhs.uk)
Senna Cook (Senna.Cook@nbt.nhs.uk) Counsellor

**Bristol Centre for Enablement,**
**Highwood Pavilions,**
**Jupiter Road,**
**Patchway BS34 5SP**
**Telephone 0300 300 0110**
**Email: prosthetics@nbt.nhs.uk**
**Website www.nbt.nhs.uk/prosthetics**

Those patients with multiple limb amputations who require inpatient rehabilitation should be offered referral to the Oxford Centre for Enablement.
**Prosthetics Referral**
**Oxford Centre for Enablement**
**Nuffield Orthopaedic Centre**
**Windmill Road**
**Oxford OX3 7HE**
**Email: ouh.prosthetics@nhs.**

Patients managed at the TUs should be referred as soon as possible to their local prosthetic service.
**Exeter Mobility Centre**
**Lister Close**
**Off Wonford Road**
**Exeter EX2 4DU**
**Tel: 01392 403649/8**
**Fax: 01392 403667**

## Community Service / Level 3 Services for Patients with a TBI

**Overview**
Currently services for patients with mild to moderate TBI, who are discharged directly to the community, are patchy across the SMTN. No services have yet been identified for the catchment area covered by the RUH or Great Western Hospital.

For patients living within the Bristol, North Somerset and South Gloucester catchment (BNSSG) there is the Head Injury Therapy Unit based at Frenchay. This service can provide assessment, treatment and advice to people recovering from or living with a TBI. The waiting time for first assessment is approximately 3 months. Referrals should be made to:-
**Dr Emma Hale (Clinical Lead)**
**Head Injury Therapy Unit**
**Frenchay Beckspool Building**

**Frenchay Park Road**
**Bristol BS16 1LE**
**Telephone: 0117 3406522**

For patients living in the catchment areas of Gloucester Royal Hospital and Cheltenham there is the Gloucester Brain Injury Team (GBIT). Referrals should be made to:-

**Gloucestershire Brain Injury Team,**
**Gloucestershire Royal Hospital**
**Tel: 0300 422 5139 (answerphone) Monday to Friday, 8:30am to 4:30pm**
**Email: brain.injury@glos.nhs.uk**

For patients in Somerset there is a TBI clinic run by Dr Mohammad Hai, Consultant in Neurological Rehabilitation. Referrals should be made to:-

**Dr Mohammad Hai, Consultant in Neurological Rehabilitation,**
**Musgrove Park Hospital,**
**Taunton TA1 5DA**
Mohammad.Hai@tst.nhs.uk

## Rehabilitation References

**Tertiary Survey**

1. American College of Surgeons, Initial assessment and management. *In Advanced Trauma Life Support Program for Doctors*. 9th ed. Walter L. Biffl, William G. Cioffi. Implementation of a Tertiary Trauma Survey Decreases Missed Injuries. J Trauma. 2003; 54: 38-44

2. NHS England Major Trauma Quality Measure T16-2C-107, 2016

3. Janjua, K. J., Sugrue, M., & Deane, S. A. (1998). Prospective evaluation of early missed injuries and the role of tertiary trauma survey. The Journal of Trauma, Injury, Infection, and Critical Care, 44, 1000-1007.

4. Enderson, B. L., Reath, D. B., Meadors, J., Dallas, W., DeBoo, J. M., & Maull, K. I. (1990). The tertiary trauma survey: A prospective study of missed injury. The Journal of Trauma, 30(6), 666-670.

# Appendix BB - Tertiary Survey Proforma

The proforma on the following pages should be used for all major trauma patients, and be completed by at least a registrar level (ST3+) trainee or above.

The aim is to ensure gold standard care as well as identify all injuries that may not have been identified during the initial management phase of patient care.

It should be completed at 24 hours post admission, then repeated once the patient in alert, responsive and able to communicate pain and injury if not at 24 hours. Ideally it should be completed at least 72 hours prior to discharge, or on Day 14 if the patient has not yet discharged by this time.

All sections must be completed; the proforma will be audited as part of regular MTC governance processes.

If during the tertiary survey any new problems or issues are found, these should be discussed either with the patients named consultant or with the named TTL if the named consultant is unavailable.

When performing top-to-toe examination be diligent and thorough; don't forget commonly missed areas; the occiput, axillae, back, perineum, popliteal fossae, toes and soles of feet. Document all injuries (old and new), no matter how trivial they appear, and consider the mechanism and kinetics of the patients injuries.

If possible, test active and passive movements (being aware at all times of spinal clearance), and ask the patient directly to indicate if they have any areas of pain, discomfort, deformity or stiffness that have not so far been discussed with them.

## Tertiary Survey Clinical Proforma

| | |
|---|---|
| Surname:<br>First Name:<br>DoB: Affix Patient Label Here<br>NHS Number: | Ward: Date: Time:<br>Clinical Summary:<br>Name, Grade, Role & Signature:<br>Consultant: |

### Checklist

| | |
|---|---|
| Clinical records reviewed? | ☐ |
| Laboratory reports reviewed? | ☐ |
| Radiology images reviewed? | ☐ |
| Radiology reports reviewed? | ☐ |
| Top-to-Toe exam complete? | ☐ |

Always examine pressure areas, vascular compartments, AND full neurological assessment

**Additional tests required?** ☐

**Tertiary Survey to be repeated?** ☐

**Date of next tertiary survey:**

### Standards of Care Checklist

| | N | Y |
|---|---|---|
| Adequate analgesia prescribed | ☐ | ☐ |
| Antiemetics prescribed | ☐ | ☐ |
| VTE prophylaxis plan documented | ☐ | ☐ |
| Glycaemic control required | ☐ | ☐ |
| Nutritional plan documented | ☐ | ☐ |

### Spinal Clearance

| | |
|---|---|
| Spine not cleared/confirmed unstable spine = **LOGROLL** | ☐ |
| Spine cleared on CT but not clinically: careful handling | ☐ |
| Spine fully cleared: no precautions | ☐ |

## Post Tertiary Survey Summary

| |
|---|
| Clinical Summary & ongoing issues (after completion of tertiary survey): |
| Laboratory Summary: |
| Radiological Summary (after reviewing images): |
| Name, Grade, Role & Signature:<br>Consultant: |

| Site | Problem/Injury | Consultant | Plan (inc follow up) |
|---|---|---|---|
| Head | | | |
| Face | | | |
| Neck | | | |
| Spine | | | |
| Chest | | | |
| Abdomen | | | |
| Pelvis | | | |
| Upper Limbs | | | |
| Lower Limbs | | | |
| Compartments | | | |
| Skin (inc. pressure areas) | | | |
| Vascular (inc. periph. pulses) | | | |
| Other | | | |