



# The Gold Standard!

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It is often interesting to listen to conversations that occur between staff at the babies' bedside, especially as it pertains to infant feedings. After listening to some of those conversations it appears that there are some myths that are circulating in the NICU that we need to correct. This week's Mom Monday edition looks at one of those myths...

## **Myth #1 Mother's Own Milk and Donor Milk are equal.**

A through search of the literature and websites found the following on the AAP Section on Perinatology;

"Breast milk feeding is also the optimal form of nutrition for infants born prematurely. For the tiniest infants, breast milk can be literally lifesaving by conferring protection from both bloodstream infections and from necrotizing enterocolitis, a potentially devastating intestinal complication of prematurity.

Providing breast milk to premature infants can be challenging. Many mothers of premature infants are sick in the postpartum period from the same complications that led to their premature infants' birth. Recovery from emergent surgeries, severe blood loss, and medical conditions such as pre-eclampsia and uterine infections can make it difficult for women to initiate and/or maintain an adequate milk supply for their infants. In addition, mothers with chronic medical conditions may require medications that make their milk unsafe for their infants. For all these reasons, pasteurized, banked donor human milk can provide an important alternative to premature formulas. **The AAP states that donor milk is considered a "suitable feeding alternative for infants whose mothers are unable or unwilling to provide their own milk" (Puopolo K, 2012)**

While all of us acknowledge that when Mother's Own Milk is not available for whatever reason Donor Milk is the best alternative, it is not the same! A study published in the Journal of Human Lactation looked at some of the differences between a mother's own milk and donor milk. The study was called **Human milk oligosaccharide composition differs between donor milk and mother's own milk in the NICU**. Human milk oligosaccharides (HMO) represent the third most abundant component of human breast milk. More than a hundred structurally distinct HMO have been identified, and the HMO composition varies between mothers as well as over the course of lactation. This study aimed to compare HMO content between DM and MOM. Total HMO amount were significantly lower in DM than in MOM, The data from this study showed that infants in NICU who receive DM are likely to ingest HMO at different total amounts and relative composition from what they would receive with their MOM (Marx C, 2014).

Research has previously demonstrated that breast milk from women who give birth prematurely is different from breast milk from women who give birth to full-term babies. The examinations focused on the milk's content of macro nutrients such as protein, fat and carbohydrates - and it has been documented that milk from women who give premature birth typically has a higher content of these nutrients compared to milk from pregnant women who give birth after week 37. Thus, the milk partly compensates for the fact that the baby is not fully developed and also protects the infant by ensuring healthy colonization of beneficial bacteria in the intestine. Now, the research shows that breast milk from women who give premature birth does not only have a different composition of macro nutrients; the composition of micro nutrients (metabolites) also differs. Breast milk is the best example of customized food that we know - i.e. that the infant gets the exact nutrition that it needs.

## **So to make a long article short for this newsletter, Mother's Own Milk is the Gold Standard!**

References:

Marx C, B. R. (2014, Feb). Human milk oligosaccharide composition differs between donor mil and mother's own milk in the NICU. *Journal of Human Lactation*, pp. 54-61.

Puopolo K, S. T. (2012). Donor Milk in the NICU. *Pediatrics*, 496-506.