

Variations in the Nutritional Content of Human Milk

Bibliography

American College of Obstetricians and Gynecologists' Committee on Obstetric Practice; Breastfeeding Expert Work Group. *Committee Opinion No. 658: Optimizing Support for Breastfeeding as Part of Obstetric Practice. Obstet Gynecol.* 2016;127(2):e86-e92. doi:10.1097/AOG.00000000000001318

Arslanoglu S, Boquien CY, King C, et al. *Fortification of Human Milk for Preterm Infants: Update and Recommendations of the European Milk Bank Association (EMBA) Working Group on Human Milk Fortification. Front Pediatr.* 2019;7:76. Published 2019 Mar 22. doi:10.3389/fped.2019.00076

Belfort MB, Knight E, Chandarana S, et al. Associations of maternal milk feeding with neurodevelopmental outcomes at 7 years of age in former preterm infants. *JAMA Netw Open.* 2022;5(7):e2221608. doi:10.1001/jamanetworkopen.2022.21608

Belfort MB, Rifas-Shiman SL, Sullivan T, et al. Infant growth before and after term: effects on neurodevelopment in preterm infants. *Pediatrics.* 2011;128(4):e899-e906. doi:10.1542/peds.2011-0282

Bergner EM, Taylor SN, Gollins LA, Hair AB. Human milk fortification: A practical analysis of current evidence. *Clin Perinatol.* 2022;49(2):447-460. doi:10.1016/j.clp.2022.02.010

Bonnar K, Fraser D. Extrauterine growth restriction in low birth weight infants. *Neonatal Netw.* 2019;38(1):27-33. doi:10.1891/0730-0832.38.1.27

Brown JV, Embleton ND, Harding JE, McGuire W. Multi-nutrient fortification of human milk for preterm infants. *Cochrane Database Syst Rev.* 2016;(5):CD000343. Published 2016 May 8. doi:10.1002/14651858.CD000343.pub3

Bulut O, Coban A, Uzunhan O, Ince Z. Effects of targeted versus adjustable protein fortification of breast milk on early growth in very low-birth-weight preterm infants: A randomized clinical trial. *Nutr Clin Pract.* 2020;35(2):335-343. doi:10.1002/ncp.10307

Claas MJ, de Vries LS, Koopman C, et al. Postnatal growth of preterm born children ≤ 750g at birth. *Early Hum Dev.* 2011;87(7):495-507. doi:10.1016/j.earlhumdev.2011.04.009

COMMITTEE ON NUTRITION; SECTION ON BREASTFEEDING; COMMITTEE ON FETUS AND NEWBORN. *Donor Human Milk for the High-Risk Infant: Preparation, Safety, and Usage Options in the United States. Pediatrics.* 2017;139(1):e20163440. doi:10.1542/peds.2016-3440

Embleton ND, Moltu SJ, Lapillonne A, et al. *Enteral Nutrition in Preterm Infants (2022): A Position Paper From the ESPGHAN Committee on Nutrition and Invited Experts. J Pediatr Gastroenterol Nutr.* 2023;76(2):248-268. doi:10.1097/MPG.0000000000003642

ESPGHAN Committee on Nutrition, Agostoni C, Braegger C, et al. Breast-feeding: A commentary by the ESPGHAN Committee on Nutrition. *J Pediatr Gastroenterol Nutr.* 2009;49(1):112-125. doi:10.1097/MPG.0b013e31819f1e05

ESPGHAN Committee on Nutrition, Arslanoglu S, Corpeleijn W, et al. Donor human milk for preterm infants: current evidence and research directions. *J Pediatr Gastroenterol Nutr.* 2013;57(4):535-542. doi:10.1097/MPG.0b013e3182a3af0a

Gates A, Marin T, Leo G, Stansfield BK. Review of preterm human-milk nutrient composition. *Nutr Clin Pract.* 2021;36(6):1163-1172. doi:10.1002/ncp.10570

Gates A, Marin T, De Leo G, Waller JL, Stansfield BK. Nutrient composition of preterm mother's milk and factors that influence nutrient content. *Am J Clin Nutr.* 2021;114(5):1719-1728. doi:10.1093/ajcn/nqab226

Guellec I, Lapillonne A, Marret S, et al. Effect of intra- and extrauterine growth on long-term neurologic outcomes of very preterm infants [published correction appears in *J Pediatr.* 2017 Jun;185:255]. *J Pediatr.* 2016;175:93-99.e1. doi:10.1016/j.jpeds.2016.05.027

Han SM, Derraik JGB, Binia A, Sprenger N, Vickers MH, Cutfield WS. Maternal and infant factors influencing human milk oligosaccharide composition: Beyond maternal genetics. *J Nutr.* 2021;151(6):1383-1393. doi:10.1093/jn/nxab028

Variations in the Nutritional Content of Human Milk | Bibliography

Hård AL, Nilsson AK, Lund AM, Hansen-Pupp I, Smith LEH, Hellström A. Review shows that donor milk does not promote the growth and development of preterm infants as well as maternal milk. *Acta Paediatr.* 2019;108(6):998-1007. doi:10.1111/apa.14702

Hay WW Jr. Nutritional support strategies for the preterm infant in the neonatal intensive care unit. *Pediatr Gastroenterol Hepatol Nutr.* 2018;21(4):234-247. doi:10.5223/pghn.2018.21.4.234

Hellström A, Ley D, Hansen-Pupp I, et al. New insights into the development of retinopathy of prematurity--importance of early weight gain. *Acta Paediatr.* 2010;99(4):502-508. doi:10.1111/j.1651-2227.2009.01568.x

Horwood LJ, Darlow BA, Mogridge N. Breast milk feeding and cognitive ability at 7-8 years. *Arch Dis Child Fetal Neonatal Ed.* 2001;84(1):F23-F27. doi:10.1136/fn.84.1.f23

Isaacs EB, Morley R, Lucas A. Early diet and general cognitive outcome at adolescence in children born at or below 30 weeks gestation. *J Pediatr.* 2009;155(2):229-234. doi:10.1016/j.jpeds.2009.02.030

Kim SY, Yi DY. Components of human breast milk: from macronutrient to microbiome and microRNA. *Clin Exp Pediatr.* 2020;63(8):301-309. doi:10.3345/cep.2020.00059

Kleinman RE, Greer FR, eds. Nutritional needs of the preterm infant. In: *Pediatric Nutrition*, 8th ed. American Academy of Pediatrics; 2020:chap 5.

Koletzko B, Cheah FC, Domellöf M, Poindexter BB, Vain N, van Guodoever JB, eds. *Nutritional Care of Preterm Infants. Scientific Basis and Practical Guidelines*, 2nd ed. Karger; 2021:430-449.

Lessen R, Kavanagh K. Position of the academy of nutrition and dietetics: promoting and supporting breastfeeding. *J Acad Nutr Diet.* 2015;115(3):444-449. doi:10.1016/j.jand.2014.12.014

Maas C, Wiechers C, Bernhard W, Poets CF, Franz AR. Early feeding of fortified breast milk and in-hospital-growth in very premature infants: a retrospective cohort analysis. *BMC Pediatr.* 2013;13:178. Published 2013 Nov 4. doi:10.1186/1471-2431-13-178

Maly J, Burianova I, Rochow N, Fusch G, Ali A, et al. Individualized target fortification of breast milk with protein, carbohydrates, and fat for preterm infants: A double-blind randomized controlled trial. *Clin Nutr.* 2021;40(1):54-63. doi:10.1016/j.clnu.2020.04.031

McGuire MK, Meehan CL, McGuire MA, et al. What's normal? Oligosaccharide concentrations and profiles in milk produced by healthy women vary geographically. *Am J Clin Nutr.* 2017;105(5):1086-1100. doi:10.3945/ajcn.116.139980

Meinzen-Derr J, Poindexter B, Wrage L, Morrow AL, Stoll B, Donovan EF. Role of human milk in extremely low birth weight infants' risk of necrotizing enterocolitis or death. *J Perinatol.* 2009;29(1):57-62. doi:10.1038/jp.2008.117

National Institutes of Health. *The Surgeon General's Call to Action to Support Breastfeeding*. Rockville, MD: Office of the Surgeon General; 2011.

Ng DV, Brennan-Donnan J, Unger S, et al. How close are we to achieving energy and nutrient goals for very low birth weight infants in the first week? *JPEN J Parenter Enteral Nutr.* 2017;41(3):500-506. doi:10.1177/0148607115594674

O'Connor DL, Jacobs J, Hall R, et al. Growth and development of premature infants fed predominantly human milk, predominantly premature infant formula, or a combination of human milk and premature formula. *J Pediatr Gastroenterol Nutr.* 2003;37(4):437-446. doi:10.1097/00005176-200310000-00008

Peila C, Moro GE, Bertino E, et al. The effect of Holder pasteurization on nutrients and biologically-active components in donor human milk: A review. *Nutrients.* 2016;8(8):477. doi:10.3390/nu8080477

Perrin MT, Friend LL, Sisk PM. Fortified donor human milk frequently does not meet sodium recommendations for the preterm infant. *J Pediatr.* 2022;244:219-223.e1. doi:10.1016/j.jpeds.2022.01.029

Piemontese P, Mallardi D, Liotto N, et al. Macronutrient content of pooled donor human milk before and after Holder pasteurization. *BMC Pediatr.* 2019;19(1):58. Published 2019 Feb 12. doi:10.1186/s12887-019-1427-5

Quigley M, Embleton ND, McGuire W. Formula versus donor breast milk for feeding preterm or low birth weight infants. *Cochrane Database Syst Rev.* 2019;7(7):CD002971. doi:10.1002/14651858.CD002971.pub5

Variations in the Nutritional Content of Human Milk | Bibliography

Ramel SE, Gray HL, Christiansen E, Boys C, Georgieff MK, Demerath EW. Greater early gains in fat-free mass, but not fat mass, are associated with improved neurodevelopment at 1 year corrected age for prematurity in very low birth weight preterm infants. *J Pediatr.* 2016;173:108-115. doi:10.1016/j.jpeds.2016.03.003

Rochow N, Fusch G, Ali A, et al. Individualized target fortification of breast milk with protein, carbohydrates, and fat for preterm infants: A double-blind randomized controlled trial. *Clin Nutr.* 2021;40(1):54-63. doi:10.1016/j.clnu.2020.04.031

Sammallahti S, Pyhälä R, Lahti M, et al. Infant growth after preterm birth and neurocognitive abilities in young adulthood. *J Pediatr.* 2014;165(6):1109-1115.e3. doi:10.1016/j.jpeds.2014.08.028

Spatz DL, Edwards TM. *The Use of Human Milk and Breastfeeding in the Neonatal Intensive Care Unit: Position Statement* 3065. *Adv Neonatal Care.* 2016;16(4):254. doi:10.1097/ANC.0000000000000313

US Department of Agriculture (USDA). *Dietary Guidelines for Americans, 2020-2025.* December 2020. Accessed February 9, 2023. www.DietaryGuidelines.gov.

Vitkova V, et al. Preterm human milk macronutrient concentration is independent of gestational age at birth. *Arch Dis Child Fetal Neonatal Ed.* 2019;104(1):F50-F56. doi:10.1136/archdischild-2016-312572

Vohr BR, Poindexter BB, Dusick AM, et al. Beneficial effects of breast milk in the neonatal intensive care unit on the developmental outcome of extremely low birth weight infants at 18 months of age. *Pediatrics.* 2006;118(1):e115-e123. doi:10.1542/peds.2005-2382

WHO Recommendations on Maternal and Newborn Care for a Positive Postnatal Experience. March 30, 2022. Accessed March 10, 2023. <https://www.who.int/publications/i/item/9789240045989>

Young BE, Borman LL, Heinrich R, et al. Effect of pooling practices and time postpartum of milk donations on the energy, macronutrient, and zinc concentrations of resultant donor human milk pools. *J Pediatr.* 2019;214:54-59. doi:10.1016/j.jpeds.2019.07.042



ANNENBERG CENTER FOR HEALTH SCIENCES
AT EISENHOWER
Imparting knowledge. Improving patient care.

This activity is supported by an educational grant from **Mead Johnson Nutrition.**