National Paediatric Early Warning Score Chart Training Package

What is a Paediatric Early Warning Score (PEWS)?

A paediatric early warning score is a system used to help identify sick and/or deteriorating patients.

A PEWS score helps identify physiological observations which lie at the extremes of, or out-with, the normal range for a child's age. The scores are weighted with observations being allocated a numerical value according to how out-with the normal range they lie. When the values are added together they create the PEWS score for a set of observations. The score is dynamic and will change over time with the patients condition.

A PEWS chart incorporates human factors to help with the design, for example allocating a colour to the scores. This allows staff to recognise a patient, whose observations sit outside those expected for that child, more easily and in a timely manner.

Currently there are 14 different scoring systems in use within Scotland and there is no evidence that one Scottish chart is "better" than any other. However, there is early emerging data that some systems around the world identify deteriorating patients quicker than others. We believe that we can improve patient care by standardising the scoring system throughout hospitals across Scotland.

What can a Paediatric Early Warning Score do?

The score on its own does nothing. However, if used by staff to initiate escalation this can lead to the earlier recognition of sick or deteriorating patients and has been shown to reduce crash call rates and admissions to PICU.

PEWS charts are part of a bigger system improving situational awareness which poses three questions: what is the current situation (the child is breathless); what is our current understanding of the situation (the child is experiencing an exacerbation of asthma); what could happen in the near future (the child could deteriorate, require more oxygen and an intravenous bronchodilator). If used reliably it can alter the frequency of observations, bring expertise to the bedside and allow a plan of action to be formulated and undertaken within a certain timescale. Perhaps the most important aspect of escalation is the level of comfort and ease of communication between team members. Ultimately, it's the cultural element that enhances safety. The introduction of the National PEWS should prompt a discussion around how every team member can raise their hands if they're worried either about an objective measure or a subjective feeling. Therefore, the scoring system is never a replacement for clinical judgement. If you are concerned about a patient, for whatever reason, then ask for support even if the score is low.

How do I start using the chart?

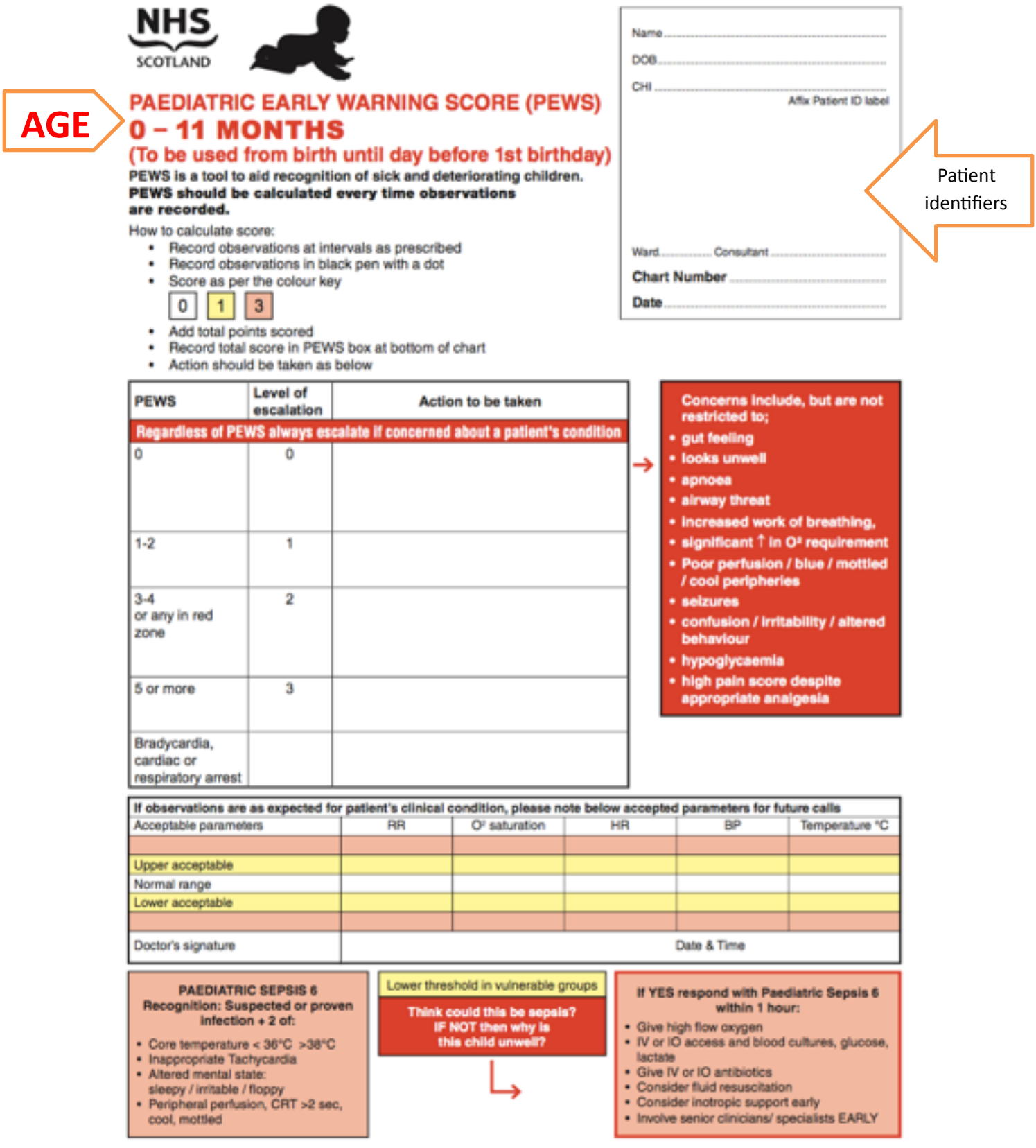
1. Choose the correct age chart

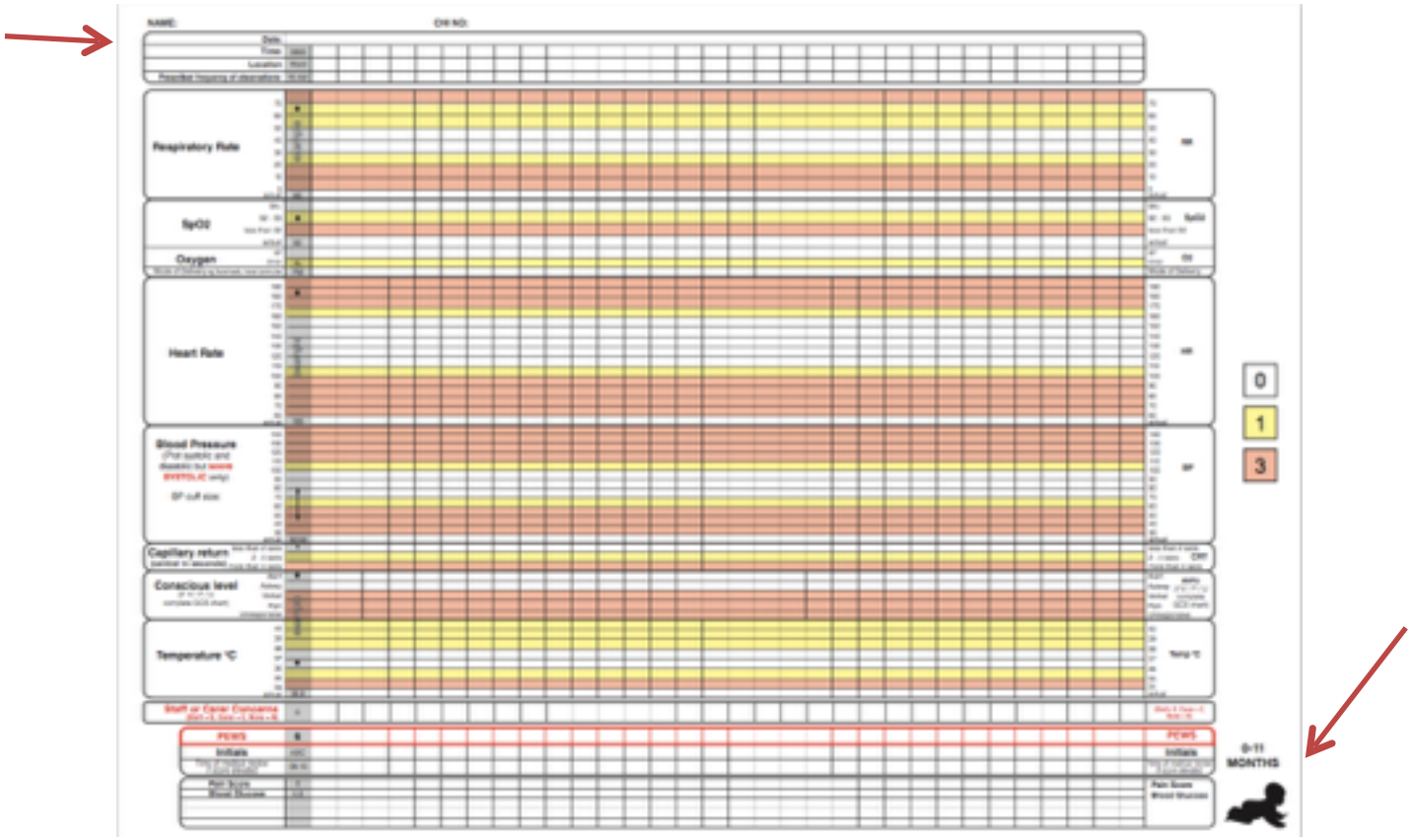
There are 5 age group charts

0-11 MONTHS 	**0 - 11 months**	**Birth to day before 1st birthday**
12-23 MONTHS 	**12 - 23 months**	**1st birthday to day before 2nd birthday**
2-4 YEARS 	**2 - 4 years**	**2nd birthday to day before 5th birthday**
5-11 YEARS 	**5 – 11 years**	**5th birthday to day before 12th birthday**
>12 YEARS 	**12 and over**	**12th birthday to day before 16th birthday**

2. Identify the patient

At the top right hand corner of the front page document the patient details





At the top of the observations page document the patient details

3. Record the patient's observations as per your local policy

4. Plot the observations

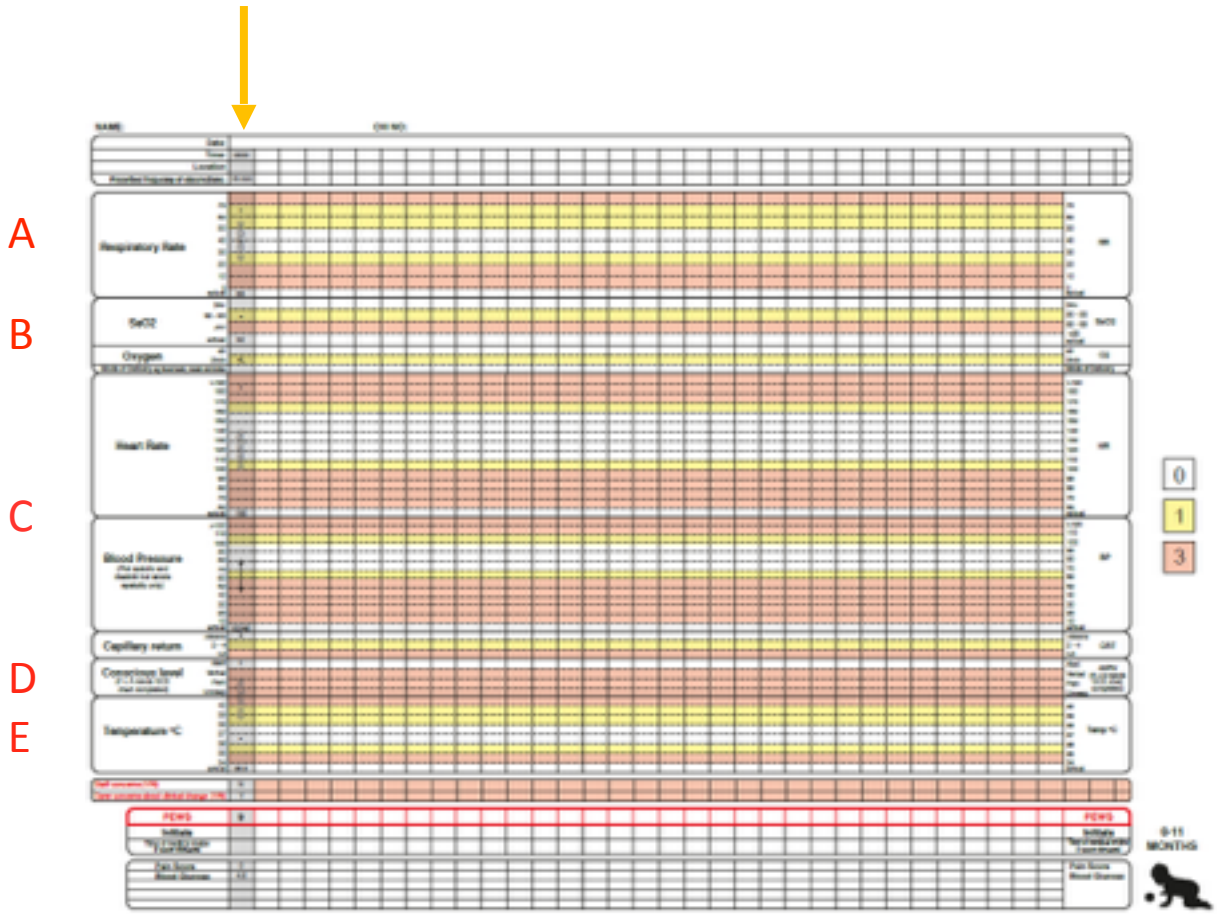
Open the chart to the observation section.

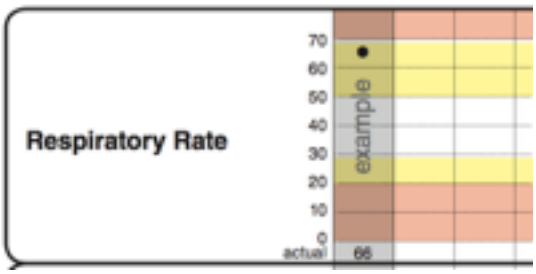
The observations are recorded in an ABCDE order: Respiratory Rate; Oxygen saturations; whether oxygen is being delivered or not; Heart Rate; Blood Pressure; Capillary return/ perfusion status; Conscious Level; Temperature.

The observations should be plotted as a dot in the corresponding box, and linked to the previous set to allow observation of trend over time. The recorded number (e.g. the recorded Heart Rate) should then be documented in the row labelled "actual" to ensure accurate recording. The blood pressure should be recorded with arrows.

If in doubt check the example column.

Example column

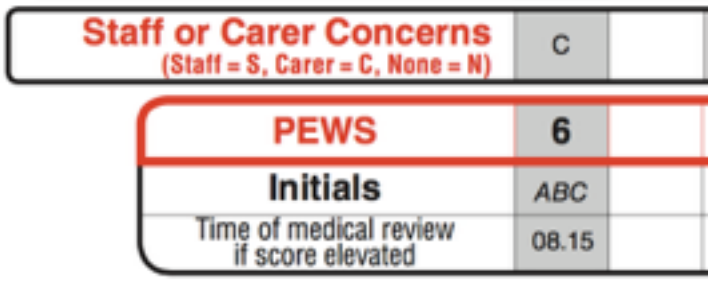




Actual respiratory rate

5. Are you concerned about your patient?

You will note below the observations sections there is a row titled “Staff or Parent Concerns”. You may be concerned about your patient, even if the PEWS score is low. The red box contains some potential causes but this is by no means an exhaustive list. If you are concerned about the patient document “S” in the concerns box, as per the example. If the parents/carers are concerned, document “C”. If you are both concerned document SC. If you document either or both then this can overrule the necessity of a certain score to escalate concerns.



Concerns include, but are not restricted to;

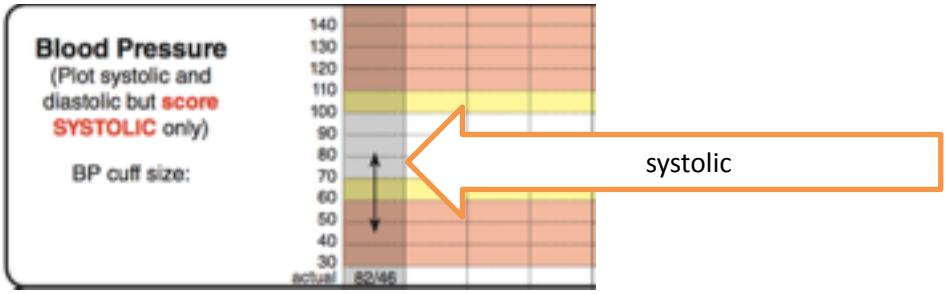
- **gut feeling**
- **looks unwell**
- **apnoea**
- **airway threat**
- **increased work of breathing,**
- **significant ↑ in O^2 requirement**
- **Poor perfusion / blue / mottled / cool peripheries**
- **seizures**
- **confusion / irritability / altered behaviour**
- **hypoglycaemia**
- **high pain score despite appropriate analgesia**

6. Score the chart

For every observation in a white box: score 0. For every observation in a yellow box: add 1 point. For every observation in a red box: add 3 points.

0	1	3

Note: the SYSTOLIC blood pressure should be scored NOT diastolic



Add the scores together to make a total score and document in the total PEWS box.

PEWS	6	
Initials	*ABC*	
Time of medical review if score elevated	08.15	

- Initial the observations and score

- If escalated document time of review

- Prescribe the frequency of observations and document

NAME:

Date:			
Time:	0800		
Location	Ward		
Prescribed frequency of observations:	15 min		

Note: Staff/carer concerns do not have a score attached to them. If you are concerned you should escalate appropriately even if the PEWS score is low.

7. Escalation:

Escalate as described in the escalation grid on the front page which should be in accordance with your local policy. Some boards adapt this section to detail who should be asked to respond to either a level 1, 2 or 3

PEWS	Level of escalation	Action to be taken
Regardless of PEWS always escalate if concerned about a patient's condition		
0	0	Do not decrease frequency until at least 3 consecutive scores of 0. Children can score 0 even when sick. Escalate to Level 2 response if concerned despite a low score.
1-2	1	Treat as prescribed. Repeat observations in 60 mins. Escalate to level 2 if not responding.
3-4 or any in red zone	2	Review within 15 mins. Treat as prescribed. Repeat Observations in 30 mins or continous monitoring. If not responding level 3 escalation.
5 or more	3	Level 3 review immediately. Consider 2222 if unable to review immediately.
Bradycardia, cardiac or respiratory arrest		Call 2222. Paediatric Emergency

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8. Individualised PEWS

Some chronic patients may have observations which you recognise sit out with the reference ranges quoted on the chart for the child's age when they are well. If so, you may have had the opportunity to create an individualised PEWS for them and there is space to document this on the front page.

If observations are as expected for patient's clinical condition, please note below accepted parameters for future calls					
Acceptable parameters	RR	O^2 saturation	HR	BP	Temperature °C
Upper acceptable					
Normal range					
Lower acceptable					
Doctor's signature	Date & Time				

9: Settling up the chart:

The chart should be printed out as an A3 document and then folded over (see dashed red line and arrow) leaving room on the left hand side for holes to be punched. This allows the chart to be opened out once filed.