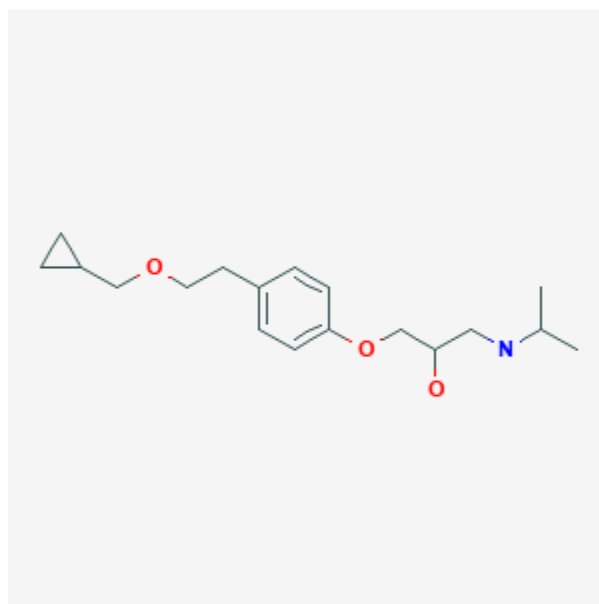




## Betaxolol

Revised: October 31, 2018.

CASRN: 63659-18-7



## Drug Levels and Effects

### Summary of Use during Lactation

Because of its relatively extensive excretion into breastmilk and minimal reported experience during breastfeeding, other beta-blocking agents may be preferred for systemic use, especially while nursing a newborn or preterm infant.

With use of betaxolol eye drops, it is not likely that sufficient amounts would be present in milk to affect the infant. To substantially diminish the amount of drug that reaches the breastmilk after using eye drops, place pressure over the tear duct by the corner of the eye for 1 minute or more, then remove the excess solution with an absorbent tissue.

## Drug Levels

The excretion of beta-adrenergic blocking drugs into breastmilk is largely determined by their protein binding. Those with low binding are more extensively excreted into breastmilk.[1] Accumulation of the drugs in the infant is related to the fraction excreted in urine. With 50% protein binding, 15% renal excretion and a long half-life, betaxolol presents a moderate risk for accumulation in infants, especially neonates.

*Maternal Levels.* Three mothers who received 10 mg of betaxolol orally before delivering their infant had postpartum colostrum betaxolol levels measured. In one woman who had one dose 3 hours prior to delivery, colostrum levels were 48 mcg/L 24 hours postpartum, 13 mcg/L 48 hours postpartum and 3 mcg/L 72 hours postpartum. Another woman who received a dose 25 hours before delivery had milk levels of 8.8 and 7 mcg/L 48 and 72 hours postpartum, respectively. A third woman who had a dose 26 hours before delivery had colostrum betaxolol levels of 7.8 and 4.2 mcg/L 24 and 48 hours postpartum, respectively. Each of these women had received only 1 or 2 doses of betaxolol before delivery, so steady state might not have been reached.[2]

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

## Effects in Breastfed Infants

A study of mothers taking beta-blockers during nursing found a numerically, but not statistically significant increased number of adverse reactions in those taking any beta-blocker. Although the ages of infants were matched to control infants, the ages of the affected infants were not stated. None of the mothers were taking betaxolol.[3]

Beta-adrenergic blocking drugs with breastmilk excretion characteristics similar to betaxolol have caused adverse effects in breastfed newborns.[4][5]

## Effects on Lactation and Breastmilk

Relevant published information on the effects of beta-blockade or betaxolol during normal lactation was not found as of the revision date. A study in 6 patients with hyperprolactinemia and galactorrhea found no changes in serum prolactin levels following beta-adrenergic blockade with propranolol.[6]

## Alternate Drugs to Consider

(Systemic) [Propranolol](#), [Labetalol](#), [Metoprolol](#); (Ophthalmic) [Levobunolol](#), [Metipranolol](#), [Timolol](#)

## References

1. Riant P, Urien S, Albengres E et al. High plasma protein binding as a parameter in the selection of betablockers for lactating women. *Biochem Pharmacol.* 1986;35:4579-81. PubMed PMID: 2878668.
2. Morselli PL, Boutroy MJ, Bianchetti G et al. Placental transfer and perinatal pharmacokinetics of betaxolol. *Eur J Clin Pharmacol.* 1990;38:477-83. PubMed PMID: 2379532.
3. Ho TK, Moretti ME, Schaeffer JK et al. Maternal beta-blocker usage and breast feeding in the neonate. *Pediatr Res.* 1999;45:67A. Abstract 385.
4. Boutroy MJ, Bianchetti G, Dubruc C et al. To nurse when receiving acebutolol: is it dangerous for the neonate? *Eur J Clin Pharmacol* 1986;30:737-9. PubMed PMID: 3770068.
5. Schimmel MS, Eidelman AI, Wilschanski MA et al. Toxic effects of atenolol consumed during breast feeding. *J Pediatr.* 1989;114:476-8. PubMed PMID: 2921694.
6. Board JA, Fierro RJ, Wasserman AJ et al. Effects of alpha- and beta-adrenergic blocking agents on serum prolactin levels in women with hyperprolactinemia and galactorrhea. *Am J Obstet Gynecol.* 1977;127:285-7. PubMed PMID: 556882.

## Substance Identification

### Substance Name

Betaxolol

### CAS Registry Number

63659-18-7

### Drug Class

Breast Feeding

Lactation

Antihypertensive Agents

Adrenergic Beta-Antagonists

Antiglaucoma Agents

Antirrhythmics