

New Evidence Validates Infant Feeding Connector Concerns

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The National Coalition for Infant Health is a collaborative of more than 180 professional, clinical, community health, and family support organizations focused on improving the lives of premature infants through age two and their families. NCFIH's mission is to promote lifelong clinical, health, education, and supportive services needed by premature infants and their families. NCFIH prioritizes safety of this vulnerable population and access to approved therapies.

Tubes deliver food, medicine, and blood or other liquids to tiny patients in neonatal intensive care. Mixing up the various tubes could lead to serious injury, even death. So in the mid-2000s, experts called for a new style of feeding tube connector to reduce tubing misconnections.

In response, the ENFit style connector debuted in 2014. Its “male” feeding tube connectors are only compatible with “female” syringe tubes. While the design reduces the likelihood of tubing mix-ups, it ushered in a new issue.

According to researchers, the ENFit tubing connector “significantly increases the opportunity for inaccurate dosing.” These findings support existing concerns. Some health professionals and patient advocates have raised the issue with the product itself, citing safety and workflow problems. Others are apprehensive that it is being forced into use in some places, such as California. Now, there is evidence to support the unease.

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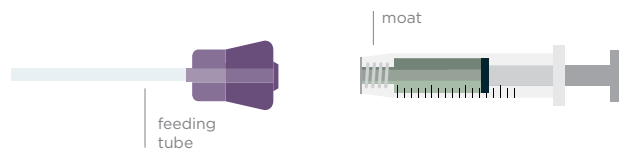
Medicine can “hide” in the area around the syringe barrel of the ENFit connector. If this “moat” is not cleared properly, too much medicine can be administered. Even a small amount of excess medicine puts these tiny infants at risk of overdose or adverse drug reactions.

The ENFit design also increases the potential for bacteria to colonize if residual breast milk or formula remains in the moat. This design could introduce infection, which could also have dire consequences.

While peer-reviewed evidence supporting dosing concerns had been lacking, that is no longer the case. After completing 576 tests, researchers at UF Health affirmed dosing inaccuracy. They



A new tubing design meant to eliminate tubing misconnections has introduced new challenges for the NICU population. Pediatric providers must deliver medication in small volumes to tiny patients with high levels of accuracy. The new tubing design, known as ENFit®, could present dosing accuracy and workflow challenges.



DOSING ACCURACY

- The moat, or area around the syringe barrel, is difficult to clear. Medication can hide there, inadvertently increasing the delivered dose when the syringe and feeding tube are connected; patients may receive extra medication.

INFECTION RISK

- The moat design can increase risk for infection if residual breast milk or formula remains in the moat and transfers to the feeding tube.

WORKFLOW ISSUES

- Increased nursing workflow is seen with additional steps for clearing syringe moats, cleaning tube hubs, and using multiple connectors.

Improved standards are important to protect patients from the dangers of tubing misconnections. But we must avoid mitigating existing risks by creating new ones.

Individual hospitals should consider all factors impacting their NICU patients before adopting a new tubing design.

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also commented about the usability of the ENFit connectors and adapters, stating nurses and caregivers need “extensive training” to learn “how to appropriately use” them.(1)

The research shows: Patient safety is on the line. The new findings support calls from the National Coalition for Infant Health and others to ensure hospitals and health care centers are fully informed about the ENFit dosing connectors before using them.

References:

1. O'Mara K, Gattoline SJ, Campbell CT. Female low dose tip syringes-increased complexity of use may compromise dosing accuracy in paediatric patients. *J Clin Pharm Ther.* 2019.

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National Coalition for Infant Health Values (SANE)

Safety. Premature infants are born vulnerable. Products, treatments and related public policies should prioritize these fragile infants' safety.

Access. Budget-driven health care policies should not preclude premature infants' access to preventative or necessary therapies.

Nutrition. Proper nutrition and full access to health care keep premature infants healthy after discharge from the NICU.

Equality. Prematurity and related vulnerabilities disproportionately impact minority and economically disadvantaged families. Restrictions on care and treatment should not worsen inherent disparities.

A collaborative of professional, clinical, community health, and family support organizations improving the lives of premature infants and their families through education and advocacy.



The National Coalition for Infant Health advocates for:

- **Access to an exclusive human milk diet** for premature infants
- **Increased emotional support resources** for parents and caregivers suffering from PTSD/PPD
- **Access to RSV preventive treatment** for all premature infants as indicated on the FDA label
- **Clear, science-based nutrition guidelines** for pregnant and breastfeeding mothers
- **Safe, accurate medical devices** and products designed for the special needs of NICU patients

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