

however outcomes are rarely published. More evidence is required before significant conclusions can be drawn about the utility or safety profile of RDV in neonates.

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### AN AUDIT OF STANDARDISED (NEON) PN USE IN A TERTIARY NICU

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The most vulnerable patients on NICU are our extreme pre-term babies who require various mechanisms of support during the beginnings of their lives. One method of support is the provision of parenteral nutrition (PN) to these patients.<sup>1</sup> NICE recommends the use of standardised PN for neonates,<sup>2</sup> the PN of choice at this Trust is NEON, which was introduced in May 2018. Local guidelines have specific indications for PN, and the management of electrolyte and glucose disturbances.<sup>3</sup> Our NHS Foundation Trust is a tertiary NICU with a specialism in neonates requiring surgical management of gastrointestinal issues and uses both standardised and bespoke PN. The aim of the audit was to discover if the patients in NICU were receiving NEON PN at the right time, and if any changes to the provision of PN followed the recommendations of local guidelines. This included assessment of; the indication for PN, the timeliness of prescription and administration of PN, the suitability of electrolyte and glucose corrections, and the correct documentation of any discontinuation of standard PN. Data was collected prospectively on working days over 3 weeks in August 2019 on NICU ITU and HDU using a pro-forma that collected key demographic data, including gestational age at birth and starting PN, time of birth, along with indication for PN, and the date and time of PN prescribed and administered. Patients were followed up daily during the data collection period by the NICU pharmacist with changes documented on the pro-forma. Any patients admitted outside of pharmacy working hours (Monday to Friday 0900–1700) were followed up retrospectively by the NICU pharmacist. During the data collection period, 21 patients were admitted onto NICU and 11 patients were identified as suitable for starting NEON PN. All 11 patients received NEON for the correct indications. Only 2 of 5 patients less than 31+0 gestational age received PN on time. All 11 of patients requiring NEON for other indications received it on time. 1 of 3 patients who required electrolyte or glucose changes to NEON were corrected as per guidelines. All 11 patients who switched to bespoke PN or stopped PN had the reasons documented in the notes. The results of this clinical audit showed that whilst all patients were initiated on NEON PN for the

correct indications, not all of them received it on time, particularly patients who were less than 31+0 gestational age; local guidelines specify that these patients should have PN initiated within 6 hours of life. Patients with electrolyte or glucose issues were also changed to bespoke PN without following local guidelines. Reasons suggested by the clinical team once the results were fed back included a shortage of staff during the night-time delaying the insertion of appropriate peripheral or central venous catheters, and lack of experienced staff overnight with confidence to administer peripheral PN. Patients who were changed to bespoke PN were done so by consultants who were not well versed in using NEON and insisted on the change.

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### EVALUATING COMPLIANCE TO THIOPURINE MONITORING GUIDELINES IN PAEDIATRIC INFLAMMATORY BOWEL DISEASE

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**Aim** Paediatric inflammatory bowel disease (IBD) accounts for 7–22% of IBD cases globally and there is evidence to suggest that the incidence is rising.<sup>1</sup> The aims of therapy in paediatric IBD are to relieve symptoms, optimize growth, improve quality of life while minimizing drug toxicity and reducing the risk of complications without surgery. Treatment involves two main steps, inducing remission and maintaining remission. Thiopurines are effective at maintaining remission in IBD but have serious adverse effects, such as myelosuppression and hepatotoxicity,<sup>2</sup> therefore, patients on thiopurines must have regular monitoring to ensure safe prescribing. Several national and international guidelines have been created recommending monitoring parameters for patients on thiopurines. At our trust we follow the British Society of Paediatric Gastroenterology, Hepatology and Nutrition (BSPGHAN) guidelines.<sup>3</sup> The primary aim of this study was to evaluate compliance to the BSPGHAN guidelines for initiating and monitoring paediatric IBD patients on thiopurines at a tertiary paediatric gastroenterology unit.

**Method** Paediatric patients on thiopurines were identified using the pharmacy dispensing system. Subsequently, patient electronic records were accessed to collect demographics and data comparing compliance to the BSPGHAN guideline. The BSPGHAN guidelines state that patients should have a thiopurine methyl transferase screen, FBC, LFT and documented counselling before initiating thiopurines, with subsequent FBC, LFT and metabolite monitoring at specific frequencies while on maintenance therapy. Data analysis was performed in two ways. Firstly, overall guideline compliance was assessed by examining compliance with each guideline criterion. Secondly, percentage compliance scores were generated for each patient to assess the variation in guideline compliance between

patients. The Mann-Whitney U test compared percentage compliance scores between the sexes and thiopurine used while the Kruskal-Wallis test compared percentage compliance scores between IBD phenotypes.

**Results** Compliance to all guideline criteria were less than 100%. Percentage compliance scores ranged from 44.4% to 100%, with a median of 88.9% and interquartile range of 77.8% to 100%. Compliance was generally higher for the monitoring undertaken at initiation of treatment, with the lowest level of compliance score of 61% seen for the monitoring requirements at the 12-week interval post initiation of treatment. Only 56 patients (37.3%) had a percentage compliance score of 100%. Statistical difference was not observed in percentage compliance scores between sex, thiopurine used and IBD phenotype.

**Conclusion** Suboptimal guideline compliance was noted at the trust, suggesting improvements need to be made to comply with recommended monitoring requirements for thiopurines. The results suggest consideration of using a more simplified regimen for routine monitoring should be considered, such as that recommended by the British National Formulary (BNF). The variation in percentage compliance scores between patients warrants further investigation to identify possible causes for this variation.

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## CURRENT SEDATION PRACTICE IN A PAEDIATRIC INTENSIVE CARE UNIT IN A UK HOSPITAL

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**Aim** Sedation is a crucial part of management of patients on paediatric intensive care unit (PICU). The majority of patients admitted to PICU receive sedative agents.<sup>1</sup> For example, we estimated that approximately 50% of PICU patients at our trust are sedated at any given time. Heterogeneity in sedation practice can lead to under- or over-sedation of patients and subsequent complications, e.g. increased PICU stay.<sup>2</sup> Because of the limited research on sedative agents' pharmacokinetics and the considerable variability in sedation prescribing practice,<sup>3</sup> regular evaluation and review of sedation prescribing practice on PICU is crucial. Thus, the aim of this study was to review the current sedation practice in PICU in a large UK children's hospital.

**Methods** A prospective study of patients in a PICU was conducted over a 4-week period. All patients aged ≤18 years admitted to PICU started on continuous IV or enteral sedation were included. Patients on patient-controlled analgesia, started on sedatives at a different hospital, and were transferred still on sedatives or that passed away were excluded. Patient

characteristics and any data relevant to the sedative agents prescribed were recorded. Descriptive analysis of the collected data was performed using SPSS software (version 27). Data was presented as frequencies, percentages, median (with interquartile range, IQR) and means (±standard deviation) as appropriate. Nurse Interpreted Score for Sedation (NISS) was used to interpret the level of sedation for each patient. A NISS score of 1 is considered under-sedation, 2 is adequate sedation, and 3 is over-sedation.<sup>4</sup>

**Results** In total, 19 patients were included. The most common sedatives prescribed were morphine and midazolam (94.7%, 18/19, each). The median length of PICU stay was 4 days (IQR 3 – 8). Majority of patients on sedatives received 2 to 3 agents (93.2%, 12/19). Trauma patients were on sedation for the longest period with a mean of 25±9 days. All of the sedative doses prescribed were within the recommended ranges by the hospital and national guidelines,<sup>2, 3</sup> and the cumulative doses were lower than the dosage threshold established for side effects.<sup>3</sup> Morphine (7/19), fentanyl (5/19) and enteral clonidine (4/19) were the most common drugs continued over 72 hours. The median NISS score for patients was 2 (IQR 1.3–2.4).

**Conclusions** Most of the sedation prescribed in the PICU appear to be within safe ranges and the cumulative doses were under safe thresholds documented in the literature. The main sedation agents used in PICU at the participated hospital are morphine and midazolam. Although the study shows that patients were 'adequately sedated', the current NISS scoring system used is not reliable alone<sup>4</sup> and therefore, the implementation of a more accurate scoring such as Comfort-B is recommended for more reliable interpretations and better control of sedation.

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## ARE 2020 ECCO-ESPGHAN GUIDELINES PRACTICED IN THE CARE OF CHILDREN WITH CROHN'S DISEASE?

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**Aim** Crohn's disease (CD) is characterised by severe inflammation in the gastrointestinal tract. At diagnosis, risk stratification is recommended for children to predict a more severe disease progression, influencing management. The 2020 European Crohn's and Colitis Organisation and the Paediatric IBD Porto group of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ECCO-ESPGHAN) guidelines recommend that low-risk children should be