

Standard Operating Procedure for Modified Early Warning Score (MEWS)

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Target Audience:

People who need to know about this document in detail	All Maternity Clinical Staff, all staff providing care for women/ birthing person in the antenatal, intrapartum and postnatal periods in CTMUHB
People who need to have a broad understanding of this document	This Standard Operating Procedure applies to all senior staff midwives, nurses and healthcare professionals employed by or working for the Health Board in Maternity services. This includes bank, agency and locum staff and those with honorary contracts working within Cwm Taf Morgannwg University Health Board (CTM UHB).
People who need to know that this document exists	All Maternity and clinical Staff within the Integrated Locality Groups. Clinical Director, Midwives, HCA's, Obstetricians and Senior Midwives, Nurses and Clinicians of all specialties who care for women/ birthing person in the antenatal, intrapartum and postnatal periods in CTMUHB and the Risk and Governance team at CTMUHB.

Integrated Impact Assessment:

Equality Impact Assessment Date & Outcome	Date: May 2025
	Outcome: No negative impact
Welsh Language Standard	Choose an item.
Date of approval by Equality Team:	(00/00/0000)

Aligns to the following Wellbeing of Future Generation Act Objective

Choose an item.



Disclaimer:

If the review date of this document has passed please ensure that the version you are using is the most up to date version either by contacting the author or CTM_Corporate_Governance@wales.nhs.uk

Definition of Standard Operating Procedure

This Standard Operating Procedure is a set of detailed step-by-step instructions that describe the appropriate method for carrying out tasks or activities to achieve a stated outcome to the highest standards possible and to ensure efficiency, consistency and safety.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person

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1. Purpose

This Standard Operating Procedure (SOP) is intended for use by all clinical staff within Maternity care settings including the delivery suite, antenatal and postnatal ward, Maternity Priority Unit, Antenatal Clinics and all areas of health board that provides care to women/birthing people in the antenatal, intrapartum and postnatal periods in CTMUHB.

The All Wales Modified Early Warning Score (MEWS) should be used when providing care for pregnant women/birthing people for early recognition, escalation and response to deterioration. MEWS should be used within the obstetric units, Maternity Priority Unit, Antenatal Clinics and all acute areas of the health board that provides care to women/ birthing person in the antenatal, intrapartum and postnatal periods, to support monitoring of the woman/birthing person.

The All-Wales MEWS chart acknowledges feedback from healthcare professionals and encompasses family concerns to acknowledge the importance of the birthing person and family's opinion in addition to the wider multi-disciplinary team (MDT).

2. Introduction

It is a well-documented problem of recognising life-threatening illness or deterioration of health that has led to the introduction of a number of early warning scoring systems in assessing service users' wellbeing (Holland M and Kellar J. 2023).

In Maternity, the use of the new All-Wales MEWS observation chart for pregnant women/birthing people will aid in the detection of deterioration and facilitate earlier interventions in care. Prompt management of deterioration will reduce the severity of illness. The new All Wales Modified Early Warning Score monitors 5 physiological variables:

- pulse rate
- blood pressure
- respiratory rate
- temperature
- oxygen saturations

(Gerry S, et al 2024)

The recognition of small changes in these variables will be seen earlier using the new All-Wales MEWS chart, alerting clinicians to changes in the clinical condition of a woman/birthing person. The All-Wales MEWS tool incorporates a colour-coded chart to monitor vital signs including a scoring

system and encompasses additional concerns to enable quicker recognition, escalation and response to deterioration (Gerry S, et al 2024).

The principle is that small changes in these 5 variables combined will be seen earlier using MEWS alerting clinicians to changes in the clinical condition of a woman rather than waiting for a single obvious change in individual variables (Gerry S, et al 2024). The new All Wales MEWS chart also includes additional concerns:

- healthcare professionals concern
- woman/ family concern
- significant additional therapies (e.g. oxygen)
- increased pain (+/- analgesic requirements)
- significant vaginal bleeding
- reduced urine output
- altered level of consciousness/responsiveness.

From diagnosis of pregnancy to 42 days postpartum when accessing care, every woman/birthing person should be provided with the correct environment and professional healthcare support to allow for recognition of maternal deterioration. In addition, they should be protected to prevent avoidable morbidity and mortality during the antenatal, intrapartum and postnatal periods (Gerry S, et al 2024).

The new All Wales MEWS chart includes women/birthing person and family concerns, early recognition of clinical deterioration aims to facilitate timely intervention and reduce morbidity associated with acute deterioration. To enhance the early recognition of deterioration, the woman/birthing person and often their family provide useful context to the woman/birthing persons 'usual health state', which is helpful as a baseline, should they subsequently become acutely unwell. In keeping with this, families are increasingly being recognised as having a role to play in detecting and responding to women/birthing person deterioration (McKinney A, et al 2020).

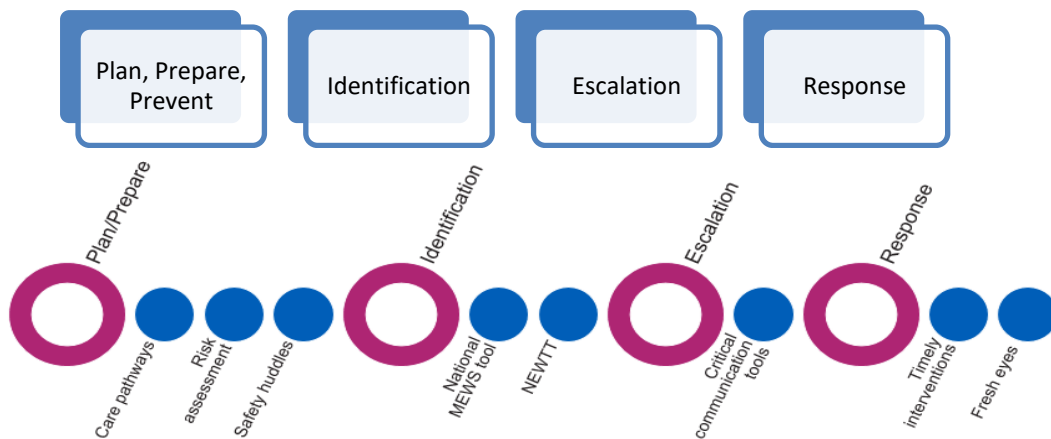
The PIER approach

The PIER approach supports the effective management of acute deterioration. Acute deterioration can be identified from changes in physiology, such as pulse rate, blood pressure, respiratory rate, temperature and oxygen saturations, also considering women/ birthing person and family concerns

PIER stands for:

- **prevention:** planning ahead of any episode of deterioration to stop what is preventable.

- **identification:** tools and methods to identify when deterioration is occurring in a standardised way.
- **escalation:** timely escalation of care when deterioration has been identified using standardised communication tools.
- **response:** timely, appropriate and effective response to escalation of the deteriorating woman/birthing person.



3. Scope

This Standard Operating Procedure applies to all healthcare professionals within maternity services and all healthcare professionals providing care for women/birthing people from diagnosis of pregnancy to 42 days postpartum. This includes bank, agency and locum staff working within Cwm Taf Morgannwg University Health Board (CTM UHB). The All-Wales MEWS Chart is to be used alongside clinical judgement.

4. Overview

The All-Wales MEWS chart has evolved from the previous system and the All-England MEWS chart (Gerry S, et al 2024). It considers the ability to 'track' the behaviours and observations of women and birthing/people requiring observations, over a period of time to identify trends. When observations fall outside of 'normal' ranges as shown in **Appendix 3**, actions are 'triggered' based upon the extent of the deviation as shown in **Appendix 4**.

An advancing 'white/yellow/red' scale defines the extent of the change, and which actions should be taken should observations fall within these alert zones. Observations taken outside of normal ranges give a total 'numerical score' and this will indicate that the woman/birthing person remains in the 'safe' zone or will be able to indicate emerging instability/deterioration over time, prompting earlier recognition, escalation and review (**Appendix 3 and 4**).

Healthcare professional clinical concern must initiate a review at any time regardless of the zone of colour or total score.

Using the new All Wales MEWS Chart going forward?

- Numerical values are allocated to white (a score of 0) yellow (a score of 1) and red (a score of 2) triggers to give a total numerical score that is documented.
- The total score aids the escalation response that is required, including time frame for review and the most appropriate staff member who is required to review also stating the process if further escalation is required (**Appendix 4**).
- A section for additional concerns had been added. If one or more additional concern is present then escalation and review are required as per thresholds and triggers assessment (**Appendix 4**). If one or more of these additional concerns are present, consider:
 - Increasing observations to a minimum of every 30 minutes.
 - Escalate in line with a low-medium level of concern even if MEWS less than 2.
 - Where MEWS is greater than 2 raising the level of concern to the next category.

Additional concerns these include but is not limited to;

healthcare professionals concern

- Woman/family concern
 - Significant additional therapies (e.g. oxygen)
 - Increased pain (analgesic requirements)
 - Significant vaginal bleeding (any vaginal bleeding in the antenatal period or postnatal vaginal bleeding (as per Obs Cymru proforma)
 - reduced urine output <0.5ml/kg/hour
 - altered level of consciousness/responsiveness.
- Respirations – the values have altered; 9-21 respirations per minute in the white zone (score 0), 7-8 and 22-24 respirations per minute in the yellow zone (score 1) and <6 or >25 respirations per minute in the red zone (score 2).

Respirations Breaths/min	>=25							2										>=25
	22-24							1										22-24
	18-21																	18-21
	13-17							0										13-17
	9-12																	9-12
	7-8								1									
<=6								2										<=6

- Oxygen Saturations – the values have altered; >95% in the white zone (score 0) 93-94% in the yellow zone (score 1) <92% in the red zone (score 2).

SpO ₂ Oxygen saturation (%)	>=95							0							>=95
	93-94							1							93-94
	<=92							2							<=92

- Pulse from confirmation of pregnancy to 48 hours post birth, 71-112bpm in the white zone (score 0) 63-70bpm and 113-121bpm in the yellow zone (score 1) <62bpm and 122->131bpm in the red zone (score 2).

Pulse Beats/min	>=131							2							>=131
	122-130							2							122-130
	113-121							1							113-121
	99-112							0							99-112
	86-98							0							86-98
	71-85							0							71-85
	63-70							1							63-70
<=62							2							<=62	

- Pulse from 48hrs after birth is included due to the physiological changes 48hrs post birth with different acceptable parameters, 58-98bpm in the white zone (score 0) 51-57bpm and 99-107bpm in the yellow zone (score 1) <50 or >108bpm in the red zone (score 2). The date and time which to commence this should be written in the area provided on the chart.

Pulse - from 48 hours post birth ONLY Beats/min Date & time to commence monitoring:	>=108							2							>=108
	99-107							1							99-107
	85-98							0							85-98
	71-84							0							71-84
	58-70							0							58-70
	51-57							1							51-57
	<=50							2							<=50

- Temperature – the values have altered; 36.2-37.2 (Celsius) are in the white zone (score 0) between 35.7-36.1 or 37.3-37.4 (Celsius) are in the yellow zone (score 1) <35.6 or >37.5 (Celsius) in the red zone (score 2).

Temperature °C	>=37.5							2							>=37.5
	37.3-37.4							1							37.3-37.4
	36.8-37.2							0							36.8-37.2
	36.2-36.7							0							36.2-36.7
	35.7-36.1							1							35.7-36.1
	<=35.6							2							<=35.6

- Systolic blood pressure – the values have altered; between 101-135mmHg are in the white zone (score 0), between 94-100 or 136-144mmHg are in the yellow zone (score 1), between <60 – 93 or 145 - >175mmHg in in the red zone (score 2).

Systolic blood pressure mmHg	>=175							2							>=175
	160-174							2							160-174
	145-159							2							145-159
	136-144							1							136-144
	121-135							1							121-135
	111-120							0							111-120
	101-110							0							101-110
	94-100							1							94-100
	77-93							2							77-93
	61-76							2							61-76
	<=60							2							<=60

- Diastolic blood pressure – the values have altered; 62-88mmHg is in the white zone (score 0), between 57-61mmHg or 89-96mmHg is in the yellow zone (score 1), <56 or >97mmHg is in the red zone (score 2).

Diastolic blood pressure mmHg	>=110							2								>=110
	97-109							2								97-109
	89-96							1								89-96
	80-88															80-88
	70-79							0								70-79
	62-69															62-69
	57-61							1								57-61
	<=56							2								<=56

White	Scores 0
Yellow-amber	Scores 1
Pink-red	Scores 2

5. Midwifery Care

Step	Action
1.	<p>Risk Assessment</p> <p>PLAN, PREPARE, PREVENT. Determine frequency of MEWS observations required dependent on identified risk factors and individualised care plan.</p>
2.	<p>Care of the Woman/ birthing person</p> <p><u>Temperature</u> – use tympanic thermometer to assess temperature in degree Celsius.</p> <p><u>Respirations</u> – Count respirations for ≥ 60 seconds to assess the rate of breathing.</p> <p><u>Oxygen Saturations</u> – Use a pulse oximeter to accurately assess oxygen saturations.</p> <p><u>Pulse</u>– Count the beats for ≥ 60 seconds manually or by using a pulse oximeter. In the additional pulse section, pulse from 48hrs post birth ONLY, at the time of birth, the date and time on which to commence this section of the MEWS chart should be completed (Appendix 3).</p>

	<u>Blood Pressure</u> – select the correct size blood pressure cuff, as per manufacturers guidance, use a manual Sphygmomanometers with a stethoscope or a Dynamap to assess systolic and diastolic blood pressure.
3.	Support of Birthing Person Awareness of a high level of concern and score for the level of actual birthing person’s concern. Use active enquiries such as “How do you feel different from when we last assessed you?”
4.	Family Awareness of a high level of family concern and score for the level of actual families’ concern. Use active enquiries such as “How do you feel your family member is different from when we last assessed them?”

5.	<p>Documentation</p> <p>Mark boxes on the chart with the numerical value for each observation, in the relevant coloured box</p> <ul style="list-style-type: none"> • Complete all sections, • Plot temperature onto the MEWS chart by marking in degree Celsius in the correct box (note whether the temperature plots into a white, yellow or pink box. Read along the measurement to know whether the score given is 0 for white, 1 for yellow or 2 for pink/red). • Plot the respiratory rate (breaths/min) onto the MEWS chart the correct box (note whether the respiratory rate plots into a white, yellow or pink box. Read along the measurement to know whether the score given is 0 for white, 1 for yellow or 2 for pink/red). • Plot the heart rate (beats/min) onto the MEWS chart by marking in the correct box (note whether the heart rate plots into a white, yellow or pink box. Read along the measurement to know whether the score given is 0 for white, 1 for yellow or 2 for pink/red). • Plot the SpO2 onto the MEWS chart by marking the % saturations in the correct box (note whether the SpO2 plots into a white, yellow or pink box. Read along the measurement to know whether the score given is 0 for white, 1 for yellow or 2 for pink/red). • Additional concerns: Healthcare professional concern, women/family concerns, significant additional therapies (e.g. oxygen), increased pain (+/- or analgesic requirements), significant vaginal bleeding, reduced urine output, altered level of consciousness/ responsiveness. If one or more additional concerns are present, consider increasing the frequency of observations to a minimum of every 30 minutes, escalate in line with a low-medium level of concern even if the MEWS is less than 2. Where MEWS is greater than 2 raising the level of concern to the next category.
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	<ul style="list-style-type: none">• Complete the total MEWS score for every set of observations. Document the frequency of observations required, whether escalation is indicated (see escalation tool in Appendix 4) and sign your initials.
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6. Training

All midwifery and obstetric staff and other staff/ specialties providing care for birthing people must have knowledge of the evidence available and how to use the framework safely and appropriately. Registered midwives and nurses have a responsibility to maintain knowledge and skills to practice effectively and safely, whilst working within the limits of their competence Nursing & Midwifery Council Code (NMC, 2018), Medics must recognise and work within the limits of their competence, only practise under the level of supervision appropriate to your role, knowledge, skills and training, and the task they are carrying out, Medics must keep up to date with guidelines and developments that affect their work (GMC 2024).

Training on new framework will be provided by the CTM MEWS education working group to ensure staff are adequately trained in the use of the All-Wales MEWS chart including the escalation process and further cascaded to staff by senior midwives, supervisors of midwives, practice development midwives and critical care outreach team going forward.

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APPENDIX 1

Section 2. Impact	
<p>Please answer the following</p> <p>Consider and refer to the information you have gathered from census data, relevant organisations and groups, staff groups, individuals etc. Please indicate the likelihood and risk associated with the issues raised.</p>	
<p>Do you think that the policy impacts on people because of their age? (This includes children and young people up to 18 and older people)</p>	Not relevant
<p>Do you think that the policy impacts on people because of their caring responsibilities? i,e, would it affect their ability to care for somebody who is primarily dependant on them?</p>	Not relevant
<p>Do you think that the policy impacts on people because of their disability? E.g. sensory loss, physical disability, Learning disability, some mental health issues</p>	Not Specifically
<p>Do you think that the policy impacts on people because of Gender reassignment? This includes all people included under trans* e.g. transgender, non-binary, gender fluid etc</p>	Not Specifically
<p>Do you think that the policy impacts on people because of their being married or in a civil partnership?</p>	Not Specifically
<p>Do you think that the policy impacts on people because of their being pregnant or having recently had a baby?</p>	Yes tool is for specific use during pregnancy and the postpartum
<p>Do you think that the policy impacts on people because of their race? (This includes colour, nationality and citizenship or ethnic or national origin such as Gypsy and Traveller Communities.)</p>	Not Specifically
<p>Do you think that the policy impacts on people because of their religion, belief or non-belief? (Religious groups cover a wide range including Buddhist, Christians, Hindus, Jews, Muslims, and Sikhs)</p>	Not specifically
<p>Do you think that the policy impacts on men and woman in different ways?</p>	For use for women/ birthing person in the

Section 2. Impact	
	antenatal intrapartum and postpartum
Do you think that the policy impacts on people because of their sexual orientation? (This includes Gay men, heterosexual, lesbian and bisexual people)	Not Specifically
Do you think that the policy impacts on people because of their Welsh language? (e.g. the active offer to receive services in Welsh, bilingual information etc)	Not specifically

The Human Rights Act contains 15 rights, all of which NHS organisation have a duty to act compatibly with and to respect, protect and fulfil. The 7 rights that are particularly relevant to healthcare are listed below. Consider the relevance of your Policy to these Human Rights and list any available information to suggest the Policy may interfere with, or restrict the enjoyment of these rights.

The right to life
No specific impact

The right not to be tortured or treated in an inhuman or degrading way
No specific impact

The right to liberty
No specific impact

The right to a fair trial
No specific impact

The right to respect for private and family life, home and correspondence
No specific impact

The right to freedom of thought, conscience and religion
No specific impact

The right not to be discriminated against in relation to any of the rights contained in the Human Rights Act
No specific impact on human rights identified.

Appendix 2

Section 3 Outcome Report

Policy Title:	Standard Operating Procedure for All Wales MEWS Chart
Organisation:	Cwm Taf Morgannwg University Health Board
Name: Title: Department: Date:	
Summary of Assessment: Please indicate issues of significant concern and changes that will be made to the policy accordingly. Please indicate whether these changes have been made.	
Please indicate where issues have been raised but the policy has not been changed and indicate reasons and alternative action taken where appropriate.	
Monitoring Arrangements:	
Review Date: This is usually the same as the policy review date.	
Signature of all Parties:	

Appendix 4

Maternity Early Warning Score (MEWS)

Taking the total MEWS score generated, escalate according to the threshold and trigger table.

(NHS England, 2024)

		Score				
		2	1	0	1	2
Vital Sign	Respirations Breaths/min	<=6	7-8	9-21	22-24	>=25
	SpO ₂ Oxygen saturation (%)	<=92	93-94	>=95	-	-
	Temperature °C	<=35.6	35.7-36.1	36.2-37.2	37.3-37.4	>=37.5
	Pulse Beats/min	<=62	63-70	71-112	113-121	>=122
	Pulse (from 48 hours post birth) Beats/min	<=50	51-57	58-98	99-107	>=108
	Systolic blood pressure mmHg	<=93	94-100	101-135	136-144	>=145
	Diastolic blood pressure mmHg	<=56	57-61	62-88	89-96	>=97

+

Additional concerns	
<p>If one or more of these additional concerns are present, consider:</p> <ol style="list-style-type: none"> Increasing the frequency of observations to a minimum of every 30 minutes Escalate in line with a low-medium level of concern even if MEWS less than 2 Where MEWS is greater than 2 raising the level of concern to the next category. 	<ul style="list-style-type: none"> Healthcare professional concerned Woman/family concerned Significant additional therapies (e.g. Oxygen) Increased pain (+/-or analgesic requirement) Significant vaginal bleeding Reduced urine output Decreased level of consciousness/responsiveness

↓

Thresholds and triggers				
<ul style="list-style-type: none"> The grade of medical team member indicated as the primary contact for each level of clinical concern is a guide and may need to be adapted depending on the local skill mix within that care setting or organisation 				
Level of concern	Low	Low-medium	Medium	High
MEWS	0-1	2-4	5-7	8 or more
Primary escalation & response (Use SBAR framework)		Review by midwife in charge	Urgent review by midwife in charge	Immediate review by midwife in charge
		Request review by ST1/2 or equivalent	Urgent review by ST3+ or equivalent and consultant made aware of plan Consider anaesthetic review	Immediate review by ST3+ or equivalent, consultant and anaesthetic team Consider review by outreach team
Medical review timing		Within 30 minutes	Within 15 minutes	Immediate
Minimal vital signs recording until medical review/ongoing plan	Continue with current observation frequency	Reassess observations within 30 minutes & document ongoing plan	Reassess observations within 15 minutes & document ongoing plan	Continuous observations
Secondary contact		ST3+ or equivalent	Consultant or equivalent	Clinical outreach team or equivalent
<ul style="list-style-type: none"> When the primary team member(s) contacted is unable to attend or fails to attend within the expected time for the level of clinical concern, escalation to the secondary contact is required The secondary contact would be expected to attend within the initial medical review timing, calculated from the documented time of primary escalation The section pulse (from 48 hours after birth) cut-offs should be used for all women from 48 hours after birth. The time and date from which these values should be used should be entered on the front of the chart. 				

Any edits or modifications to this tool must be agreed through the Maternity and Neonatal Strategic Network

Appendix 5

Privacy Impact Assessment Screening Questions

Answer the questions below to identify whether your policy/ procedure or project is likely to need a PIA.

	Questions – please tick appropriate answer	Yes	No
1.	Will the policy involve the collection of new information about individuals?		✓
2.	Will the policy compel individuals to provide information about themselves?		✓
3.	Will information about individuals be disclosed to organisations or people who have not previously had routine access to the information?		✓
4.	Are you using information about individuals for a purpose it is not currently used for or in a way it is not currently used?		✓
5.	Does the policy involve you using new technology which might be perceived as being privacy intrusive? For example, the use of biometrics or facial recognition.		✓
6.	Does the policy result in you making decisions or taking action against individuals in ways which can have a significant impact on them?		✓
7.	Is the information about individuals of a kind particularly likely to raise privacy concerns or expectations? For example, health records or other information that people would consider to be particularly private?		✓
8.	Will the policy require you to contact individuals in ways which they may find intrusive?		✓

Where you have answered yes to one or more of these questions, it is a likely indication that a PIA would be a useful exercise. If you are in any doubt as to whether a PIA is required, support is available the information governance team.