

Title: A New Lipid Guideline for Optimized Neonatal Nutrition Care

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Abstract:

- Objectives (purpose): In 2024, a new practice guideline for the use and monitoring of intravenous lipid emulsions (IVLE) in the neonatal intensive care unit at Atrium Health Levine Children's Hospital (AHLCH) was developed. This review sought to evaluate the implications of the new guideline by comparing the type of IVLE utilized, triglyceride monitoring, and dosing adjustments.
- Design: The impact of the guideline is measured with a retrospective, observational study.
- Methods and Instruments: Patients receiving IVLE from May 1<sup>st</sup> until July 31<sup>st</sup> of 2023 was compared to the same timeframe during 2024. This data represents patients pre and post guideline implementation.
- Results: In 2024 cohort, there were 195 patients and 1749 days of lipids of which 61% of use was Intralipid®, 35% SMOFlipid® and 4% Omegaven®. In the 2023 cohort there were 162 patients and 1348 days of lipids of which 30% of use was Intralipid®, 66% SMOFlipid® and 4% Omegaven®. In 2024, the number of times triglycerides levels were checked increased from 193 to 247, however, the occurrence of instances where practice would have dictated a reduction in lipid dosing based off triglyceride level decreased from 48 to 31.
- Conclusion: The new AHLCH NICU lipid guideline led to increased utilization of Intralipid® fat emulsion compared to SMOFlipid®. The guideline also increased triglyceride lab monitoring and may have decreased the number of IVLE dosing reductions and pauses. Further research is needed, and facility specific questions are beneficial for proper lab monitoring, type of lipid emulsion used, and decision of data tracking points.

No potential conflict of interest was reported by the authors.