REACHING OUT IN RESPONSE

The Evolution of an ANP Response System

Clinical Design & Innovation
Person-centred, co-ordinated care

Deteriorating Patient Improvement Programme

CRITICAL CARE

Seirbhís Sláinte Níos Fearr á Forbairt | Building a Better Health Service

Office of the Nursing & Midwifery Services Director

An Roinn Sláinte
Department of Health

Irish National Early Warning System (INEWS) V2

(previously NEWS)

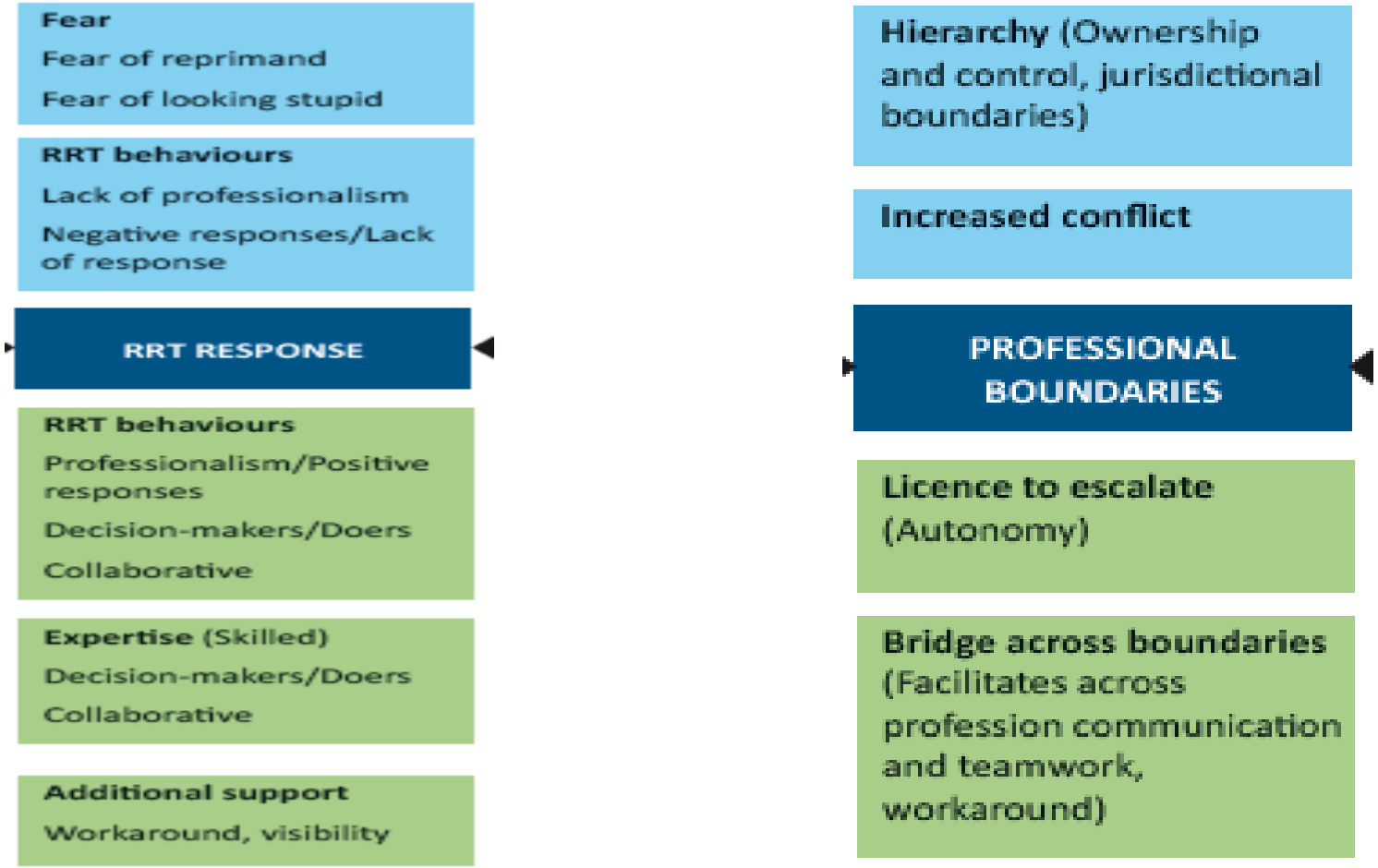
National Clinical Guideline No. 1

INEWS is an early warning ***system*** rather than an early warning ***score*** as in the original NEWS (2013).

This is a major change where the focus is on ensuring a whole system response to anticipate, recognise, escalate, **respond and evaluate** the clinically deteriorating adult patient

Domain 2 – Escalation of Care

Review question 6	Why do healthcare professionals fail to escalate care as per the INEWS escalation protocol?



Recommendation 19
A tiered response model is recommended. A tiered response model will encompass the following elements:

- **Bedside response** (INEWS scores of 0-2): nurse-led, ward-based response. An urgent response can be called for scores of 0-2 if there is clinician concern.
- **Urgent response** (INEWS scores of 3-6): response by a clinician or team with competence in the assessment and treatment of acutely ill patients e.g. primary medical practitioner/team or Advanced Nurse Practitioner service.
- **Emergency response** (INEWS scores of ≥ 7): as above in addition to staff with critical care competencies and diagnostic skills.

Escalation should occur for any patient with a score of 3 in any single parameter.

Certainty of evidence: ⊕◯◯◯
Strength of recommendation: **Conditional**
Responsibility for implementation: **Hospital and Hospital Group Boards, Executive Management Teams, senior managers, doctors, nurses and health and social care professionals.**

Good practice points

- The NCG No. 1 INEWS V2 advocates a move towards an anticipatory model of care. An anticipatory care approach acknowledges the vulnerability of patients at low and sometimes 'no' INEWS scores. It involves the earlier recognition of the potential for patient deterioration through the use of clinical judgement, situation awareness and an appropriate response model. A tiered response model allows for the clinician at the bedside to escalate care regardless of the patient's INEWS score. The 3-tiered response model outlined in Recommendation 19 will take some years to achieve nationally.

NOCA National Office of Clinical Audit

ICU Irish National ICU Audit

IRISH NATIONAL ICU AUDIT
ANNUAL REPORT 2017

- Irish Units are very busy; mean bed occupancy (calculated from the exact number of hours the bed was physically occupied) was 91% (ranging from 82% to 99%). Standard recommendations are for occupancy rates of 70% to 80%.

- Illness severity on admission to the Unit was greater in Irish Units than in UK Units; the mean Acute Physiology and Chronic Health Evaluation (APACHE) II score for Ireland was 15.9 compared with 14.8 for the UK. The levels of cardiovascular, respiratory and renal support required were also greater for Irish patients.

- Despite higher markers of illness severity, mean length of stay was the same in Ireland and the UK (five days).

- The rate of unplanned out-of-hours discharges to the ward was greater in Irish Units (6% versus 2% in the UK).

- These data indicate that compared with UK patients, Irish patients need to be sicker to be admitted to ICU. For a given illness severity, they spend less time in ICU before discharge back to the ward, which is more likely to happen at night.

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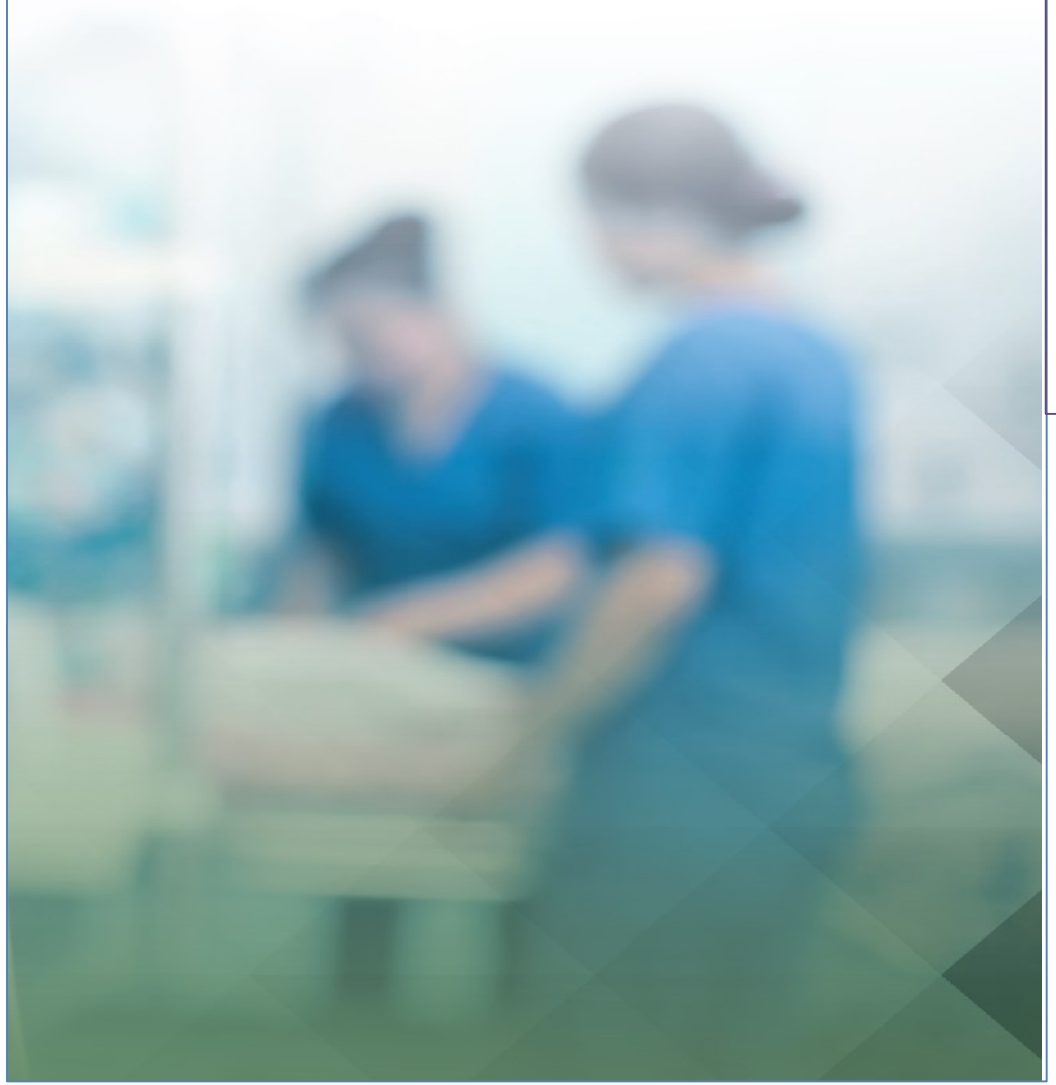


Key Findings

- High NEWS before discharge from ICU
- Organ Failure in 4 or more organ systems within 24 hours of admission to ICU
- Delay in admission to ICU for critically ill patients worsens outcomes.
- Unplanned readmission to ICU

RECOMMENDATION 4

Explore best practice in providing optimal care for high-risk patients outside critical care, including the potential benefits of critical care outreach teams.

Rationale

1. Critically ill patients may remain on a ward for a lengthy period while awaiting admission to ICU.
2. The incidence of in-hospital CPR before ICU admission was high in certain hospitals; this may have been prevented by better detection and treatment of deteriorating patients in the wards and earlier admission to ICU.
3. High rates of (i) patients with multiorgan failure within 24 hours of ICU admission, (ii) ICU discharges out-of-hours and (iii) high NEWS on ICU discharge suggest a need for better support for ward staff in caring for sick patients.
4. An outreach service would improve the documentation of 'unmet need' in the care of critically ill patients in the ward.

ANP response system for Deteriorating patients

When might you call!

- Call of Concern

- Deterioration in any patient

- Increasing O2 therapy support

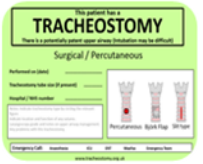
- High risk SEPSIS

- Equipment support and education

What else do we do & review!

- Review post ICU discharge

- Tracheostomy care



- Education

- Cardiac Arrest

Right Time . Right People. Right Place

Adapted with thanks from Beaumont Hospital

Some of the TUH Critical Care Outreach team members

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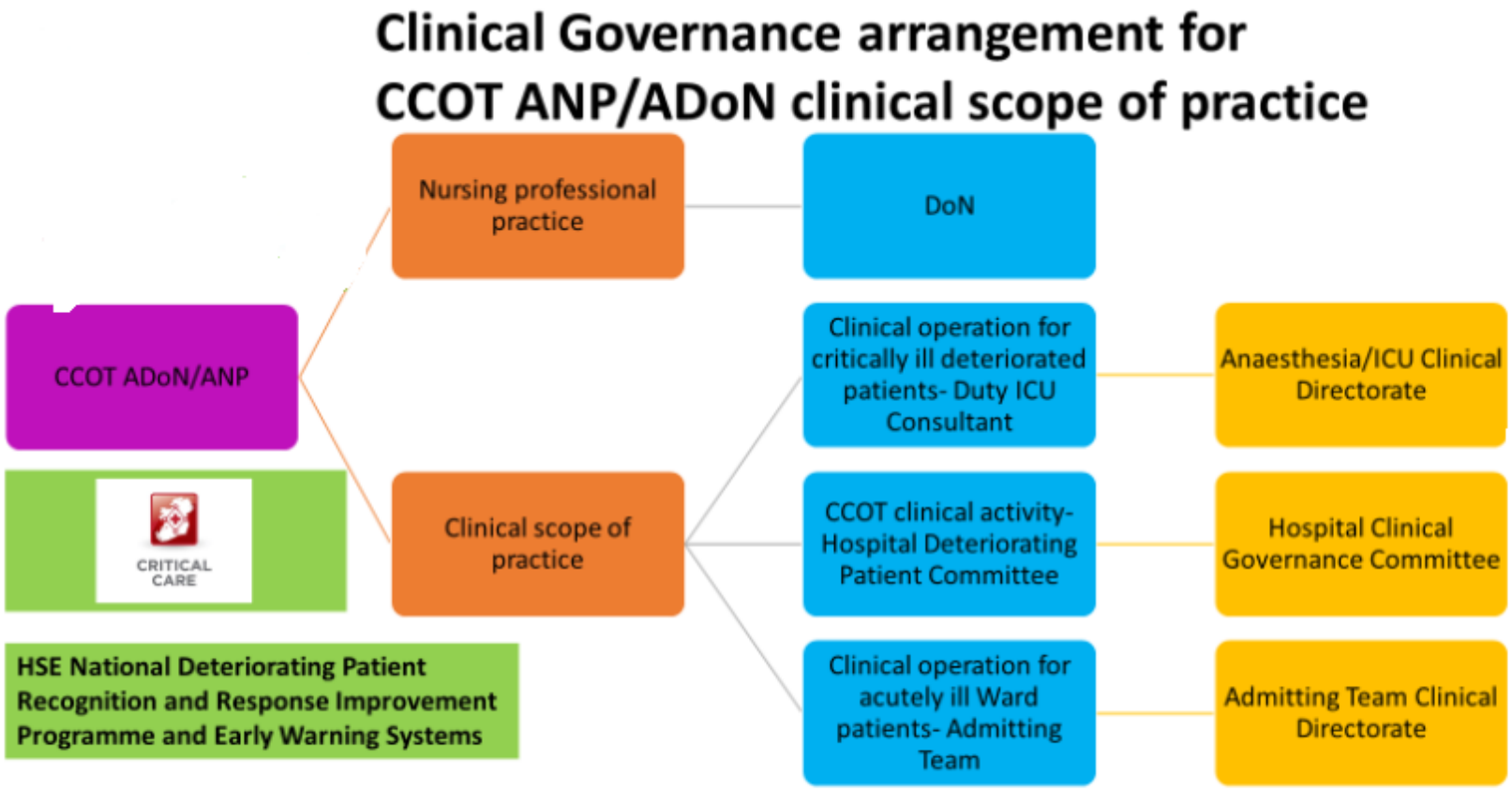
PhotoRoom®

Proposed Clinical Governance for ANP led Response System



The role of the ANP in Critical Care Outreach

14th June 2022

Presenter:
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Tallaght University Hospital | Ospidéal Ollscoile Thamhlachta

An Academic Partner of Trinity College Dublin

Content of Presentation

- The development of the Critical Care Outreach Service in TUH.
- The day in the life.
- Referral and discharge pathways.
- Establishing the ANP service.

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The History of Critical Care Outreach Service in Tallaght University Hospital

2010 – 2012:

- Development of system of escalation, early recognition to clinically deteriorating ward based patient – through the development of the Hospital MDT Steering group – ERS was developed encompassing:
  - **Recognise** – INEWS
  - **Response** - ERT
  - **Education** – HSE Compass training
  - **Evaluation** – Clinical Audit
  - **Governance**

2015 – 2021

- Further development of the nurses role to support the ERS, recruitment of 6 WTE Critical Care Outreach Clinical Nurse Managers 3 to cover service 24/7

Present:

- 2 cANP with a further 2 cANP commencing in September 2022 with all roles funded for ANP progression.

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The day in the life of CCO ANP

- Handover from team member –
  - Any patients of concern highlighted, events of previous shift identified
  - Handover on patients included in the CCO service
  - Critical Care Bed status
  - No of ERTs/Cardiac Arrest calls
- Attend Critical Care Handover –
  - Identify patients for discharge from critical care for CCO follow up
  - Referrals received on previous shift for anaesthetic review, including patients reviewed in ED now admitted to the wards
  - Liaise with Consultant Intensivist and SpR covering referrals
- Prioritise patients for review –
  - Prioritise patients that require urgent review that have been escalated to Critical care team during handover and feedback to critical care Intensivist/SpR
  - Prioritise patients that have been highlighted for early review – due to clinical deterioration or requiring liaison with primary team for plan of care of patients.
  - Routine reviews, tracheostomy/laryngectomy patients, patient near time for discharge from CCO service.
  - Patient discharged from Critical Care following the CCO pathway for review.
- Attend ERT's, Cardiac Arrest, call for concerns as they occur and follow up as required.

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Admission to CCO ANP Service

Deteriorating Patient:

- **Rapid Response:** Acutely deteriorating adult patient presenting as an Emergency Response Team (ERT) trigger /Cardiac Arrest in the clinical areas.
- **Track & Trigger:** INEWS Vs2 >4 unstable, acutely deteriorating adult or delayed review by primary team. New 3 in any one parameter (HSE INEW V2/ Pregnant patient protocol, TUH)
- Acutely Deteriorating patient referred by ICU/ medical colleagues/nursing staff that presents with clinical concern regardless of INEWS V2 score
- Critical Care review referrals
- Acute Respiratory Failure with escalating oxygen requirements
- Bedside education, training and support.

HLOC Critically ill pts:

- Level 2/3 pts requiring supportive care and management at ward level while awaiting HLOC bed.
- Safe intra- hospital transfer of critically ill patients to interventions/ HLOC.
- Supporting care of critically ill pts during a Critical Care Surge Capacity escalation.

Discharged Critical Care Patients: ICU/PACU/HDU

- Delayed discharge > 24hrs not for RV if clinically stable, no CVADS or airway issues.
- Emergency DC particularly in OOH period with no delayed discharge please Bleep CCO #2735.

Complex Care needs:

- Tracheostomy/Laryngectomy Patients:
  - Support safe standard of care including, education, bedside equipment and NTSP head of bed emergency algorithms.
  - Tracheostomy changes; downsizing
  - MDT tracheostomy rounds
  - Weaning and de-cannulation in conjunction with ENT/ICU & MDT
  - Feed back to ongoing care needs
  - Laryngectomy care in collaboration with ENT
- Acute respiratory failure in the chronic respiratory failure patients, liaison with respiratory ANP/CNS and medical teams as required.

Discharge Criteria:

- Stabilisation in response to treatment interventions.
- Plan of care addressing areas of concern highlighted by the CCON review.
- INEWS V2 Score <7 and stable
- 48hr DC from HLOC with no advanced airway issues / stabilised INEWs
- “Not for ERT” / EOL care pathway
- Tracheostomy Decannulation / DC from TUH hospital
- Respiratory support: Clear plan of care / weaning care pathway/ Respiratory ANP/CNS review with delayed weaning or re-escalation to CCO if clinical deterioration reoccurs.

Discharge process to highlight ‘Red flags of Concern documented in patients’ medical chart and communicated to staff.

Audit / follow up

- Use of electronic database for reviews ‘MEDICUs’
- Number of referrals
- Number of reviews per patient per shift
- Types of interventions
- TF to HLOC – early/late, MOF, impact CCO has on their LOS compared to other patients
- Ionised Radiation referrals
- Prescribing episodes
- Readmission to ICU <48hrs – KPI CCP
- OOH emergency DC reviews from ICU

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Deteriorating Patient Improvement Programme

Surname:
Forename:
Address:
Healthcare Record No:
Date of Birth:

Irish National Early Warning System (INEWS)

ADULT PATIENT OBSERVATION CHART

INEWS should be used as an aid to clinical judgement and decision making Volume No._____

INEWS Escalation & Response Protocol

	INEWS Score	Minimum Observation Frequency	Escalation	Response
Bedside Response	Healthcare worker / patient / family concern	As indicated by patient condition	Nurse at the bedside / Nurse in Charge (NiC)	• NiC to review if concern and escalate as appropriate
	0 – 1	**6 hourly** (first 24 hours following admission) **then 12 hourly minimum**	NiC	• NiC to review if new score 1
	2	**6 hourly**	NiC	• NiC to review
	For INEWS scores of 0 – 2 an Urgent Response (Intern/SHO) can be called if there is clinical concern			
Urgent Response	**3**	**4 hourly**	NiC and Team / On-call Intern /SHO	• Intern/SHO to review within 1 hour
	4 - 6 THINK SEPSIS*	**1 hourly**	NiC and Team / On-call Intern/SHO	• Screen for Sepsis* ◌ Intern/SHO to review within 1/2 hour • Critical Care Outreach (CCO) to review if patients condition becomes unstable or deteriorates. If no response to treatment within one hour contact Registrar and /or CCO • Consider continuous patient monitoring • Consider transfer to higher level of care
Emergency Response	**≥7**	½ hourly	NiC and Team/ On-call Registrar Inform Team / On-call Consultant	• Registrar / Consultant/CCO to review immediately • Continuous patient monitoring recommended • Plan to transfer to higher level of care • Activate Emergency Response System **(Emergency Response Team ERT)**
	Score of 3 in any single parameter or Score of 2 for HR ≤40	**½ hourly** or **as indicated by patient condition**	NiC and Team / On-call Intern/SHO	• Intern/SHO or CCO to review immediately • If no response to treatment or if still concerned, contact Registrar/Consultant • Consider activating Emergency Response System / **(ERT Team)**

If response does not occur as per protocol the CNM/NiC should contact the Registrar, Consultant or Nursing Site Manager

CUES FOR CAUTION

- ! Increasing O_2 requirements to maintain SpO_2 levels
- ! Patient located outside of specialist ward
- ! Patient receiving high-risk / unfamiliar therapies
- ! Communication concerns between staff and/or patient
- ! Nurse intuition / 'gut-feeling'

Recognise Sepsis – Enhance Survival

***THINK SEPSIS**
(Use clinical judgement)

INEWS ≥4 (or ≥5 on Oxygen) and suspicion of infection

Older people or those immunocompromised may present with sepsis with an INEWS <4 (<5 if on Oxygen)

OC-A-EP-EWS-M-27082021-513 NSV CODE WML01020

Healthcare Record No: Name: Date of Birth:

Additional Information Section

For Critical Care Outreach Nurse - Bleep 2735

EWS Alerts/ERT Handover

Date	Reason for ERT
Seen by Nurse Doctor	Patient management plan □ Review date Review time
ISBAR Sticker in chart □	Resus status Resuscitation &Treatment Escalation Form □

EWS Alerts/ERT Handover

Date	Reason for ERT
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Other Charts in use: Please Tick

Fluid Balance Record	Epidural Chart	Sepsis Screen Form
Blood Transfusion Record	PCA/PCEA Chart	Neurovascular Assessment Chart
Adult Diabetes Chart	Pain Scale	Delirium Screening Tool

Emergency Department

All Adult patients admitted to TUH must be monitored using the TUH INEWS Adult Patient Observation chart.

TUH Hospital Escalation & Response Protocol to be used.

It is the responsibility of the inpatient / admitting services to respond and manage these patients.

However, the ED team will assist in management and stabilisation of a patient who has an acute deterioration requiring immediate intervention.

Maternity Patients

Is patient pregnant or up to 42 days post-delivery, miscarriage or termination?

YES → Use Interim TUH Maternity Flow Chart

NO → Continue to use TUH INEWS Chart & Escalation Protocol

Urinalysis to be done on admission and as part of Sepsis screening

Urinalysis Record	Date	Date	Date	Date
Urinary Catheter in situ Y/N				
Glucose				
Bilirubin				
Ketones				
Specific Gravity				
Blood				
pH				
Protein				
Urobilinogen				
Nitrates				
Leucocytes				
Other: Specify				
Initials				
NMBI PIN/Grade				

Patient Escalation Status – Please complete Resuscitation & Treatment Escalation Form as appropriate.

If Patient is for ERT- please comply with TUH escalation protocol.

Critical Care Outreach (CCO) Service Review of Discharged Critical Care Patients

Patient confirmed fit for discharge to the ward

CNM, S/N or anaesthetic SPR to inform CCO service on

Bleep 2735

Patient considered high risk or considered early discharge from Critical Care, or discharged from critical care out of hours

Inform CCO of patient discharge.

For review **within 12-24hours** post discharge.

For monitoring of risk of clinical deterioration, invasive line monitoring, prevention for readmission to critical care.

Liaison with Consultant Intensivist if concerns regarding the patient discharged to ward if triggering on INEWS or concern regarding patient.

Patient medical fit for discharge to ward, no anticipated complications predicted, not considered early discharge.

Inform Critical Care Outreach Staff of discharge.

for **regular** follow up within 24 hours by CCO

Patient discharged from critical care: waiting > 24hours for ward bed, no invasive lines, not considered risk for deterioration – CCO not required

Critical Care Outreach Follow Up Criteria:

Low	• < 65 years with no pre-existing co-morbidities or chronic disease • < 1 week stay in critical care • No functional or minor functional deficit at time of discharge from critical care • No invasive lines on discharge from critical care	No Follow up required
Medium	• > 65 years old • < 65 years with co-morbidities: increased BMI, chronic disease present • 1 or more organ support required during critical care admission • > 1 week admission in critical care • Post-op complex surgery • Out of hours discharge from critical care • INEWS > 4 on discharge • FiO2 requirement > 40% • GCS < 14 • Concern re discharge by Critical Care Staff – CNM/S/N, Consultant or SPR	For CCO review at 24 hours or prior to discharge from critical care Patients discharged with central or vascath invasive lines from critical care required follow up by CCO at 24hours.
High	• Increased BMI with at least 1 co-morbidity pre-admission to critical care • ICU stay > 1 week with functional deficit – immobility or ongoing myopathy • Tracheostomy patient with minimal secretions, good cough, SALT ongoing input, no mobility or physio concerns. • Post complex surgery • INEWS > 4 on discharge • Oxygen requirements > 40% with oxygen adjunct therapies AIRVO/NIV • GCS < 13 +/- Delirium • Vasopressor requirement in previous 36hours in critical care prior to discharge • Continuous dialysis (CRRT) requirement in previous 36hours in critical care prior to discharge. • Extubated or ventilation required in previous 36 hours of discharge from critical care. • Concern re discharge by Critical Care Staff – CNM/S/N, Consultant or SPR	For CCO review prior to discharge from ICU or within 12 hours of discharged from

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Establishing the ANP Service

Complete full advanced health assessments of patients

- To enable prescribing for patients
- To complete full episodes of care
- Referral for radiological chest x-rays as required
- Complete invasive ABG sampling, interpretation and treatment required including prescribing and titration of oxygen therapies, HFOT, NIV therapies in conjunction with Primary teams, MROC and critical care colleagues.
- Initiate treatment therapies based on assessment of patients and evaluate plan of care, escalate to more specialised services including critical care, in an appropriate time frame, with evaluation and recognition of treatments failure.
- Audit, research, education and training.
- Keeping practices, knowledge and pathways up to date and evidence based.
- Established memorandum of understandings, collaboration with other services to establish further referral process and evolving the service as required based on the healthcare needs of the patients.

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Some of the TUH Critical Care Outreach team members


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