Methods We prospectively measured compliance with the guideline in a randomly selected subset. After doing the first cycle, we presented the results locally along with regular education of PICU medical and nursing staff. We compared the total number of blood tests requested and their costs per patient-day in three days-blocks pre-intervention (October 2019) and post-intervention (January 2020).

Results Prospective audit data showed compliance with the guideline in 8 of 24 (33.3%) patient-days studied. The total number of tests increased from 179 to 191 (% increase) in the post-intervention period. Patient-days had increased from 24 to 39 (% increase) in the corresponding period.

The proportion of patients needing level 3 and 4 care was higher in the post-intervention period (48.7% vs. 41.6%). The average number of blood tests requested per patient-day decreased from 7.45 to 4.89 post-intervention, a 34.3% reduction. The average cost per patient-day decreased from £36.6 to £24 post-intervention, a 34.4% cost saving. The savings over 12 months would be £51,458.4 based on 4084 patient-days in 2019. There were no adverse events reported due to lack of blood results

Conclusions Blood testing rates can be safely reduced in critically ill children.

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USING GONAD SHIELDS IN PAEDIATRIC X-RAYS

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Background The problem of inaccurate placement of gonad shields in children has been highlighted by several publications nationally and internationally.³

A written departmental protocol for the correct use of gonad protection, with regular audit, will:

- Avoid confusion over when and where gonad protection is required
- Help new staff and locum staff to adapt readily and easily to local policy
- Reduce gonad dose without significant loss of radiographic information

Objectives

- The aim of the study is to make sure that children's gonads are protected from the unnecessary harmful radiations caused by x-rays that can affect them in the long term
- Gonad protection should be used according to the local policy in all cases.^{1 2} (The guidelines of the paediatric radiology department at BRI)
- Initial Hip/Pelvic x-ray doesn't require gonad shield to avoid obscuring the sacrum in females or symphysis pubis in males.
- Gonad shield should be used and positioned accurately in all subsequent images.

Methods

- PACS system was used to search for 2 views Hip/Pelvic X-ray in patients <16 years old at BRI hospital.
- Retrospective study (Audit: September 2017 – April 2018)

(Re-audit April 2017 – August 2018)

- Each image was assessed to determine the presence or absence of gonad protection and whether the protection was placed correctly or not.

Results

- The results were discussed at the radiological clinical governance meeting.
- The superintendent radiographer has sent a reminder e-mail to all the radiographers discussing the importance of not only using the gonad shield but also placing it correctly.
- Reminder posters to use the gonad shield were put in every x-ray room.
- A course has been conducted for the new radiographers by a senior radiographer about when and how to use the gonad shield.
- The local guidelines have been reviewed and simplified to make it easier to follow.
- Gonad shields have been used in the correct position in 60% of patients after implementing the changes compared to 33% only in the first cycle.

Conclusions It was noticed that the percentage of the well-positioned shields has improved dramatically from 33% to 60% after implementing the previous changes.

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USING EXTUBATION CHECKLIST IN NICU TO IMPROVE THE SUCCESSFUL EXTUBATION RATE

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Background Mechanical ventilation is a cornerstone of managing respiratory failure in preterm infants. Whilst its role to improve the survival rate has been proven, it can also result in unintended harm.^{1 2}

It can increase the risk of developing bronchopulmonary dysplasia, sepsis, neurological injury, and retinopathy of prematurity. Because of that, clinicians aim to extubate preterm infants as early as possible.^{3 4}

Given that approximately two-thirds of infants born before 29 weeks' gestation require intubation, an extubation checklist was implemented at the neonatal intensive care unit at Leeds General Infirmary hospital and St James hospital trying to improve the successful extubation rate.

Objectives To identify if using the extubation checklist has helped to reduce the rate of unsuccessful extubation in pre-term infants in neonatal units at Leeds general infirmary hospital and St James hospital.

Methods

- A retrospective cohort study of extremely preterm infants (<27 weeks gestational age) or ELBW infants (birth weight <1000 g) requiring mechanical ventilation during the period 01/01 – 30/06 in 2013 and 2018 (pre and post-implementation of the extubation list).
- Successful extubation is defined as not requiring reintubation for 72 hours post-extubation.
- Badger system was used to search for all patients who were admitted to LGI & St James neonatal units during the 2 periods of 01/01/2013 – 30/06/2013 and 01/01/2018 – 30/06/2018.
- Notes for the identified patients were requested from the archive.
- Dates of extubation and re-intubation attempts were obtained from the notes

Inclusive criteria