Handbook V.6.0

North East London & Essex
Trauma Network

V6 February 2022

Document Distribution		
Name	**Role**	**Frequency**
NE London & Essex Trauma Network	Steering Group Members	Approved versions
Pan London Trauma System	Executive Team	Approved versions
MTC and TU Site Management Teams	Stakeholders	Approved versions
MTC and TU Executive Boards	Stakeholders	Approved versions

Change History				
Version	**Status**	**Date**	**Author / Editor**	**Details of Change** *(brief detailed summary of all updates/changes)*
1.0	Redundant	14/01/2020	Hannah Kosuge and Derek Hicks	Document Created
2.0	Redundant	03/02/2020	Hannah Kosuge & Derek Hicks	Chapter 10: Repatriation Agreement added. Minor amendments to directory
3.0	Redundant	17/07/2020	Hannah Kosuge & Derek Hicks	Amendments to contact details. Addition of new MOU and updated automatic acceptance policy. Change of logo.
4.0	Redundant	01/12/2020	Hannah Kosuge, Derek Hicks & Andrea Smith	Amendments to contact details; contents page; Peer Review Manual – Tendable; appendices. Addition of Clinical documents chapter;. Rehabilitation Group TORs; MOU signatories.
5.0	Redundant	19/04/2021	Hannah Kosuge, Derek Hicks & Andrea Smith	Amendments to contact details; Communication Strategy. Additions to MOU Signatories & Clinical Documents
6.0	Active	16/02/2022	Hannah Kosuge, Derek Hicks & Andrea Smith	Amendments to contents page, directory, peer review manual,; addition of education strategy, rehabilitation prescription template, QR codes poster, Who To Contact.

The latest approved version of this document supersedes all other versions, of all other documents upon receipt of the latest approved version all other versions should be destroyed, unless specifically stated that previous version (s) are to remain extant. If any doubt, please contact the document Author

Contents

1: Introduction and Mission Statement

Welcome to the Version 1 of the North East London and Essex Trauma Network Handbook! This document aims to set out Network policies and procedures in one place – to be a one-stop-shop for all matters 'Network related'. The handbook will run side by side with the Network's online resource to be found at https://www.networks.nhs.uk/nhs-networks/neletn. The website contains all of the policies and procedures held within, and also clinical pathways, documents and Job Descriptions. The handbook will be updated on a 6 monthly basis.

Our mission statement is to be an innovative, collaborative and accountable network of trauma expertise with an international reputation; with patient care and high quality outcomes at the heart of all we do.

The **North East London and Essex Trauma Network** covers a very large and extremely diverse and vibrant demographic.
We are:

- 1 Major Trauma Centre
- 11 Trauma Units
- 1 Local Emergency Hospital
- 4 Pre-hospital Providers
- 2 NHS regions
- 16 CCG's

We serve boroughs listed amongst the most affluent in London (Camden and Islington) and also the poorest and most deprived (Tower Hamlets and Hackney).

We cover the most central and busiest area - The City of London, and reach out to tiny countryside hamlets and coastal villages in Basildon and Southend.

We cover areas which include the most diverse populations in the UK, with more than two thirds of Tower Hamlets being made up of minority ethnic groups.

The Borough of Barnet alone has a population of 56,000 people over the age of 65, that's the highest population of older people in all of London's boroughs.

We provide world class, leading healthcare to a combined population of 4,300,899 and growing.

ENGLAND	**55,977,178**
NHS England East of England (East)	6,493,188
NHS Basildon and Brentwood CCG	262,412
NHS Castle Point and Rochford CCG	177,051
NHS Southend CCG	182,463
NHS Thurrock CCG	172,525
East of England population that NELETN serve	794,451
NHS England London	8,908,081
NHS Barking and Dagenham CCG	211,998
NHS Barnet CCG	392,140
NHS Camden CCG	262,226
NHS City and Hackney CCG	288,371

NHS Enfield CCG	333,869
NHS Haringey CCG	270,624
NHS Havering CCG	257,810
NHS Islington CCG	239,142
NHS Newham CCG	352,005
NHS Redbridge CCG	303,858
NHS Tower Hamlets CCG	317,705
NHS Waltham Forest CCG	276,700
London population that NELETN serve	3,506,448
Total NELETN population served	**4,300,899**

Network Directory
Updated December 2020

NELE Network Director: Derek Hicks

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NELE Network Manager: Hannah Kosuge

Hannah.kosuge@nhs.net

NELE Network Rehab Director: Karen Hoffmann

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NELE Deputy Director: Alex Schueler

Alexander.schueler@nhs.net

NELE Network Lead Nurse: Anna Sweeney

Anna.sweeney@nhs.net

NELE Network Paediatric Lead: Meena Patel

Meena.patel@nhs.net

NELE Network Administrator: Andrea Smith

Andrea.smith8@nhs.net

Barnet Hospital

Trauma Director	Marta Sowa	marta.sowa@nhs.net
Trauma Manager	Josh Mavrides	josh.mavrides@nhs.net
Nursing lead	Emma Staerck	Emma.staerck@nhs.net
AHP Lead	Julie Flannigan	Julie.flannigan1@nhs.net
Radiology lead	Fraser Ingham	fingham@nhs.net
Transfusion Lead	Jipsa Jacob	jipsa.jacob@nhs.net
Emergency Planning Officer	Shabbir Pisavadi	shabbir.pisavadi@nhs.net
Older patient Trauma Lead	Dr Raj Vignaraja Dr Rob Barker	raj.vignaraja@nhs.net robert.barker1@nhs.net
General Surgery Trauma Lead	Helena Tabry	h.tabry@nhs.net
Orthopaedic Trauma Lead	Paddy Subramanian	Padmanabhan.subramanian@nhs.net
Paediatric Trauma Leads	Claire Miller Robert Stellman	claireelizabethmiller@nhs.net rstellman@nhs.net
DoO	Jo Elias	joanna.elias@nhs.net
Manager Site Ops	Kate Rock	Kate.rock@nhs.net
TARN Co-ordinator	Farida Juma	farida.juma@nhs.net
Medical Director	Dr Mike Greenberg	mike.greenberg@nhs.net

Basildon Hospital

Trauma Director	Saad Abdulla	Saad.Abdulla@nhs.net
Trauma Representative Paeds	Maimuna Mushabe	maimuna.mushabe1@nhs.net
Trauma Manager	Sheena Nicholson	s.nicholson2@nhs.net
Nursing lead	Susan Linnett	s.linnett@nhs.net
Trauma Nursing Co-Ordinator	Claire Lambert	Clarie.lambert5@nhs.net
Trauma Nursing Co-Ordinator	Christian Alejandrino	c.alejandrino@nhs.net
TARN Co-Ordinator	Sandra Mustafa	Sandra.mustafa@nhs.net
Governance Co-Ordinator	Sam Nesbit	Samanthanesbit@nhs.net
AHP Lead	Caroline Leonard	caroline.leonard3@nhs.net
Radiology Lead	Andrew Hails	Andrew.hails@nhs.net
Emergency Planning Officer	Mandy Brokenshow	m.brokenshow@nhs.net
Older Patient Trauma Lead	Luke Hounsom	Luke.hounsom@nhs.net
General Surgery Orthopaedics Lead	Samer-Ul Haque	Samer-ul.haque1@nhs.net
Orthopaedic Lead	Ilias Seferadies	Ilias.seferiadis@nhs.net
Medical Director	Tayyab Haider	Tayyab.haider1@nhs.net
DoO	Fiona Ryan	Fiona.ryan9@nhs.net
Ops Site Manager		

Homerton Hospital

Trauma Director	David Boardman	david.boardman1@nhs.net
Paeds Trauma lead	Meena Patel	meena.patel@nhs.net
Trauma Manager	Lauren Stephenson	Lauren.stephenson1@nhs.net
Nursing Lead	Catherine Pelley (Chief Nurse)	c.pelley@nhs.net
AHP Lead	Richard Page	Richard.page2@nhs.net
Radiology lead	Susan Rowe	Susan.rowe9@nhs.net
Transfusion lead (Haem Lead)	Dimitrois Tsitsikas	Dimitris.tsitsikas@nhs.net
Older Patient Trauma Lead ED	Nicole Radford	n.radford@nhs.net
Older Patient Trauma Lead	Carlo Prina	Carlo.prina@nhs.net
Older Patient Trauma Lead Inpatient	Sana Mufti	Sana.mufti@nhs.net
General Surgery Trauma Lead	Arifa Siddika	arifa.siddika@nhs.net
Orthopaedic Lead	Suresh Chandrasekhar	Suresh.chandrasheker@nhs.net
TARN Co-Ordinator	Mohammed Numan	m.numan@nhs.net
Medical Director	Deblina Dasgupta	deblina.dasgupta1@nhs.net
DoO	Chris Longster	chris.longster1@nhs.net
Ops Site Manager	Maeve Clarke	maeve.clarke@nhs.net
Emergency Planning Officer	Mark Logan	mark.logan3@nhs.net
Trauma Nurse Coordinator	Hamdi Awil	hamdi.awil@nhs.net

Newham Hospital

Trauma Director	Sarah Perkin	sarahmiriam.perkin@nhs.net
Trauma Manager	Thomas Heffernan	thomas.heffernan@nhs.net
Nursing Lead	Gill Laird	Gillian.laird2@nhs.net
Deputy Head of Therapies	Philippa Nott	philippa.nott@nhs.net
Older Patient Trauma Lead	Vacant	
TARN Co-Ordinator	Amira Elmhassani	amira.elmhassani@nhs.net
Interim Chief Executive	Simon Ashton	simon.ashton@nhs.net
Medical Director	Andrew Kelso	a.keslo@nhs.net
DoO	Navneet Willoughby	navneet.willougby@nhs.net
Site Manager Ops	Amanda Finnegan	a.finnegan@nhs.net
Emergency Planning Officer	Rachel Cemlyn-Jones	Rachel.cemlyn-jones@nhs.net

North Middlesex Hospital

Trauma Director (Interim)	Catherine Pearce	Catherine.pearce1@nhs.net
Paeds Trauma Lead	Charlotte Clements	charlotteclements@nhs.net
Trauma Manager	Jennifer Walker	Jennifer.walker32@nhs.net
Nursing Lead	Karen Wheeler	Karen.wheeler3@nhs.net
AHP Lead	Kat Binns	kathrynbinns@nhs.net
Radiology Lead	Daniel Bell	Daniel.bell3@nhs.net
Transfusion Lead	Karen Madgwick	Karen.madgwick@nhs.net
Emergency Planning Officer	Sarah Eastwood	saraheastwood@nhs.net
Older Patient Trauma Lead	Nick Rollitt	nick.rollitt@nhs.net
General Surgery Trauma Lead	Laura Spanu	Laura.spanu@nhs.net
Orthopaedic Lead	Satish Janipireddy	Satish.janipireddy@nhs.net
TARN Co-Ordinator	Karina Holder	karina.holder@nhs.net
Medical Director	Emma Whicher	Emma.whicher@nhs.net
Director of Ops	Andy Heeps	Andrew.heeps@nhs.net
Site Manager Ops	TBC	TBC

Queens Hospital

Trauma Director	Salim Ghantous	salim.ghantous1@nhs.net
Trauma Admin Manager	Akbar Hussain	Akbar.hussain1@nhs.net
Rehabilitation Coordinators	Nicolas, Prina and Charlotte	Bhrut.traumarehabcoordinators@nhs.net
ED Lead Nurse	Ruth Green	ruth.green6@nhs.net
AHP Lead	Lisa Lomas	Lisa.lomas1@nhs.net
ED Trauma Nurse	Sophie Power	sophie.power2@nhs.net
Radiology lead	Basab Bhattacharya	basab.bhattacharya@nhs.net
Transfusion Lead	Anne Minogue	Anne.minogue@nhs.net
Emergency Planning Lead	Keith Donnelly	keith.donnelly@nhs.net
Older Patient Trauma Lead	Danny Lunda-Ngandu	danny.lunda-ngandu@nhs.net
General Surgery Trauma Lead	Robert Buhain	r.buhain@nhs.net
Orthopaedic Trauma Lead	Karam Al-Tawil	karam.al-tawil@nhs.net
ED Lead	Ignatius Postma	Ignatius.postma@nhs.net
Operational Resilience Lead	David Bays	david.bays2@nhs.net
Repatriations Co-Ordinator	Stewart Ryan	stewart.ryan@nhs.net
TARN Co-ordinator	Akbar Hussain	Akbar.hussain1@nhs.net
Medical Director	Magda Smith	Magda.smith@nhs.net
DoO	Aleksandra Hammerton	Aleksandra.hammerton@nhs.net
Site Manager Ops	Alisa Aitken	Alisa.aitken@nhs.net

Royal Free Hospital

Trauma Director	Nishal Amin	Nishal.amin@nhs.net
Trauma Manager		
Nursing Lead	Craig Binch	c.binch@nhs.net
AHP Lead	Andrea Francis	andreafrancis1@nhs.net
Radiology Lead	Naheed Mir	n.mir@nhs.net
Transfusion lead	Anna Li	anna.li@nhs.net
Emergency Planning Lead	Shabbir Pisavadi	shabbir.pisavadi@nhs.net
Older Patient Trauma Lead	Ari Johar	ari.johar@nhs.net
General Surgery Trauma Lead	Derek Boyle	derekboyle@nhs.net
Orthopaedic Trauma Lead	Nicholas Garlick	n.garlick@nhs.net
TARN Co-ordinator	Daniel Rubin	Daniel.rubin@nhs.net
Medical Director	John Connolly	johnconnolly@nhs.net
DoO	Pat Rubin	patrubin@nhs.net
Manager Site Ops	Max Marshall	max.marshall1@nhs.net
Trauma Coordinator	Jessica Otu	j.otu1@nhs.net

Royal London Hospital

Trauma Director	Anne Weaver	Anne.weaver@nhs.net
Paeds Trauma Leads	Breda O'Neil Naomi Edmonds	breda.oneill2@nhs.net n.edmonds@nhs.net
Trauma Manager	Lindsay Ramsey	lindsayramsey@nhs.net
Trauma Ward Manager	Faiza Sharif	faiza.sharif1@nhs.net
After Trauma Team	Anita West Trish Burton Alison Sharkey (on mat leave) Anna Rose Catherine Weber Ana Waddington Georgina Day	bhnt.aftertraumateam@nhs.net
Emergency Planning Officer	Nina McLean	Nina.mclean@nhs.net
Older Patient Trauma Lead	Dhanu Sivapathasuntharam (on mat leave) Guy Lumley	d.sivapathasuntharam@nhs.net guy.lumley@nhs.net
Clinical Director Orthopaedics	Livio Di Mascio	livio.dimascio@nhs.net
TARN Co-ordinator	Aisha Khalid	aysha.khalid@nhs.net
TARN Manager	Anna Rose	anna.rose2@nhs.net
DoO	Kathriona Davison	Kathriona.davison@nhs.net
Site Lead	Alison Forde	Alison.forde1@nhs.net
Repat Coordinator	Julia Miah	bhnt.rlhrepat@nhs.net

Southend Hospital

Trauma Director	Antoine Azzi	a.azzi@nhs.net
Trauma Manager	Shinila Kokkadan	shinila.kokkadan@nhs.net
Nursing Lead	SSR Betsy Doxford	Elizabeth.doxford@southend.nhs.uk
AHP Lead	Katy Roberts	katy.roberts@southend.nhs.uk
Radiology Lead	Mark Johnson	mark.johnson@suthendnhs.uk
Transfusion Lead	Natalie Outten	natalie.outten@southend.nsh.uk
Emergency Planning Officer	Paul Hepworth	paul.hepworth@southend.nhs.uk
Older Patient Trauma Lead	TBC	TBC
General Surgery Trauma Lead	Emma Grey	emma.grey@southend.nhs.uk
Orthopaedic Lead	Kuppuswamy Ravi	kuppuswamy.ravi@southend.nhs.uk
TARN Co-ordinator	Sharon Turner	Sharon.Turner34@nhs.net
Medical Director	Stuart Harris	stuart.harris3@nhs.net
DoO	Mike Quinn	michael.quinn@southend.nhs.uk
Manager Site Ops	Duty Clinical Site Manager	clinicalsitemanagers@southend.nhs.uk

UCLH

Trauma Director	Alex Schueler	alexander.schueler@nhs.net
Trauma Manager		
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AHP Lead	Jaydam Tierney	j.tierney@nhs.net
Radiology Lead	Paul Aughuane	Paul.aughuane@nhs.net
Transfusion Lead	Marie Scully	m.scully@nhs.net
Older Patient Trauma Lead	Catherine Harvey	catherineharvey1@nhs.net
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TARN Co-ordinator	Karen Langworthy	karen.langworthy@nhs.net
Medical Director	Charles House	charles.house@nhs.net
DoO	Melanie Watts	melanie.watts1@nhs.net
Manager Site Ops	Lorraine Walton	lorraine.walton@nhs.net
Paeds lead	Sarah Trippick	sarah.trippick@nhs.net
Emergency Planning Officer	Alison Clements	alison.clements1@nhs.net

Whipps Cross Hospital

Trauma Director	Goran Ali	Goran.ali1@nhs.net
Trauma Manager	Kerrie Coyler-Kirk	kerrie.colyer-kirk@nhs.net
Nursing lead	Joseph Kelly	Joseph.kelly@nhs.net
AHP Lead	Rachel Ahmad	rachel.ahmad@nhs.net
TARN Coordinator	Yvonne Carter	yvonne.carter4@nhs.net
Radiology Lead	James Sarkodieh	james.sarkodieh@nhs.net
Emergency Planning Officer	Joy Okolo	Joy.okolo@nhs.net
General Surgery Trauma Lead	James Crinnion	James.crinnion@nhs.net
Orthopaedic Lead	Wisam Al-Hakim	wisam.al-hakim@nhs.net
Medical Director	Heather Noble	heather.noble3@nhs.net
Site Manager Op	Gail Reeves	Gail.reeves@nhs.net
T&O Ward Manager	John Peak	John.peak@nhs.net

Whittington Hospital

Trauma Director	Nora Brennan	norabrennan@nhs.net
Trauma Manager	Kanakaraj Roberts	kanakarajroberts@nhs.net
Nursing Lead	Anna Sweeney	anna.sweeney@nhs.net
AHP Lead	Rachel Wale Lauren Harnett	rachel.wale@nhs.net lauren.harnett@nhs.net
Radiology Lead	Phyllis Brown	Phyllis.brown@nhs.net
Emergency Planning Officer	Lee Smith	lee.smith9@nhs.net
Older Patient Trauma Lead	Rosaire Grey	rosaire.gray@nhs.net
Older Patient Trauma Lead	TBC	TBC
General Surgery Trauma Lead	Ezzat Chohda	e.chohda@nhs.net
Orthopaedic Lead	Ioannis Palaiologos	Ioannis.palaiologos@nhs.net
TARN Co-ordinator	Lauren Miller	lauren.miller6@nhs.net
Medical Director	Clare Dollery	clare.dollery1@nhs.net
DoO	Carol Gillen	carolgillen@nhs.net
Manager Site Ops	Kamilla Bessessar	kamila.bessessar@nhs.net
Emergency Planning Officer	Lee Smith	Lee.smith9@nhs.net

3: Memorandum of Understanding

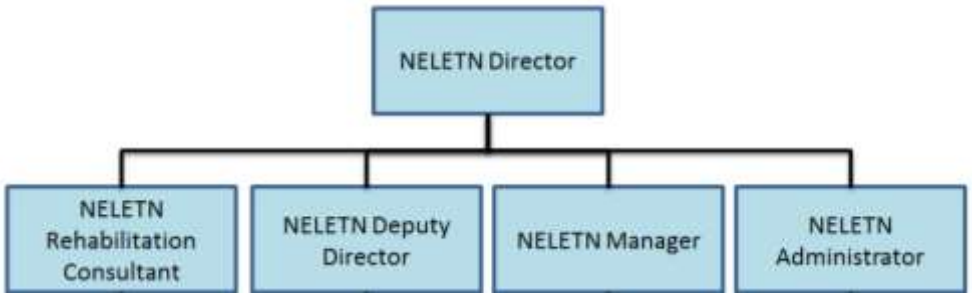
The North East London and Essex Trauma Network (NELETN) represent 13 member hospitals, 8 NHS Trusts and 4 Prehospital Providers.

- Barnet Hospital (Royal Free London NHS Foundation Trust)
- Basildon University Hospital (Basildon and Thurrock University Hospitals NHS Foundation Trust)
- Homerton University Hospital (Homerton University Hospital Foundation Trust)
- King George Hospital (Barking, Havering and Redbridge University Hospitals NHS Trust) *LEH
- Newham University Hospital (Barts Health NHS Trust)
- North Middlesex University Hospital (North Middlesex University Hospital NHS Trust)
- Queen's Hospital (Barking, Havering and Redbridge University Hospitals NHS Trust)
- Royal Free Hospital (Royal Free London NHS Foundation Trust)
- Southend University Hospital (Southend University Hospital NHS Foundation Trust)
- The Royal London Hospital (Barts Health NHS Trust) *MTC
- UCLH (University College London Hospitals NHS Foundation Trust)
- Whipps Cross Hospital (Barts Health NHS Trust)
- The Whittington Hospital (Whittington Health NHS Trust)
- London's Air Ambulance
- Essex and Herts Air Ambulance
- London Ambulance Service
- East of England Ambulance Service Trust

This Memorandum of Understanding (MOU) establishes a partnership between these organisations and confirms the commitment of each to the North East London & Network and to partnership working with each other.
It also confirms NHS England and NHS Improvement agreement to support the network, its vision and desired outcomes.

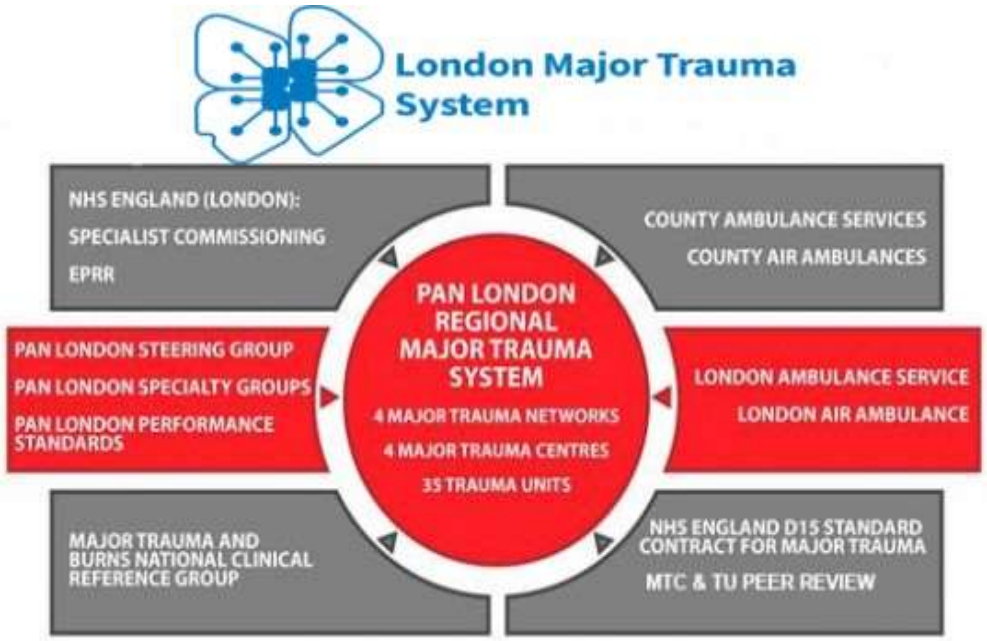
Partners and Members of NELETN

NELETN Structure Chart



Background

In April 2010, the greater London area became the first region of the UK to implement an integrated regional trauma system for its population of 10 million people – The Pan London Major Trauma System.



Following this, regional trauma systems have been implemented across the UK, and national data from the Trauma Audit and Research Network (TARN) has demonstrated that outcomes for severely injured patients have improved as a result.

In regional trauma systems, hospitals receiving trauma patients are designated as either Major Trauma Centres (MTC's) or Trauma Units (TU's). MTC's have resources available 24 hours a day to manage severely injured patients, while trauma units (TU) are responsible for the local management of patients with less severe injuries. A third tier, Local Emergency Hospitals (LEH's) will not receive major trauma patients from prehospital providers during the course of normal working. However, patients may self-present and require transfer to a Trauma Unit or the Major Trauma Centre. Trauma systems provide a continuum of care for all injured patients within a geographical location. This 'inclusive' approach to trauma care involves collaboration between ambulance services, hospitals within the region, community providers and government.

The four Trauma Networks within the Pan London system are:

- North East London and Essex Trauma Network NELETN
- South East London, Kent, and Medway Network SELKaM
- South West London and Surrey Trauma Network SWLSTN
- North West London Trauma Network NWLTN

Our Network

The North East London and Essex Trauma Network covers a very large and extremely diverse and vibrant demographic.

We are:

- 1 Major Trauma Centre
- 11 Trauma Units
- 1 Local Emergency Hospital
- 4 Pre-hospital Providers
- 2 NHS regions
- 16 CCG's

We serve boroughs listed amongst the most affluent in London and also some of the poorest and most deprived. We cover the most central and busiest area - The City of London, and reach out to tiny countryside hamlets and coastal villages in Essex.

We cover areas which include the most diverse populations in the UK, with more than two thirds of Tower Hamlets being made up of minority ethnic groups.

The Borough of Barnet alone has a population of 56,000 people over the age of 65, that's the highest population of older people in all of London's boroughs.

We provide world class, leading healthcare to a combined population of over 4,300,900

NELETN will:

- Represent all hospitals within the NELETN equally.
- Improve the efficiency and effectiveness of service provision through effective governance, peer review, clinical support and guidance.
- Allow for data sharing that will produce robust audit and enhance clinical care for Major Trauma patients.
- Improve outcomes for the sickest patients through automatic acceptance to the Major Trauma Centre of appropriate Major Trauma cases.
- Improve flow across all sites by rapid repatriation of patients to their local hospitals.
- Work with pre-hospital providers, CCG's and rehabilitation service providers to deliver seamless trauma care from 'incident to recovery'.
- Develop sustainable pathways of care for specialist services.
- Support sustainability of services through training and development.

Our mission statement is to be an innovative, collaborative and accountable network for trauma expertise with an international reputation; with patient care and high quality outcomes at the heart of all we do.

This MOU sets out the commitments that each of the constituent hospitals agree to make with the Network. Once signed, it confirms that their individual Trust boards have agreed the MOU.

The principles

As signatories to this MOU, we commit to the following principles that outline the shared expectations which underpin the Network - and to the implementation of any interventions agreed by member organisations through the Network Steering Group.

Signatories will:

- Be prepared to share the cost of the operational and clinical input required to manage the Network; either in kind or at cost. Such costs to be agreed in advance.

- Release clinical time to engage and support the delivery of trauma care, recognising the importance of core staff being part of the solution.

- Work together regardless of organisational boundaries, to develop cost-effective, innovative pathways of specialist care.

- Seek opportunities to achieve improved outcomes across specified areas of specialist care - including standardisation of clinical management and upskilling all members of the Network.

- Share relevant clinical, cost and income data, to support further analysis of benefits and their realisation.

- Uphold the Network Board's terms of reference, including its governance structure.

Recognising that all organisations are likely to face strategic, financial and operational pressures over the course of implementation, signatories agree to be fully committed to the above principles notwithstanding these pressures.

In addition, the Chief Executives and Medical Directors – or their nominated representatives – of signatory organisations, commit to supporting the maintenance and progress of the Network.

Signatories will:

- Promote the Network and its activities throughout their organisations.

- Act as ambassadors for the Network across their respective sustainability and transformation partnership (STP) footprints.

- Support and champion the work of the Operational Delivery Groups that are constituent parts of the Network.

- Act as advisors to the Network when troubleshooting any issues that arise.

- Facilitate closer system-working and collaboration across organisations to support the Network in delivering agreed interventions.

4: Terms of Reference

a: NELETN Steering Group and Governance Meetings

1. Composition

The North East London & Essex Trauma Network Board comprises of:

- The Network Director
- The Deputy Network Director
- The Network Manager
- The Network Rehabilitation Consultant
- The Network Administrator
- The Clinical Director of Trauma at the Networks Major Trauma Centre (MTC)
- The Clinical Director of Trauma at the 11 Member Trauma Units (TU's)
- The Trauma Steering Groups from both the MTC and TU's (as set out by the Clinical Director at each site)
- The Clinical Director of London Ambulance Service, East of England Ambulance Service, London's Air ambulance and Essex & Herts Air Ambulance.

2. Meetings and Quorum

The quorum for meetings is the:

- The Network Director or The Deputy Network Director
- And 2 of: The Network Manager, The Network Rehabilitation Consultant, The Network Lead Nurse, The Network Administrator
- And half of: The Clinical Director of Trauma at the Networks Major Trauma Centre (MTC) & The Clinical Directors of Trauma at the 11 Member Trauma Units (TU's)

Meetings will usually be chaired by the Network Director.

The Steering Committee and governance group shall meet bi-monthly. The Committee will also meet at other times as required, or when special circumstances have arisen, such as post-major incident.

Hospital Board Members from Network Member Hospitals may attend meetings at any time, without prior notice.

3. Notice of Meetings

Meetings of the Steering Committee and governance group shall take place at the request of any of its members.

Unless otherwise agreed, notice of each meeting confirming the venue, time and date together with an agenda of items to be discussed, shall be forwarded to each member of the Committee and any other person required to attend 5 working days before the date of the meeting.

Supporting papers shall be sent to Committee members and to other attendees if appropriate, at the same time.

Apologies should be received in advance of the meeting. Apologies received after this point will not be documented.

4. Minutes of Meetings
The Network Administrator will minute the proceedings and resolutions of all Steering Committee meetings, including the names of those present.

Minutes of the Committee meetings will be circulated promptly to all members of the Committee.

5. Principal Functions
The purpose of the Steering Committee is to celebrate successes, troubleshoot difficulties, develop strategy, prioritise training objectives and share performance data. This will be achieved through targeted presentations from internal and external speakers.

The purpose of the governance group is outlined in the networks' 'Governance Strategy' document.

Although these two meetings occur together it is important to note that they carry different purposes and are standalone events.

The Royal London MTC will be expected to deliver governance data at each meeting with a minimum of 2 months' worth of data. The Trauma Units will be expected to deliver a 6 monthly oversight on a rolling Roster.

6. Communication
Minutes will be approved by the Network Director and held within the networks shared drive for a minimum of 5 years.

Each Trauma Unit Director is responsible for feeding the minutes and outcomes of this meeting back to their respective hospital boards.

7. Standing Agenda (order may change dependent on speaker availability)
- Steering Group Meeting
    - Welcome and introduction (Network Director)
    - Review of previous minutes and actions (Network Manager)
    - Specialty Presentations
    - Rehabilitation updates (Network Rehabilitation Consultant)
    - Nursing updates (NELETN Lead Nurse)
    - Network Budget and Finance (Network Director)
- Governance Meeting
    - Welcome and introductions (Network Director)
    - Network Incident and Risk Register review (Network Manager)
    - TARN Activity and Data (Network Manager)
    - Governance Presentations (Chaired by Network Director)
- A.O.B

8. Governance Presentations
Governance presentations should focus on learning and development. It is possible to learn from successes and cases which went well and so positive examples (and not just incidents and errors) are strongly encouraged. Each governance presentation from the MTC and TU's should include a minimum dataset which should include (See also Governance Framework Document):
- TEAM update (new appointments and services for example)
- Clinical success and good practice

- Trauma Mortality and Morbidity
- TARN performance
- Trauma Calls (Including those with ISS>15 not transferred to MTC)
- Any further topic deemed appropriate by the Trauma Unit Director

Governance presentations should be emailed in advance to the network team for pre-loading onto the host PC. They will be held within the secure Network shared drives for a minimum of 5 years but will not be shared otherwise without the permission of the author. All presentations should avoid patient or staff identifiable data.

Further detail on the governance meeting and its content can be found in the Network Governance strategy document.

9: Terms of Reference Suggestions and Amendments

All suggestions and required amendments should be emailed to the Network Team

1. Composition

The Trauma Unit Steering Group Meeting should be chaired by the TU Director, and have representation from:

- The Hospital's Executive Board
- Trauma Unit Manager
- Rehabilitation co-ordinators
- Trauma co-ordinators
- ED senior doctor (where the TUD is not ED)
- Orthopaedics
- General Surgery
- Nursing (ED and inpatient)
- Rehabilitation (PT/OT)
- TARN co-ordinators
- Elderly Care Physician
- Radiology
- Paediatrics

2. Meetings and Quorum

The quorum for meetings is the:

- TU Director or TU Manager
- A member of the Hospital's Executive Board (which may be the TU Manager, if specified in their job description)
- A minimum of 50% of the other representatives

The Steering Committee and governance group shall meet _____ (minimum quarterly). The Committee will also meet at other times as required, or when special circumstances have arisen, such as post-major incident.

3. Notice of Meetings

Meetings of the Steering Committee and governance group shall take place at the request of any of its members.

Unless otherwise agreed, notice of each meeting confirming the venue, time and date together with an agenda of items to be discussed, shall be forwarded to each member of the Committee, the Trauma Network Manager & Trauma Network Administrator and any other person required to attend 5 working days before the date of the meeting.

Supporting papers shall be sent to Committee members and to other attendees if appropriate, at the same time.

Apologies should be received in advance of the meeting. Apologies received after this point will not be documented.

Dates of meetings should be sent to the Trauma Network Steering Group to allow members of the Network Steering Group to attend TU Meetings to provide support.

4. Minutes of Meetings
Proceedings and resolutions of all Steering Group meetings should be minuted, including the names of those present.

Minutes of the Committee meetings shall be circulated promptly to all members of the Steering Group, and to the NELE Trauma Network Steering Group. These will be saved as evidence for peer review.

5. Principal Functions
The purpose of the Steering Group is to celebrate successes, troubleshoot difficulties, and share performance data. This will be completed via targeted presentations from speakers from within and also external to the Hospital and may comprise of case studies.

The purpose of the governance group is outlined in the Network's 'Governance Strategy' document.

Although these two meetings may occur together it is important to note that they carry different purposes and are separate events. Separate attendance sheets should be recorded for each part of the meeting.

6. Communication
Minutes will be approved by the TU Director and held within the Hospitals shared drive for a minimum of 5 years.

Each Trauma Unit Director is responsible for feeding the minutes and outcomes of this meeting back to their respective hospital boards.

Each Specialty Trauma Lead is responsible for feeding the minutes and outcomes of this meeting back to their respective specialty groups.

9. Suggested standing Agenda
- Steering Group Meeting
    - Review of previous minutes and actions
    - Specialty Presentations
    - Clinical Updates
    - Rehabilitation updates
    - Nursing updates
- Governance Meeting
    - Governance Presentations
    - Incident and Risk Register review
    - TARN Activity and Data
    - Trauma Call activity
    - Clinical Audits including Network Audits.
- A.O.B

10. Governance Presentations
Governance presentations should focus on learning and development. It is possible to learn from successes and cases which went well and so positive examples (and not just incidents and errors) are strongly encouraged.

Governance presentations should be emailed to the network team following discussion (redacted as necessary). They will be held within the secure Network shared drives for a minimum of 5 years but will not be shared otherwise without the permission of the author. All presentations should avoid patient or staff identifiable data.

Further detail on the governance meeting and its content can be found in the Network Governance strategy document.

11: Terms of Reference Suggestions and Amendments

All suggestions and required amendments should be emailed to the Network Team.

1. Composition
Any Health care professional, manager or administrator involved in the rehabilitation of Trauma patients within or in support of our network

2. Meetings and Quorum
The quorum for meetings is the:

- The Network Rehabilitation Lead or deputised network colleague
- At least one representative from The MTC and a minimum of 5 TU's

Meetings will be chaired by the Network rehab lead, or deputised network colleague

The group shall meet on a quarterly basis. The group will also meet at other times as required, or when special circumstances have arisen, such as post-major incident.

Hospital Board Members from Network Member Hospitals may attend meetings at any time, without prior notice.

3. Notice of Meetings
Meetings of the rehab group shall take place at the request of any of its members.

Unless otherwise agreed, notice of each meeting confirming the venue, time and date together with an agenda of items to be discussed, shall be forwarded to each member of the group and any other person required to attend 5 working days before the date of the meeting.

Supporting papers shall be sent to group members and to other attendees if appropriate, at the same time, according to the member details that have been shared with the network administrator. Member hospitals are responsible for ensuring this list remains up to date by informing the network administrator of any changes.

Apologies should be received in advance of the meeting.

4. Minutes of Meetings
All rehab group meetings shall be formally minuted, including the names of those present and in attendance.

Minutes of the Committee meetings shall be circulated promptly to all members of the Committee.

5. Principal Functions
The purpose of the rehab group is to celebrate successes, troubleshoot difficulties, and share performance data.

The meeting will allow opportunity to support each other in common areas of service development and to gather consensus of expert opinion.

6. Communication
Minutes will be approved by the Network Rehab Lead and held within the networks shared drive for a minimum of 5 years.

Each Hospital Trauma Rehab Lead is responsible for feeding the minutes and outcomes of this meeting back to their respective hospital Trauma Unit Director.

7. Standing Agenda (order may change dependent on speaker availability)

- Welcome and introductions
- Review of previous minutes and actions
- Individual hospital updates
- Network and national updates
- Education & Training
- Pathway Development
- Case reviews and clinical case sharing
- TARN Activity and Data with specific focus on rehabilitation prescriptions

8. Case Presentations

Case presentations should focus on learning and development. It is possible to learn from successes and cases which went well and so positive examples (and not just incidents and errors) are strongly encouraged.

Case presentations should be emailed in advance to the network rehab lead for pre-loading onto the host PC. They will be held within the secure Network shared drives for a minimum of 5 years but will not be shared otherwise without the permission of the author. All presentations should avoid patient or staff identifiable data.

9: Terms of Reference Suggestions and Amendments

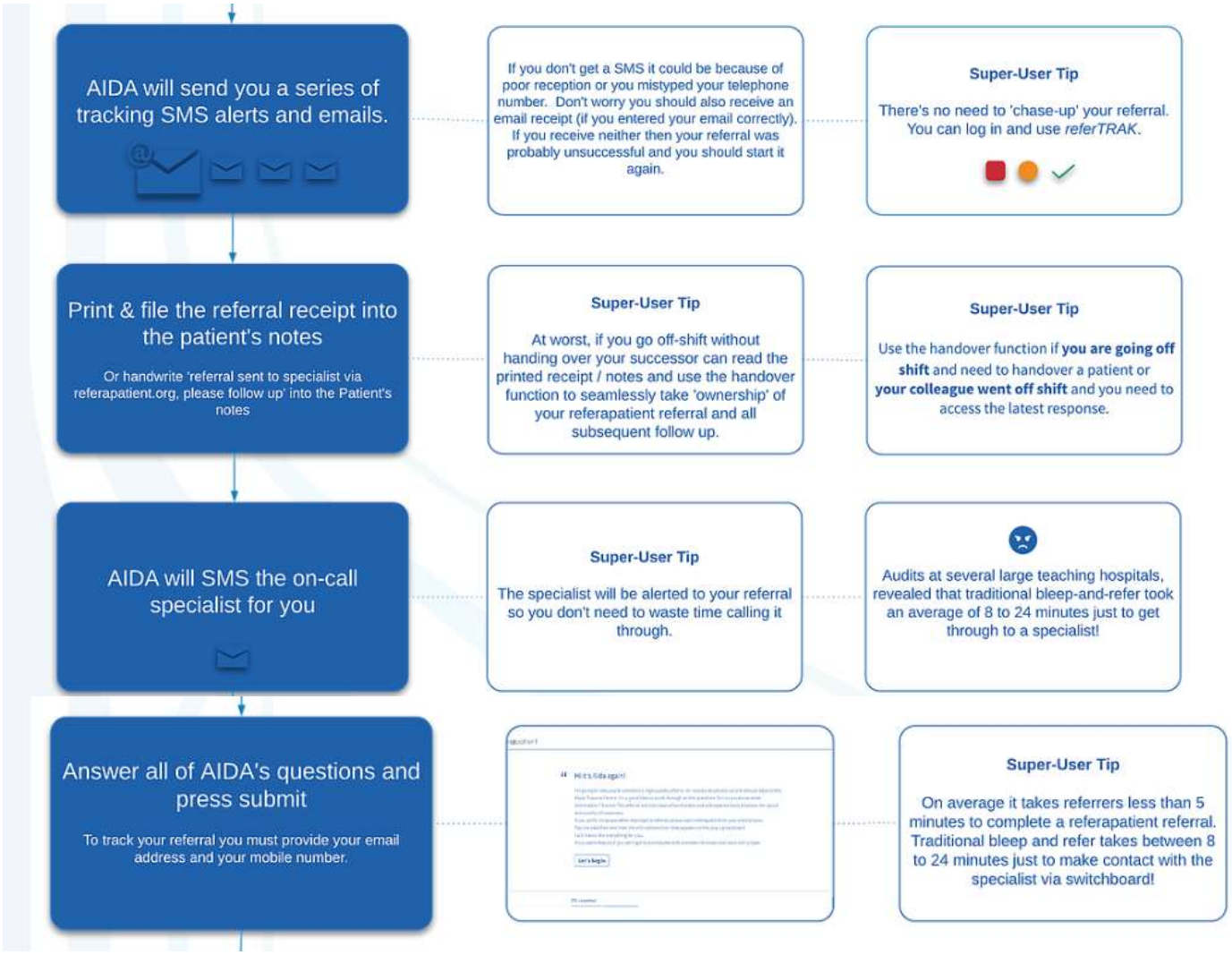
All suggestions and required amendments should be emailed to the Network Team

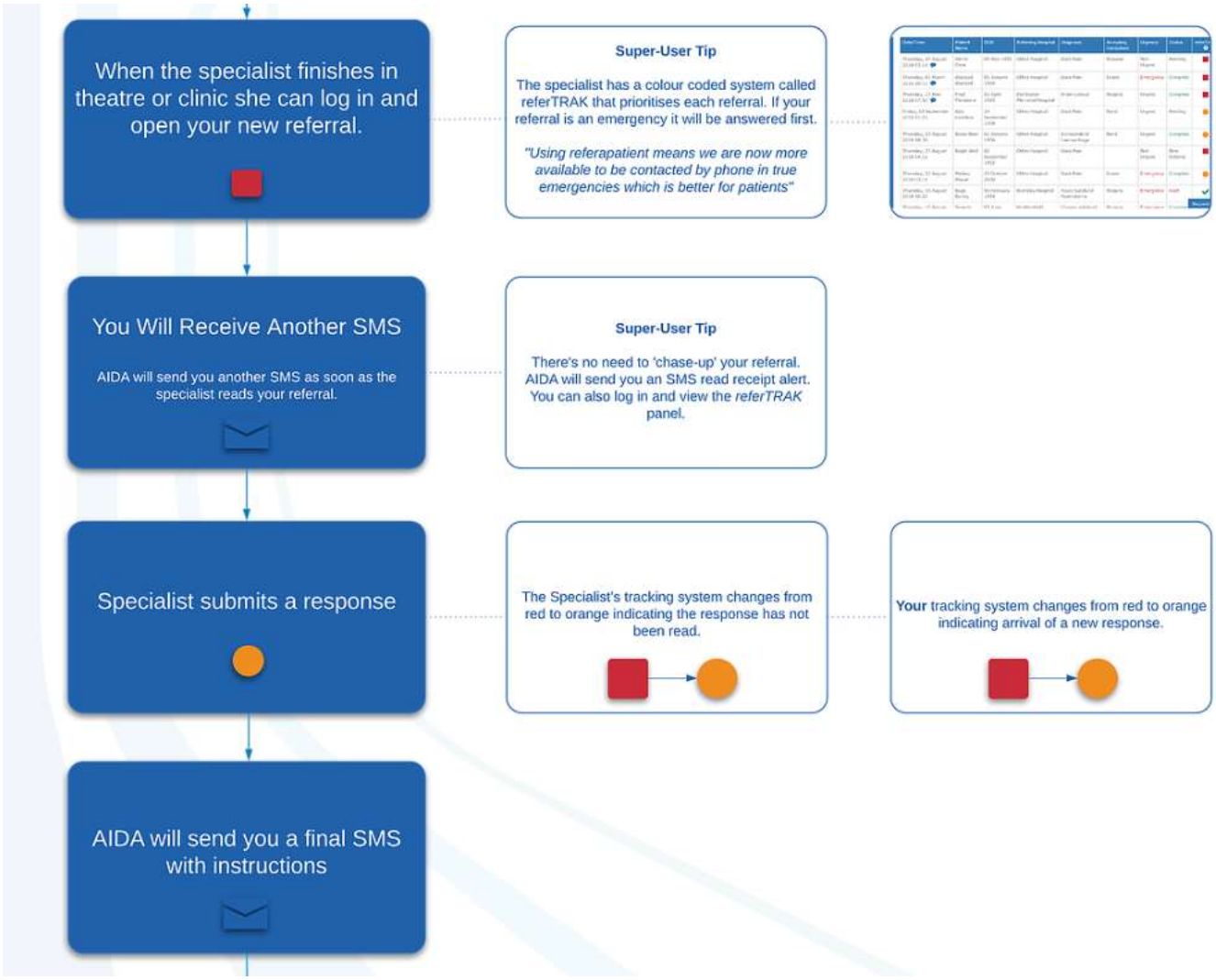
5: Refer-A-Patient

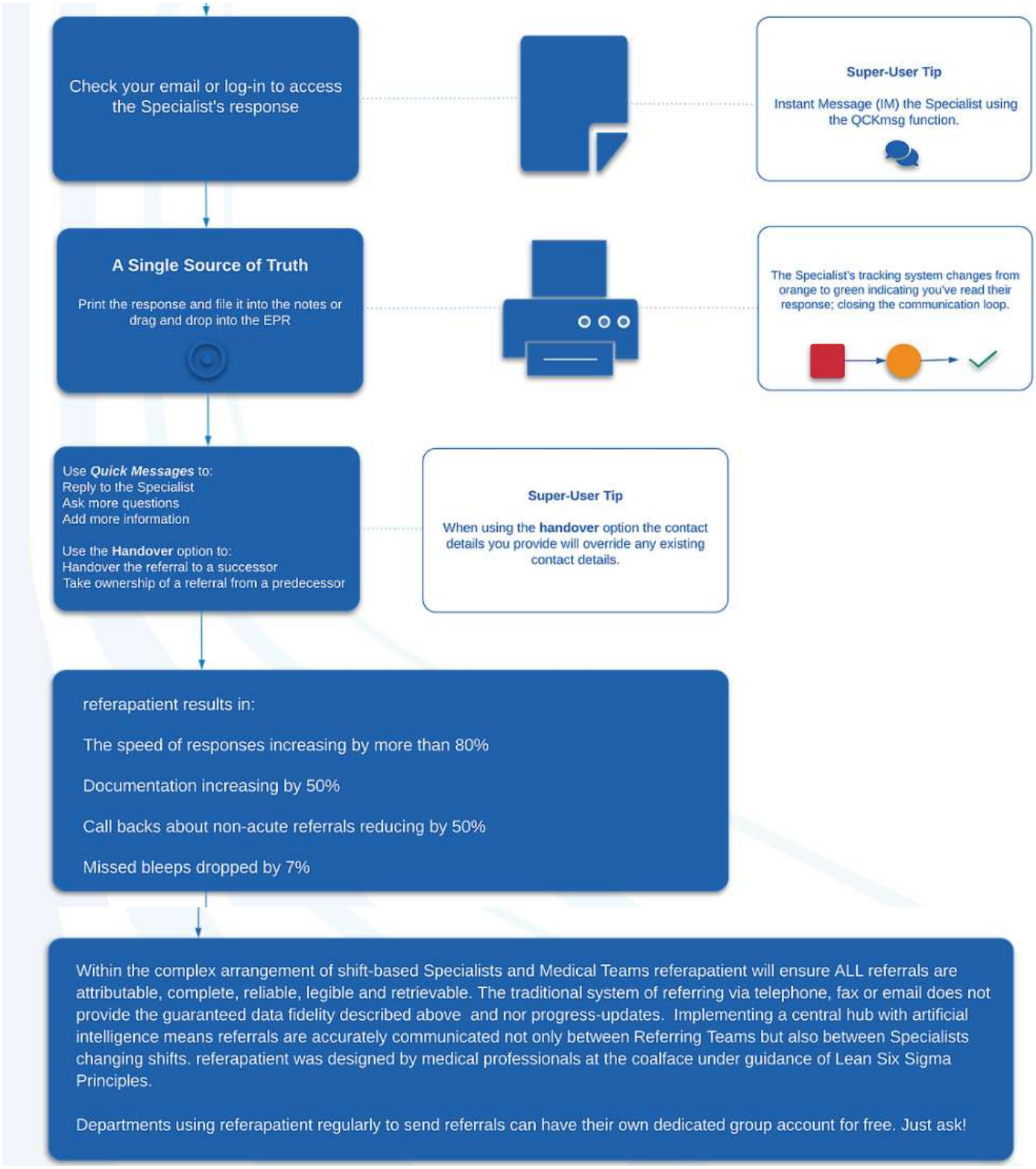
All referrals into the MTC should come via refer-a-patient. This allows for an appropriate governance process and accountability between professionals. **Importantly, Refer-a-patient does not require an account or login.**

The process for referrals is below.

Please note that refer-a-patient should be used on a modern browser (google chrome or firefox for example) or smart device. Using Microsoft explorer may result in some features not working and prevent you from sending your referral.


AIDA will send you a series of tracking SMS alerts and emails.
If you don't get a SMS it could be because of poor reception or you mistyped your telephone number. Don't worry you should also receive an email receipt (if you entered your email correctly). If you receive neither then your referral was probably unsuccessful and you should start it again.
Super-User Tip
There's no need to 'chase-up' your referral. You can log in and use referTRAK.
Print & file the referral receipt into the patient's notes
Or handwrite 'referral sent to specialist via referapatient.org, please follow up' into the Patient's notes
Super-User Tip
At worst, if you go off-shift without handing over your successor can read the printed receipt / notes and use the handover function to seamlessly take 'ownership' of your referapatient referral and all subsequent follow up.
Super-User Tip
Use the handover function if you are going off shift and need to handover a patient or your colleague went off shift and you need to access the latest response.
AIDA will SMS the on-call specialist for you
Super-User Tip
The specialist will be alerted to your referral so you don't need to waste time calling it through.
Audits at several large teaching hospitals, revealed that traditional bleep-and-refer took an average of 8 to 24 minutes just to get through to a specialist!
Answer all of AIDA's questions and press submit
To track your referral you must provide your email address and your mobile number.
Super-User Tip
On average it takes referrers less than 5 minutes to complete a referapatient referral. Traditional bleep and refer takes between 8 to 24 minutes just to make contact with the specialist via switchboard!


When the specialist finishes in theatre or clinic she can log in and open your new referral.
Super-User Tip
The specialist has a colour coded system called referTRAK that prioritises each referral. If your referral is an emergency it will be answered first.
"Using referapatient means we are now more available to be contacted by phone in true emergencies which is better for patients"
You Will Receive Another SMS
AIDA will send you another SMS as soon as the specialist reads your referral.
Super-User Tip
There's no need to 'chase-up' your referral. AIDA will send you an SMS read receipt alert. You can also log in and view the referTRAK panel.
Specialist submits a response
The Specialist's tracking system changes from red to orange indicating the response has not been read.
Your tracking system changes from red to orange indicating arrival of a new response.
AIDA will send you a final SMS with instructions


Check your email or log-in to access the Specialist's response
Super-User Tip
Instant Message (IM) the Specialist using the QCKmsg function.
A Single Source of Truth
Print the response and file it into the notes or drag and drop into the EPR
The Specialist's tracking system changes from orange to green indicating you've read their response; closing the communication loop.
Use Quick Messages to:
Reply to the Specialist
Ask more questions
Add more information
Use the Handover option to:
Handover the referral to a successor
Take ownership of a referral from a predecessor
Super-User Tip
When using the handover option the contact details you provide will override any existing contact details.
referapatient results in:
The speed of responses increasing by more than 80%
Documentation increasing by 50%
Call backs about non-acute referrals reducing by 50%
Missed bleeps dropped by 7%
Within the complex arrangement of shift-based Specialists and Medical Teams referapatient will ensure ALL referrals are attributable, complete, reliable, legible and retrievable. The traditional system of referring via telephone, fax or email does not provide the guaranteed data fidelity described above and nor progress-updates. Implementing a central hub with artificial intelligence means referrals are accurately communicated not only between Referring Teams but also between Specialists changing shifts. referapatient was designed by medical professionals at the coalface under guidance of Lean Six Sigma Principles.
Departments using referapatient regularly to send referrals can have their own dedicated group account for free. Just ask!

6: Communication Strategy

Official Emails and Distribution Lists

North East London and Essex Trauma Network (NELETN) has 2 main distribution lists for mass contact within the network.

bartshealth.neletraumanetworkleads@nhs.net consists of Trauma Directors from:

- Barnet
- Basildon
- Homerton
- North Middlesex
- Newham
- Queens (BHRUT) covers QH & KGH
- Royal Free
- Royal London
- Southend
- UCLH
- Whipps Cross
- Whittington

In addition the distribution list includes the network executive team:

- NELETN Director
- NELETN Manager
- NELETN Deputy Director
- NELETN Rehab Consultant
- NELETN Lead Nurse
- NELETN Administrator

bartshealth.neletraumanetworksteeringgroup@nhs.net consists of a much larger group of professional from the above hospitals who are involved in trauma care. Membership can be given to any individual that the Trauma Unit Directors deem appropriate by emailing the Network Manager and Network Administrator.

When emailing either group, please carefully consider the contents and intended audience.
Emails should:

- be on-topic.
- respect other people. Content should not be malicious or offensive in nature, and should not constitute a personal attack on a person's character.
- not incite hatred on the basis of race, religion, gender, nationality or sexuality or any other personal characteristic and conform to the relevant policy of their home Trust.
- not reveal personal details, such as private addresses, phone numbers, email addresses or other online contact details, without that persons explicit permission.
- not be persistent or include repetitive negative messages, that aim to provoke a response and/or don't constructively add to the conversation.
- not impersonate or falsely claim to represent a person or organisation.
- not be party political in nature.
- not include swearing, hate-speech or obscenity.

Network Websites

www.neletn.nhs.uk and https://www.c4ts.qmul.ac.uk/north-east-london-and-essex/north-east-london-and-essex-trauma-network
We encourage and welcome open, lively debate, but the decision to publish comments received via this site remains at our discretion. The views expressed by any third parties are solely theirs and are not necessarily endorsed by NELETN.

Moderation Policy

We ask you to please bear in mind our guidelines when submitting comments. Where views have been sought, all comments will be considered before the response is published.

Moderation guidelines

We moderate all of the comments we receive. Moderation will not be used to suppress legitimate, reasoned discussion.

We will normally approve comments as long as they:

- are on-topic. Please don't post messages that are not related.
- respect other people. Comments should not be malicious or offensive in nature, and should not constitute a personal attack on a person's character.
- don't incite hatred on the basis of race, religion, gender, nationality or sexuality or any other personal characteristic.
- don't reveal personal details, such as private addresses, phone numbers, email addresses or other online contact details.
- are reasonably concise, and don't constitute spamming .
- are not persistent or repetitive negative messages which aim to provoke a response and/or don't constructively add to the conversation.
- don't impersonate or falsely claim to represent a person or organisation.
- are not party political in nature. The NHS is always high on the political agenda, and whilst we acknowledge that references to political parties and their policies may often be inevitable, we reserve the right to exclude comments which are purely party-political in nature or seek to advertise political events.
- don't include swearing, hate-speech or obscenity, don't break the law – this includes libel, condoning illegal activity, and breaking copyright.
- don't advertise commercial products and services – you can mention relevant products and services as long as they support your comment.
- are in English – unfortunately, we do not currently have the resource to moderate comments in other languages.

We reserve the right to suspend comments at any time, and remove comments. Where we choose not to publish a comment for a reason other than those listed above, we will reply to the commenter by email explaining our reason and inviting them to make appropriate changes so that the comment can be reconsidered.

We read every comment. We endeavor to answer your questions where possible, but if you require an official response you should contact the Network manager via email.

Twitter

NELETN uses Twitter, a free messaging service offered by a third party, as one tool in its efforts to communicate clearly, quickly and in an engaging manner to people interested in our work. You can follow us @neletn

Twitter content delivered by @neletn includes (but is not limited to):

- Activity with the network, such as network visits and meetings.
- Links to news releases, blog posts, videos, guidance and other approved, publicly available trauma and NHS England material.
- Links to relevant information produced and published elsewhere (work of other NHS organisations, patient organisations, researchers, news organisations and others). This can include videos, blog posts, and retweets (RTs) from other Twitter users. (See below for our policy on RTs.)
- interesting facts, quotes or observations related to our work.
- topical questions related to our work intended to provoke discussion.

Retweets (RTs)

- Tweets we repeat (RT) do not imply endorsement on the part of NELETN. We may retweet news, links and personal observations we believe are relevant to the work we do.
- Twitter as a source of official policy
- Tweets should not be considered as the authoritative source of new policy or guidance. Any change or evolution in NELETN's official position on legislation, guidance, investigations and audits will be communicated through more traditional channels.
- Importantly, our decision to RT should not be taken as explicit endorsement of any position or argument that may vary from NELETN's current official position, nor should it be taken as an indication of a possible shift in the current official position.

Following

NELETN's decision to follow a particular Twitter user does not imply endorsement of any kind. We follow accounts on Twitter we believe are relevant to our work. This could include following the Twitter accounts of companies and other commercial enterprises (and/or their employees) who comment on NELETN related issues.

Availability

We commit to updating and monitoring our Twitter account during regular office hours: 0900 – 1700. However, like many Twitter users, we may monitor and respond at other times of the day. We accept no responsibility for lack of service due to Twitter downtime.

@Replies and Direct Messages

We will read all @replies and Direct Messages sent to us and, when possible, will respond to them. Please note that it is not always possible to respond immediately and we encourage users to call or email if their question or comment requires urgent attention.

Responses or comments that do not conform to the guidance listed above for communication within the Network, may result in the commenter's account being blocked. Where responses or comments do not conform to Twitter's guidance on appropriate use, they will be reported.

7: NELETN Education strategy

Introduction

Each year within the London Trauma system, 25% of severely injured and 35-40% of moderately injured patients are taken primarily to Trauma Units (TARN, 2021). Therefore nurses, AHPs and clinical staff working in these units require training and support to ensure they are equipped to manage these patients. It is the responsibility of each Trauma Unit within NELETN to ensure that their staff are trained in accordingly. The Network is committed to supporting all its Trauma Units in ensuring their staff groups are trained to the standard outlined in this document. In order to achieve this, NELETN will strive to:

- Ensure all Trauma Units are supported to train all Nurses and Allied Health Professional's to relevant standard as outlined by the National Major Trauma Nursing Group (NMTNG)
- Support and encourage all Trauma Units to plan and implement a Level 1 NMTNG course, mapped against the level 1 competencies
- Support and encourage all Trauma Units to develop bespoke study days relevant to their staff needs for example, Trauma Team Members, Older Trauma etc. and offer these out to the Network should they so wish
- Support and encourage all Trauma Units to ensure staff caring for spinal injured patients are trained and competent to do so
- Support and encourage all Trauma Units to ensure staff caring for children with traumatic injuries are trained to APLS standard as required by QSIS
- Encourage links between Trauma Units to plan, develop and implement training courses to support staff to achieve competence
- Encourage the sharing of knowledge within the Network to aid development of training programmes to support staff to achieve competence
- Develop bespoke courses for the Network to support learning in areas where local training is limited
- Have a dedicated Trauma Nursing Lead to support and guide Trauma Units in achieving relevant educational standards for nursing staff
- Have a dedicated Rehabilitation Lead to support and guide Trauma Units in achieving relevant educational standards for Allied Health Professionals

Nursing

The National Major Trauma Nursing Group (NMTNG) have developed educational and competency standards from Junior Nurse/AHP through to Advanced Clinical Practitioner in the wide range of trauma settings. These competencies should be used as a benchmark to work by with their achievement as a standard to work towards. A minimum of 8 hours face to face trauma education per year for all nursing and allied health professionals who are part of the trauma team is recommended (NHS England, 2013). However, due to the difficulties with face to face education post COVID, training in theory can acceptably be delivered virtually. Skills training should be practiced, and staff should be assessed as competent therefore not all training Is suitable to be carried out remotely.

For reference, throughout this document the competencies discussed have been written and designed by the National Major Trauma Nursing Group (NMTNG). For more information on the NMTNG and to find all their relevant competencies outlined, please visit their website at http://www.nmtng.co.uk/home.html

Competencies

There are 3 levels of standards of competency for nurses to work towards (figure 1). Each Trauma Unit should evidence the following at each peer review:

- That all nursing/AHP staff caring for a trauma patient should have attained the competency and educational standard of level 1
- That TU's must have a nurse/AHP available for major trauma 24/7 who has successfully attained or is working towards the adult competency and educational standard of level 2

Levels 1 - 3 adult and paediatric educational and competency standards

Level	Educational standard	Competency standard
Level 1	Has attended a trauma educational programme, such as: • Trauma Immediate Life Support (TILS) • ATLS observer • ETC nurse/AHP observer • In-house trauma education programme	Assessed as competent in all domains of the NMTNG competency framework at level 1.
Level 2	In addition to level 1: Successful completion of a recognised trauma course: • Advanced Trauma Nursing Course (ATNC) • Trauma Nursing Core Course (TNCC) • European Trauma Course (ETC) When undertaken as a full provider only. **Or** Successful completion of a bespoke trauma course which has been assessed as compliant, by peer review, in meeting the NMTNG curriculum and assessment criteria.	In addition to level 1: Assessed as competent in all domains of the NMTNG competency framework at level 2.
Level 3	In addition to level 2: Advanced Clinical Practitioner (ACP): Masters level education in advanced practice to at least PGDip level	In addition to level 2: Successful completion of and credentialing by the Royal College of Emergency Medicine - Emergency Care Advanced Clinical Practitioner Curriculum and Assessment.

Figure 1. (NMTNG, 2016)

It must be noted that attending a course/study day alone is not sufficient to measure competency, it is the additional assessment of competence in practice which is also required. Trauma Units should be able to provide evidence of competency assessment in practice, such as copies of completed competency documents. NELETN acknowledges that new staff into post may not have been trained/competency assessed. The standard outlined by the NMTNG is – *Level 1 competence achieved within 12 months of commencing work in an Emergency Department. This is in addition to the 12-month preceptorship period* (NMTNG, 2016)

Level 1

It is the responsibility of each Trauma Unit to either develop their own in-house Level 1 trauma education programme or to source an education programme within the Network for staff. All Trauma Units should provide a Level 1 study day/course to Emergency Nurses on a yearly basis. The day should be mapped against the NMTNG competency framework. Competencies can be signed off during the study day and by working alongside the Nurse with the department using discussion and observation of skills.

Staff Group: All Emergency Nurses caring for trauma patients (Band 5 and above) within 12 months of commencing in the Emergency Department.

Courses: The following courses are recognised as Level 1 courses by the NMTNG:

- Advanced Trauma Life Support (ATLS) observer https://www.rcseng.ac.uk/education-and-exams/courses/search/advanced-trauma-life-support-atls-provider-programme/
- European Trauma Course Nurse/AHP observer http://www.europeantrauma.com/
- Trauma Intermediate Life Support or in-house education programme

Level 2

Staff Group: Senior Emergency Nurses (Band 6 and above) within 36 months of commencing in the Emergency Department.

Courses: The following courses are recognised as Level 2 courses by the NMTNG:

- Advanced Trauma Nursing Course (ATNC) http://www.atnclearning.org.uk
- Trauma Nursing Core Course (TNCC) http://www.traumanursing.org.uk/en/
- European Trauma Course (ETC) http://www.europeantrauma.com/
  When undertaken as a full provider only

The Royal London Hospital has a course entitled 'Nurse One' which has been recently been accredited and therefore is now also accepted as a Level 2 equivalent course. It should be noted that other courses are currently being looked at to be accredited in the near future also. Please note that attending these courses as an observer do not meet the standard and therefore are not counted as equivalence.

Level 3

Staff Group: To be considered Level 3 competent, the Nurse/AHP must be educated either to:

- The level of Advanced Clinical Practitioner
- A MSc in advanced practice to at least PGDip

This is in addition to attending a Level 2 course as outlined above.

Paediatric Emergency Nursing

Paediatric Nurses working in the Emergency Department are required to attain Level 1 competence within 12 months of starting in the department (NMTNG, 2016). As per Adult Emergency Nursing, Level 1 competence is the responsibility of the Trauma Unit and can be attained via a trauma educational programme such as 'TILS' (figure 1).

The Major Trauma Services Quality Indicators for adult and paediatric settings state that there must be a registered paediatric nurse/AHP who has attained the level 2 education and competency standard available for paediatric major trauma patients 24/7. The competencies follow the same NMTNG guideline as with Adult Nursing (figure 1).

Currently, for Paediatrics the only Paediatric course recognised as a Level 2 course is:

- Advanced Paediatric Life Support (APLS) https://www.rcpch.ac.uk/education-careers/courses/rcpch-endorsed-course/advanced-life-support-group-alsg-advanced

Adult Ward Nursing

Level 1

The NMTNG propose the following regarding Adult Ward nursing in trauma: *There should be a ward-based nurse involved in the care of adult trauma patients 24/7 who has attained the competency standard of Level 1* (as described in the National Major Trauma Nursing Group guidance, 2016). The NMTNG (2018) state that staff should achieve competence within 12 months of commencing work in a clinical area that cares for major trauma patients.

- Trauma Care After Resus (TCAR) and Paediatric Care After Resus (PCAR)
  At present, there is no accredited major trauma ward skills course. However, work ongoing since 2020 has brought the Trauma Care After Resus (TCAR) course to the UK from the USA. The course is currently run virtually over 2 days and has been adapted for UK audiences. Although not currently accredited, NELETN recommends this course for both Nurses and AHPS working on the wards and caring for trauma patients going forward. Details of the course can be found here: https://tcarprograms.visionem.org/

Children and Young People

Currently there is no nationally recognised course available for Children's Nurses caring for trauma. However, NELETN and the NMTNG acknowledge there are internal courses/study days and University based courses/study days that can support learning. In terms of meeting competence, it is up to the TU to decide the most appropriate method of learning for each Nurses individual need. The NMTNG (2018) state that staff should achieve

competence within 12 months of commencing work in a clinical area that cares for major trauma patients.

- Paediatric Care After Resus (PCAR)
  Work ongoing since 2020 has brought the Paediatric Care After Resus (PCAR) course to the UK from the USA. The course is currently run virtually over 2 days and has been adapted for UK audiences. Although not currently accredited, NELETN recommends this course for both Nurses and AHPS working on the wards and caring for trauma patients going forward. Details of the course can be found here: https://tcarprograms.visionem.org/

Adult Critical Care Trauma Nursing

The competencies are for use by all critical care facilities that receive trauma patients. It is up to each facility to identify which competencies are relevant and achievable as there may be variance between TU's. It is recognised by the NMTNG that some areas highlighted may be rarely seen so may need to be assessed using simulations or discussion. The NMTNG (2018) state that staff should achieve competence within 12 months of commencing work in a clinical area that cares for major trauma patients.

- Trauma Care After Resus (TCAR) and Paediatric Care After Resus (PCAR)
  At present, there is no accredited major trauma critical care skills course. However, work ongoing since 2020 has brought the Trauma Care After Resus (TCAR) course to the UK from the USA. The course is currently run virtually over 2 days and has been adapted for UK audiences. Although not currently accredited, NELETN recommends this course for both Nurses and AHPS working on the wards and caring for trauma patients going forward. Details of the course can be found here: https://tcarprograms.visionem.org/

Paediatric Critical Care Trauma Nursing

The competencies are for use by all paediatric critical care facilities that receive trauma patients. It is up to each facility to identify which competencies are relevant and achievable as there may be variance between TU's. It is recognised by the NMTNG that some areas highlighted may be rarely seen so may need to be assessed using simulations or discussion. The NMTNG (2018) state that staff should achieve competence within 12 months of commencing work in a clinical area that cares for major trauma patients.

- Paediatric Care After Resus (PCAR)
  Work ongoing since 2020 has brought the Paediatric Care After Resus (PCAR) course to the UK from the USA. The course is currently run virtually over 2 days and has been adapted for UK audiences. Although not currently accredited, NELETN recommends this course for both Nurses and AHPS working in critical care and caring for trauma patients going forward. Details of the course can be found here: https://tcarprograms.visionem.org/

Other Trauma Education

Stand-alone study days

NELETN is committed to shared learning and encourages Trauma Units to support neighbouring TUs with education programmes. NELETN will endeavour to help guide and support TUs in order to develop relevant programmes of learning.
Study days that are recommended within the Network are:

Advanced Paediatric Trauma – a day of simulation-based training to develop knowledge and skills required to care for paediatric trauma patients (please contact specific institution for staff suitability)
Trauma Team Members – a realistic trauma team assembles on the day with the students playing the role they would do in clinical practice (suitable for medical staff, Nurses, ODP/ODA's and radiographers)
Trauma Team Leaders – knowledge and skills gained from attending a trauma provider course will be developed into those required to be an effective trauma team leader (suitable for Doctors or Senior Nurses)
Older Trauma – a day of simulation-based training to develop knowledge and skills required to care for elderly

trauma patients (please contact specific institution for staff suitability)

NELETN is always striving to develop bespoke training for TUs where local training opportunities are limited. One such course is the Network delivered Spinal Study Day which will be running from the summer of 2021.

For more information on how to access all these courses, please see the NELETN website at: www.neletn.nhs.uk/news-updates-9

Simulation

In order to develop learned skills through education programmes, it is vital to maintain this through practice. Simulation/moulage is an important tool to aid this and can also develop teamwork, highlight any issues and identify any need for further training. NELETN will endeavour to support any Trauma Units needing assistance developing a simulation programme.

WingFactors

WingFactors is an educational organisation borne from Project Wingman; working in collaboration with the NHS to develop human factors training within simulation. To find out more, visit their website at https://wingfactors.co.uk/

Webinars

TRAUMAtalks
The Royal London Hospital and NELETN has a programme of multidisciplinary webinars on aspects of trauma care from roadside to rehabilitation given by leaders in their respective fields. They are held bi-weekly on a Thursday. Links to further details and previous videos can be found here https://www.c4ts.qmul.ac.uk/education-outreach/trauma-talks and on the NELETN website.

Trauma Care
Trauma Care holds webinars on a variety of trauma-based subjects. These can be watched for free and count towards CPD hours. For further information on past and future webinars, please follow the link here https://www.traumacare.org.uk/webinars

Trauma Lates
Trauma Lates are part of the Trauma Science and Care of the Injured Patient Programme (TSCIPP) and are run by The Centre for Trauma Sciences (C4TS). Anyone with a clinical background is welcome to attend the sessions. To be added to the mailing list, please email tscipp@qmul.ac.uk. The website for Trauma Lates is here: https://www.c4ts.qmul.ac.uk/education-outreach/trauma-lates

Post Graduate Education

For those who would like to explore further education in trauma, Queen Mary University of London runs a range of MSc programmes with trauma components including:

- MSc Trauma Sciences
- MSc Trauma Sciences (Military and Humanitarian)
- MSc Orthopaedic Trauma Science
- MSc Emergency Medicine and Resuscitation
- MSc Prehospital Medicine

For more information, search the MSc title here: https://search.qmul.ac.uk/s/search.html?collection=queenmary-coursefinder-pg&query=&sort=title

Allied Health Professionals

As a group of many professions, each having very separate core training & educational needs, the training requirements & priorities for AHP's working in trauma are complex. For example, the training needs of a dietitian working in Trauma are very different to that of an OT or Neuro Psychologist. In addition, therapists tend to gravitate to one of the subspecialties rather than become an overall 'trauma' therapist. e.g., SLT in Neurology & Neurosurgery, within which they will see some trauma.

For this reason, it's difficult to develop an overarching course like TCAR or TORCH that would appeal across the board. That being said, there are definite benefits for therapists who work with trauma patients on a regular basis undertaking such courses as TCAR which may provide elements of trauma specific education that may not be covered elsewhere.

In addition, the following short courses, training and education are available for AHP's. If there is a topic that you feel is not covered that the network could assist with, please contact anna.sweeney@nhs.net and Hannah.kosuge@nhs.net, who would be keen to discuss additional training needs.

Major Trauma Rehabilitation Training
Aimed at AHPs working with trauma patients across a variety of settings and held over 3 days. For more information, please contact Natalie Marroney at Natalie.marroney@nhs.net Course resources can be found here: https://www.c4ts.qmul.ac.uk/education-and-training/trauma-education-and-training-for-therapists
Queen Marys Hospital Roehampton Amputation Training
Either a 2 day or 4 day course run once a year for Nurses and AHPs working with amputees on a regular basis. For more information, please contact sarah.smith2@stgeorges.nhs.uk
Trauma Care After Resus (TCAR) and Paediatric Care After Resus (PCAR)
Work ongoing since 2020 has brought the Trauma Care After Resus (TCAR) course to the UK from the USA. The course is currently run virtually over 2 days and has been adapted for UK audiences. Although not currently accredited, NELETN recommends this course for both Nurses and AHPS working on the wards and caring for trauma patients going forward. Details of the course can be found here: https://tcarprograms.visionem.org/. Feedback has been individually sought from therapists who have attended TCAR to ascertain its appropriateness. This feedback can be shared on request.
Spinal Injuries Association (SIA)
There is a section on the SIA website dedicated to virtual training sessions for Healthcare Professionals. The website can be found here: https://www.spinal.co.uk/learn/healthcare-professional-study-days/
elearnSCI.org
E-learning website on the management and rehabilitation of individuals with spinal cord injury for all relevant roles. The website can be found here: www.elearnsci.org

NELETN Spinal Study Day
Aimed at both Nurses and AHPs caring for trauma patients, this is a new study day starting in the summer of 2021. More details can be found on the NELETN website.
Post Graduate Education
For those who would like to explore further education in trauma, Queen Mary University of London runs a range of MSc programmes with trauma components including: • MSc Trauma Sciences • MSc Trauma Sciences (Military and Humanitarian) • MSc Orthopaedic Trauma Science • MSc Emergency Medicine and Resuscitation • MSc Prehospital Medicine For more information, search the MSc title here: https://search.qmul.ac.uk/s/search.html?collection=queenmary-coursefinder-pg&query=&sort=title

Medical Staff

Doctors are expected to ensure that they have the necessary skills to carry out the duties expected of them and to retain those skills by engaging in regular Continuing Medical Education at an appropriate level. This is reviewed through the Appraisal process - or Annual Review of Competence Progression for trainees.
Trauma Units should identify those trainees that require current trauma competencies to complete their role. This may include ATLS / APLS or TTM / TTL courses for trainees in Emergency Medicine, Anaesthetics/ICM, General Surgery, Orthopaedics, Paediatrics or other specialties that might contribute at a specific site (Neurosurgery, Cardiothoracics, Vascular, Elderly Care).
Trauma Units should identify those senior doctors that require current trauma competencies to complete their role. This may include ATLS / APLS / TTL courses for Emergency Medicine, Anaesthesia/ICM, Paediatrics or DCS/DCOS for General Surgery, Orthopaedics. This should be identified through Job Planning and resources made available for skills retention.
Various targeted training opportunities are made available ad hoc through the trauma network, many of these are cost free or subsidised/funded at network level, but there should not be an expectation that NELETN will provide all the training required for the maintenance of operative competency across all sites and specialties.

• Advanced Trauma Life Support (ATLS) https://www.rcseng.ac.uk/education-and-exams/courses/search/advanced-trauma-life-support-atls-provider-programme/?gclid=EAIaIQobChMIkOjh3PS08AIVkLrtCh2Vpg4YEAAYASAAEgIwjvD_BwE
• Advanced Paediatric Life Support (APLS) https://www.alsg.org/coursedates/courseview.php?coursetype=APLS
• Trauma Team Members Course (TTM) RLH_SIM_ADMIN@bartshealth.nhs.uk
• Trauma Team Leaders Course (TTL) RLH_SIM_ADMIN@bartshealth.nhs.uk

- TALONS (Trauma London Surgery) is an interactive, scenario-based surgical webinar series focusing on life threatening injuries and damage control techniques (vascular/organ/structural injuries rather than orthopaedic trauma).
  It is delivered by experienced trauma surgeons from the LMTS with a focus on real-life cases and surgical approaches. TALONS is free to all surgical trainees, middle grades and any surgeons managing polytrauma patients - see https://www.londontraumaschool.com/ for more information

- TORCH: TRAUMA ORCHESTRATION OF CONTINUING HEALTHCARE
  Aimed at CT1-3 or ST3-6 delivering on-going care to injured patients. The TORCH course will teach you how to lead, coordinate and cohere the care that complex polytrauma patients require post-critical care. see https://www.londontraumaschool.com/ for more information

- Neurotrauma Imaging Course based at RLH for radiology consultants and trainees. Provides an approach to CT imaging interpretation. https://www.londonneuroradiologycourses.com/copy-of-spinal

Post Graduate Education

For those who would like to explore further education in trauma, Queen Mary University of London runs a range of MSc programmes with trauma components including:

- MSc Trauma Sciences
- MSc Trauma Sciences (Military and Humanitarian)
- MSc Orthopaedic Trauma Science
- MSc Emergency Medicine and Resuscitation
- MSc Prehospital Medicine

For more information, search the MSc title here: https://search.qmul.ac.uk/s/search.html?collection=queenmary-coursefinder-pg&query=&sort=title

TARN

It is a national requirement that every TU and MTC submit data to the Trauma Audit Research Network (TARN). The TARN coordinator role can be fulfilled by clinical or non-clinical staff and is met in various successful ways throughout the network. TARN training has moved from face to face to online due to Covid-19 restrictions and they will provide up to 6 virtual courses a year for free per hospital via training credits.

Details for booking the below TARN courses, as well as many other useful resources can be found on the TARN website here https://www.tarn.ac.uk/Content.aspx?ca=6

TARN Foundation Course

All TARN coordinators are expected to complete the TARN Foundation Course prior to submitting cases to the database. This covers essential information about TARN inclusion criteria, how to identify cases, the data entry system, data quality and AIS and ISS calculation.
Cost - 1 training credit or £95 per person

TARN Reporting Course

This session is not essential however it is recommended by NELETN for TARN Coordinators as well as all Trauma Directors and Trauma Managers. The session covers TARN Analytics, data quality & validation, measuring trauma outcomes, reviewing national targets and dashboard and clinical reports. This session will provide TARN users with

the knowledge and confidence to review their TARN submissions and run reports in order to not only measure performance but to also enhance and improve care pathways and processes. Cost – 1 training credit or £50 per person
NELETN TARN Training
NELETN Coordinator, Andrea Smith, can provide ad hoc training sessions and support with TARN reporting and Analytics to individual coordinators or small groups. Contact andrea.smith8@nhs.net to arrange.

Prehospital

LAA Clinical Governance Day
London's Air Ambulance has a Clinical Governance Day (CGD) every first Thursday of the month. Some of the days are closed but majority are open. They are currently virtual with the intention to return to F2F as soon as guidelines allow. If anyone would like to attend, you can email Demi Walsh on d.walsh@londonsairambulance.co.uk and she will provide you with the link to join.
Prehospital MSc
This brand new, innovative degree programme follows the hugely successful Intercalated BSc in Pre-Hospital Medicine. It is run in partnership with Queen Mary University of London and is delivered at Barts and The London School of Medicine. The MSc aims to prepare established clinicians for the challenges of the advanced practice of pre-hospital medicine. Alongside interpretation and application of scientific data students will demonstrate knowledge in the full range of specific subject areas, such as toxicology, anatomy, resuscitation and law and ethics. They will solve clinically related dilemmas using a detailed understanding of core science and will analyse how this is relevant to the interpretation of clinical diagnosis.rk https://www.iophc.co.uk/education/msc-pre-hospital-medicine
LAA HEMS Talks
Frank Chege is LAA's Patient Liaison nurse and can help to organise training and/or debriefs. He can help teams to understand when and why a patient is bought to a TU, rather than an MTC. To arrange a visit Frank is happy to be contacted directly on f.chege@londonsairambulance.org.uk
EHAAT Clinical Governance Day
The EHAAT clinical governance day is held on the 3rd Tuesday every month, virtually via zoom until full covid restrictions lift. Then physical attendance at North Weald. If you are interested in attending, please email Deborah Cooper deborah.cooper@ehaat.org for information. Currently there are around 100 people engaging with these days, which are a mix of education and governance. Colleagues working within trauma and throughout NELETN are very welcome to join.
EHAAT Death & Disability Day
This meeting is held on the 1st, 2nd and 4th Tuesday of the month, virtually, via zoom until full covid restrictions lift. Then physical attendance at North Weald.

These days include:

- A formal and in-depth appraisal of highlighted missions.
- Looking at all aspects from activation to returning to base.
- CRM, clinical care, handover etc are all critiqued.

This is a semi-closed meeting, however if any receiving hospital wishes to join to discuss a patient, we took to them that could be arranged. There may be queries on our care or handover of the patient etc. Admission would be restricted to that hospital/ EHAAT/Patient missions and not a general admission.

London Ambulance Service (LAS) Education

As an extremely large, Pan-London organisation with staff numbering into the thousands, it is very difficult for LAS to provide additional resource for network staff to attend governance or other LAS-wide meetings. However, clinical practice manager and advanced paramedic, Mark Faulkner, would be happy to hear from any network team who have specific learning needs that LAS could contribute to. Mark is happy to be contacted directly on mark.faulkner4@nhs.net.

References

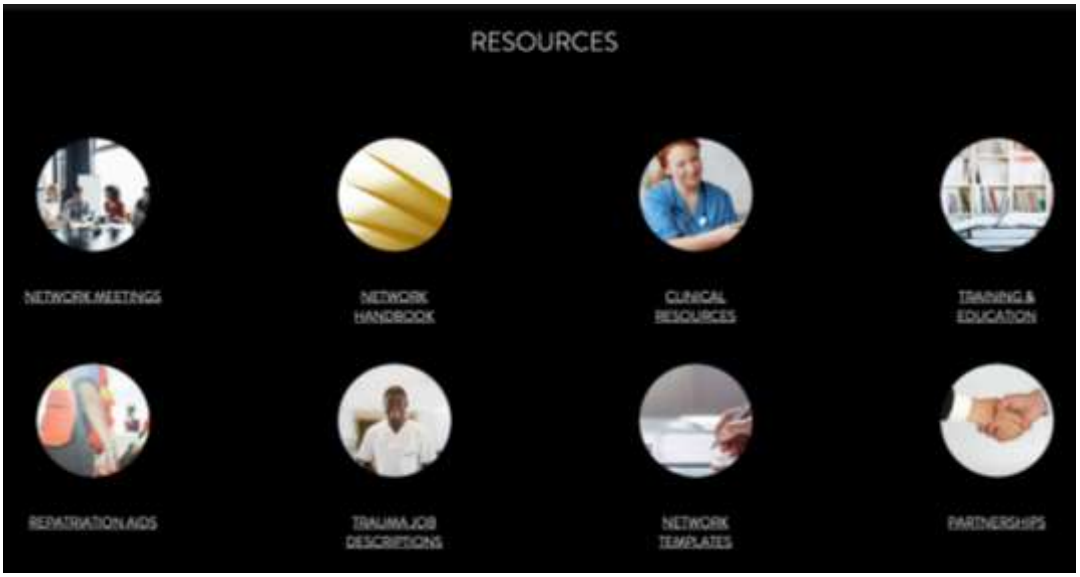
1. NHS England (2016) *National Service Specification for Major Trauma D15/S/a.* Available at: https://www.england.nhs.uk/wp-content/uploads/2014/04/d15-major-trauma-0414.pdf
2. www.tarn.ac.uk, (2021) *Trauma Audit and Research Network's Official Website* [online] Available at: https://www.tarn.ac.uk/Home.aspx [Accessed 10 June. 2021].
3. The National Major Trauma Nursing Group (2016) *Levels 1-3 Adult and Paediatric Emergency Trauma Nurse/AHP Educational and Competency Standards*. Available at: http://nebula.wsimg.com/4b710cb35a7fb8b53d6fee4d52287f67?AccessKeyId=3902D5FF5C6A88146946&disposition=0&alloworigin=1
4. The National Major Trauma Nursing Group (2016) *Nursing and Allied Health Professionals Trauma Competencies in the Emergency Department Adult Level 1.* Available at: http://nebula.wsimg.com/a9f7faafd978cd1ec5c5a463d1cc7b65?AccessKeyId=3902D5FF5C6A88146946&disposition=0&alloworigin=1

8: NELETN Website

www.neletn.nhs.uk

neletn.nhs.uk is the networks new website, set up to include all network related material in one handy online repository.

Here you will find resources that will assist both clinical and non-clinical colleagues with the daily function of their Trauma service.



You can also find information on clinical pathways, the network team, referring to the MTC, TARN and more.

There is a password protected section where you can download minutes of any network steering group, TARN or rehab meeting. Please contact Andrea or Hannah for the password via your NHS email.

For content suggestions or changes, or to report a broken link, please email Hannah or Andrea.

9: Peer review Manual

Introduction

Peer review is a process to drive continuous quality improvement involving self-assessment, enquiry and learning between teams. Peer review is not just about trying to fix problems; it is really about using 'critical friends' to 'look in' on internal assurance systems for identifying and sharing good practice and suggesting areas for improvement.

Peer review provides a way to:

- focus, in a holistic way, on the quality of a service and the outcomes and experience it delivers for patients/service users across the agreed breadth of the patient pathway being reviewed.
- examine compliance with standards and benchmarking with others, including engagement in service/quality improvement and research.
- consider the efficiency, productivity and value of services in meeting expected patient outcomes and experience.
- identify good practice and areas for improvement.
- ensure a patient-centred and patient-perspective view of the service/pathway.

The expected outcomes of peer review include:

- improvement in the safety, quality and effectiveness of services.
- a better experience for patients.
- consistent sharing of good practice and demonstrable commitment to prudent healthcare.

Peer review should provide a positive developmental experience for all those involved. Reviewers can learn as much as those being reviewed, and are then able to take back relevant learning to their own organisations.

From 2020 NELETN will be using an App based programme to conduct Peer review which will allow for year round recording and updates. The Network team will set a minimum inspection requirement, but Trauma Units (TU's) can self-inspect as often as they desire to demonstrate continual improvement, access can be granted to all involved from ED Nurses and Doctors, Ward nurses and therapists to the hospitals executive board. Each inspection will result in an automated report which can be shared as a PDF and presented at governance meetings.

Clinical teams within Trauma Units

The clinical team is the driver for peer review within its organisation. The clinical team should see peer review as a two way process of enquiring and learning between two teams of equivalent specialisation and knowledge and should ensure participation from relevant staff.

Following a peer review and receipt of the peer review action plan it will be the responsibility of the clinical team to ensure that any actions are taken forward via the organisation's Executive and Quality and Safety Committees, and acted upon.

The peer review team

The peer review team will be formed and resourced by the NELE Trauma Network which is responsible for managing the review, with the oversight of the Pan-London Trauma System team.

The peer review team will typically be comprised of:

- Peer review chair (usually Network Director)
- Trauma Network Director (if not the chair)
- Trauma Network Manager
- Trauma Network Lead Therapist
- Trauma Network Lead Nurse
- Administrator

The panel may be joined by a lay reviewer(s) (e.g. patient and public involvement), or external expert reviewer(s) from NHSE or another trauma network.

The App

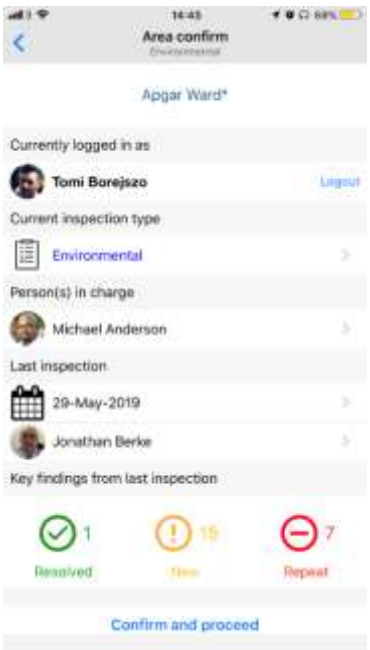
The App is available for both Apple and Android and can be downloaded from the App store by searching for 'Tendable'. The icon looks like this

tendable
formerly Perfect Ward

The App was first developed for auditing ward areas but was adapted by NELETN to provide Trauma Unit Peer Review. Our network is the first in the country to deliver peer review in this manner.

Once downloaded, tap on 'Register Now' and fill in the pop-up form in order to request an account, which will need authorisation from the network team. You will be prompted to enter an organisation code, please use **UK891NET**. This code is unique to NELETN so please do not share outside of the Network. Please allow 72 hours for this process and use your professional/NHS email address rather than a personal account. (See p.4-5 of User Guide)

Each TU will have its own unique QR code to scan in order to start an inspection. To start an inspection, tap on the 'inspect' icon in the middle of the bar along the bottom. This will open the device's camera so that you can scan the QR code of the hospital you are inspecting. You can then select the 'Major Trauma Measures' inspection, after which more information about that audit will appear.



As pictured here you will be able to view when the last inspection was done and by whom, as well as the resolved, new and repeat issues from previous inspections. The resolved issues are anything that has been marked negatively in the past, but positively in the most recent inspection. The new issues are things that were positive in the past but negative in the most recent inspection. And repeat issues are questions that have been marked negatively one more than one occasion.

Each question in the audit has the ability for you to attach additional context and evidence. This is in the form of comments and photos. You can access this by tapping on the arrow to the right of the question.

Once you have entered your text and taken a photo, you can return to the audit and the speech bubble and camera icons next to the question will turn blue.

***IMPORTANT* Once you have started to complete an audit, you will be able to save it and come back to complete it later if necessary. Audits can be saved as a draft for 365 days to allow time for completion. Once saved as a draft you can access your audit from any device using your log in details. Please pay attention to the expiry date of the draft; as if this passes the inspection will be deleted.**

You will not be able to submit an audit until all questions have been answered. Please note that once an audit has been submitted, they cannot be edited or removed.

Network requirement and process

The Network requires a minimum of two audits per year according to the timescales set out in the table below. If further evidence is required, or indicators have not been met a third audit will be required. These audits will be described as 'Initial', 'Intermediate' and 'Final'.

The initial audit to be conducted is for self-assurance that indicators are being met and to note any areas for focus and work. It is also an opportunity to identify any new indicators that may have been added since the last inspection. The Network team will view the report for this audit; however it will not be used towards your final outcome which will be based solely on the Intermediate review.

The Intermediate review is your official peer review and will either be self-directed, or will be completed with the network team at your TU. During this audit you may be asked to present evidence. The report from this audit is your intermediate review report and will be sent by the network team to the following groups:

- The Trauma Unit Director
- The Trusts CEO
- The Trusts Medical Director

If at this point the report is fully met with 100% compliance then this will also be considered your 'Final' report. In this case, the report will also be sent to your CCG team.

It is possible that there may be some indicators not met, or some missing evidence. These will be highlighted in the intermediate report with an accompanying letter as either 'action required', an 'immediate risk' or as a 'serious concern'. At this point a there is a timeframe of 6 weeks to provide additional evidence, for these to be reviewed and potentially revoked. A final audit will need to be completed at this stage.

The Final Report will be sent (if required) to the following groups:

- The Trauma Unit Director
- The Trusts CEO
- The Trusts Medical Director
- The CCG lead(s)
- Pan-London Trauma Director

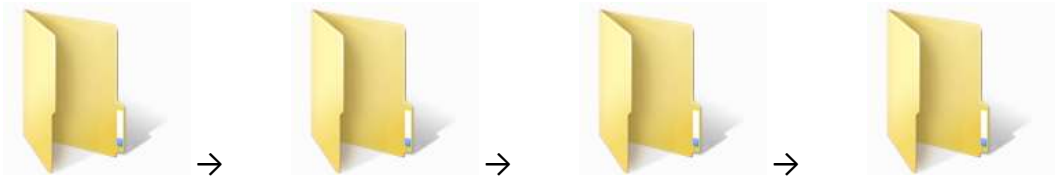
Any missing evidence supplied after this time will not alter the outcome of that years review but can be used for the following year.

Minimum Timetable	
Initial Audit	To start and finish between the 1st and 30th April every year*
Peer review	To be conducted in the month of October each year, dependant on self-assessment or facilitated review with Network Team. Self-assessments should start and finish between the 1st and 31st October each year.*
Additional Audits	Additional audits may be completed at any time throughout the year at your TU's discretion. Although these will be visible by the network team they will not be counted towards your peer review, allowing for honest reflection and audit.

*Any audits that have been started or completed outside of the aforementioned timeframe will not be counted as your initial audit or self-assessed peer review. Please adhere to the time frames laid out above.

Collecting and saving evidence

Evidence that you collect for your peer review should be stored on a local shared drive. The structure of which should be as follows:



TU Peer review → Year → Domain → Question Number

Using the question number to store the evidence will allow for easier review.

Feedback and Development

Much work has gone into the App design and review process to make the transition as smooth as possible. Should you encounter problems whilst using the App please contact info@perfectward.com, ensuring that you CC the Network Manager. For any suggestions for improvement, change or development, please email Hannah.kosuge@nhs.net.

10: Trauma Audit and Research Network (TARN)

NELETN subscribes to TARN for collection of data pertaining to Trauma patients.

TARN monitors data submitted in two different ways; data ascertainment and accreditation. Data ascertainment looks at the number of submissions made to TARN compared to the number that appear to meet the TARN inclusion criteria in the Hospital Episode Statistics (HES) dataset. Accreditation looks at how frequently key fields used in analysis are recorded.

The Ascertainment target is >80% and Accreditation target is >95%.
Dashboards for performance are released quarterly and are referred to as part of your peer review.
A document entitled 'procedures manual' is available for download from the resources section of TARN, which explains this process is much more detail.

UK Trauma Unit Dashboards 2022:
Q2 dates revised 10th January 2022*

Report	Reporting period	Dispatch deadline		Published	
		Original	Revised*	Original	Revised*
TU dashboard Q2 21/22	Admission dates July to September 2021	11/01/2022	08/02/2022*	10/02/2022	10/03/2022*
TU dashboard Q3 21/22	Admission dates October to December 2021	07/04/2022		12/05/2022	
TU dashboard Q4 21/22	Admission dates January to March 2022	08/07/2022		11/08/2022	
TU dashboard Q1 22/23	Admission dates April to June 2022	04/10/2022		03/11/2022	

UK MTC and cMTC Dashboards 2022:
Q2/3 Children's MTC & Q3 MTC dates revised 10th January 2022*

Report	Reporting period	Dispatch deadline		Published	
		Original	Revised*	Original	Revised*
Children's MTC dashboard Q2&3 21/22	Admission dates July to December 2021	15/02/2022	15/03/2022*	17/03/2022	14/04/2022*
MTC dashboards Q3 21/22	Admission dates October to December 2021				
MTC dashboards Q4 21/22	Admission dates January to March 2022	17/05/2022		16/06/2022	
Children's MTC dashboard Q4 21/22 Q1 22/23	Admission dates January to June 2022	15/08/2022		15/09/2022	
MTC dashboards Q1 22/23	Admission dates April to June 2022				
MTC dashboards Q2 22/23	Admission dates July to September 2022	10/11/2022		15/12/2022	

TARN Submission Pathway

POTENTIAL	I.T. system report produced or ICD 10 codes are used to highlight potential TARN patients.
CONFIRM	Data Collector/EDCR user checks if TARN Inclusion Criteria is fulfilled – if YES
CREATE	Using the EDCR system a user then creates a submission for each TARN patient and enters data gathered from ambulance sheets, radiology reports, post mortems, hospital notes, trauma sheets, operative notes and discharge summaries, a unique submission number will appear at the top of each submission screen. Further detail can be added at any time and in any order whilst a submission remains in the created status. These submissions can be accessed again using the EDCR submission summary screen, which lists their STATUS as CREATED.
DIARY	Any additional information the user wishes TARN to have (e.g. radiology reports) can be added to the DIARY SECTION prior to dispatch. Diary section is also used by TARN post dispatch to inform user of any rejection or return of a submission.
VALIDATE	Once all available patient data is entered, the user electronically VALIDATES the submission. The validation procedure checks to ensure no mandatory fields have been missed and if so, will not allow dispatch until all are completed.
DISPATCH	The user then DISPATCHES all validated submissions to TARN. All dispatched submissions are then assigned to an individual TARN coder. No further detail can then be added by user, however further detail can be added by TARN post dispatch. These submissions can be viewed using the EDCR submission summary screen, which lists their STATUS as DISPATCHED.
APPROVE	Within one week all standard submissions (excluding transfers out-see below) are coded, assigned an ISS and APPROVED by TARN. These submissions can be viewed using the EDCR submission summary screen, which lists their STATUS as APPROVED.
REJECT	If the submission does not meet TARN inclusion criteria, the TARN coder will electronically REJECT it, informing the user of the reason in the DIARY section. These submissions can be viewed using the EDCR submission summary screen, which lists their STATUS as REJECTED.
RETURN	If the submission requires additional information prior to approval, the TARN coder will electronically RETURN it informing the user of the reason in the DIARY section. These submissions can be viewed using the EDCR submission summary screen, which lists their STATUS as RETURNED.
REDISPATCH	When user has the additional detail required, they must RE-DISPATCH the submission. These submissions can be viewed using the EDCR submission summary screen, which lists their STATUS as REDISPATCHED and then when coded and approved by TARN as APPROVED.
TRANSFER	Transfers out for further care to another TARN site are coded and FLAGGED whilst awaiting the second site's submission. These submissions can be viewed using the EDCR submission summary screen, which lists their STATUS as DISPATCHED with a FLAG attached. Once the second site's submission is received, TARN matches and approves both submissions.
CASE	A case is a complete picture of patient care and final outcome. A case can involve one or multiple sites. When a submission is approved or a transfer out is matched and approved, a case number will appear at the top of the submission screen.
REPORT	ONLY APPROVED SUBMISSIONS ARE USED IN TARN REPORTS AND ANALYSES.

Inclusion Criteria :
The decision to include a patient should be based on the following 3 points:

A. All trauma patients irrespective of age
B. Who fulfil one of the following

LENGTH OF STAY CRITERIA DIRECT ADMISSIONS	PATIENTS TRANSFERRED IN
Trauma admissions whose length of stay is 3 overnight stays or more OR Trauma patients admitted to a High Dependency Area regardless of length of stay OR Deaths of trauma patients occurring in the hospital including the Emergency Department (even if the cause of death is medical) OR Trauma patients transferred to other hospital for specialist care or for an ICU/HDU bed.	Trauma patients transferred into your hospital for specialist care or ICU/HDU bed whose combined hospital stay at both sites is 3 overnight stays or more OR Trauma admissions to a ICU/HDU area regardless of length of stay OR Trauma patients who die from their injuries (even if the cause of death is medical) *Patients transferred in for rehabilitation only should not be submitted to TARN.*

C. And whose isolated injuries meet one of the following criteria

BODY REGION OR SPECIFIC INJURY	**INCLUDED – IN ISOLATION (EXCEPT WHERE SPECIFIED)**	**EXCLUDED – IN ISOLATION (EXCEPT WHERE SPECIFIED)**
HEAD	All brain or skull injuries	LOC or injuries to scalp
THORAX	All internal injuries	
ABDOMEN	All internal injuries	
SPINE	Cord injury, fracture, dislocation or nerve root injury.	Spinal strain or sprain.
FACE	Fractures documented as: Significantly Displaced, open, compound or comminuted. All Lefort fractures All panfacial fractures. All Orbital Blowout fractures	Fractures documented as Closed and simple or stable.
NECK	Any Organ injury, injury to the Carotid artery, Vertebral Artery or Jugular veins, hyoid fracture	Nerve injuries Skin injuries
FEMORAL FRACTURE	All Shaft, Distal, Head or Subtrochanteric fractures, **regardless of Age.** Isolated Neck of Femur or Inter/ Greater trochanteric fractures **<65 years old**	Isolated Neck of femur or Inter/Greater trochanteric fractures **> 65 years.**
FOOT OR HAND: JOINT OR BONE	Crush or amputation only.	Any fractures &/or dislocations, even if Open &/or multiple
FINGER OR TOE	None	All injuries to digits, even if open fractures, amputation or crush &/or multiple injuries.

LIMB – UPPER (EXCEPT HANDS/FINGERS)	Any Open injury. Any 2 limb fractures &/or dislocations.	Any Closed unilateral injury (including multiple closed fractures &/or dislocations or the same limb)
LIMB – BELOW KNEE (EXCEPT FEET/TOES)	Any Open injury. Any 2 limb fractures &/or dislocations.	Any Closed unilateral injury (including multiple closed fractures &/or dislocations or the same limb)
PELVIS	All isolated fractures to Ischium, Sacrum, Coccyx, Ileum, acetabulum.	Single pubic rami fracture >65 years old.

	Multiple pubic rami fractures. Single pubic rami fracture <65 years old. Any fracture involving SIJ or Symphysis pubis.	
NERVE	Any injury to sciatic, facial, femoral, cranial nerve or brachial plexus	All other nerve injuries, single or multiple.
VESSEL	All injuries to femoral, neck, facial, cranial, thoracic or abdominal vessels. Transection or major disruption of any other vessel (excluding vessels in the hands, feet and digits).	Intimal tear or superficial laceration or perforation to any limb vessel.
SKIN	Laceration or penetrating skin injuries with blood loss >20% (1000mls) Major degloving injury (>50% body region).	Simple skin lacerations or penetrating injuries with blood loss < 20% (1000mls); single or multiple. Contusions or abrasions: single or multiple. Minor degloving injury (<50% body region) .
BURN	Any full thickness burn or Partial/superficial burn >10% body surface area NOT referred to a Burns unit	Partial or superficial burn <10% body surface area. Or any burn referred to a Burns unit.
INHALATION	All included - if not referred to Burns unit	If referred to Burns unit.
FROSTBITE	Severe frostbite	Superficial frostbite
ASPHYXIA	All	None
DROWNING	All	None
EXPLOSION	All	None
HYPOTHERMIA	Accompanied by another TARN eligible injury	Hypothermia in isolation
ELECTRICAL	All	None

Injury Severity Scoring

Those who are injured may have one or many injuries and the Injury Severity Score (ISS) is an anatomical score that measures the overall severity of injured patients.

All injuries are assigned an Abbreviated Injury Scale (AIS) code and score from an internationally recognised dictionary that describes over 2000 injuries and ranges from 1 (minor injury) to 6 (an injury that is thought to be 'incompatible with life'). Patients with multiple injuries are scored by adding together the squares of the three highest AIS scores in three predetermined regions of the body. This is the ISS which can range from 1 to 75. Scores of 7 and 15 are unattainable because these figures cannot be obtained from summing squares. The maximum score is 75 ($5^2+5^2+5^2$). By convention, a patient with an AIS6 in one body region is given an ISS of 75. The injury severity score is non-linear and there is pronounced variation in the frequency of different scores; 9 and 16 are common, 14 and 22 unusual.

The assignment of AIS codes and scores are undertaken by trained coders within a Quality Assurance programme.

Case study

A man is injured in a fall at work. He complains of pain in his neck, jaw, and left wrist and has difficulty breathing. There are abrasions around the left shoulder, left side of the chest, and left knee.

Examination of the cervical spines (with radiography) suggests no abnormality. There is a displaced fracture of the body of the mandible. There are also fractures of the left wrist, and left ribs (4-9), with a flail segment.

Injury		**AIS Score**
Fracture of body of mandible		2
Fracture of lower end of radius (not further specified*)		2
Fracture of ribs L 4-9 with flail segment		4
Abrasions (all sites)		1
Neck pain†		0

AIS2005, Abbreviated injury scale

*If fracture of radius was known to be displaced or open the AIS would be 3. If not specified the lower score is used

†Symptoms are not scored if there is no demonstrable anatomical injury

ISS = $2^2+2^2+4^2=24$

For the purpose of the analysis described here, **the ISS should be calculated only from operative findings, appropriate investigations, or necropsy reports**. The overall injury severity score of a group of patients should be identified by the median value and the range, not the mean value. Non-parametric statistics should be used for analysis.

11: Data Sharing Agreement

1. Introduction

The North East London and Essex Trauma Network (NELETN) represent 13 member hospitals, 8 NHS Trusts and 4 Prehospital Providers.

- Barnet Hospital (Royal Free London NHS Foundation Trust)
- Basildon University Hospital (Basildon and Thurrock University Hospitals NHS Foundation Trust)
- Homerton University Hospital (Homerton University Hospital Foundation Trust)
- King George Hospital (Barking, Havering and Redbridge University Hospitals NHS Trust) *LEH
- Newham University Hospital (Barts Health NHS Trust)
- North Middlesex University Hospital (North Middlesex University Hospital NHS Trust)
- Queens Hospital (Barking, Havering and Redbridge University Hospitals NHS Trust)
- Royal Free Hospital (Royal Free London NHS Foundation Trust)
- Southend University Hospital (Southend University Hospital NHS Foundation Trust)
- The Royal London Hospital (Barts Health NHS Trust) *MTC
- UCLH (University College London Hospitals NHS Foundation Trust)
- Whipps Cross Hospital (Barts Health NHS Trust)
- The Whittington Hospital (Whittington Health NHS Trust)
- London's Air Ambulance
- Essex and Herts Air Ambulance
- London Ambulance Service
- East of England Ambulance Service Trust

2. Purpose of this document

The purpose of this document is to ensure that the NELETN, its member organisations and close partners share relevant data in order to:

- Satisfy NHSE (London and East of England) that NELETN and individual organisations within it and who work in partnership with it, meet national and local standards of care and, where they don't, are able to work with that organisation to effect improvements.

- Satisfy the various Clinical Commissioning Groups (CCGs) who are responsible for the individual member Trusts and partnership organisations that these organisations and the NELETN meet national and local standards of care and, where they don't, are able to work with that organisation to effect improvements.

- Provide a mechanism for individual Trusts to measure their performance within the Network, identify where good practice is occurring in order to learn from this, and work collaboratively to improve achievement against local and national standards and to the care of major trauma patients.

- Improve pathways of care for the end-to-end provision of high quality trauma management.

- Provide a mechanism for the NELETN and commissioners to identify the overall numbers, population demographics and injury profiles of trauma patients presenting to each organisation and their transfer between organisations.

- Meet the requirements as set out in the National Trauma Operational Delivery Network Specification.

- Produce a Network Dashboard for use by NELETN, individual organisations within the Network, NHS England London, NHS East of England, and during National Peer Review.

- Provide a framework in which NELETN wide audits can take place.

- Ensure that only the minimum information necessary for the purpose should be shared.

- Ensure that when information needs to be shared, sharing complies with the law, guidance and best practice.

- That the individual rights of patients and organisations signing this agreed are respected, particularly confidentiality and security, and the participating organisations continue to have ownership of any data shared.

3. Information Sharing Agreement

This document sets out the framework for data sharing across the Network to support the National Peer Review Measures, the Trauma Network Service Specification and the needs of the Network, member organisations, NHSE (London and East of England) and the local Clinical Commissioning Groups (CCGs).

This data sharing agreement is not legally binding nor is it intended to be fully comprehensive in detail. It sets out the principles/objectives which all sides agree to follow to ensure essential data is shared across the Network without compromising the privacy of each organisation.

This data sharing agreement is compliant with the general principles for legal information sharing as detailed in section 4. It sets up an agreement between the Trusts who have signed section 8.

4. Relevant Legislation and Codes of Practice

- The Data Protection Act 1998
- The Human Rights Act 1998
- The Health and Social Care Act 2008
- Common Law Duty of Confidence
- Freedom of Information Act 2000
- Confidentiality: NHS Code of Practice August 2003
- NHS Policy – Information Governance October 2003

- Information Security Management: NHS Code of Practice 2007
- Caldecott Principles

The Data Protection Act sets standards for organisations on how to handle personal information. That is, any information which enables a living individual to be identifiable.

The main principles are:

- Information is processed fairly and lawfully.
- Information is processed for a specified purpose.
- Information is kept accurate and up to date.
- Information is not excessive.
- Information is not kept longer than necessary.
- Information is processed in accordance with individual's rights.
- Information must be kept secure.
- Information must not be sent outside of the EEA without ensuring an adequate level of protection.

The **Common Law Duty of Confidentiality** bounds all NHS staff to the principle that information which has been provided in confidence must not be disclosed or shared outside of the healthcare team without the patient's consent.

There are seven **Caldecott Principles** which all organisations have to ensure they comply with.

These are:

- Justify the purpose(s).
- Don't use personal confidential data unless it is absolutely necessary.
- Use the minimum necessary personal confidential data.
- Access to person confidential data should be on a strict need-to-know basis.
- Everyone with access to personal confidential data should be aware of their responsibilities.
- Comply with the law.
- The duty to share information can be as important as the duty to protect patient confidentiality.

5. Information to be Shared

a. Sharing of information

Trusts signing this data sharing agreement are agreeing that data will only be shared with the parties named within this document as members of NELETN or close the partners as named, with NHSE (London and East of England), and relevant CCGs with responsibility for the Trusts named in this agreement.

If any of these parties should evolve, such as to become separate or combined Trusts/CCGs etc. this agreement will allow for data sharing within this new configuration.

All sharing of information will be agreed through NELETN Trauma Board and NELETN Clinical Reference Groups and, provided the meetings are quorate, absent parties will be deemed to have agreed with the majority membership decision.

b. **TARN Dashboards**

It is agreed that individual and/or a collective Dashboard will be shared with NHSE (London and East of England) through their ODN Managers and with CCGs from within the Network through their Quality Managers.

It is further agreed that NHSE (London and East of England) and CCG representatives who attend NELETN Trauma Board and individual members Trauma Boards will be permitted to receive papers which may contain data covered by this agreement.

c. **Freedom of Information Requests**

Any requests for information falling under the Freedom of Information Act for NELETN **ONLY** must be submitted to The Royal London Hospital, as the host of NELETN, either by email to FOI@bartshealth.nhs.uk or in writing to the Freedom of Information Lead at The Royal London Hospital.

Information requests regarding individual organisations should be made directly to them.

d. **Individual patient information**

In the unlikely event that patient identifiable information is to be shared with organisations who did not provide direct patient care explicit or express consent will need to be obtained from the patient(s) concerned (Confidentiality: NHS Code of Practice 2003).

6. Storage of information

NELETN information will be stored on The Royal London Hospital NHS Trust servers which comply with NHS standards for data storage and protection.

All Trusts signing this agreement hereby confirm that all shared information will also be stored on Trust servers which comply with NHS standards for data storage and protection.

7. Responsibilities

Each Trust is responsible for:

- Ensuring their Chief Executive has reviewed and signed this agreement on behalf of their organisation.
- That this policy is implemented within their Trust and distributed to all applicable staff.
- That all relevant staff are appropriately trained in Data Protection and Caldecott procedures.
- That all staff follow their home organisations policies and procedures, which will be in line with the Department of Health Guidance, to ensure that data is kept secure at all times.

12: NELETN Automatic Acceptance Policy

1. Introduction and purpose of policy

Following the introduction of The London Trauma System, Major Trauma Centres are required to automatically accept patients requiring treatment for major trauma injuries. The purpose of this policy is to provide direction and guidance for actions from key individuals and organisations within the NELETN to improve the patient pathway and quality of care.

2. Application

2.1 This policy will relate to patients from Trauma Units within the NE London & Essex Trauma Network admitted to The Royal London Hospital following major trauma under **time critical circumstances**. All other patients should be referred by agreed pathways using refer-a-patient.

2.2 This policy applies to referring Hospitals, Ambulance Trusts, and other pre-hospital providers. It is the responsibility of The Royal London staff to ensure that that this policy is followed from first contact by an outside agency.

2.3 The policy will be implemented by personnel in ED, Intensive Care, The High Dependency Units and General Wards.

2.4 The final responsibility for the implementation of this policy lies with the Consultant who accepts the patient. In most cases this will be the Emergency Medicine Consultant-in-Charge, acting as the Major Trauma Centre (MTC) Receiving Consultant.

3. Summary

3.1 The policy will ensure the automatic acceptance of time critical major trauma patients within the NELETN from Trauma Units to the Major Trauma Centre.

3.2 It will ensure that all relevant parties are aware of their specific roles and responsibilities and prevent the acceptance and transfer of patients being delayed.

3.3 The policy refers only to those patients who require time critical transfer. All other patients should be referred by agreed pathways using refer-a-patient.

4. The policy

4.1 The aim of this policy is to prevent unnecessary delays in the transfer and acceptance of patients from the NE London and Essex Trauma Network (NELETN) to the Royal London Hospital with time critical injuries from major trauma.

4.2 Specifically the aim of this policy is to ensure automatic acceptance of trauma patients through single call access to the Major Trauma Centre.

5. Scope

5.1 The scope of this policy applies to all Trauma Units within the NE London and Essex Trauma Network (NELETN) as outlined in the NELETN handbook.

5.2 The policy describes the principles and the process for achieving effective automatic acceptance for patients from the NELETN Trauma Units to the Major Trauma Centre.

6. Principles

6.1 This policy applies 24/7.

6.2 The physical transfer of the patient is to be organised by the referring hospital, providing clinically appropriate escort arrangements as deemed necessary by the referrer, in conjunction with the transporting authority.

7. Automatic acceptance process

7.1 The referring hospital must contact the on-duty Emergency Medicine Consultant via the single point of access details below, with details of the patient.

7.2 The referring hospital must also inform the LAS Co-ordination desk, on the details outlined below, of the transfer and details of the patient. NB: Hospitals in EEAST catchment area should use local arrangements.

7.3 The transfer procedure must be carried out at Trauma Team Leader level.

7.4 Full patient details including name of referring Trauma Team Leader must be documented and sent with the patient.

7.6 On arrival at the MTC, the patient must be taken to the resuscitation room and trauma call procedures initiated.

7.7 A referral should also be completed on Refer-a-patient, but it may be more appropriate for this to be done after the patient has already left the sending Emergency Department.

7.8 All secondary transfers are subject to continuous audit via TARN, including referral time, time to transfer and time of arrival.

8. Capacity & overflow management in exceptional circumstances

8.1 The Royal London Hospital (RLH) Major Trauma Centre has a duty of care to the population covered by the NELETN and must endeavour to accept all severely injured patients requiring secondary transfer in a timely manner.

8.2 The RLH ED consultant has lead responsibility for decisions regarding capacity and the ability to accept patients from the NELETN and the London Trauma System.

8.3 Where there are problems with capacity in specific areas of the Royal London Hospital e.g. critical care to accept patients from the NELETN, it is the responsibility of the affected unit/department to inform the ED Consultant in a timely manner and to work together to resolve the situation expediently. This should be completed in conjunction with the Royal London Hospital Site operations team

9. March 2020 changes to the LAS triage tool

9.1 The only groups of patients who will bypass hospitals to a Major Trauma Centre are those who trigger the below steps of the trauma triage tool.

9.2 In respect of adults

9.3 Step 1:

- 1A GCS of less than 14 (13 and below)
- 1B Sustained systolic blood pressure of less than 90mmHg
- 1C Respiratory rate less than 10 breaths per minute or more than 29 breaths per minute

9.4 Step 2:

- 2A: Severe chest wall injury with respiratory compromise
- 2B: Traumatic amputation proximal (above the wrist and ankle)
- 2C: Penetrating neck or torso injury (not limbs or head/face)
- 2F: Spinal trauma with quadriplegia/paraplegia (loss of power to the limbs).
- 2H-I: Burns criteria (greater than 30 percent, flame burns which are circumferential or with complete skin loss to the lower half of the face)

9.5 All other trauma patients should be initially triaged to the local trauma unit/Emergency Department for management (please do not take any trauma patients, unless they meet the minor injury criteria to King George's Ilford.

9.6 The trauma triage tool and by-pass arrangements for children less than 12 years old remains unchanged.

9.7 There is currently no reported change to EEAST triage tool.

13: Reverse Transfer of Care and Repatriation Policy

Policy Key Points

- Patients are expected to transfer to the appropriate TU within 48 hours of referral.
- Dispatch of imaging will be requested on IEP at the time of referral.
- TU's can expect to receive an abbreviated, but accurate account of care whilst at MTC. This should include relevant collar and brace care proforma.
- A patient placed on hold starts back at day 0 when ready for referral.
- The bespoke Network Map will be used to identify the correct return TU.
- Patient choice will be a consideration under reasonable circumstances.
- Disputes will be arbitrated by the network executive team, whose decision is final.
- Delays to repatriation will be subject to a robust escalation route.
- Repatriation to ED will be considered at day 5.
- Any repatriation to ED or failed repatriation will be managed through the Serious Incident process and may result in this indicator not being achieved at peer review.

1. Introduction

The Pan London Major Trauma System consists of four Trauma Networks, each with a Major Trauma Centre (MTC) acting as a 'hub' working with a number of local Trauma Units (TUs). MTCs deliver specialist trauma services to ensure patients can receive immediate care 24 hours a day regardless of location. TUs are responsible for providing local management of patients with injuries that do not require specialist interventions at the MTC. Networks take an 'inclusive' approach to the delivery of trauma care involving collaboration between ambulance services, hospitals within the region, community providers and government agencies.

To ensure patients are able to receive care in the most appropriate location, the Networks operate on two basic principles: automatic acceptance and return of care. Automatic acceptance ensures that patients requiring specialist trauma care at the MTC can immediately access care. Return of care, also known as repatriation is the process of enabling patients to return to their local hospital when the acute specialist phase of their treatment is concluded. Without effective processes for return of care the concept of automatic acceptance is jeopardized due to capacity problems developing at the MTC

2. Purpose of the Policy

The return of care for Major Trauma patients to their local hospital has the potential to be challenging for patients, carers, staff members and local organisations. Unnecessary delays with return of care can result in:

- Difficulty accessing social services and planning discharges from outside the patient's home area.
- The need for relatives and carers to travel long distances to visit.
- A source of conflict and frustration between clinical and management teams.
- Preventing patients waiting for specialist interventions from accessing Major Trauma beds at the MTC.

The purpose of this policy is to provide guidance to key individuals and organisations within NELETN with the intention of reducing variation in processes and improving the patient experience.

The return of care for Major Trauma patients to their local hospital has the potential to be beneficial for patients, carers, staff members and local organisations. Prompt return of care can result in:

- Improved access to Social Care and Community Services in local Borough allows smoother discharge planning and reduced length of stay
- Proximity to home means that friends and family will be able to visit more easily
- Releases Major Trauma capacity for patients from across the Network who require specialist interventions

The purpose of this policy is to provide guidance to key individuals and organisations within NELETN with the intention of reducing variation in processes and improving the patient experience.

3. Scope

This policy covers all trauma patients within the North East London and Essex Trauma Network. Trauma patients are those defined by the London Ambulance or East of England Ambulance Triage Tool, those admitted under the MTC Trauma Service, or those with specific injuries requiring specialist management which has been provided at the MTC. In addition the policy applies to those patients admitted to a Trauma Unit distant from their home area as a result of their injuries. It replaces and supersedes all previous

Trauma Repatriation policies covering NELETN and is applicable to adults and children.

The return of care of trauma patients to organisations that do not fall within NELETN may require some additional processes but should follow the same principles as outlined in this policy.

4. Aims / Objectives

- To provide a standardised process for the referral, acceptance and transfer of care of trauma patients.
- To achieve transfer of care / physical repatriation of trauma patients within 48 hours of notification.
- To provide a robust escalation and response process for any delay in, or deviation from, this process.
- To ensure equity of access to the services available at the Major Trauma Care and prevent this access being compromised by lack of capacity.

5. Single Point of Access

Much of the delay in repatriation is related to issues with achieving acceptance. An accepting consultant at the receiving Trust must be identified by the receiving Trauma Unit, who will take over patient care. This will happen within 24 hours of referral and it is appropriate that this conversation happens internally via a Single Point of Access (SPOA). This is usually the site team but may be the Trauma Lead or Trauma Coordinator. Any delay in finding an accepting consultant will not impact on the timeline of repatriation, and if a consultant has not been specifically identified by the time of transfer the patient should be admitted under the care of the on-call consultant of the most appropriate specialty.

6. Return of Care via Emergency Departments

Where there is a significant delay in repatriation (5 days or more) the MTC will consider initiating a return of care via the receiving hospital's Emergency Department. While it is hoped that this will not be necessary, if the functioning of the MTC and ability to accommodate complex trauma patients is put at risk, it will be considered. This may be completed with a 1:1 RN or HCA if required in certain circumstances. It does not nullify the requirement for robust handover of medical, nursing and therapy needs and must be done with full openness to patients and relatives. In the event of a return of care via an Emergency Department a Network Serious Incident will be initiated and the CCG and CEO of the MTC and TU will be informed of the reasons behind the necessity to take this approach (please see escalation chart below).

7. Return of Care Process

Since 2019 NELETN has adopted the standards set out in the NHS patient choice framework, which can be found at https://www.gov.uk/government/publications/the-nhs-choice-framework/the-nhs-choice-framework-what-choices-are-available-to-me-in-the-nhs. Whilst it is recognized that there is no specific guidance held within regarding repatriation it sets out expected standards for all NHS patients.

"The government is committed to giving patients greater choice and control over how they receive their health care, and to empowering patients to shape and manage their own health and care."

1. Identification of local hospital (to be referred to as the 'receiving hospital')
    a. The patient's **Home postcode** is to be used to determine the local hospital according to the Networks agreed boundary map NELETN – Google My Maps
    b. Should this be disputed for any reason the receiving TU and/or MTC should liaise directly with

the Trauma Network Team. The decision of the Network Executive Team is final.

c. If there is a legitimate reason that a patient's clinical needs require them to be repatriated to an alternative hospital outside of their designated TU (e.g. under the care of a consultant at that facility for other chronic/acute healthcare needs, existing formal complaint) then a return of care referral will be sent to that center with the expectation that this will be honored. Any dispute between hospitals will be settled by the Trauma Network Executive Team. The decision of the Network Team is final.
d. Once the appropriate hospital has been identified, or within 48 hours of admission, they are will be notified through the SPOA of the patient's admission to the MTC and the intention to return care when medically appropriate.

2. Communication of decision to repatriate:

a. Once the primary team at the MTC assess that a patient is ready for repatriation they will complete a repatriation notification (appendix 1) and send it to the repatriation coordinator at the MTC. Once the data has been verified this is forwarded on via the SPOA
b. Transfer of imaging, with reports from the MTC will be requested to the receiving hospital within 24 working hours of referral being sent.
c. From the time that the referral is sent the receiving Trust has 48 hours to identify an accepting consultant and appropriate bed to allow the transfer to proceed.
d. Once the receiving hospital has identified a bed, specialty and corresponding named consultant, they must notify the MTC referring team ready for clinical handover on the day of transfer.
e. The patient and next of kin should be kept informed of the intention to return care and the principles behind it, from admission, or whenever appropriate, onwards. It is the responsibility of the MTC to ensure this is done.

3. Transfer of Care Process:

a. Before transfer there must be a verbal nursing handover from the current MTC team to the receiving TU team.
b. Copies of drug charts and relevant documentation should accompany the patient. This includes a copy of the discharge summary and rehabilitation prescription.
c. Between admission and transfer there should be ongoing communication between the MTC and the TU regarding the patient's condition and requirements.
d. For patients with on-going rehabilitation needs, the MTC should initiate rehabilitation referrals if appropriate, however this should not hinder repatriation.
e. The patient will be sent to the receiving hospital with a copy of their rehabilitation prescription, or this may be sent directly to the therapists at the receiving hospital – whichever is most appropriate.
f. A therapies-to-therapies verbal handover will occur within 24 working hours of the repatriation.
g. Any patients transferred outside of Barts Health with a collar or brace will have a copy of this prescription sent with them outlining clinical needs, expected timeframe and mobility/changing restrictions. It is NOT appropriate to send this on at a later date, as deviations from the patient's plan of care could potentially result in harm. Patients transferred within Barts Health will have this information clearly defined and available on CRS.
h. Follow-up appointment for the MTC should be made prior to discharge and sent with the patient.
i. In the normal course of events, the transfer of patients should happen between 8am and 8pm, though this may be affected by the time of day that the bed is declared ready by the receiving hospital

4. Holding a repatriation
    a. Should repatriation need to be placed on hold the MTC will contact the SPOA directly.
    b. Re-referral requires the process to being again with an updated referral letter sent to the Trauma Unit with any and all changes noted.
    c. This re-referral counts as day 0.

5. Quality of referrals
    a. All referrals should seek to provide an abbreviated, but comprehensive account of the patient care and treatment during their Trauma episode.
    b. Referrals will be vetted upon receipt from the clinical site team at the MTC.
    c. Any referral deemed to be incomplete or lacking detail will be returned to the referring team
    d. A monthly audit will be undertaken continually assess the quality of referrals and clinical teams informed of the outcome.
    e. TU's may raise network incidents should they find that the referral information vastly differs from the patient's condition once received and this incident will be referred to the referring teams clinical director for response.

6. Escalation Process:
    a. Patient transfer should happen within 48 hours of the repatriation notification being sent by the MTC. Earlier transfer, if safe and appropriate, should be encouraged.
    b. If the patient is delayed beyond 48 hours the escalation process will commence, with escalation up to the Chief Executive and local commissioner where required.
    c. The MTC will call the receiving Trust SPOA daily for a situation update and to chase for a plan for transfer.
    d. If on day 5 delay there is no satisfactory plan for repatriation the MTC will consider return of care via the Emergency Department of the receiving hospital. This would be done with advance warning and a full nursing, medical and therapy handover to the receiving team at the receiving hospital.
    e. Any return of care via ED will result in a Network Serious Incident being raised and the Trauma Unit Director & Trauma Unit Manager at the receiving hospital will be asked to investigate in accordance with network governance framework.
    f. Any repatriation to the TU's ED will constitute failure to adhere to the network's repatriation policy and will be so recorded for that hospitals peer review.

Day	Situation	Communication	Who
0	Patient identified as ready to transfer to receiving Trust	Repatriation notification sent to SPOA.	MTC Clinical Team MTC Repat Team
1	Bed, specialty and named consultant identified at receiving Trust	MTC Repat Team informed of location of bed and name of consultant.	TU SPOA
		MTC requests PACs transfer.	MTC Repat Team
2	Transfer of care happens	Medical, nursing and therapy handover	MTC and TU
3 1 day delay	Bed has not been identified, 24 hour delay in repatriation.	Site team at MTC to communicate with site team at TU to expedite transfer of care.	Head of Site Operations
		MTC Director of Ops to escalate to Trauma Unit Director of Ops	MTC Director of Ops
4 2 day delay	Bed still not identified, 48 hour delay in repatriation	Chief Executive to communicate with equivalent at receiving Trust.	MTC CEO escalates to TU CEO
		Trauma Network Team to escalate to Trauma Unit Director/Manager	Trauma Network Team
5 3 day delay	Bed still not identified, 72 hour delay in repatriation	MTC to escalate to Network Director and Network Manager	Site Team
		Patient repatriated to ED of local hospital. If patient not suitable for transfer alone a 1:1 escort may be provided.	Escalated to Trauma Network Director, TU CEO and CCG
7 (5 day delay)	Bed still not identified, 120 hours delay to repatriation	Network Executive Team to notify local Commisioning Group and Pan-London Trauma System	Network Executive Team

Appendix 1 – Repatriation notification

Date		Hospital referred to	
Has the patient been informed of the plans for repatriation?			
Rationale			

Accepting Consultant	Speciality	Discussed with	Date discussed

Please note - if the patient was transferred to RLH as a Trauma and is being repatriated within the Trauma Network, it is the responsibility of the local Hospital to identify an accepting Consultant.

Patient Details

Name	Address	DOB	NHS/Records Number	Speciality	Ward at RLH	Consultant at RLH	GP Details
		Gender					

Covid-19 Status	Positive	Negative
	[x] -[Date of Swab]	[X] -[Date of Swab]
	Any current symptoms:	

Reason for Admission	Past Medical History

Diagnosis & Treatment	Social History

Further details

Acute On-going Treatment Necessitating Transfer to Local Hospital

Is follow-up required at referring Site?	Tertiary Follow-up Plan

Has patient been seen by Therapies at the referring Site?		Therapy Summary (to be completed by Therapy Team caring for patient)

Main Impairments	Activity Limitations

Therapy Goals & Discharge Plan	Has a separate referral been made to an in-patient rehabilitation facility?	Details

Does the patient have an infection status requiring isolation?	

MRSA	C Diff	Other	Further Details / Current Status of Infection

Does the patient have devices in Situ - E.G. Tracheostomy, NG, PEG, PICC Line, Hand Restraints?	

Details

Does the patient have any Enhanced Care Requirements?	

DoLS	HCA Special	RMN Special	Mental Health Section (Specify which)	Palliative Care Pathway	DNAR Order	Other	Details

Referral Completed by	Role	Contact Details	
		Telephone	Email

Referral Letter Approved by (Registrar or Consultant)	Role	Contact Details	
		Telephone	Email

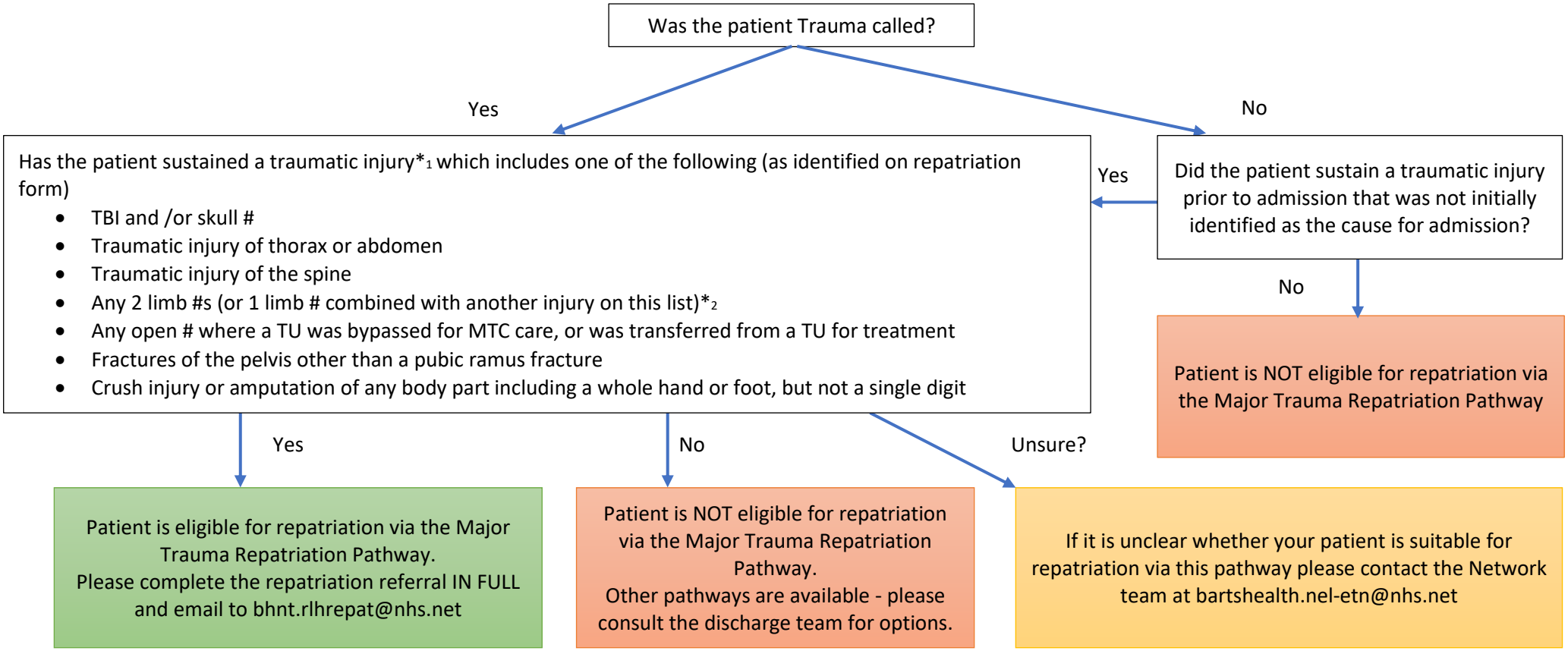
Signing this letter constitutes a declaration that the patient is appropriate and medically stable for transfer, and that the Site Management team will be informed promptly of any changes to the patient's condition that will affect repatriation. Please ensure that the discharge letter is started on CRS and is updated prior to transfer.

Appendix 2 – Single Point of Access contacts*

Hospital	Phone	Refer to	Escalate to
Barnet	0203 758 2000 - Bleep 2400, 0208 216 4693/4524	rf.bhclinicalsiteteam@nhs.net Kate.rock@nhs.net Wade.white@nhs.net	Kate.rock@nhs.net
Basildon	Hub 01245 516 777 - 01268 524900 Ext 2000	shn-tr.controlcentre@nhs.net	Jenni.brown@btuh.nhs.uk
Homerton	0208 510 5555 Blp 118	homerton.csm@nhs.net	Nicola.sands@nhs.net
King George	01708 435000 BMs Blp 8399, Ext 8478	Via Queens SPOC	Via Queens contact
Newham	0207 4764000 Blp 339 / 338	nuh.clinicalsitemanagers@nhs.net	a.finnegan@nhs.net
North Middlesex	BM 07436039244 / SM 077649 59713 / Trauma Nurse 07768618835	nmu-tr.clinical-site-management@nhs.net	TBC
Queen's Romford	01708 435000 Ext 6071 or 4975	BHRCCGs.BedSiteManagement@nhs.net (include bhrut.traumarehabcoordinators@nhs.net for Trauma referrals)	Alisa.aitken@nhs.net
Royal Free	0207 7940500 Blp 1112 / 6616 Neuro 1451, Neuro ward 02078302719	rf.bedandsitemanagers@nhs.net - rf.traumarepat@nhs.net dentorubalde@nhs.net	Max.marshall1@nhs.net patrubin@nhs.net
Southend	Hub 01245 516 777 - 01702 435555 Ext 2000	shn-tr.controlcentre@nhs.net	Charlotte.dilliway@southend.nhs.uk Rebecca.boyes@southend.nhs.uk
UCLH	0203 4567890 Blp 6616 / 0203 447 3072	uclh.coordinationcentre.team@nhs.net	Lorraine.walton@nhs.net
Whipps Cross	0208 5395522 Blp 003	bartshealth.wch.wxclinicalsitemanagers@nhs.net	Gail.reeves@nhs.net
Whittington	0207 2723070 Blp 2689	whh-tr.Site-Practitioners@nhs.net	Kamila.bessessar@nhs.net

*It is the responsibility of each hospital to advise the network of any change to SPOA details

Major Trauma Repatriation Pathway inclusion criteria



***1 For the purposes of this pathway, a traumatic injury is one which was sustained following an acute event resulting in a presentation to ED.**

***2 The exception to this rule is if a patient was transferred from a TU for surgery on a single limb injury, regardless of trauma call status**

Injuries sustained as a result of an inpatient fall at The Royal London Hospital are not eligible for entry to this repatriation pathway.

WeCare
Our vision, values and behaviours

NHS
Barts Health

COLLAR PRESCRIPTION

Consultant:

Date of injury:

Level and type of injury	Indication for collar

Brand of collar (tick as appropriate)	
Aspen	☐
Miami J	☐
Miami J select	☐
Other (please specify)	☐ .....

Please note that injuries above C2 and below C6 may not be satisfactorily immobilised using Miami J collar. Please confirm that indication for collar has been discussed with consultant if injury is above C2 or below C6.

- Discussed? Yes: ☐ Not applicable: ☐

How long is collar required (tick as appropriate)	
Whilst awaiting Surgery	☐
Post-surgical intervention subject to further review	☐
8 weeks	☐
12 weeks	☐
Subject to further outpatient review	☐

NB: If patient is in collar whilst awaiting surgery, patient must be kept in collar 24/7 and collar change must be performed in lying with head hold maintaining spinal alignment

Collar to be applied (tick as appropriate)	
In sitting (keeping neutral spinal alignment)	☐
In lying with head hold	☐
In lying without head hold	☐

Collar to be used (tick as appropriate)	
24h day	☐
When sitting/mobilising only	☐
When mobilising only	☐

Hygiene recommendations (tick as appropriate)	
Collar can be removed for wash in bed, in **flat spinal alignment**	☐
Collar to be removed for hygiene in **sitting** keeping neutral spinal alignment	☐
Collar to be removed for hygiene in **standing** keeping neutral spinal alignment	☐
Patient to have a **shower with collar in-situ** (pads to be changed after the shower)	☐

NB: Skin care and checks should be done daily. If concerns re pressure damage please contact Spinal CNS

Follow up (Parent team please add the following to the TTA)	
Clinic / Consultant: **Time frame:** **No follow up required:** ☐ **Requires follow up in 12F clinic?** Y/N Email sent to 12Fclinic.bartshealth@nhs.net: Y/N	**Imaging requested for follow up:** X-ray ☐ CT ☐ MRI ☐

Comments:

Spinal CNS: Please ensure that when this form is completed that an automatic email is sent to the following emails: bartshealth.spinalCNSteam@nhs.net;

SPINAL BRACE PRESCRIPTION

Consultant:

Date of injury:

Level and type of injury	Indication for brace

How long is the brace required (tick as appropriate)	
Whilst awaiting surgery	☐
Post-surgical intervention, subject to further review	☐
8 weeks	☐
12 weeks	☐
Subject to further outpatient review	☐

Type of brace (tick as appropriate)	
CTO (to be used in # between C1-T6)	☐
CTLSO (to be used in # between C1-L2)	☐
TLSO (to be used in # between T7-S1)	☐
LSO (to be used in # below L2)	☐

Please note that braces are sometimes prescribed outside of these levels
In these circumstances indication for brace should be discussed with a consultant or spinal fellow:
- Discussed? Yes: ☐ Not applicable: ☐

Mobility restrictions (tick as appropriate)	
Brace to be used when mobilising only (i.e. – not required when sitting)	☐
Brace to be used when sitting AND mobilising	☐

NB: Braces should NEVER be worn in bed

How to apply brace AND movement restrictions (tick as appropriate)	
In sitting and no restrictions on movement in bed	☐
In lying and patient can roll freely and sit up to 30° in bed (without brace)	☐
Log roll into brace – full spinal precautions at all other times	☐

Hygiene recommendations (tick as appropriate)	
The patient should have a **wash in bed** lying flat in neutral spinal alignment maintaining spinal precautions	☐
The **brace needs to remain in situ** for washing (strip wash) and should not be immersed in water.	☐
Patient can **remove** brace for washing in **sitting** – keep spine in relative alignment and avoid bending, twisting and lifting	☐
Patient can **remove** brace for washing in **standing** – keep spine in relative alignment and avoid bending, twisting and lifting	☐

NB: Skin care and checks should be done daily and documented in the care plan. If concerns re pressure damage please contact Spinal CNS

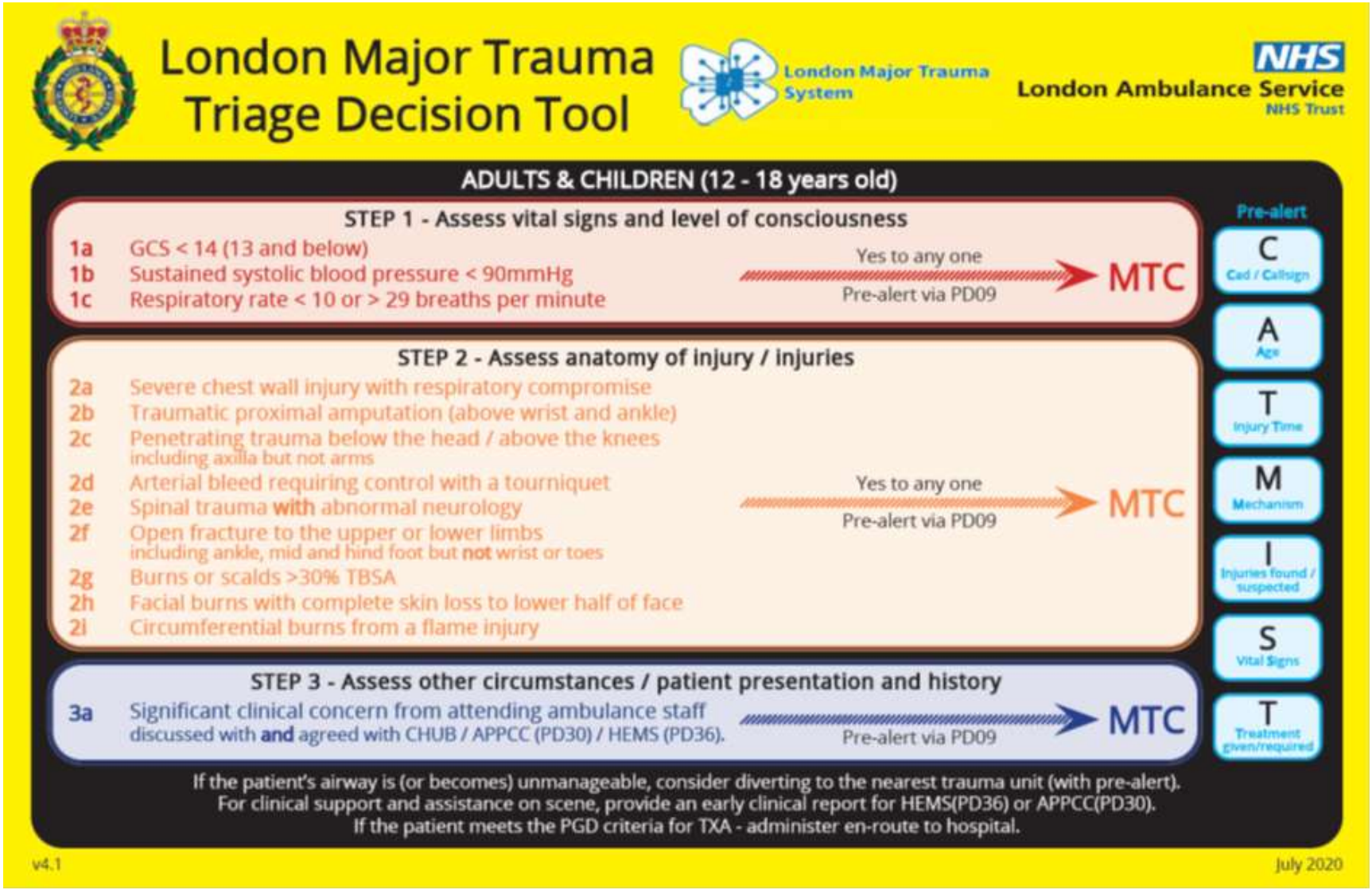
Brace request sent to orthotics: Yes ☐ No ☐

Follow up (Parent team please add the following to the TTA)	
Clinic / Consultant: **Time frame:** **No follow up required:** ☐ **Requires follow up in 12F clinic?** Y/N Email sent to 12Fclinic.bartshealth@nhs.net: Y/N	**Imaging requested for follow up:** X-ray ☐ CT ☐ MRI ☐

Comments:

Spinal CNS: Please ensure that when this form is completed that an automatic email is sent to the following emails: bartshealth.spinalCNSteam@nhs.net;

London Major Trauma Triage Decision Tool



North East London & Essex
Trauma Network

QR CODES – CLINICIAN RESOURCES

Refer to the MTC	Network Handbook	Open # Pathway	Complex Periarticular # Pathway
Rib # Guidelines	Adult Spine Pathway	Paeds Trauma Manual	LMTS Paeds Trauma guidelines
Paeds Spinal Pathway	Older Trauma Screening Tool	LMTS Management of Older Trauma	Primary Survey Cheat Sheet

Referrals to the MTC must come via referapatient.org. Advice on ongoing care should also be sought via this platform in the first instance. Make your referral using a modern browser, or even using your smart phone or tablet via this QR code. If you still find that you need assistance with a referral, or some advice pre or post transfer, please follow these pathways.

Spinal Trauma Team CNS Jandira Trindade Mon-Fri, 8-4 Bartshealth.spinalcnsteam@nhs.net 07508 543 636	**Head Injury Team** CNSs Alice Kershberg and Molly Hilling Mon-Fri, 8-6 Bartshealth.headinjuryrlh@nhs.net 07795 245 709
After Trauma Team (Polytrauma) A team of 6 TNCs and Therapists Mon-Sun, 7:30-5:30 bhnt.aftertraumateam@nhs.net 020 3594 5639	**Orthopaedic Trauma Team (inc pelvis)** A team of 5 TNCs Mon-Sat, 8-5 bartshealth.orthopaedictraumacoordinators@nhs.net 020 3594 5747

Tranexamic Acid
in trauma

code red activated

1g bolus pre-hospital

1g bolus in-hospital

2g TOTAL

traumatic brain injury

Head Injury GCS≤12 or ICH on CT or HEMS intubated head injury

2g bolus

2g TOTAL

- The initial dose of TXA should be given <1hr of injury
- GCS 13/14 - Fast Track to CT

Emergency Department guidance on how to manage traumatic adult rib fractures
Demographics: 10-55% of blunt traumatic trauma, increased incidence of multiple #s and complications with age
Complications: Pneumothorax (14-37%), haemothorax (20-27%), pulmonary contusions (17%) and flail chest (6%)

[1] Assessment, Resuscitation and Analgesia

A-E assessment
Titrated oxygen
Calculate and document pain score (1-10)
-at rest and deep breathing

Prescribe analgesia:
-Paracetamol 1g IV
-Morphine 1-10mg IV (titrated),
Repeat until pain score <4
-Ondansetron 4mg IV

Score <10 Discharge with TTA Analgesia
Give advice sheet

If pain not controlled, consider admission to CDU

[2] Calculate and document STUMBL Risk Score2 – add for total risk score

Chronic Lung Disease (COPD/productive chest disease)	Predictor Points Yes – 5 No – 0
Anticoagulant pre-injury	Yes – 4 No – 0
Number of ribs Fractured	3 points per rib 6 points per flail
Oxygen saturations on Room Air at Initial assessment	<94% =2 <89% = 4 <85% = 6 <80% = 8 <75% = 10
Age	1 point per complete decade

Consider Critical Care review if any of:

High frailty index + for active management

Multiple other injuries

STUMBL > 10 with evidence of lung contusion/flail chest/poorly controlled pain

SpO2 < 92% or pO2 <10kPa on FiO2 > 0.4

Escalation according to local policy if NEWS2>5 or deteriorating

Target spO2
>94%
Or 88-92% in COPD

Consider ventilation needs

Increasing STUMBL score may require support

Score 11-15	Score 16-20	Score 21-25	Score 26-30	Score 31+
Admit locally to a ward with appropriately trained nursing staff. Maintain a low threshold for Critical Care review and/or MTC referral via *referapatient* if polytrauma.			Complete a *referapatient* referral to the MTC for advice and possible transfer if deemed appropriate	

Serratus Anterior Block

Consider in all rib fractures being admitted, particular anterolateral fractures

Monitor post block every 15 minutes for first 30 minutes

Contact anaesthetics even If no block administered in ED for ALL patients on: ----------

Suggested Admission Drug Chart (substitute drugs according to local policy)

Regular
Paracetamol 1g QDS
Ibuprofen 400mg TDS (if not contraindicated)
Lansoprazole 30mg OD
Senna 15mg ON
Movicol 1-2 sachets BD

PRN
Ondansetron 4mg IV QDS
Cyclizine 50mg IV TDS

Inhixa 40mg OD (unless contraindicated) / TED Stockings
If STUMBL score >10

Patient Controlled Analgesia

PCA Morphine initially 1mg/5mins

OR

PCA Fentanyl
10-30mcg/3mins if Morphine contraindicated
(e.g. renal impairment)

If not on PCA

+normal renal function
+age < 65:
Tramadol 50-100mg QDS +
Oramorph 5-20mg 2-4 hourly

OR

+ renal impairment
+/- age >65:
Dihydrocodeine/Codeine 30-60mg QDS +
Oxynorm 2.5-5mg 2-4 hourly

Adapted with kind permission from the Royal London Emergency Department Rib Fracture Guidance

References
1. BMJ Best Practice Rib Fractures 2019 http://bestpractice.bmj.com/topics/en-gg/1009/management-approach
2. Battle et al, Predicting outcomes after blunt chest wall traumas: development and external validation of a new prognostic model. Critical Care 2014

Open Fracture Pathway Trauma Unit ED Management – All Ages

The content of this pathway reflects the latest version of NICE guidance NG37 (2016) and BOAST (2017). The following is not an exhaustive description of the management of an open fracture but rather identifies the key points along the patient pathway

The pathway above is for any units who do not have a pathway in place already, or do, but want to know at what stage they should be referring on to the MTC. It can also be used to inform any updates that might be required. Additionally, Hannah Kosuge is happy to work 1:1 with anyone who would be interested to adapt elements to make it more locally focused, such as changing drugs, pain score or admission location. We can also add logo's if required.

Inclusions:

- ALL isolated lower limb open long bone fractures, plus those of the hindfoot and midfoot and pelvis
- All Isolated upper limb long bone fractures that require soft tissue coverage or vascular repair.
- This applies to patients of ALL AGES.
- Polytrauma patients should follow the major trauma pathway

Exclusions:

- Hand and wrist; Forefoot; Facial fractures (follow existing pathways via plastics / maxfax)

Antibiotics:

- All patients should receive antibiotics within 1 hour of injury
- Adults: IV Co-amoxiclav 1.2g is ideal or Clindamycin 600mg if penicillin allergic.
- Children: IV Co-amoxiclav or Clindamycin if penicillin allergic, dose titrated to weight
- Tetanus prophylaxis must be considered and given if unsure of status.

ED management / Initial management:

- Do not perform mini washouts in the ED. Gross and obvious contaminants should be removed only
- If photography is immediately available and permitted within your TU please take a photograph of any wounds on the affected limb
- Saline soaked gauze and film should then be used to dress, and be left undisturbed
- Antibiotics should be given urgently (within 1 hour of injury) if not already done so and time recorded.
- Limbs should be realigned and splinted and neurovascular status documented.
- Compartment syndrome may need to be managed with emergency decompression locally as per BOAST guidelines

Transfers:

- Arrange ED-ED transfer
- Utilise refer-a-patient to send the referral to the RLH ED team
- Initiate image transfer
- **Any obvious open fracture received at a TU can be referred directly by the TU ED without the need to involve the local orthopaedic team. Local orthopaedic input on decision to transfer is only required if there is any ambiguity on the fracture status.**

Surgery:

- Initial debridement should be a combined consultant delivered orthopaedic and plastic surgery procedure.
- Debridement within 12 hours of injury for IIIa/IIIb and 24 hours for all others.
- Definitive cover / closure should be within 72 hours
- Definitive internal hardware only performed at same time as closure or coverage.

Repatriation:

- Transfer of patients back to their local hospital must occur expeditiously once the acute phase is complete
- If being transferred to a TU within the NELETN an accepting consultant is NOT required and the patient will go under the care of the on-call orthopaedic team at the time of arrival, local ownership can be decided upon at that point
- If a bed has not been identified within the timescales outlined in the network handbook, the patient will be transferred to the TU ED.

Trauma Unit ED Checklist –
Open Fracture Pathway Trauma Unit ED Management – All Ages

Patient Demographics

Date and Time of INJURY:……

- IV Antibiotics given?
  - Co-amoxiclav 1.2g (or titrated dose for children)…… ☐
  - Clindamycin 600mg for penicillin allergy (or titrated dose for children). ☐
  - Other (with variation explained)…… ☐
- Adequate pain relief given for transfer ☐
  - Detail……
- Tetanus immune? Please circle Yes No
- If no, Revaxis given…… ☐
- Refer-a-patient sent to RLH ED…… ☐
- Photograph of wound sent via NHS.net or uploaded to refer-a-patient……. ☐
  If via email, to be sent directly to the accepting clinician
- Wound dressed with saline soaked gauze and film…… ☐
- Neurovascular status recorded…… ☐
- Image transfer initiated…… ☐
- RLH ED team informed of transfer…… ☐

Inclusions:

- Complex periarticular lower limb fractures that cannot be treated locally
- This applies to adult patients
- Polytrauma patients should follow the major trauma pathway

Exclusions:

- It is anticipated that the large majority of isolated fractures would be managed locally by the TU's orthopaedic team.

ED management / orthopaedic Initial management:

- In tibial plateau fractures; align and immobilise the injured limb in an above knee backslab or a splint and re-document neurovascular status post immobilisation
- In tibial plafond (pilon) fractures; align and immobilise in a below knee backslab and re-document neurovascular status post immobilisation
- Perform a CT scan of the affected joint
- In both scenarios, if there is loss of limb length due to the deformity in the x-rays post immobilisation, consider performing a CT scan AFTER applying a joint spanning external fixator and restoring length and alignment (see below) according to local procedures.
- For tibia plafond (pilon) fractures, if photography is immediately available and permitted within your TU please take photographs of the soft tissues around the ankle on admission and after any intervention. Ideally 3 photos at 120 degrees to each other to achieve a 360-degree view of the ankle should be taken *(Figure 1)*. Please include the photographs in your referral or send via NHS mail
- Daily soft tissue checks should be performed and documented, and regular neurovascular assessment should continue according to local policy.

MTC Referrals and Transfers:

- Utilise refer-a-patient to refer the patient to the RLH orthopaedic team for discussion in next day's MDT meeting
- The large majority of patients with these injuries are not time critical, and so if transfer is required this can be accommodated ward to ward. Always aim to admit locally in the first instance
- In the referral, please ensure you add the name of the referring **consultant** and clarify the need for transfer and treatment in a major trauma centre. An orthopaedic consultant to consultant conversation may be requested.
- Please transfer images via IEP to The Royal London Hospital.

Surgery:

- If the soft tissues are amenable, early definitive fixation can be considered. Otherwise the standard of care is staged treatment (span-scan-plan)
- If there is need for a joint-spanning external fixator due to soft tissue swelling/bruising/blistering and/or to restore limb length and alignment, please keep the fixator half pins away from the zone of potential metalwork placement and keep the bridged joints in neutral position (extension for the knee, 90 degrees for the ankle).
- In ankle spanning external fixators please add a "kickstand" to the side bars (NOT the calcaneal pin) (Figure 2).

Repatriation:

- Reverse transfer of care will follow the Network Repatriation Procedure. It is essential that flow is maintained through the Orthopaedic Service at the Major Trauma Centre. If flow cannot be maintained, this may delay the treatment for other patients within the Network. TU's should remain aware that if a bed has not been identified within the timescales outlined in the network handbook, the patient may be transferred via the TU ED.
- If a bed has not been identified within the timescales outlined in the network handbook, the patient will be transferred to the TU ED.

Trauma Unit Checklist -
Adult Lower Limb Complex Periarticular Fracture Pathway

Date and Time of INJURY: ……

Patient Demographics

- Refer-a-patient sent to RLH Orthopaedics…… ☐
- Photograph of wound sent via NHS.net or uploaded to refer-a-patient……. ☐
- Joint spanning external fixator applied if indicated…… ☐
- Neurovascular status and skin condition recorded pre and post immobilisation, and regularly throughout admission…… ☐
- Image transfer including CT scan initiated…… ☐

Fig 1. Pilon soft tissue photography angles

Fig 2. Ankle-spanning external fixator with pins outside the zone of potential metalwork placement and "kickstand"

Key Facts

- A 24/7 specialist spine service is available for all patients within NELETN at The Royal London Hospital Major Trauma Centre (MTC) and at Queen's Hospital Romford (in the case of isolated spinal injuries).
- All referrals to the MTC and Queens Hospital Romford must be via the online referral portal, www.*referapatient.org*
- Emergency specialist advice should be provided by the neurosurgical on-call team within 30 minutes of the referral being received, via *referapatient*
- Outcomes for the patient could include:
    - Transfer for specialist MTC care and treatment
    - Referral to the local spinal unit e.g. in the context of decompensated chronic degenerative spinal pathology.
    - Non-operative management at the Trauma Unit (TU) which could include
        - further investigation e.g., MRI scan
        - definitive management in a spinal orthosis, in which case a brace and collar proforma will be provided on *referapatient*
        - Where outpatient follow-up is required, this will be arranged with the specialist spine team at the MTC via *referapatient*
- It may be recommended that patients with decompensated chronic degenerative spinal pathology are referred to their local spinal unit.
    - The National Hospital for Neurology and Neurosurgery (Queen's Square) via *referapatient*
    - Queen's Hospital Romford via *referapatient*
    - The Royal National Orthopaedic Hospital via www.rnoh.nhs.uk/services/spinal-surgical-unit/spinal-trauma-referral-form
- The responsibility for making this referral lies with the referring Trauma Unit. In rare circumstances where the consultant at the local spinal unit feels they cannot meet the needs of the patient; they should escalate directly to the on-call consultant neurosurgeon at the MTC via the hospital switchboard.
- The North East London and Essex Trauma Network can be contacted where any discrepancy remains or for pathway amendments, though do not have an on-call service. Normal working hours are Monday to Friday, 9-5. **bartshealth.nel-etn@nhs.net**

1: Background

- The principle aim of prehospital and hospital reception teams in the management of spinal cord injury is to prevent further secondary injury and further neurological damage.
- Spinal precautions describe the use of devices and manoeuvres used to minimise spinal cord injury.
- Secondary injury is prevented through:
    - Maintenance of a high index of suspicion of potential injuries.
    - The prevention and reversal of life-threatening injury in the primary survey.
    - Appropriate spinal immobilisation.
    - Cardiovascular and ventilatory support.
    - Maintaining appropriate thermoregulation and glucose levels

2: Immediate Management of spinal cord injuries	
Airway Management	• In cervical or high thoracic injuries anticipate autonomic instability. Tracheal stimulation can cause profound bradycardia and hypotension. • In this situation, where haemorrhage can be excluded as a cause of hypotension, it is appropriate to have a lower threshold for the administration of vasoactive drugs to increase systemic vascular resistance.
Oxygenation	• The spinal cord is neurological tissue and as a result may suffer secondary injury in the same manner as the brain. • Titrate oxygen flow to maintain saturation of at least 94%.
Ventilation	• The patient should be asked if their breathing feels normal or whether they feel short of breath. • Observe for diaphragmatic breathing as this may indicate a high cervical lesion. • There should be a low threshold for intubation if the patient has a high cervical injury or there are concomitant major injuries (e.g. chest). Aim for an ETCO2 of 3.0 to 4.5 KPa and a normal PaCO2.
Hypotension	• Hypotension may require correction if the systolic blood pressure is less than 100 mmHg. • In isolated spinal cord injuries blood pressure can be elevated using fluid boluses or by using intravenous catecholamines. Catecholamines can be administered using carefully titrated boluses or by using an infusion. • In polytrauma patients, causes of hypotension should be sought in the usual manner and treatment should occur through standard procedures. • If other causes for the patient's hypotension have been excluded, then inotropic/vasopressor support should be initiated. • The target Mean Arterial Pressure should be 85 mmHg.
Temperature control	• Spinal injury patients may become cold through vasodilation and loss of normal thermoregulation reflexes. • Patients should be kept normothermic.
Neurological examination & documentation	• A thorough exam should be performed. This should include: ○ An assessment of limb movements. ○ A sensory level. ○ Digital rectal examination. (DRE) ○ Any obvious deformity of the spine. ○ Cardiovascular findings ○ Priapism. ○ This should be performed before anaesthesia or sedation. ○ o An ASIA chart should be completed.
Other measures include urinary catheterisation and keeping the patient NBM (NG/OG tube insertion).	

3: Cervical Spine Precautions

The principles of cervical immobilisation are:

- Self-immobilisation by a conscious, co-operative patient.
- The use of manual in line stabilisation. (MILS)
- Limitation of log rolls to 10 degrees if possible.
- The correct use of rigid cervical collars.
- The use of orthopaedic scoop stretchers (OSS) and other transfer devices.
- The use of head restraints and straps.
- An awareness of other devices for example, prehospital vacuum mattresses

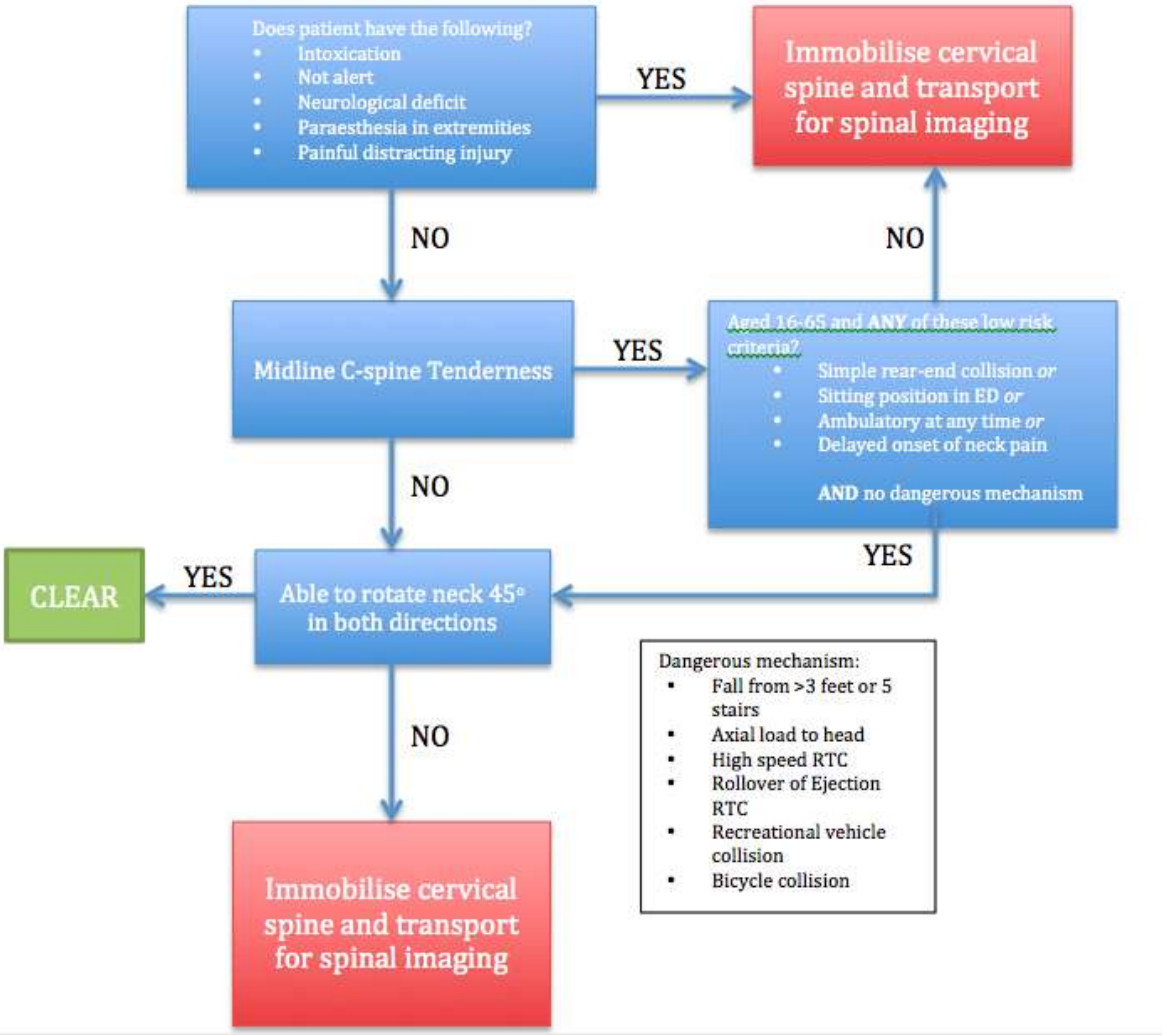
A long spinal board Is an extrication device and therefore is unsuitable for transferring patients, the use of this device may result in pressure areas where a patient has sustained spinal injury.

4: Clearing the cervical spine injuries

Clinical judgement should be used in all cases and a physical examination made by a senior clinician appropriately trained in the assessment of cervical spine injuries. Where doubt or clinical concern remains, immobilisation measures should be retained .

Patients can be stratified into four main groups:

Alert, compliant and co-operative with <u>no neurology</u>:	**Alert, compliant and co-operative with <u>altered neurology</u>:**
• No value in immobilisation. • Clear the c-spine if possible, using the Canadian Cervical Spine Rule (CCR). (see Appendix 1). • Transfer in position of comfort if imaging required.	• Keep in a neutral position. • Correct use of manual inline stabilization (MILS) with blocks and straps.
Non-compliant:	**Unconscious:**
• Do not impose immobilisation. • Try to keep in a neutral position. • Transfer for imaging as soon as practically possible.	• There is a higher likelihood of spinal cord injury, but other traumatic injuries are also possible. • Try to keep in a neutral position. • Optimum care is MILS with blocks and tape. • Transfer for definitive imaging as soon as practically possible.



5: Thoracolumbar injuries

- Patients with suspected thoracolumbar spinal injuries should be kept in a position of comfort or lying flat if tolerated.
- A pragmatic approach may be required if there are concurrent chest wall injuries and oxygenation is a factor in the patient's care.

6: Spinal Imaging

- If patients require spinal imaging, it should be reviewed and reported by an appropriately trained radiologist within 4 hours of arrival, and whilst the patient is in ED.
- Decisions regarding the initial imaging modality should be made based on clinical judgement.
- The risk/benefit for plain x-ray over CT scan should be clearly understood by the requesting clinician.
- Patients with altered neurology are likely to require an MRI as soon as practically possible. In the presence of spinal fracture(s) and objective motor neurology, the MRI should be undertaken in the MTC.
- During transfer to imaging, movement of the spine should be minimised. Local protocols and procedures should be in place to transfer patients. Whilst it is accepted that transfers to

imaging can be undertaken on a scoop stretcher or vacuum mattress, a dedicated trauma mat is preferable.

7: Documentation

- All patients with spinal cord injury must have their neurology documented on an ASIA chart.
- The status of the cervical spine should be clearly documented in the notes as well as the type of cervical spine immobilisation to be used.
- The chart below should be used along with clinical judgement to determine requirement for immobilisation and further imaging.
- Transient neurological symptoms should also be documented and should raise the index of suspicion for spinal injury.

8: Definitive spinal cord injury management

- All spinal cord injuries with neurological deficit should be discussed with the network spinal service within 4 hours of diagnosis.
- Further care within the Trauma Unit includes initiation of turning regime, commence proton pump inhibitor (PPI), placement of TED stockings according to local policy and prescribing atropine or glycopyrrolate.

9: Triage and Automatic Acceptance

- Patients with suspected spinal trauma with new motor neurology at scene will be conveyed directly to the MTC, unless catastrophic haemorrhage or airway cannot be managed.
- Patients with suspected spinal trauma with no new motor neurology but multisystem trauma at scene will be conveyed directly to the MTC, unless catastrophic haemorrhage or airway cannot be managed.
- Patients with spinal trauma and no new neurology OR sensory neurology only will be conveyed to their nearest Trauma Unit – most are treated conservatively and are unlikely to require transfer to the MTC.
- Patients who sit within the first two points will be eligible for automatic acceptance as soon as airway and haemorrhage are adequately managed. Close liaison with the MTC receiving consultant is required in this scenario and a Referapatient should also be completed to Major Trauma
- Patients who fall or sustain spinal trauma whilst an inpatient at a TU should be referred into the MTC via Referapatient to the spinal team, and will be assessed via the spinal MDT.

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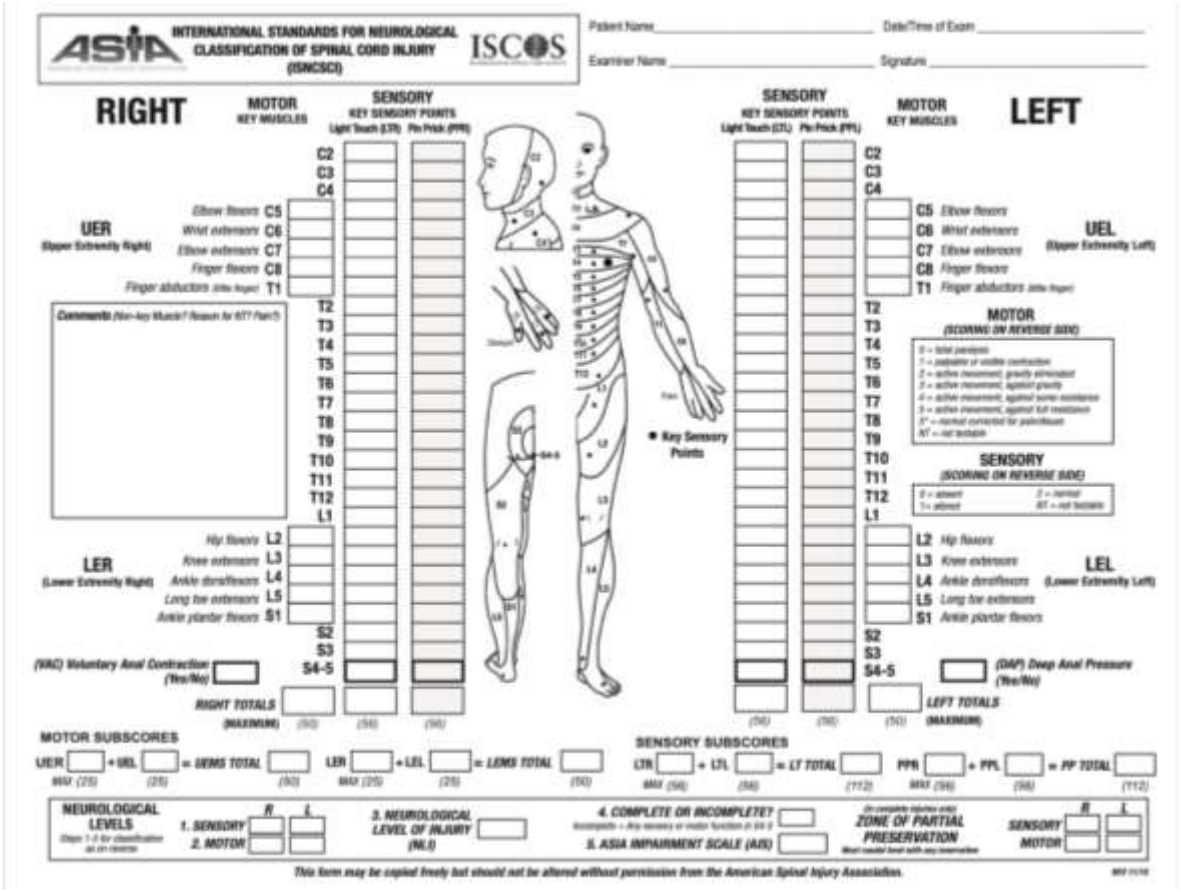
Communication is vital throughout the whole process. Keep in touch with the MTC ED team via 020 3519 7165. All transfers MUST have a *referapatient* referral in place, even if it needs to be completed after the patient has left.



Muscle Function Grading

0 = total paralysis

1 = palpable or visible contraction

2 = active movement, full range of motion (ROM) with gravity eliminated

3 = active movement, full ROM against gravity

4 = active movement, full ROM against gravity and moderate resistance in a muscle specific position

5 = (normal) active movement, full ROM against gravity and full resistance in a functional muscle position expected from an otherwise uninjured person

5* = (normal) active movement, full ROM against gravity and sufficient resistance to be considered normal if identified irritating factors (i.e. pain, disuse) were not present

NT = not testable (i.e. due to immobilization); severe pain such that the patient cannot be graded; amputation of limb, or contracture of > 50% of the normal ROM)

Sensory Grading

0 = Absent

1 = Altered, either decreased/impaired sensation or hypersensitivity

2 = Normal

NT = Not testable

When to Test Non-Key Muscles:

In a patient with an apparent AIS B classification, non-key muscle functions more than 3 levels below the motor level on each side should be tested to most accurately classify the injury (differentiate between AIS B and C).

Movement	Root level
Shoulder: Flexion, extension, abduction, adduction, internal and external rotation **Elbow:** Supination	C5
Elbow: Pronation **Wrist:** Flexion	C6
Finger: Flexion at proximal joint, extension **Thumb:** Flexion, extension and abduction in plane of thumb	C7
Finger: Flexion at MCP joint **Thumb:** Opposition, adduction and abduction perpendicular to palm	C8
Finger: Abduction of the index finger	T1
Hip: Adduction	L2
Hip: External rotation	L3
Hip: Extension, abduction, internal rotation **Knee:** Flexion **Ankle:** Inversion and eversion **Toe:** MP and IP extension	L4
Hallux and Toe: DF and PF flexion and abduction	L5
Hallux: Adduction	S1

ASIA Impairment Scale (AIS)

A = Complete. No sensory or motor function is preserved in the sacral segments S4-5.

B = Sensory Incomplete. Sensory but not motor function is preserved below the neurological level and includes the sacral segments S4-5 (light touch or pin prick at S4-5 or deep anal pressure) AND no motor function is preserved more than three levels below the motor level on either side of the body.

C = Motor Incomplete. Motor function is preserved at the most caudal sacral segments for voluntary anal contraction (VAC) OR the patient meets the criteria for sensory incomplete status (sensory function preserved at the most caudal sacral segments (S4-5) by LT, PP or DAP), and has some sparing of motor function more than three levels below the ipsilateral motor level on either side of the body. (This includes key or non-key muscle functions to determine motor incomplete status.) For AIS C – less than half of key muscle functions below the single NLI have a muscle grade ≥ 3.

D = Motor Incomplete. Motor incomplete status as defined above, with at least half (half or more) of key muscle functions below the single NLI having a muscle grade ≥ 3.

E = Normal. If sensation and motor function as tested with the ISNCSCI are graded as normal in all segments, and the patient had prior deficits, then the AIS grade is E. Someone without an initial SCI does not receive an AIS grade.

Using ND: To document the sensory, motor and NLI levels, the ASIA Impairment Scale grade, and/or the zone of partial preservation (ZPP) when they are unable to be determined based on the examination results.

Steps in Classification

The following order is recommended for determining the classification of individuals with SCI.

1. Determine sensory levels for right and left sides.
The sensory level is the most caudal, intact dermatome for both pin prick and light touch sensation.

2. Determine motor levels for right and left sides.
Defined by the lowest key muscle function that has a grade of at least 3 (on supine testing), providing the key muscle functions represented by segments above that level are judged to be intact (graded as a 5).
Note: In regions where there is no myotome to test, the motor level is presumed to be the same as the sensory level. If testable motor function above that level is also normal.

3. Determine the neurological level of injury (NLI)
This refers to the most caudal segment of the cord with intact sensation and antigravity (3 or more) muscle function strength, provided that there is normal (intact) sensory and motor function rostrally respectively.
The NLI is the most cephalad of the sensory and motor levels determined in steps 1 and 2.

4. Determine whether the injury is Complete or Incomplete.
(i.e. absence or presence of sacral sparing)
*If voluntary anal contraction = **No** AND all S4-5 sensory scores = **0** AND deep anal pressure = **No**, then injury is **Complete.***
*Otherwise, injury is **Incomplete.***

5. Determine ASIA Impairment Scale (AIS) Grade:

Is injury Complete? **If YES, AIS=A** and can record ZPP (lowest dermatome or myotome on each side with some preservation)

NO ↓

Is injury Motor Complete? **If YES, AIS=B**

NO ↓

(No voluntary anal contraction OR motor function more than three levels below the motor level on a given side, if the patient has sensory incomplete classification)

Are at least half (half or more) of the key muscles below the neurological level of injury graded 3 or better?

NO ↓ **AIS=C**

YES ↓ **AIS=D**

If sensation and motor function is normal in all segments, AIS=E
Note: AIS E is used in follow-up testing when an individual with a documented SCI has recovered normal function. If all initial testing or deficits are found, the individual is neurologically intact, the ASIA Impairment Scale does not apply.

Children's Spinal Fracture Automatic Acceptance Pathway V.1.0 (Dec 2020)

According to Prehospital triage tools, the vast majority of children with spinal fractures will be triaged to the Major Trauma Centre. However, this will not prevent children from self-presenting at a Trauma Unit or Local Emergency Hospital. In such scenarios please follow the guidance set out in this document.

Cervical Spine

Key Facts and imaging

- Cervical spine bony injury is uncommon in paediatric patients compared to adults.
- Trauma to the spine in young children can produce spinal cord injury in the absence of bony injury.
- Imaging of the cervical spine is not indicated on the basis of head injury alone: NICE has a separate algorithm extrapolated from adult data. See chart below.
- Plain films may be indicated and if performed should include
    - Lateral c-spine from base of skull to C7/T1 junction
    - AP C-spine from C2-T1
    - Adequate peg views (may be difficult in younger children)
    - In the presence of neurological findings suggestive of cervical spine injury, MRI scan is the investigation of choice due to the risk of spinal cord injury without radiologic abnormality (SCIWORA)
    - interpreting between normal and pathological findings is complex and it may be necessary to seek out specialist radiological input

Thoracolumbar

Key Facts and imaging

- Perform an Xray as the first line investigation for children with suspected spinal column injury without abnormal neurological signs or symptoms in the thoracic or lumbosacral regions (T1-L3).
- Perform CT if the Xray is abnormal or there are clinical signs or symptoms of a spinal column injury.
- If a new spinal column fracture is confirmed, image the rest of the spinal column.
- Use whole body CT in children 16 or over with blunt major trauma and suspected multiple injuries.
- In under 16's use clinical judgement to limit CT to assessment areas.
- Perform an MRI if there is strong suspicion of cervical injury, abnormal neurological signs or both.

Assess

Assess the child for spinal injury, initially taking into account the following factors:

- Any significant distracting injuries
- Under the influence of drugs or alcohol
- confused or uncooperative
- reduced level of consciousness
- any spinal pain
- any hand or foot weakness (motor assessment)
- altered or absent sensation in the hands or feet (sensory assessment)
- any priapism

Carry out full in-line spinal immobilisation if any of these factors are present.

In addition:

- Is there pain in the thoracic or lumbar sacral spine?
- Was a dangerous mechanism of injury?
- Does the child have pre-existing spinal pathology?
- Are there abnormal neuro symptoms, a new deformity or bony midline tenderness?
- If ambulating, is there any pain?
- If a cord injury is suspected complete an ASIA chart ASAP in the ED.

Immobilise:

- Cervical immobilisation should be used in all children with a potential cervical spine injury until such an injury has been ruled out by appropriate clinical assessment and imaging (if indicated).
- The use of a **properly fitting cervical collar**, applied by a competent individual, is an effective tool for the prevention of secondary spinal cord injury. If this is not possible consider the use of blocks and tape.
- Advanced Paediatric Life Support course favours manual in-line stabilisation (MILS) in conscious children +/- blocks and tape to facilitate comfort.
- It is imperative to involve the parents/primary caregivers in the immobilisation stage in order to reduce stress and agitation in the child.
- If attempts at immobilising the cervical spine are causing distress and agitation an assessment of the risks/benefits of continued attempts at immobilisation must be made.
- In unconscious children or when MILS cannot be maintained, immobilisation should be with a properly fitting collar, blocks and tape (3 point immobilisation). **This is also applicable in the case of a poorly fitting collar.**
- Collars should be removed, and MILS maintained prior to intubation attempts MILS should be maintained for intubation attempts if c-spine is not cleared.

Immediate Management if suspected SCI

Airway

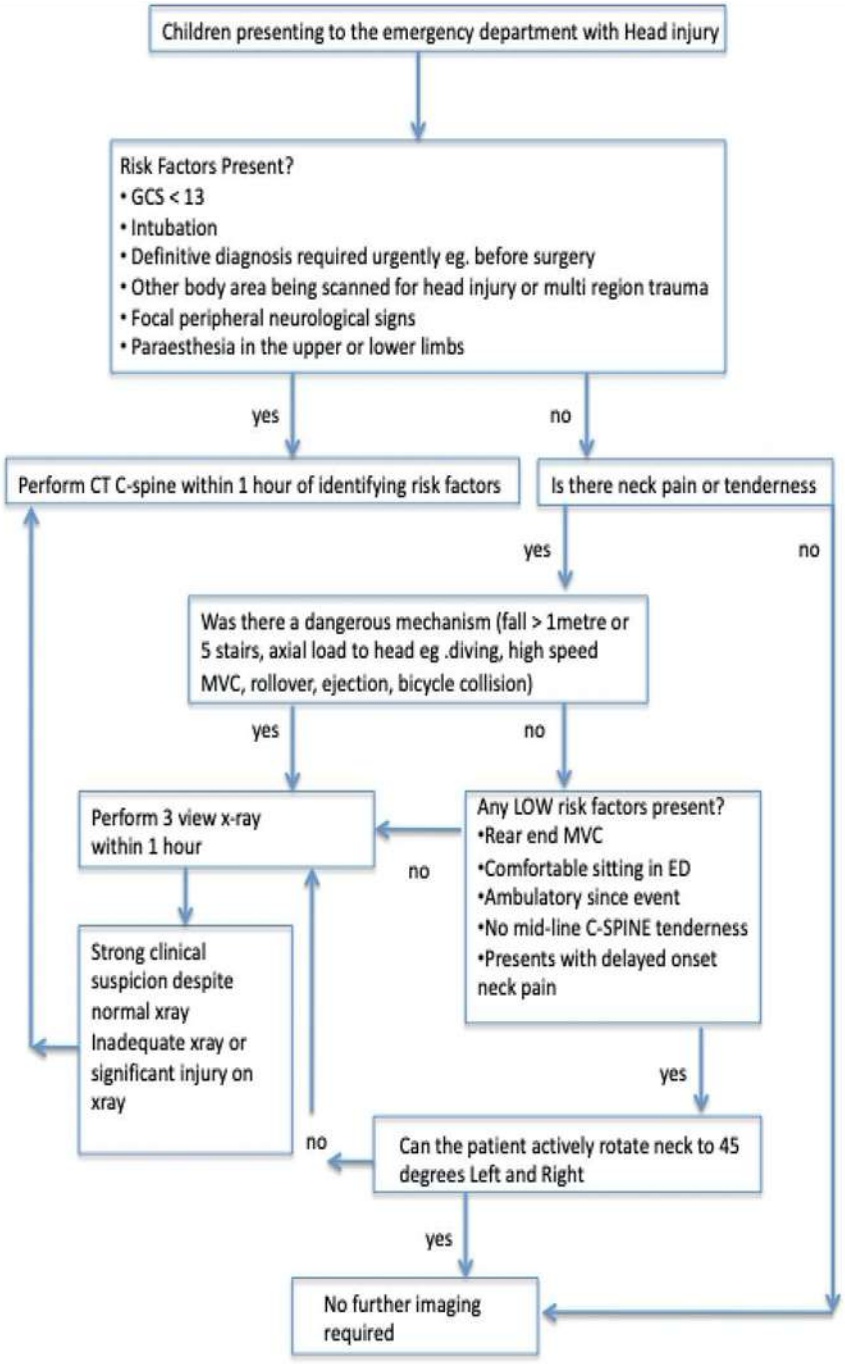
- Maintain mean arterial pressure
- Anticipate bradycardia and hypotension if intubating or suctioning
- Avoid Succinylcholine
- Maintain temperature

Breathing

- Nurse flat, max of 15 degrees if ventilated.
- Minimum hourly obs for signs of respiratory distress or fatigue.
- Humidify O2, consider bronchodilators.

Circulation

- SCI may result in bradyarrhythmias or asystole which can be exacerbated by log rolling, repositioning or tracheal stimulation
- Prescribe Atropine for emergency treatment of bradycardia
    - 20mcg/kg (min 100mcg, max 600mcg)
    - Repeated after 5 minutes if required
    - Max 1mg in a child or 2mg in an adolescent
    - If prolonged bradycardia, consider glycopyrrolate
- Observe for neurogenic shock. Consider vasopressors e.g. noradrenaline.
- Maintenance fluid should be titrated to urine output (not BP).
- Beware of autonomic dysreflexia. Identify stimuli and treat. Monitor continuously until resolution.



Refer:

- Refer the patient to The Royal London Hospital MTC via the **Major Trauma Workstream** on Referapatient.org (see network handbook for further details)
- **Do NOT** refer directly to neurosurgery or spinal surgery
- IEP the images to The Royal London on blue light
- If appropriate transfer the child to a safe clinical area whilst arrangements are made
- Plan for transfer including:
    - Appropriate clinical accompaniment
    - Appropriate immobilisation
    - Essential drugs and equipment

Once transfer agreed:

- For intubated patients liaise with CATS urgently - info can be found online at https://cats.nhs.uk/emergency-tools
- For non-intubated patients enact local policy. Safe transfer tool (STOPP) available at http://site.cats.nhs.uk/wp-content/uploads/stopp_tool.pdf
- Ensure spinal alignment is maintained at all times throughout transfer
- Confirm appropriate monitoring equipment is available
- The child should have appropriate analgesia prior to transfer
- Ensure an appropriate accompanying clinical team, along with the child's parent or caregiver where possible
- Ensure appropriate transfer documentation maintained

Communication is vital throughout the whole process. Keep in touch with the MTC team via 0203 594 5722. All transfers MUST have a Referapatient referral in place, even if it needs to be completed after the patient has left.

Rehabilitation Prescription

Hospital:

Completed by:
Role:
Date:

This Rehabilitation Prescription is for
Patient Name:
Date of Birth:
NHS Number:
Address:
Telephone:

Date of Admission:
Expected Discharge Date:

What is a Rehabilitation Prescription?

A rehabilitation prescription is given to you as you prepare to leave hospital, to provide you with information about your stay. It will describe the treatment you have received, the input from your therapists, and details about continuing care or rehabilitation that you require. You will also find useful contact details of the ward you were in, your therapists, and any care agencies or rehabilitation services that you are being referred to.

Useful contact details:

Ward:	Keyworker:
Telephone number:	Telephone number:

Description of your injury / diagnosis:	**Intervention(s):**

Progress:		
Your Rehabilitation Goals: Discussed / developed with Patient ☐ Discussed / developed with Family / Carers ☐		
Ongoing rehab needs:		
Service referred to and contact details: Choose an item. Choose an item. Choose an item.		**Date referral made:**
Equipment that I need: **Item:**	**Expected date of delivery/collection:**	**Provider contact details:**
My care needs: **Details of care support:** **Contact details for care provider:** **Social worker:** Telephone number:		
Actions for GP:		

Actions for patient:
Patient comments:
Medication: On the day of discharge from hospital you will be given a list of your medications and a two week supply.

Support and information:

After an injury, it's common to experience different kinds of problems which can affect your mental health. These might include pain, sleep problems, changes in your sense of self, feeling upset, low mood, worry and anxiety. Some people have nightmares or flashback to events related to their injury or their stay in hospital. Sometimes, you might experience more than two of these at the same time.

These symptoms go away on their own for many people. If you or a family member are experiencing trouble adjusting after a trauma, don't worry, all of these problems are treatable; you don't need to suffer with them. For help overcoming them please speak to your GP about the incident, the symptoms and how they are affecting you, so they know how best to support you. The below resources may also help in your recovery.

AfterTrauma
http://www.aftertrauma.org/

After Trauma App

ICUsteps
http://www.icusteps.org/

14: Appendices

Appendix A – MOU Signatories

(in order of receipt) (Originals available on request)

NHS England and NHS Improvement	
Regional Director of Specialised Commissioning and Health in Justice, NHS England London Joanne Murfitt Signature: Date: 24/11/19	Regional Director of Specialised Commissioning and Health in Justice, NHS England Midlands & East of England Ruth Ashmore Signature: Date: 24/11/2019
NELETN Network Executive Team	
NELETN Director Signature: Date: 17/01/2020	NELETN Manager Signature: Date: 17/01/2020

Whittington Health NHS Trust	
Chief Executive Siobhan Harrington Signature: Date: 20/01/2020	Medical Director, Clare Dollery Signature: Date: 20/01/2020

Barking, Havering and Redbridge University Hospitals NHS Trust (On behalf of Queens and St Georges Hospital)	
Chief Executive Tony Chambers Signature: Date: 24/1/2020	Medical Director Dr Magda Smith Signature: Date: 22/1/2020

Barnet Hospital	
Chief Executive Signature: Date: 24.01.20.	Medical Director Signature: Date:

University College London Hospitals NHS Foundation Trust	
Chief Executive: Professor Marcel Levi Signature: Date: 30.1.2020	Medical Director : Dr Charles House Signature: Date: 30.01.2020

Royal Free Hospital	
Chief Executive Signature: Date: 30.01.20.	Medical Director Signature: Date: 29/1/20

North Middlesex University Hospital NHS Trust	
Chief Executive MARIA KHAN Signature: Date: 4/2/20	Medical Director EMMA WILLIAMS Signature: Date: 3/2/20

Basildon and Thurrock University Hospitals NHS Foundation Trust (On behalf of Basildon and Southend Hospitals)	
Chief Executive Signature: Date: 4 February 2020	Medical Director Signature: Date: 4 February 2020

Essex and Herts Air Ambulance	
Chief Executive Signature: Date: 01/09/2020	Medical Director M. Clinical Director Signature: Date: 01/09/2020

Newham University Hospital	
Chief Executive TONY HALTON Signature: Date: 05.03.2020	Medical Director ANDREW KEEN Signature: Date: 3/3/20.

Homerton University Hospital Foundation Trust	
Chief Executive Signature : TRACEY FLETCHER Date: 10/03/20	Medical Director Dr. D. Dasgupta Signature: DDasgupta Date: 10.03.20 .

Royal London Hospital	
Chief Executive Signature: Date: 29/04/2019	Medical Director Signature: Date: 29/04/2020

Whipps Cross Hospital	
Chief Executive, Alan Gurney Signature: Date: 18/05/2020	Medical Director, Dr Heather Noble Signature: Date: 18/05/2020

East of England Ambulance Service Trust	
Chief Executive Signature: Date: 23/12/20 TOM DAVIS, ACTING CEO	~~Medical Director~~ Signature: Date: 23/12/2020 Mews Bowen, COO

Barnet: 020 8216 5015/7

Basildon: 01268 524900 extension 2829 or 2830

Homerton: 0208 510 7573/7122

LAS Clinical Coordination Desk: 020 7343 6212

Newham: 020 7363 8177

North Middlesex: 07718 981 712

Queens: 01708 435 000 extension 6978

Royal Free: 020 7794 0500 extension 36500

Royal London: 020 3519 7165

Southend: 01702 435555 extension 6020 or 6021

UCLH: 07768 313 980

Whipps Cross: 020 8539 5522 extension 4382

Whittington: 020 7272 3070 extension 3299 or 4756

Documents to Follow

- Risk Strategy and Governance Policy
- Network Major Incident Policy
- Updated TIGERS
- Secondary transfer policy

Please send any suggestions or request to Hannah.kosuge@nhs.net