



## Peanut

Revised: October 15, 2023.

## Drug Levels and Effects

### Summary of Use during Lactation

Peanuts (*Arachis hypogaea*) contain carbohydrate, fat, and protein. Some of the proteins in peanuts are considered to be allergens that can lead to allergic reactions. Cooked, unripe peanuts are reportedly used in Africa and Asia as a galactagogue;[1] however, no scientifically valid clinical trials support this use. Galactagogues should never replace evaluation and counseling on modifiable factors that affect milk production.[2,3]

The peanut protein allergens *Ara h 1*, *2* and *6* have been detected in breastmilk and some case reports and series have implicated maternal ingestion of peanuts during breastfeeding to peanut allergy in their breastfed infants.[4-7] Studies to determine whether maternal peanut ingestion during breastfeeding causes infant peanut allergy have come to conflicting conclusions. A more recent subpopulation analysis of a controlled study found that if mothers consume <5 grams per week of peanuts while breastfeeding, it may reduce peanut sensitization and possibly reduce allergy in high-risk infants at 5 years of age.[8] This finding seems to have been confirmed in a longitudinal population study and pilot trial of peanut ingestion during breastfeeding.[9,10] In the United States and United Kingdom, mothers were advised to avoid peanuts during pregnancy and breastfeeding in the late 1990s, but these recommendations have been withdrawn because of a lack of evidence of a reduction in peanut allergy.[11,12] Currently, international guidelines recommend against any food avoidance during breastfeeding to reduce the risk of allergies in infants.[13]

### Drug Levels

**Maternal Levels.** Twenty-three nursing mothers consumed 50 grams of dry roasted peanuts after donating a baseline milk sample. Milk samples were then collected at various times over the next 12 hours. The peanut proteins *Ara h 1* and *Ara h 2* were detected in the breastmilk of 11 of the 23 women, with a mean peak concentration of 222 mcg/L. In most of the women with detectable peanut protein, the peak concentration occurred in the first 2 hours and was near baseline at 3 hours post ingestion, but one woman had a peak protein level 6 hours after ingestion; she and another woman still had detectable peanut protein in their milk 8 hours after peanut ingestion. No difference between the mothers who did and did not secrete peanut allergen in their milk was found in age, time postpartum or atopic history.[14]

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Two women ingested 30 grams of commercial roasted peanuts, either on an empty stomach or after breakfast on 5 occasions. Milk samples were collected for either 2 or 26 hours. In one woman, the peanut protein *Ara h 6* was detectable in milk as early as 10 minutes after peanut ingestion on an empty stomach, with a peak concentration of 3.37 mcg/L. It declined thereafter, but was still detectable 23 hours after ingestion. Tanking the peanuts after a meal decreased and slightly delayed the concentrations in milk, with a concentration of 550 ng/L at 60 min post-feeding. In the other woman, the allergen was found as soon as 10 minutes after ingestion at about 10 ng/L, and a higher excretion peak was then observed between 40 and 60 minutes, reaching values above 200 ng/L. The allergens are bound to the IgE of peanut-sensitive patients. *Ara h 6*-IgG and *Ara h 6*-IgA immune complexes could also be detected in milk with a slight delay. IgA and IgG immune complexes followed similar kinetics over 24 hours, with a maximum of secretion observed at 220 minutes.[15]

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

## Effects in Breastfed Infants

In a study on the infants of atopic parents, mothers were randomized either to standard infant feeding practices (n = 185) or to avoidance of peanuts and other food allergens during the third trimester of pregnancy and breastfeeding (n = 103). Testing at 12 months of age found a slightly reduced frequency of positive skin tests for peanut allergy in the avoidance group (n = 4) compared to the control group (n = 7), and no difference between the groups in the frequency of clinical allergy to peanuts.[16]

In a case-control study, mothers of infants with peanut allergy (n = 202) or control infants (n = 201) were given a questionnaire to determine the extent of peanut ingestion during pregnancy and breastfeeding. No differences were noted in infant age, sex ratio, breastfeeding and several other variables. The mothers of peanut-allergic infants were 2.3 times more likely to have consumed peanuts during breastfeeding than mothers of the control infants, although peanut ingestion during pregnancy was a stronger predictor of peanut allergy.[17]

In a cohort study, 503 infants with food allergies, but no reported peanut allergy, were tested for peanut allergy based on IgE antibody levels against peanuts. Although a correlation was found between maternal ingestion of peanuts during pregnancy and later infant peanut allergy, no correlation was found with maternal ingestion during breastfeeding.[18]

An analysis of a birth cohort study in Canada found that regardless of breastfeeding, sensitization was significantly less likely among infants consuming peanut, with 2.3% sensitized among those introduced to peanut early without breastfeeding and 2.8% sensitized among those introduced to peanut early while breastfeeding. Beginning at 3 years and especially at 5 years, the prevalence of sensitization was further reduced among children who had been introduced to peanut while breastfeeding.[9]

In a pilot trial, nursing mothers were randomized to ingest either 20 or 60 peanuts per week from birth to 6 months of lactation. Mothers achieved an 80% adherence to the regimen and 77% were still breastfeeding at 6 months of age, mostly exclusively. The ingestion of peanuts by the nursing mother in either amount appeared to reduce the risk of peanut sensitization (prick test) and allergy at 12 months of age.[10]

## Effects on Lactation and Breastmilk

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

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## Substance Identification

### Substance Name

Peanut

### Scientific Name

*Arachis hypogaea*

## **Drug Class**

Breast Feeding

Lactation

Milk, Human

Complementary Therapies

Food

Galactogogues

Phytotherapy

Plants, Medicinal