

Recognising the Acutely Ill and Deteriorating Patient (RAID)

Category:	Policy
Summary:	This policy aims to provide guidance on recognising and responding appropriately to acutely ill adult patients within hospital. It encompasses all patient groups except for neonates, children and pregnant women. The policy incorporates the current published guidelines from the National Institute of Clinical Excellence (NICE CG50, 2007), National Patient Safety Agency (NPSA, 2007), Patient Safety Alert-Resources to support safer care of the deteriorating patient (adults and children)(2016).
Equality Analysis undertaken:	August 2016
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Date of Next Review:	September 2019
Approval Date/ Via:	21 September 2016 – Nursing & Midwifery Board
Distribution:	All staff who undertake or respond to patient physiological observations
Related Documents:	Resuscitation Policy Incident Reporting and Investigation Policy. Oxygen Policy
Author(s):	Matron/Clinical Director for Adult Intensive Care
Further Information:	NICE Guideline CG 50 https://www.nice.org.uk/guidance/cg50
This Document replaces:	Policy for Identifying and Responding to Acutely Ill Patients (RAID)

Lead Director:	Chief Nurse
Issue Date:	October 2016

Document History

Date of revision	Version number	Author	Reason for review or update
August 2016	2.2	Matron/Clinical Director AICU	Revision of the roll out of RAID across the trust
September 2016	3.0	Matron/Clinical Director AICU	Approval at CPG

Consultation Schedule

Who? Individuals or Committees	Rationale and/or Method of Involvement
RAID Committee	Consultation and approval
Senior Nurses Group	Consultation and approval
Trust wide nursing & medical staff	Consultation

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Who should read this document?

1. This Policy should be read by all clinical staff, including temporary and agency staff caring for adult patients of all ages who are acutely ill or at risk of clinical deterioration, in particular:
 - 1.1 Ward Staff
 - 1.2 Staff responsible for managing or supporting staff that take observations

Exemptions

2. This Policy **does not apply** to the care of:
 - 2.1 Patients who are dying and receiving palliative care;
 - 2.2 Patients already in critical care and theatre areas
 - 2.3 Newly delivered infants within maternity services.
 - 2.4 Children.

Key Standards/Messages

3. The following standards must be followed by all clinical staff to ensure compliance with this Policy:
 - 3.1 All patients must have their vital signs recorded at initial assessment or on admission and as part of routine monitoring.
 - 3.2 All vital signs must be recorded on SEND.
 - 3.3 A full assessment of vital signs is required at least every 12 hours
 - 3.4 All patients who are delayed from being discharged from the Trust should have their vital signs recorded once every 12 hours.
 - 3.5 All patients must give verbal consent to having their vital signs measured and recorded

Background

4. There is national evidence that the recognition and management of patient deterioration in acute hospital settings can be improved (National Patient Safety Agency, 2007; National Confidential Enquiry into Patient Outcome and Death, 2011 Francis 2013, Keogh 2013). Improvement in observations, interpretation of these observations and escalation of deteriorating patients may improve all patient outcomes.

Key Updates

5. 2016-Policy rewritten to become more succinct and relevant, and to ensure alignment to Patient Safety Alert-Resources to support safer care of the deteriorating patient (adults and children) (2016).

Policy

6. The aim of this policy is to provide a clear and consistent framework for:
 - 6.1 Identifying and responding to patients at risk of clinical deterioration;
 - 6.2 Recording physiological observations for all patients at a frequency appropriate to clinical need;
 - 6.3 Using the System for Electronic Notification and Documentation (SEND) to deliver local and organisational awareness of deteriorating patients;
 - 6.4 Providing timely attendance by appropriately skilled clinical staff to patients who are showing physiological deterioration;
 - 6.5 Providing timely clinical management to prevent further deterioration;
 - 6.6 Identifying patients where preventing physiological deterioration is not possible or appropriate, and focus the clinical management of these patients to comfort and palliation;
 - 6.7 Providing opportunities for acutely ill patients or those with legal responsibility for them to make informed decisions about their care and management, in partnership with their healthcare professionals;
 - 6.8 Ensuring safe and timely transfer to and from higher acuity care areas;
 - 6.9 Ensuring that health care professionals caring for patients are competent in monitoring, measurement, interpretation and escalation of vital signs.

Organisational Arrangements

7. Incidents which relate to either the late identification of a deteriorating patient or failure to rescue appropriately or failure to adequately use and interpret the early warning system will be monitored through the RAID Committee and reported to Patient Safety & Clinical Risk Committee to facilitate organisational learning.
8. Cardiac arrest audit data will be collated by the Resuscitation Department and reported to the RAID Committee via resuscitation committee. The RAID Committee will review Datix incidents, Cardiac Arrest calls in relation to analysis of themes and root causes, failure to rescue and unplanned admissions to Critical care. The RAID Committee will report on this data and the progress of the group to the Patient Safety & Clinical Risk Committee quarterly which reports into the Clinical Governance Committee, and so to the Trust Board, via the quality committee.
9. The Ward Sister/charge nurse will be accountable for ensuring their areas are compliant with this policy. Compliance will be monitored by matrons and clinical leads, through monthly audits of their wards SEND data which will be carried out centrally. The audit results will be submitted to the RAID Committee for review.

10. The RAID committee will use these results to drive performance

Risk Assessment

11. A decision not to adhere to the Procedure for the Observation of Vital Signs must only be made after a risk assessment has been carried out (by the registered practitioner making the decision).

Documentation

12. Adult observations (with the exception of pregnant or recently pregnant women cared for in the womens centre) will be documented on SEND.

13. Where SEND is not available adult observations will be recorded on the OUH paper early warning chart (see RAID website).

14. Patients receiving care in designated level 2/3 areas do not need to document vital signs on SEND as the patient is in the high acuity area with alternative recording and monitoring processes. The last 4 observations prior to transfer to an area using SEND should be dual recorded on the local system and on SEND.

Information, Training and Communication Strategy

15. Details of education and training associated with RAID can be found in the RAID education strategy. New staff will be made aware of the this policy through the induction process.

16. Copies of this policy will be available on the trust intranet

Investigation

17. Incidents of failure to rescue/identify or appropriately manage a deteriorating patient must first be escalated in a timely manner and then reported by the health care professional using the Datix system. Incidents relating to deteriorating patients will be reviewed and the causes monitored quarterly by the committee, the aims of monitoring will:

- 18 Identifying the direct and indirect causes of the incident at individual and/or organisational level
- 19 Identifying the contributory factors of the incident
- 20 Identifying underlying problems in systems, procedures, processes, standards, working arrangements through root cause analysis
- 21 Prevent recurrence
- 22 Identify training needs
- 23 Provide organisational learning

Review

18. The RAID committee will monitor and update this policy as necessary, to reflect substantial changes, examples of best practice or changes in legislation or national imperative.
19. The RAID Committee will review this policy every three years and report to the Clinical Policies Group and Clinical Governance Committee

Procedure for measuring vital signs on adult patients using SEND

20. All observations should be recorded on SEND.
21. All patients will have the following vital signs recorded at initial assessment or on admission and as part of routine monitoring:
 - Temperature
 - Heart rate
 - Blood pressure
 - Respiratory rate
 - Oxygen Saturation
 - Level of consciousness
22. Vital signs should be recorded and acted upon by staff who are trained and competent to undertake these procedures both electronically and manually, and who understand the clinical significance of deviations from the patient's norm.

Documentation standards

23. Patients must have vital signs recorded on admission.
 - 23.1 All patients will have a score attributed to every set of observations.
 - 23.2 If possible the patient's normal observations (if available e.g. from previous admissions) should be noted for comparison, especially if they suffer from chronic illnesses.

Frequency of observations

24. The frequency of observations and recording will depend on the patients' condition and local ward practice, and will be determined by registered nurses, sometimes in consultation with medical staff. The following are recommended as a minimum guide only, and observations may be undertaken more frequently depending on the patient's condition.
 - Score 0: 12 hourly
 - Score 1-2: 4 hourly
 - Score 3 or more, or of concern regardless of score: hourly observations

25. A full assessment of vital signs is required at least twelve hourly, as a minimum standard.
26. For patients where discharge from the acute trust is delayed (e.g. awaiting residential home transfer) it is appropriate to record vital signs once every 24 hours but this should be reviewed regularly by a registered practitioner.
27. Where a patient is not co-operative with having their vital signs measured and will not consent ([please refer to consent policy](#)), this fact should be recorded on the SEND observation chart and documented also in the nursing documentation. The significance should be discussed with the patient/carers ([please refer to carers policy](#)) dependent upon the patient's level of mental capacity and action taken in the patient's best interests if necessary. However, it may be possible to still record respiratory rate and conscious level.
28. The frequency of observations can be reduced if deemed appropriate, after the patient has been assessed and a rationale is recorded in the patients' EPR records. This should be regularly reviewed.

Communication/Handover of the deteriorating patient

29. SBARR is the standard tool for the communication of the deteriorating patient between healthcare professionals used within OUH
30. The tool consists of five standardised prompt questions that can be easily memorised by clinical staff.

S – Situation: Situation at the time. Clinicians are required to identify themselves, the patient and the admitting diagnosis. They identify what the current problem is and when it started.

B – Background: The clinician should provide information about the admitting diagnosis and date of admission. They should provide the list of current medications, allergies and intravenous fluids received. The most recent vital signs, dates and times and results of laboratory tests should be included.

A – Assessment: The clinician should provide an assessment of what the clinical problem is or provide clinical impressions or concerns e.g. what psychological processes may be contributing to the problems, what medications may be causing the problems.

R – Recommendation: Based on the information in the assessment the clinician is required to make recommendations to ensure that the patient receives safe and appropriate care and steps are implemented to identify any future deterioration.

R – Read back: Repeat key information to ensure understanding and document.

Observations to be recorded

Respiratory rate

31. Respiratory rate is the most sensitive indicator of deteriorating physiology and should be recorded in all patients (Goldhill et al. 1999). It should be counted for

a whole minute if it is to be accurate and must not be an estimate. It is unacceptable to record “talking” instead of a respiratory rate as patients can be talking but finding it difficult to breathe. Respiratory rate should be observed and counted, and not taken from a vital signs monitor.

32. A normal respiratory rate is 14-19 breaths per minute
33. Depth, symmetry and pattern of respiration should also be noted and recorded if abnormal.
34. In the case of a patient receiving opiate analgesia or an epidural, the protocol of the acute pain team should be followed. Any increase in respiratory rate, which is acute and sustained and cannot be explained easily should be reported.

Oxygen saturation

36. Oxygen saturation (SpO₂) should be recorded on all patients using a pulse oximeter.
37. Unless normal for the patient, saturation below 94%, with or without supplemental oxygen must be appropriately treated.
38. Oxygen must be titrated to target saturations and prescribed appropriately. The concentration of supplemental oxygen should also be recorded and the oxygen delivery device noted as highlighted in the [Trusts Oxygen Policy](#)
39. Oxygen saturation is not a valid indicator of adequacy of ventilation particularly in the presence of added inspired oxygen. Arterial blood gas measurement should be considered in all patients with abnormal pulse oximetry, breathing difficulties or unexplained low levels of consciousness.
40. Peripheral oxygen saturations may not be accurate in patients with hypoperfusion states.
41. A capillary refill time (CRT) test can give further information on the patients' perfusion and may initiate a review in itself.

Pulse/heart rate

42. The pulse is a reflection of the heart rate and is sometimes assessed using the pulse oximeter probe reading, however:
 - The pulse might not reflect the true heart rate (e.g. in fast atrial fibrillation).
 - Pulse properties cannot be determined, i.e. volume and regularity.
43. A manual pulse assessment should be made **at least once per day** to assess the pulse properties, and develop and maintain practitioner expertise.
44. A pulse rate of greater than 104 b/min or less than 54 /min should provoke concern. and if the rate has been read from an automated machine a manual check should be made. The rate and regularity should be checked and recorded.
45. Pulse volume, although a subjective evaluation is clinically important if abnormal.

46. A 12 lead ECG should be performed on any patient who has a new irregular pulse noted, or any other concerns with their pulse. Consideration must also be given to their electrolyte status, especially if on diuretics or experiencing diarrhoea.

47. Patients receiving beta-blocker medication may not be able to increase their heart rate to compensate for hypovolaemic conditions, and therefore other abnormal signs (high respiratory rate and low urine output) will have extra significance.

Systolic blood pressure

48. The systolic blood pressure (SBP) is the upper blood pressure number derived from an automated device or a manual sphygmomanometer. Although SBP is important to monitor in patients, a falling SBP may be a late sign of clinical deterioration. Seriously ill patients can physiologically compensate and only fail to maintain their SBP when they are in extremis. The systolic blood pressure is the blood pressure component which is used to calculate the score for SEND.

49. In cases of very low blood pressure and in the presence of atrial fibrillation, electronic BP measuring devices may not be accurate. Manual sphygmomanometers should be available in all areas and staff should be competent to use them.

50. A systolic blood pressure (SBP) less than 102 mmHg should cause concern.

51. The SBP should be greater than the heart rate. If the heart rate increases above the SBP it should initiate a medical review. All patients who are hypotensive should be on a strict fluid balance chart and their urine output recorded. Attention should also be made to their renal chemistry. If the patient's usual blood pressure is low, this may lead to a change in the trigger threshold for this observation.

Neurological assessment (AVPU or GCS)

52. Change in neurological state is an important marker of deterioration. There are particular difficulties with assessing neurology at night. Sleep and unconsciousness are not the same.

53. For most patients an AVPU score is adequate. Each letter corresponds to a relevant neurological state:

- A = **A**lert
- V = Responds to **V**oice (drowsy)
- P = Responds to **P**ainful stimulus only
- U = **U**nconscious or unresponsive.

54. Any change from one item to another is clinically significant and should be reported, as should an initial assessment below "A"

55. AVPU is not a replacement for the Glasgow Coma Scale, but should be applied to everyone when other observations are recorded.

56. Patients who have a primary or suspected neurological problem should be assessed using the Glasgow Coma score by a competent practitioner.

57. Deteriorations in conscious level can be caused by many factors, and a more comprehensive physical assessment should be undertaken by a competent practitioner.

58. If a practitioner has used both AVPU and the GCS to assess a patient's CNS, the GCS should be used to attribute a tracking score and not AVPU.

59. A neurological assessment must be scored each time a set of observations is recorded. It is unacceptable to write "awake" or "asleep" or to leave the space blank.

60. Patients responding to pain on the AVPU scale or having a GCS of 13 or below should receive a rapid medical review.

Temperature

61. It is important to only use one electronic thermometer type (e.g. tympanic or axillary or oral) on a patient for continuous observations. The readings from these different sites in the same patient at the same time can differ significantly.

62. Pyrexia (temperature greater than 38.3 degrees C) is a well-recognised sign of illness, but hypothermia (temperature less than 35.5 degrees C) is often ignored and is frequently significant.

63. Haematology/oncology patients with neutropenia should trigger a medical review when they spike for the first time at 37.5c or above and if their temperature continues to be or becomes greater than 37.5c despite receiving antibiotics for 48 hours.

Urine output (not on SEND currently)

64. The optimum urine output is 1ml/kg/hr. In a 70kg adult this is equal to 70 ml/hr.

65. The minimum desired urine output is 0.5ml/kg/hr, which equates to 35 ml/hr (based on a 70 Kg patient). Generally urine output should be assessed over a two hour period.

66. In the majority of patients urine output does not need to be routinely measured, but should be in the following instances:

- Any patient who is hypotensive (BP below 90 systolic) or in any patient where the blood pressure is lower than normal for them (e.g. if a patient normally has a BP of 160 systolic - a BP of 120 would be very significant clinically if it was related to a fall in urine output).
- Any patient whose heart rate is greater than their systolic blood pressure.
- A patient whose trigger score is 3 or more. In these circumstances, urine output should be measured for a minimum 24 hours. Patients with other abnormal signs such as high fever.
- Patients who are fluid restricted or needing encouragement to take oral fluids.
- Patients with other abnormal fluid losses such as vomiting, drains, stomas or diarrhoea.

- Patients with deteriorating renal function.
- Patients with primary urological or renal problems.
- Patients admitted with heart failure or receiving diuretics as a result of their hospital admission.
- Patients receiving intravenous fluids.

67.If the urine output is being closely monitored, then an hourly output of zero requires a check that the catheter is patent. Outflow obstruction should always be excluded in totally anuric patients.

68.Patients with acute or chronic renal failure should be discussed with senior medical staff

Fluid balance charts (not on SEND)

69.Fluid balance charts should be commenced for all patients requiring urine output monitoring as above, and specifically in patients:

- Receiving enteral or parental nutrition.
- Following recent ileostomy formation or major post-operative procedures.

70.When a fluid chart is in use it should be fully filled in with both input and output fluid and quantity. Entries such as “OTT” (out to toilet) are unacceptable.

71.It is the practitioner’s’ responsibility to ensure the fluid chart is correctly completed although the patient can be encouraged to assist with this task. Daily and cumulative balances should be entered onto the appropriate flow chart reviewed at every shift change.

72.Insensible losses are not normally recorded, but should be accounted for in patients with fluid balance problems. Normal insensible loss is approximately 1 litre in 24 hours, but can greatly increase when a patient has a high temperature or rapid respiratory rate. Stool, drain losses etc: must be recorded on the chart and if incontinent, the pads weighed or estimated.

Other

73.The significance of patients who score below the trigger point but are causing concern, (or non-physiological reasons for escalation) should not be underestimated. Any member of staff who is concerned about a patient should not hesitate to call for a clinical review. Examples include patients who have melaena, limb ischemia, sensation loss, elevated blood sugars, ketones, persistent pain etc.

Review

74. This policy will be reviewed every 3 years, as set out in the Policy for the Development and Implementation of Procedural Documents.

N.B.Policies may need to be revised before this date, particularly if national guidance or local arrangements change, where implementation is unsuccessful or where audits necessitate a policy review.

75. The approving committee is the RAID committee, followed by the Clinical Policy Group and Clinical Governance Committee **References.**

Organisational Responsibilities

The Chief Executive has overall responsibility and final accountability for ensuring that the Trust has appropriate procedures in place to effectively identify and manage deteriorating patients; and that the Trust works to best practice, and complies with all relevant legislation.

The Chief Nurse has been designated as the Lead Board member with responsibility for Risk Management, and as such will ensure that robust management systems exist for identifying and managing deteriorating patients.

The Medical Director & Chief Nurse have overall responsibility for ensuring the implementation of this policy.

The Head of Clinical Governance is responsible for the coordination and management of incidents of failure to identify and appropriately manage deteriorating patients.

Staff Trust-wide, are responsible for locally owned incident reporting process which includes the deteriorating patient and failure to rescue.

Clinical Directors are responsible for ensuring that all clinical staff are appropriately trained to identify and respond to acutely ill patients and for ensuring effective rotas and systems are in place for the rapid deployment of relevant staff when additional support is required.

Consultant medical staff caring for patients have overall responsibility for:

- Determining the appropriate level of care required for their patients (for example, active management, palliative care, resuscitation status etc.)
- Ensuring a documented monitoring and management plan is in place (particularly where this differs from the escalation strategy agreed by RAID), including details of any treatment limitations.
- Ensuring junior medical staff are appropriately trained and informed to adhere to this policy

Matrons are responsible for:

- Ensuring monitoring documentation including SEND and the audits associated with that as well as equipment in their clinical areas, that it is always available and regularly checked and maintained.
- Ensuring registered and non-registered staff are appropriately trained and informed and updated to adhere to this policy

Registered Nursing staff and other registered practitioners are responsible for ensuring that patient's observations are taken at appropriate intervals and are undertaken accurately in accordance with the early warning guidelines.

- They are also responsible for ensuring the escalation pathway is used in an effective and appropriate fashion.

- Should the registered practitioner choose to delegate responsibility of undertaking vital signs observations to a non-registered practitioner, accountability remains with the registered practitioner to ensure this is undertaken in an accurate manner in line with policy and that the escalation pathway is used appropriately.

Reporting mechanisms

76. **The Recognition and Identification of Deteriorating Patients (RAID) Committee** is responsible for formulating this Trust policy, setting standards, and monitoring compliance for adult patients in light of NICE Guideline CG50.

77. **The Resuscitation Committee** is responsible for policy standards and compliance for patients less than eighteen years of age. Both committees will work collaboratively and report to the Medical Director and the Chief Nurse through the Patient Safety & Clinical Risk Committee

78. **The RAID Committee** will (where appropriate) facilitate risk assessments of matters relating to the recognition and management of the deteriorating patient. It will facilitate root cause analysis of SIRIs with the division concerned and report through the governance structure to the weekly SIRI meeting. The SIRI forum will send appropriate incidents to the RIAD committee for comment.

Definitions

79. **Early Warning System:** Physiological early warning systems are used to identify patients who are physiologically deteriorating on general wards (outside critical care areas). Physiological early warning systems apply numerical weights to each vital sign. The sum of these weights generates the overall score. Patients with high or increasing scores require clinical review and appropriate timely intervention.

80. **The OUHFT Early Warning System:** A modified centile-based early warning system (CEWS – Resuscitation 2011). This is an evidence-based system developed from over 40,000 adult in-patient vital signs, from three different hospitals in the United Kingdom and United States. **Paediatric Early Warning System (PEWS):** An early warning system from the University Hospital of Southampton NHS Foundation Trust. It is age appropriate with varying limits for each age range cared for within children's services.

81. **Maternity Early Obstetric Warning Scoring system (MEOWS):** The MEOWS chart alerts on single variables rather than being an aggregate system. This is in line with many current MEOWS charts. The MEOWS chart should be used for all pregnant women from 16 weeks until 6 weeks post partum. If post partum and outside an obstetric area SEND should be used

82. **Inter-hospital transfers:** The transfer of a patient from one hospital or site to another.

82.1 **Intra-hospital transfers:** The transfer of a patient to another ward/department within the same hospital site.

Training

83. There is no mandatory training associated with this policy. Ad hoc training sessions based on an individual's training needs will be defined within their annual appraisal or job plan.

84. For training on RAID please refer to the RAID site on the Trust intranet.

Monitoring Compliance

85. Compliance with the document will be monitored in the following ways.

What is being monitored:	How is it monitored:	By who, and when:	Minimum standard	Reporting to:
Compliance with this policy in respect of educational roll out of RAID across the Trust	Compliance with competencies within divisions	Divisional Education Leads	85%	Education & Training Committee and RAID Committee

Equality Analysis

Have you considered how the Policy will affect people:			How have these groups been included in the development of the Policy?	How will the Policy affect them?
	Yes	No		
Who have a physical or sensory impairment? Have you consulted with them?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	This policy applies to all the 9 protected characteristic groups	
With a disability?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
Of different gender?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
Of different ages?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
With different racial heritages?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
With different sexual orientations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
Who are pregnant or recently had a baby?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
With different religions or beliefs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
Who are going through gender re-assignment or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	

have transitioned?				
Of different marital/partnership status?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
Who are carers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Any other group who may be affected by this policy	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Summary of Analysis

Does the analysis show evidence of:	Yes	No	Please explain your answer	
The potential to discriminate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
The advancement of equality of opportunity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As above	
The promotion of good relations between groups?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		