

# Obstetric EWS, ALERT and Champions

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# Background

- 60% of primary events studied (deaths, cardiac arrests and unplanned admissions to ICU) were preceded by abnormal physiology.

(Kause et al 2004)



- Poor assessment
- Delays in diagnosis, referral and treatment
- Inadequate or inappropriate management

Exacerbated by:

- Patient complexity
- Workload
- Educational and organisational factors

Coombes, Quirke & McEldowney(2011)

# Preventable Deaths 2012

- Retrospective case review of 1000 adult deaths in 10 hospitals.
- 5.2% had  $\geq 50\%$  chance of being preventable.
- These deaths were attributed to poor clinical monitoring, diagnostic errors, and inadequate drug or fluid management.

(Hogan et al 2012)

# Early Warning Scoring Systems

- First EWS system developed in the James Paget Hospital in 1997
- 5 weighted physiological parameters
- Modified by hospitals throughout the UK
- Recommended for all acute hospitals in UK ( DOH 2000)

# NEWS

- Introduced in 2012
- Standardises the assessment of acute illness severity
- Enables a more timely response to acute deterioration
- Uses a common language across hospitals nationally

## National Early Warning Score (NEWS)\*

PHYSIOLOGICAL PARAMETERS	3	2	1	0	1	2	3
Respiration Rate	≤8		9 - 11	12 - 20		21 - 24	≥25
Oxygen Saturation	≤91	92 - 93	94 - 95	≥96			
Any Supplemental Oxygen		Yes		No			
Temperature	≤35.0		35.1 - 36.0	36.1 - 38.0	38.1 - 39.0	≥39.1	
Systolic BP	≤90	91 - 100	101 - 110	111 - 219			≥220
Heart Rate	≤40		41 - 50	51 - 90	91 - 110	111 - 130	≥131
Level of Consciousness				A			V, P, or U

\*The NEWS initiative flowed from the Royal College of Physicians' NEWS Development and Implementation Group (NEWSDIG) report, and was jointly developed and funded in collaboration with the Royal College of Physicians, Royal College of Nursing, National Outreach Forum and NHS Training for Innovation

## Outline clinical response to NEWS triggers

NEWS SCORE	FREQUENCY OF MONITORING	CLINICAL RESPONSE
0	Minimum 12 hourly	<ul style="list-style-type: none"> <li>Continue routine NEWS monitoring with every set of observations</li> </ul>
Total: 1-4	Minimum 4-6 hourly	<ul style="list-style-type: none"> <li>Inform registered nurse who must assess the patient;</li> <li>Registered nurse to decide if increased frequency of monitoring and / or escalation of clinical care is required;</li> </ul>
Total: 5 or more  or  3 in one parameter	Increased frequency to a minimum of 1 hourly	<ul style="list-style-type: none"> <li>Registered nurse to urgently inform the medical team caring for the patient;</li> <li>Urgent assessment by a clinician with core competencies to assess acutely ill patients;</li> <li>Clinical care in an environment with monitoring facilities;</li> </ul>
Total: 7 or more	Continuous monitoring of vital signs	<ul style="list-style-type: none"> <li>Registered nurse to <b>Immediately</b> inform the medical team caring for the patient – this should be at least at Specialist Registrar level;</li> <li>Emergency assessment by a clinical team with critical care competencies, which also includes a practitioner/s with advanced airway skills;</li> <li>Consider transfer of Clinical care to a level 2 or 3 care facility, i.e. higher dependency or ITU;</li> </ul>



# Variations in Practice

- Certain clinical areas have patients whose physiological 'profile' differs from average
- Obstetrics and Paediatrics
- Modified systems used to alter trigger criteria

- What physiological and physical changes occur in pregnancy that impact on resuscitation?

Green – top Guideline No.56

Maternal Collapse in Pregnancy and the Puerperium - RCOG (2011)

# Cardiovascular

- Plasma Volume – dilutional anaemia; reduced O<sub>2</sub> carrying capacity
- Heart rate – up by 15 – 20 bpm increases CPR circulation demands
- Cardiac output – increased by 40%; significantly reduced by pressure of gravid uterus on IVC

# Cardiovascular

- Uterine blood flow - 10% of CO at term; risk of massive rapid haemorrhage
- SVR – decreased SVR sequesters blood during CPR
- ABP – decreased by 10 – 15mmHg causing decreased reserve
- Venous return – decreased by pressure on IVC; increased CPR circulation demands

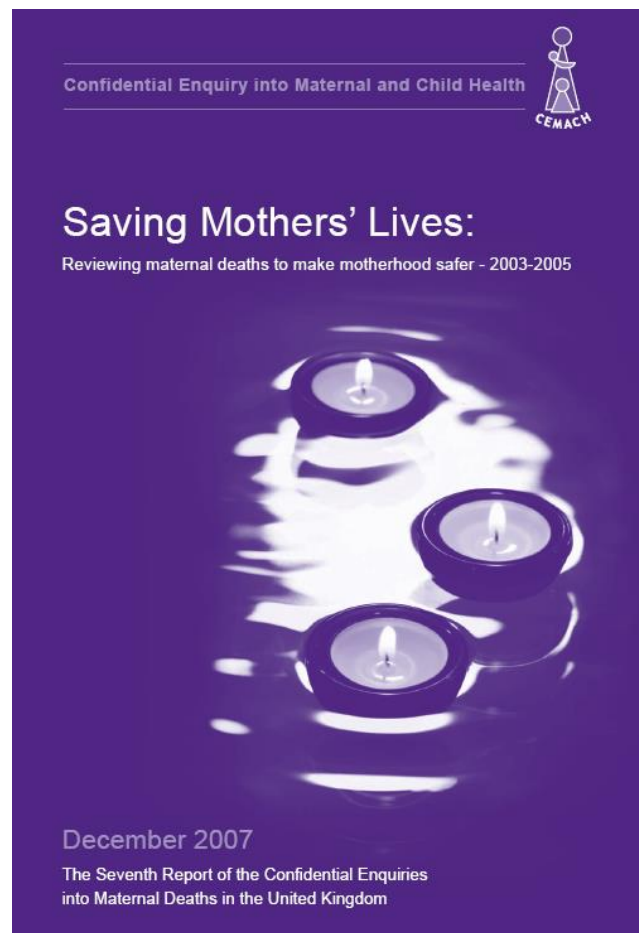
# Respiratory

- Respiratory rate – increased; acidosis more likely
- O<sub>2</sub> consumption – increased by 20%; hypoxia develops more quickly
- Residual capacity – decreased by 20%; acidosis more likely
- Laryngeal oedema – increased making intubation difficult

# OEWS

- The use of basic observations and rapid actions, combined with the correct escalation to senior staff and prompt treatment can make the difference between life and death

MBRRACE –UK (2014)



- *‘There is an urgent need for the routine use of a national obstetric early warning chart ...which will help in the more timely recognition, treatment and referral of women who have, or are developing, a critical illness.’*

# OEWS

- In 2007 only 19% of obstetric units surveyed used OEWS
- In 2012 the same survey was sent out to 205 lead obstetric anaesthetists
- 63% response
- 100% reported using OEWS
- Some variation in parameters

Isaacs et al (2014)





# SBAR

## SBAR – Situation, Background, Assessment, Recommendation

Northern Lincolnshire and Goole **NHS**

NHS Foundation Trust

Must be used and affixed in patient notes at every escalation/handover

### Maternity Version

Print code: WRN 589 Version: 2.0 Review Due: May 2019

Escalated By	Name:	Role:
Escalated To	Name:	Role:
Date/Time:		
<b>S</b>	Situation (i.e. the problem is/reason for handover):	
<b>B</b>	Background (i.e. parity, gestation, previous history, risk factors etc):	
<b>A</b>	Assessment (i.e. MEWS score, progress, CTG classification):	
<b>R</b>	Recommendation (i.e. medical review, continue with current plan etc):	
Signed:		
Ask receiver to repeat key information back to you to ensure <b>understanding</b>		

National Early Warning Score (NEWS)										Print Code: WQN 263		Version: 1.2			
Name: <u>ANN OTHER</u>				DOB:		NHS No:									
NEWS KEY 1 2 3				Admission Date & Ward:				Transfer Date & Ward:							
18/4/16				DATE		5									
				TIME		8.8									
RESP. RATE		≥25		3		25						DATE			
		21-24		2		21-24						TIME			
		12-20				12-20									
		9-11		1		9-11									
		≤8		3		8									
SpO <sub>2</sub>		≥96		3		96									
		94-95		1		94-95									
		92-93		2		92-93									
		≤91		3		≤91									
Inspired O <sub>2</sub> %		%		2		%									
TEMP		≥39°		2		39°									
		38°		1		38°									
		37°				37°									
		36°		1		36°									
		≤35°		3		≤35°									
NEW SCORE uses Systolic BP		230		3		230									
		220				220									
		210				210									
		200				200									
		190				190									
		180				180									
		170				170									
		160				160									
		150				150									
		140				140									
		130				130									
		120				120									
		110				110									
		100		1		100									
		90		2		90									
		80				80									
70				70											
60		3		60											
50				50											
40				40											
30		3		30											
BLOOD PRESSURE		>140		3		>140									
		130		2		130									
		120				120									
		110				110									
		100		1		100									
		90				90									
		80				80									
		70				70									
		60		3		60									
		50				50									
		40		1		40									
		30		3		30									
		HEART RATE		>140		3		>140							
				130		2		130							
				120				120							
				110				110							
100				1		100									
90						90									
80						80									
70						70									
60				3		60									
50															

Name: ANN OTHER		DOB: NHS No:	
<b>Obstetric Early Warning Score Observation Chart</b>			
Date 15/4/16			
Time 10a 11.05			
41°	280		
	270		
40°	260		
	250		
39°	240		
	230		
38°	220		
	210		
37°	200	37 37	
	190		
36°	180		
	170		
35°	160	159	160
	150		
	140		
	130		
	120		
	110	103	110
	100	99	91
	90		
	80		
	70		
	60		
	50		
	40		
	30		
	20	22	20
	10		
	5		
Resp (X) Pulses (x) BP (x) Temp (°C)			
Oxygen %		A16 AR	
%SaO <sub>2</sub>		97 97	
Bladder C/P/Uri			
Lochia			
Urinalysis			
CNS (AVPU)		A A	
Pain Score			
<b>Pain Score</b> 0 = No pain 10 = Worst pain imaginable on coughing			
Initials			
Please enter Obstetric Early Warning Scores (OEWS) below – If score is ≥ 3 seek medical advice			
Temp	0	0	
Systolic BP	2	3	
Diastolic BP	2	3	
HR	0	0	
RR	2	1	
CNS	0	0	
%SaO <sub>2</sub>	0		
Total Score	6	7	

# Managing Obstetric patients in general areas in NLAG

- Up to 20 weeks of pregnancy women are assessed using NEWS

Since January 2017 OEWS is automatically activated by the web V system

- All women booked on the CMIS maternity system who are 20 weeks pregnant and up to 6 weeks post pregnancy

# ALERT

- Acute Life- Threatening Events Recognition And Treatment
- Introduced in 2000
- Combination of Lectures and Scenarios
- Uses an ABCDE approach to assessment
- Mandatory every 4 years in NLAG

# Obstetric ALERT

- Piloted in 2015
- Adapted for the physiological changes of pregnancy
- Uses same format of lectures and scenarios
- ABCDE approach
- Multi - disciplinary



# Obstetric Champions

- Improves communication between critical care & midwifery teams
- Quarterly Link Meetings
- Ideally 2 people per unit / department
- ? Obstetric ALERT

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# Any Questions?

