Obstetric EWS, ALERT and Champions

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NLAG
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 ≥ 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)
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)*

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

*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.
<table>
<thead>
<tr>
<th>NEWS SCORE</th>
<th>FREQUENCY OF MONITORING</th>
<th>CLINICAL RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Minimum 12 hourly</td>
<td>• Continue routine NEWS monitoring with every set of observations</td>
</tr>
<tr>
<td>Total: 1-4</td>
<td>Minimum 4-6 hourly</td>
<td>• Inform registered nurse who must assess the patient;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Registered nurse to decide if increased frequency of monitoring and/or escalation of clinical care is required;</td>
</tr>
<tr>
<td>Total: 5 or more</td>
<td>Increased frequency to a minimum of 1 hourly</td>
<td>• Registered nurse to urgently inform the medical team caring for the patient;</td>
</tr>
<tr>
<td>or 3 in one parameter</td>
<td></td>
<td>• Urgent assessment by a clinician with core competencies to assess acutely ill patients;</td>
</tr>
<tr>
<td>Total: 7 or more</td>
<td>Continuous monitoring of vital signs</td>
<td>• Clinical care in an environment with monitoring facilities;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Registered nurse to \textit{immediately} inform the medical team caring for the patient – this should be at least at Specialist Registrar level;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Emergency assessment by a clinical team with critical care competencies, which also includes a practitioner/s with advanced airway skills;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Consider transfer of Clinical care to a level 2 or 3 care facility, i.e. higher dependency or ITU;</td>
</tr>
</tbody>
</table>
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 O2 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
- O2 consumption – increased by 20%; hypoxia develops more quickly
- Residual capacity – decreased by 20%; acidosis more likely
- Laryngeal oedema – increased making intubation difficult
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.’
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 - Situation, Background, Assessment, Recommendation**

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

**Maternity Version**

<table>
<thead>
<tr>
<th>Escalated By</th>
<th>Name:</th>
<th>Role:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escalated To</td>
<td>Name:</td>
<td>Role:</td>
</tr>
<tr>
<td>Date/Time:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Situation (i.e. the problem is/reason for handover):

### Background (i.e. parity, gestation, previous history, risk factors etc):

### Assessment (i.e. MEWS score, progress, CTG classification):

### Recommendation (i.e. medical review, continue with current plan etc):

Signed:

Ask receiver to repeat key information back to you to ensure **understanding**
NEWS or OEWS

National Early Warning Score (NEWS)

Obstetric Early Warning Score Observation Chart
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
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

Coombes


Any Questions?