

## **The role of long chain polyunsaturated fatty acids (LCPUFA) in neonatal nutrition.**

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Exciting new research has shown that both preterm and term infants can actively convert the essential fatty acids linoleic acid (LA, 18:2n-6) and alpha-linolenic acid (ALA, 18:3n-3) to long chain polyunsaturated fatty acids (LCPUFA). However, the amount of LCPUFA being produced, particularly of docosahexaenoic acid (DHA, 22:6n-3), may not be sufficient to meet the developmental requirement of the infant. Because DHA is a major component of retinal and brain tissues, a number of studies have been initiated to test the effect of dietary LCPUFA on neural outcomes in infants. These studies have largely involved a comparison of neural responses from infants fed standard infant formula (no LCPUFA) with infants receiving LCPUFA from either supplemented formula or breast milk. The results have been equivocal and may be due to the variety of LCPUFA supplements and formula fat blends used, differing testing techniques as well as variations in clinical trial conduct, but are clearer in preterm than term infants. Overall the results indicate a possible role for LCPUFA in neurodevelopment