Instructions for completion of Wessex PIC Network audit of the use of high flow nasal prong oxygen therapy (HFNP) 2013-2014

We are keen that local units really benefit from participating in the audit and are able to use their locally generated data to examine the care they provide and identify areas for possible improvement. With the recent launch of the RCPCH Quality Improvement & Patient Safety Education programme this provides an ideal opportunity for you to develop small scale change in your units. With this in mind we would like to invite you all and any interested middle grade doctors to a question and answer session regarding the audit and a brief introduction to Quality Improvement, particularly around how you might use your local data as well as improvement tools. This session will be on Tuesday 22nd October at 17.00 at University Hospital Southampton.

AIMS

- To quantify and qualify the use of HFNP in the paediatric population in Wessex
- To describe the use of HFNP by:
  - Hospital
  - Location within hospital (HDU/general ward)
  - Type of system used (Vapotherm/Optiflow)
  - Age group (including prevalence of prematurity, hence request for CGA if premature)
  - Indication (Diagnosis)
- To describe the physiology (respiratory rate, heart rate saturations/FiO_2 and pH [if measured]):
  - Prompting the initiation of HFNP and any deterioration that might occur while it is being set up
  - AND the changes associated with the initiation of HFNP (improvement, stasis or deterioration) by re-assessing the same parameters 2 hours later
- To quantify the 'qualitative' assessment of the 'work of breathing' (WOB) that often guides interventions such as HFNP/CPAP, using a validated WOB score at the same time points
- To record clinically relevant outcomes:
  - Weaning to room air or standard flow oxygen therapy
  - Escalation to CPAP
  - Escalation to intubation and ventilation
  - The requirement for sedation to facilitate HFNP
  - Any complications (recorded under the free text 'unexpected outcome' section of the form (this would include pneumothorax, pressure sores, mucosal injury etc.)

THIS IS A CONFIDENTIAL AUDIT AND NO PATIENT IDENTIFIABLE DATA WILL BE RECORDED

METHODS

- A paediatric registrar/consultant will be identified in each of the 11 hospitals in the Wessex PIC Network to act as local leads for this audit
- Data collection will commence on October 21st 2013 and continue for 6 months
- The aim is to record demographic, physiological, HFNP specific and outcome/complication data on ALL children receiving HFNP within the region during the audit period
- Each hospital will be designated an alphabetic code
- Each consecutive child will be designated a number
- Each child will therefore have a unique alphanumeric identifier (A1, C5 etc.)
- Data should initially be entered onto the audit form for each child placed on HFNP
- An initial print run will be sent to the designated local audit lead in each hospital
- Audit forms will be available as PDF's on the education page of the SORT website:
  - http://www.sort.nhs.uk/Education/Education.aspx
- This data should then be entered onto the HFNP audit Excel Database (available at the same web address), saved and emailed to lmilne@doctors.org.uk on a WEEKLY basis

IF THERE ARE ANY QUERIES PLEASE CONTACT EITHER:

- LOUISE MILNE lmilne@doctors.org.uk
- JOHN PAPPACHAN jvp@soton.ac.uk

Additional instructions for data collection

SPECIFIC ISSUES ABOUT THE DATA ENTRY FORM

1. **PHYSIOLOGY AT *INITIATION* OF HFNP**

- Please could everybody add the ***date and time*** of when the decision to start HFNP oxygen therapy is made next to 'PHYSIOLOGY AT DECISION TO INITIATE HFNP'.

- A box for this will be included in further versions of the audit form and *is to take into account the fact that it may take some time to set up the equipment and move the child to an appropriate location*

2. **PHYSIOLOGY SCORING**

- The flow rate at decision to start HFNP oxygen will ***be '0' if in air or the flow rate of oxygen***, if on additional therapy.

3. **WORK OF BREATHING SCORE**

- The oxygen saturations are ***independent*** of how much, if any additional oxygen therapy is being provided at the time. Therefore saturations of 89% in air score the same as saturations of 89% in 15L oxygen. This scoring system has been validated previously in literature and is a score of respiratory effort.

- The feeding score relates to oral feeds only. ***NGT feeding counts as a score of 3***.

ADDITIONAL NOTE ABOUT CHILDREN INITIALLY COMMENCED ON CPAP

1. In order to work out why/when there is a decision to use CPAP in some children instead of HFNP oxygen, and to compare the number of times CPAP is used in comparison to the number of times HFNP oxygen is used, it would be helpful to record all the CPAP cases on the same audit form.

2. If a child moves from CPAP to HFNP oxygen therapy then this can be recorded in the unexpected outcome space.

EXCLUDED CHILDREN

- We have now decided (especially in view of collecting CPAP data too) ***not to include purely NICU patients*** (newborns who have not ever left a newborn facility/hospital eg premature, RDS).

- This is because the underlying pathology is different in this patient population. In some places CPAP and HFNP oxygen can only be used on 'paediatric' patients in the NICU environment - we still want the data collected from these patients - there is a box on the form to indicate where the child received the support.

- We also do not want to include any children who receive CPAP or other non-invasive ventilation normally at home as part of a long term ventilation plan.

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