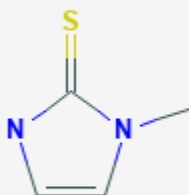




## Methimazole

Revised: October 31, 2018.

CASRN: 60-56-0



## Drug Levels and Effects

### Summary of Use during Lactation

Maternal methimazole therapy does not affect thyroid function or intellectual development in breastfed infants with doses up to 20 mg daily. Taking methimazole right after nursing and waiting for 3 to 4 hours before nursing again should minimize the infant dosage. No cases of thyroid function alteration have been reported among infants exposed to methimazole via breastmilk.

The American Thyroid Association recommends only monitoring infants for appropriate growth and development during routine pediatric health and wellness evaluations and routine assessment of serum thyroid function in the child is not recommended.[1] Rare idiosyncratic reactions (e.g., agranulocytosis) might occur, and the infant should be watched for signs of infection. Monitoring of the infant's complete blood count and differential is advisable if there is a suspicion of a drug-induced blood dyscrasia.

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## Drug Levels

*Maternal Levels.* One mother (time postpartum not stated) taking 2.5 mg of methimazole every 12 hours orally had a peak milk level of 67 mcg/L at about 2 hours after nursing.[2]

Four lactating women who were 3 to 6 months postpartum received a single dose of methimazole 40 mg orally. Milk levels paralleled serum levels closely at about the same concentration over the next 8 hours during which time an average of 70 mcg of methimazole was excreted into breastmilk. The average peak level of 720 mcg/L occurred at 1 hour after the dose.[3]

Six lactating women were given a single oral dose of methimazole 15 mg. Peak milk levels of 320 mcg/L occurred 2 hours after the dose. At 12 hours after the dose, milk levels were 30 mcg/L. The half-life of the drug in milk averaged 4.2 hours.[4]

*Infant Levels.* Ten women taking methimazole nursed their infants 2 hours after taking a 10 mg dose of methimazole orally (approximately the time of the peak milk level). Infant serum levels were measured 2 hours after nursing. Seven of the 10 infants had undetectable (<30 mcg/L) serum levels of methimazole. In the other 3, serum levels were 30, 34 and 35 mcg/L.[5][6]

## Effects in Breastfed Infants

Five mothers taking methimazole 5 to 15 mg daily at 6 pm breastfed their infants during the day using expressed milk or formula at night. Thyroid function test remained normal during 90 days of study and none of the infants showed any clinical signs of hypothyroidism and methimazole was undetectable (<10 mcg/L) in the infants' serum.[4]

Twelve mothers taking methimazole 5 mg daily breastfed their infants from the time of delivery. Another 17 women were given methimazole 5 mg twice daily beginning 2 to 8 months postpartum and allowed to breastfeed their infants exclusively with supplementation given to those over 6 months of age. A third group of 6 mothers took methimazole 10 mg twice daily. All infants were normal clinically and had normal thyroid function tests when measured 2 to 4 weeks after the start of therapy.[7] (Note: this paper is apparently the full publication of a previous report in abstract form.[8])

The breastfed infants of 16 mothers who became hypothyroid during methimazole therapy were studied 5 times between birth and 12 months of age in comparison to a control group of 18 breastfed infants whose mothers did not become hypothyroid during methimazole therapy and a group of 24 infants of normal mothers. There were no differences in thyroid function tests of the infants from the 3 groups.[6]

Fifty-one infants of mothers who took methimazole during pregnancy and continued during lactation with a dose of 5 mg daily and 88 infants of mothers who took the drug starting 2 to 8 months postpartum were studied. All infants had normal thyroid function tests for up to a year of maternal therapy with doses of 5 to 20 mg daily of methimazole. Fourteen children who had been breastfed as infants were compared to a control group of children whose mothers did not take methimazole. Performance on IQ tests did not differ between the two groups.[9] Forty-two of these children were restudied after 4 years of age and found to have IQ scores equal to children under the age of 6 in a matched control group.[10]

## Effects on Lactation and Breastmilk

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

## Alternate Drugs to Consider

Propylthiouracil

## References

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## Substance Identification

### Substance Name

Methimazole

### CAS Registry Number

60-56-0

### Drug Class

Breast Feeding

Lactation

Antithyroid Agents

Thionamides