



2nd Edition September 2020 Newsletter

It was a success: PPLOG study day on 13th March 2020



When the PPLOG team hosted their 7th study day on the 13th March 2020 no one predicted that it might be the last face to face event this year due to the COVID-19 pandemic.

All safety measures were taken to ensure all delegates and faculty members were safe. The study day was held at the Holiday Inn, Brentwood and attended by delegates from as far as Manchester, Birmingham, London and Essex. The keynote speaker was our very own Nursing Times 2019 Child health Winner - Joanna Broderick sharing her weaning guidance developed and used in Exeter.

There were workshops on how the PPLOG document could be used, firstly BOC oxygen company explained and demonstrated some of the oxygen equipment. This fitted very well with the PPLOG Discharge checklist/Home oxygen competencies.

Secondly, a presentation about Perinatal Mental Health: The impact of parental mental health when having a child on home oxygen and a video interview about parental experience. This highlighted the importance of using the PPLOG discharge bundle as a way to reduce parental anxiety during a very difficult time for the family.

The study continued with an insight about Paediatric home oxygen commissioning and the challenges in getting services to do annual reviews and getting oxygen equipment removed once no longer in use. The day was finalised by Debbie Roots (PPLOG member and Adult Consultant Nurse) focusing on transition from children to adult respiratory services. Debbie explained the role of the Adult home oxygen review and assessment teams and working together would reduce a lot of confusion and stress to both staff and families.

Unfortunately, due to the social distance and other facts in relation to COVID-19 we will not be able to run any more face to face study days this year. However, there are plans for some webinars to share and learn elements of the PPLOG discharge bundle. **We will keep you posted.**



PPLOG members

Rebecca Smith (Chair), Abigail Beddow (Secretary), Tendai Nzirawa (Treasurer), Caroline Lock (Air Liquide), Alison Camden, Sook Lin Yap, Nichola Starkowitz, Ceara Turner, Samantha Ahern, Tamsyn Hernandez, Billie Coverley, Debbie Roots, Joanna Broderick, Tyree Rawsthorne, Claire Wade and Georgina Green.

What is PPLOG working on?

The main objective for PPLOG is about reducing variation by developing best practice guidance and pathways. In 2019, we created four subgroups to work on the following areas:

- Home oxygen weaning guidance
- Oxygen school bundle guidance
- Transition from Children Community Nursing Teams to Adult home oxygen services
- Review the PPLOG discharge bundle November/December 2020

The subgroups are working hard and collaborative with key professionals and organisations that might have started some work in these areas. If you have any evidence based information in relation to these four areas that you would like to share, please feel free to email tendai.nzirawa@nhs.net

Over the years there has been challenges within paediatric home oxygen services. Sadly, the pandemic has highlighted that this issue is much bigger than we thought.

In London, there are over 800 children with oxygen equipment in their properties with no clinical oversight. A further, 185 children that have ambulatory oxygen with no refills for over 12 months.

Part of the LCON COVID-19 response programme meetings have been happening jointly with PPLOG to find solutions to address this issue. The recent meeting was attended as well by London Respiratory Network (Mamta Vaidya) and Ian Balfour-Lynn to discuss next steps as a network.

As a network we recommend you start working to identify if you have any children with oxygen equipment not in use, review and remove as it still cost the NHS and can potentially be a fire safety risk to the family & neighbours.

UPDATE on the National survey: Long term oxygen therapy (LTOT) in neonates with chronic lung disease of prematurity



The team from Southampton and Royal United Hospital, Bath, led by Dr Hazel Evans and working closely with Dr Alison Garde (ST4 Paediatrics)

On our 1st PPLOG newsletter we shared that Dr Hazel Evans and team had completed a survey aimed to identify key areas for future research based on the initiation and weaning of home oxygen for BPD in neonatal community. The survey results can be seen on the poster on your left. The team have submitted the work for publication and will share once there is a link.

National survey: Long term oxygen therapy (LTOT) in neonates with chronic lung disease of prematurity

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¹Royal United Hospital, Bath; ²NHS England & NHS Improvement - East of England; ³Southampton Children's Hospital

Background

- Limited evidence base: BTS guidance >10 years old and mainly based on consensus
- Variable thresholds for LTOT
- Variable pace of weaning leads to variable duration of LTOT
- Significant treatment burden to patients and families. Significant cost to NHS.

Responses

44 responses:

- Level 3 neonatal units: 13
- Level 2 neonatal units: 16
- Level 1 neonatal units: 6
- Community neonatal teams: 3
- Unspecified: 6

Results

Guidance used

- 2009 BTS guidance 45%
- Regional guideline 11%
- Local guideline 32%
- No guideline 14%

Professionals involved

- Initiating and weaning LTOT mostly led by Neonatologists (66% of units)
- Respiratory Paediatricians involved in 18% of units.
- Specialist nurses also key professionals - involved in 26% of centres.

Determining oxygen requirement

What type of oximetry monitoring is used to determine the need for LTOT?

Most units (61%) reported using overnight continuous oximetry traces to determine oxygen dependency.

Which oximetry criteria are used to determine the need for LTOT?

Wide variation in criteria. Mean SpO₂ most commonly used criterion. Even here, threshold value varied depending on centre: mode 92% (range 92-97%).

Next most used criterion was % time SpO₂ <90% - most centres used 5% as threshold (range 4-20%).

Methods

- 10 question SurveyMonkey survey
- Distributed via neonatal networks, and BAPM and BPRS newsletters
- Respondents were asked to specify the centre they worked at, 43 out of 49 did so.
- Where more than one response was identified from the same centre, the most complete response was used.
- 49 responses were received in total. 5 duplicate responses were removed.

Importance

Please rate how important you feel this topic is (1 = very important, to 5 = not important at all).

29 respondents rated the importance of the survey topic - 24 rated it as very important

Weaning home oxygen

Which oximetry criteria are used to decide potential for weaning of LTOT?

Highly similar criteria reported as used to initiate and wean LTOT - therefore here too we see wide variation.

Post-discharge, how frequently would you review oxygen saturations with a view to weaning LTOT?

Frequency of review varied from monthly to multiple times per week. Oxygen flow was weaned in increments of anything from 1L/min to 0.0 L/min depending on the centre. Likely to lead to highly variable duration of wean, with no clear clinical justification and significant treatment burden and cost.

References

BTS guidelines for home oxygen in children Balfour-Lynn IM, Field DJ, Gungor S, et al. *Thorax* 2009;64:Suppl 1:1-26

Home Oxygen Therapy for Children. An Official American Thoracic Society Clinical Practice Guideline. Hayes D Jr, Wilson KC, Kivchenka K, et al. *Am J Respir Crit Care Med*. 2019 Feb 1;199(3):e5-e23

Acknowledgements

Thanks to all who circulated this survey, particularly the Paediatric Pan-London Oxygen Group, the British Association of Perinatal Medicine, the British Paediatric Respiratory Society and the regional neonatal networks of England and Wales.

Conclusions

- Heterogeneity in key areas of practice across the country.
- Likely related to lack of an evidence base and limited understanding of key factors affecting data output e.g. oximeter averaging times.
- Clear need for research to determine optimal oximetry thresholds for initiation and weaning of LTOT using modern oximeters.
- Research outcomes should be widely disseminated alongside oximetry education programmes.

ABSTRACT - 6th King's John Price Paediatric Respiratory Conference 2020

<p>TITLE: A feasibility study providing preliminary data on oxygen saturations and cardiorespiratory parameters in moderate/late preterm infants, to define reference ranges for oximetry parameters</p>
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<p>Introduction Preterm babies with bronchopulmonary dysplasia (BPD) are the single largest group of children discharged in oxygen. There are currently no reference ranges for pulse oximetry parameters in moderate-late preterm infants. This is a key time at which decisions are made around prescribing oxygen for babies with BPD.</p> <p>Aims To determine via a feasibility study the practicality of undertaking a larger study to establish reference ranges for oximetry parameters in moderate-late preterm infants. To collect preliminary data on oxygen saturation parameters, how these change over the first few weeks of life and the aetiology of desaturations.</p> <p>Methods Babies born between 32-37 weeks gestation with no known cardiorespiratory conditions or on respiratory support were recruited from the Neonatal Intensive Care Unit at Southampton. Babies underwent nocturnal pulse oximetry (NPO) weekly until term alongside a cardiorespiratory polygraphy (CRP) at study entry, 36 weeks and 40 weeks gestation. Oxygen saturation parameters and change over time were recorded alongside apnoea hypopnoea indices as determined by CRP. An acceptable study required a minimum of 4 hours artefact free recording time (AFRT).</p> <p>Results 8 healthy preterm babies (33-37 weeks gestation) were recruited, between 1 to 10 days postnatal age. 4% The median ODI4 was 39.5 at 34 weeks, 24.9 at 35 weeks, 42.94 at 36</p>

<p>weeks, 66.6 at 37 weeks, 83.8 at 38 weeks and 57.4 at 39 weeks. Similar patterns were observed when data was evaluated in terms of postnatal age. Oxygen desaturation indices (ODI4) increased between the first and second oximetry traces in 5 babies, ODI4 decreased in 2 babies and one baby withdrew before second ODI4 measurement. Data on CRP was limited by inadequate AFRT due to babies commencing phototherapy or families disliking the equipment. Of 8 complete studies the majority of events were central in nature.</p> <p>Discussion This feasibility study demonstrated that with some adjustments to protocol, a larger definitive study defining saturation profiles in this age group is possible. Preliminary data demonstrating a rise in ODI between the first and second reading was unexpected and may reflect the impact of postnatal rather than gestational age. We hypothesise that it is related to increased metabolic demands after the first week of life with resultant increase in oxygen demands; hence a greater impact of short central apnoeas on oxygenation. This requires further evaluation in a larger cohort study.</p>

Sleep pulse Oximetry Study Half Day:

Friday 16th October 2020

Southampton and Royal United Hospital, Bath are running a study half day

<https://www.piernetwork.org/oximetry.html>



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If you are involved in managing, setting up or running RSV services ?

(Respiratory Syncytial Virus) then join the RSV UK Network on Facebook. It's a private forum started to share and learn best practices.

The platform is an opportunity to discuss any challenges and finding solutions.

Search RSV UK Network to join.

To be added onto the mailing list please email

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