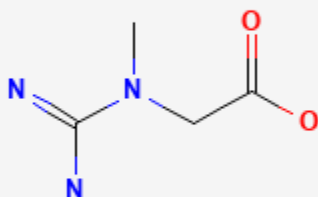




Creatine

Revised: July 20, 2020.

CASRN: 57-00-1



Drug Levels and Effects

Summary of Use during Lactation

Creatine is used as a dietary supplement to increase muscle mass and improve exercise performance. Creatine is a normal component of human milk, supplying about 9% of the infant's daily requirements.[1] Milk levels of creatine have not been measured after exogenous administration in humans. Creatine is converted into creatinine in the mother's and infant's bodies. It may increase the infant's serum creatinine, which may alter estimations of the infant's kidney function.[2] Some authors speculate that creatine supplementation of nursing mothers might help avoid creatine deficiency syndromes, but no studies are available that test this hypothesis.[3] Until more data are available, it is probably best to avoid creatine supplementation unless it is prescribed by a healthcare professional.

Disclaimer: Information presented in this database is not meant as a substitute for professional judgment. You should consult your healthcare provider for breastfeeding advice related to your particular situation. The U.S. government does not warrant or assume any liability or responsibility for the accuracy or completeness of the information on this Site.

Attribution Statement: LactMed is a registered trademark of the U.S. Department of Health and Human Services.

Drug Levels

Milk levels of creatine have not been measured after exogenous administration in humans. Creatine is a normal component of human milk.

Maternal Levels. One study found the concentration of creatine to average 25.8 mg/L in normal mothers 3 to 5 days postpartum (n = 3), 18.7 mg/L in mothers 6 to 14 days postpartum (n = 16), and 11.5 mg/L in individual mothers over 15 days postpartum (n = 16). The creatine concentration was 10.1 mg/L in pooled milk from mothers over 15 days postpartum (n = 10).[2]

The creatine concentration in the breastmilk of 3 women was measured. The average concentration was 113 mg/L.[4]

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

References

1. Garwolinska D, Namiesnik J, Kot-Wasik A, et al. Chemistry of human breast milk-a comprehensive review of the composition and role of milk metabolites in child development. *J Agric Food Chem.* 2018;66:11881–96. PubMed PMID: 30247884.
2. Hulsemann J, Manz F, Wember T, et al. *Klin Padiatr.* 1987;199:292–5. [Administration of creatine and creatinine with breast milk and infant milk preparations]. PubMed PMID: 3657037.
3. Wallimann T, Tokarska-Schlattner M, Schlattner U. The creatine kinase system and pleiotropic effects of creatine. *Amino Acids.* 2011;40:1271–96. PubMed PMID: 21448658.
4. Peral MJ, Galvez M, Soria ML, et al. Developmental decrease in rat small intestinal creatine uptake. *Mech Ageing Dev.* 2005;126:523–30. PubMed PMID: 15722111.

Substance Identification

Substance Name

Creatine

CAS Registry Number

57-00-1

Drug Class

Breast Feeding

Lactation

Complementary Therapies