



**Manchester
Triage
System**



Accreditation
awarded January
2023

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Manchester Triage System (MTS) Burton's Journey Through Meditech

Queens Hospital Burton

Jess Dutton – Clinical Systems Support Assistant

Background – Queens Hospital Burton:

- Our ED serves a population of 360,000 per year
- Combined ED – treating both adults and children
- In 2018 we merged with Royal Derby Hospital becoming University hospitals of Derby and Burton NHS Foundation Trust (UHDB)



Why Manchester Triage System?

- In 2022 we treated 77,287 patients – averaged at 212 triaged patients per day
- Historically, we used a P1 (immediate), P2 (urgent), P3 (non-urgent) triage system
- Why MTS?
 - Most widely used triage system in the world – an estimated 130 million patients are triaged using the MTS worldwide per year
 - Tried, tested and evidence-based methodology
 - Decisions are safe and reproducible
 - Robust audit process
 - Quality teaching package
 - Live website to access teaching materials
 - Updates provided when changes made to MTS model



The purpose of Manchester Triage System

- To prepare competent and confident triage practitioners
- To ensure decisions are based on the MTS standard and not a medley of different notions around triage
- To ensure triage decisions are safe and reproducible
- Triage is a process NOT an outcome
- To sort and to direct – so requires clinical judgement
- To rapidly assess a patient and assign a priority based on clinical need (MTS 2006) – the colour co-ordinated priorities are as shown
- ED Triage deals with undifferentiated / undiagnosed patients

Number	Colour	Name	Timeframe
First	Red	Immediate	0 minutes
Second	Orange	Very Urgent	10 minutes
Third	Yellow	Urgent	60 minutes
Fourth	Green	Non-urgent	2 hours
Fifth	Blue	Standard	4 hours

Our Manchester Triage System Journey at QHB

2020	2022	2023
Two ED Education Nurses attended the MTS instructor course	Application for MTS licence	First UK hospital to be awarded with successful accreditation
IT configuration begins in Meditech V6	Application for MTS accreditation	
Theory training started for 100 members of qualified ED staff		

Gaining MTS accreditation



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- Integrate the MTS tool within our software solution (Meditech V6.08)
- ALSG (Advanced Life Support Group) provided us with the criteria we needed to achieve for the accreditation we were aiming to achieve
- There were 24 areas of criteria to meet and comply with MTG sign off, some of these included:
 1. Time of triage
 2. Identification of the triage practitioner
 3. Initial complaint (Stated complaint within V6)
 4. Presenting complaint (Chief complaint within V6)
 5. Pain scores
 6. The chosen discriminator (one)
 7. Priority/colour

1. Time of triage

- Following our demonstration of triaging, ALSG advised we were taking longer than average to complete the triage of a patient due to the MTS being completed after the SBAR assessment
- We adjusted the layout of the Interventions used within the MTS Assessment, capturing the MTS required data first
- This allows quicker completion of the SBAR assessment, once the MTS data is collected

2. Identification of the triage practitioner

- ALSG were concerned there was no clear evidence of which practitioner had completed the MTS assessment
- We demonstrated the audit process of where we can see who has completed which assessment for a patient, ALSG agreed this was suitable

3. Initial complaint (Stated complaint within V6)

- In MTS terms the Stated complaint within V6 is recognised as the Initial complaint
- We were asked for this to be amended, however it is a hard-coded field that we were unable to amend and agreed with ALSG that this was suitable

4. Presenting complaint (Chief complaint within V6)

- Again, in MTS terms the Chief complaint within V6 is recognised as the Presenting complaint
- We were asked for this to be amended, however it is a hard-coded field that we were unable to amend and agreed with ALSG that this was suitable

5. Pain Scores

- ALSG advised that it was not situated at the correct point of data capture for triage of patients
- We adjusted the layout of the Interventions used within the MTS Assessment, capturing the pain score data after the MTS data

Gaining MTS accreditation - the requirements

6. The chosen discriminator (one)

- To ensure only one response within the MTS was able to be selected to calculate the MTS priority for the patient

7. Priority/colour

- ALSG would have liked to have seen the priority level/colour seen within the group responses used for the discriminator selected within the MTS assessment
- Also, the display of the discriminators would have been preferred as one column, rather than the current two
- We advised that neither of the above were possible in the current V6.08 version of Meditech
- It was agreed with ALSG that the current use of colour for the priority within the ED Tracker screen was sufficient for the accreditation



MTS use within Meditech



- There are 51 chief complaints under the MTS standards, of which only one is to be applied to the patient's visit
- These are built into the Complaint Dictionary

Abcesses and Local Infections

Abdominal Pain

Abused or Neglected Child

Allergy

Apparently Drunk

Assault

Asthma

Back Pain

Behaving Strangely

Bites and Stings

Burns and Scalds

Chemical Exposure

Chest Pain

Collapse

Crying Baby

Dental Problems

Diabetes

Diarrhoea & Vomiting

Ear Problem

Eye Problems

Facial Problems

Falls

Fits

Foreign Body

GI Bleed

Head Injury

Headache

Irritable Child

Limb Problems

Limping Child

Major Trauma

Mental Illness

Neck Pain

Overdose and Poisoning

PV Bleeding

Palpitations

Pregnancy

Rashes

Self-harm

Sexually Acquired Infection

Shortness of Breath

Sore Throat

Testicular Pain

Torso Injury

Unwell Adult 18yrs+

Unwell Baby 29days – 1yr

Unwell Child 1yr – 17yrs

Unwell Newborn 0days – 28days

Urinary Problems

Worried Parent

Wounds

MTS use within Meditech

- The chief complaint must be selected within the Triage screen of the EDM Module, for the correct MTS chart to be added to the patient's Triage Assessment list, as shown in the images below:

Stated Complaint	SOB
Chief Complaint	Shortness of Breath

✓	Triage Assessment	Last Done
<input type="checkbox"/>	Clinical Nav Note	
<input type="checkbox"/>	Urinalysis	
<input type="checkbox"/>	Vital Signs	
<input type="checkbox"/>	ED - Safeguarding	
<input type="checkbox"/>	ED - Falls Assessment	
<input type="checkbox"/>	ED - Mental capacity assessment	
<input type="checkbox"/>	ED - Mental State Exam/Risk Assessment	
<input type="checkbox"/>	ED - Silver Trauma Tool	
<input type="checkbox"/>	ED - Post Falls Checklist	
<input type="checkbox"/>	ED - W.I.S.H.E.S.S	
<input type="checkbox"/>	ED - Longstay Checklist	
<input type="checkbox"/>	ED - Decision to admit date & time	
<input type="checkbox"/>	ED - Transfer / Discharge summary	
<input checked="" type="checkbox"/>	MTS - Shortness of breath	

MTS use within Meditech

- The MTS chart is to be completed by the triaging practitioner
- This includes the Pain Score and SBAR which are mandatory for completion of triaging a patient
- Along with the ECDS Chief Complaint selection, which is used for National Data Reporting via our Data Warehouse

The screenshot shows the Meditech MTS chart for 'Shortness of breath'. The chart is organized into sections: Interventions, Assessments, Presenting/Chief Complaint, Shortness of breath in adults, Priority, Pain Score, and Behaviours. The 'Shortness of breath in adults' section is expanded, showing a list of symptoms with radio buttons. The 'Very low SpO2' option is selected. The 'Pain Score' section shows 'Moderate' selected for both subjective and objective scores. The 'Behaviours' section shows 'Severe difficulties - Stops some things' selected.

Section	Field	Value / Options
Interventions	MTS - Shortness of breath	✓
Assessments	Shortness of breath	✓
Presenting/Chief Complaint	Presenting complaint	Shortness of Breath
Shortness of breath in adults	Shortness of breath in adults	<input type="radio"/> Airway compromise <input type="radio"/> Stridor <input type="radio"/> Drooling <input type="radio"/> Inadequate breathing <input type="radio"/> Shock <input type="radio"/> Inhalation injury <input type="radio"/> Unable to talk in sentences <input checked="" type="radio"/> Very low SpO2 <input type="radio"/> Exhaustion <input type="radio"/> Very low PEFr <input type="radio"/> New abnormal pulse <input type="radio"/> Massive haemoptysis <input type="radio"/> Alt conscious level <input type="radio"/> Significant respiratory history
		<input type="radio"/> Acute onset after injury <input type="radio"/> Cardiac pain <input type="radio"/> Very hot <input type="radio"/> Possible sepsis <input type="radio"/> Low SpO2 <input type="radio"/> Smoke exposure <input type="radio"/> Low PEFr <input type="radio"/> Pleuritic pain <input type="radio"/> Hot <input type="radio"/> Wheeze <input type="radio"/> Productive cough <input type="radio"/> Chest injury <input type="radio"/> Recent problem <input type="radio"/> None
Priority	Priority	2
Pain Score	*Pain Score (Subjective)	<input type="radio"/> None <input type="radio"/> Mild <input checked="" type="radio"/> Moderate <input type="radio"/> Severe
	*Pain Score (Objective)	<input type="radio"/> None <input type="radio"/> Mild <input checked="" type="radio"/> Moderate <input type="radio"/> Severe
Behaviours	Pain behaviours	<input type="radio"/> Normal Activities <input type="radio"/> A few problems - can do most things <input checked="" type="radio"/> Severe difficulties - Stops some things <input type="radio"/> Disabling - Stops some activities <input type="radio"/> No Control

MTS use within Meditech

- Once the MTS assessment is completed and saved, this will prioritise the patient using the rule logic attached to the assessment, in the order of urgency on the ED Tracker.
- This allows clinicians to treat patients in the priority order as suggested from the outcomes of the MTS assessments of each patient.

Name Age/Sex Repeat visit	CRTP	SI	Doc/ENP ED Consultant Pit Stop Dr	Complaint Priority ▼ Last ED Visit	Specialty
CAPTAIN,AMERICA 67 M 1		!	Abbas,A Oforka,Eddie	Chest pain Red 03/01/23 08:39	AE
AVOCADO,ADRIAN 63 M		!	Mukherjee,D Mukherjee,Bhask...	Abdominal Pain Orange	AE
BLACK,MOUSE 43 M			Abbas,M Oforka,Eddie Malik A	Assault Yellow	AE
CROSSBILL,CONNI... n 34 F			EDDoctor6,T Oforka,Eddie	Chest pain Green	AE
HOMER,SIMPSON 67 M		!	EDDoctor11,T Oforka,Eddie	Back Pain Blue	AE

MTS build within Meditech

Complaint Dictionary – Main tab:

Main Items SNOMED

Complaint

Mnemonic

*Active

*Name

Nomenclature Map

Alias/Keyword

Facility *Active

Complaint Dictionary – Items tab:

Main Items SNOMED

Facility Active

Facility	Active
Burton Hospitals	Yes
Samuel Johnson Hospital	Yes

*Sex *Low Age *High Age

Treatment	Req	Dep

Patient Instruction	Dft

Assessment	Req	Trg	Dep
MTS - Abdominal pain	Yes	Yes	
Re-Triage MTS - Abdominal ...	Yes	Yes	
Bowel Obstruction Pathway	Yes	Yes	

Document	*Active
ED Clinicians Notes(Cas sh...	Yes
ED Queens Hosp letter to GP	Yes

MTS build within Meditech



Documentation Section Dictionary:

Main Question Sets Rules Jump Rules Cosign Preview

Question Sets

Label	Active	Repeat	Instance Type	Start Expanded	Recall Mode	Protocol
Presenting/Chief Complaint	Yes			Yes		
Adult	Yes			Yes		MST.ABDO...
Child	Yes			Yes		MST.ABDO...
Priority	Yes			Yes		

Long Label

Type	Label	Active	Pos/Neg
Query	Presenting complaint [EDM.PRESCOM]	Yes	
Query	Chief complaint [EDM.MTSABDO]	No	
Query	Chief complaint [EDM.MTSABDO1]	No	

Intervention Dictionary:

Main Detail Documenting Locations Ordering Acuity Billing
Responses Edm Info Edm Acuity Edm Billing 1 Edm Billing 2 Surgery

Facility Active

*Type
Send Documentation to Pcs
Restrict From Lookups
Frequency

Priority Frequency

Automatically Recalculate Frequency

Assessment

- Abdominal pain [MTS.ABDO1]
- Pain Score [EDM.PAINTRIAGE]
- ED SBAR Treatments Invest [EDM.NURSEASSESS18]
- ECDS Data - Abdominal Pain [EDM.ECDSABDO]

MTS Accreditation status awarded



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- Accreditation was awarded in January 2023

Now we have been awarded MTS Accreditation, the logo can be used by QHB within our websites and media as we are an end user organisation who:

- Has a software solution that achieves and updates the MTS IT specification
- Pays the licensing fees
- Has two national MTS instructors providing training
- Submits the annual audit data and compliance information
- Certifies that no changes have been made to the product that was signed off



Benefits and Opportunities of MTS

- Staff confidence
- Patient priority is clearly identified and aids safe streaming to other areas
- Quality maintained for effective patient care
- On-going support from MTS
- Other areas within UHDB are adopting MTS (RDH and CED)
- Interest from other Trusts to see our implementation - University Hospitals of Birmingham
- Nomination for our Trusts local 'Making a difference awards' ceremony
- Launched further quality improvement strategies to aid first assessment within ED





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Thank You



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Any Questions?



Royal Derby
DERBY



Queen's
BURTON



Samuel Johnson
LICHFIELD



Sir Robert Peel
TAMWORTH



Florence Nightingale
DERBY