AN AUDIT OF ESTABLISHMENT OF FEEDS IN PRETERM NEONATES AT SGH NNU

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Aims
• To assess whether full feeds (150ml/kg/day) were established within the recommended targets set by the St George’s Hospital Neonatal Unit (SGH NNU), in infants less than 34 weeks.
• To explore the reasons why neonates were not progressing in their feeds.
• To explore the link between establishing feeds during the first 5 days of life and necrotising enterocolitis (NEC).

Methods
This study examined the data of 51 premature babies born at SGH between April 2020 and February 2021. Babies were excluded if they passed away or were transferred to another hospital before full feeds were established, leaving a sample size of 35. Using Badger data (an online database with detailed notes on neonates) as well as the SGH clinical notes accessed using PowerChart on iClip. The following parameters were recorded on a spreadsheet for each baby:
• Weeks of gestation (ranged from 23 weeks – 27 weeks in the sample)
• Day they started milk and whether this was day 1
• Type of milk started
• Aspirates or any other issues with progression of feeds
• Day of life when full feeds were established
• Type of milk full feeds were established on
• Day parenteral nutrition was stopped
• Whether invasive ventilation was administered to the baby
• Whether morphine was administered to the baby
• Suspected or confirmed necrotising enterocolitis (NEC)

Data collected was stored on an encrypted USB and deleted following the study to comply with Data Protection regulations.

Results
Only a small proportion (11.4%) of neonates met the feeding guidelines at SGH NICU of establishing 150ml/kg/day before 8 days of life. However, over half of neonates achieved this target within 16 days. The SGH NICU guidelines also state that neonates should be started on milk from day 1 of life. Less than half (49%) of neonates were started on milk on day 1 of life. The main reason for neonates not progressing with their feeds was abdominal distension – a potential sign of NEC, followed by infection and bilious aspirates. However, of all 35 neonates only 1 neonate (3% of the sample size) presented with NEC hence whilst there may have been clinical suspicion of the condition in 8 other babies, it was later ruled out by imaging. One positive aspect of the results is that all babies were started on human milk, and the majority (21 out of 35) were started on maternally expressed breast milk.

Conclusion
This audit has shown that most infants under 34 weeks on SGH NICU are not meeting the guidelines for establishing full feeds and in commencing feeds on day 1 of life. This is due to a variety of reasons in particular suspected NEC, infection and bilious aspirates. These factors could be incorporated into early warning scores to allow more consistent decision making when stopping feeds. Most neonates were started on maternal expressed breast milk which should continue to be encouraged. The results of this study have been presented to the NICU team and will be used as baseline data for quality improvement initiatives around greater adherence to the feeding guideline.