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## **Pre- and postnatal health: evidence of increased choline needs.**

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### **Source**

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### **Abstract**

Choline, a micronutrient found in food, serves as the starting material for several important metabolites that play key roles in fetal development, particularly the brain. Although human beings' requirement for choline is unknown, an Adequate Intake level of 425 mg/day was established for women with upward adjustments to 450 and 550 mg/day during pregnancy and lactation, respectively. The importance of choline in human development is supported by observations that a human fetus receives a large supply of choline during gestation; pregnancy causes depletion of hepatic choline pools in rats consuming a normal diet; human neonates are born with blood levels that are three times higher than maternal blood concentrations; and large amounts of choline are present in human milk. The development of the central nervous system is particularly sensitive to choline availability with evidence of effects on neural tube closure and cognition. Existing data show that the majority of pregnant (and presumably lactating) women are not achieving the target intake levels and that certain common genetic variants may increase requirements for choline beyond current recommendations. Because choline is not found in most varieties of prenatal vitamins (or regular multivitamins), increased consumption of choline-rich foods may be needed to meet the high pre- and postnatal demands for choline.

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