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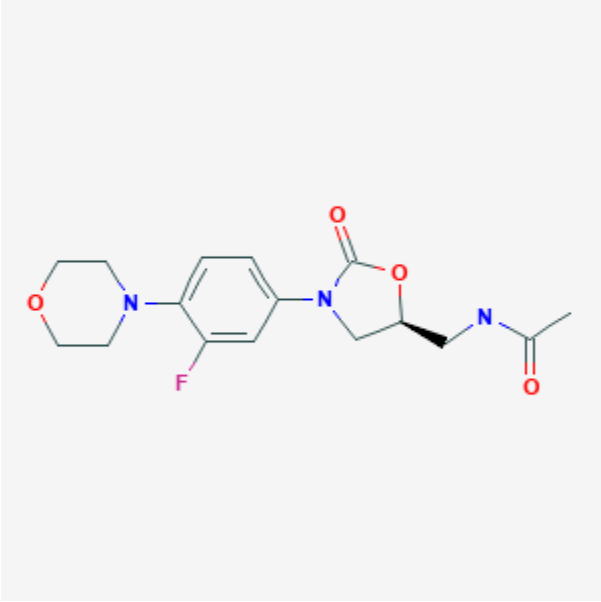
# Linezolid

Revised: December 3, 2018.

CASRN: 165800-03-3




## Drug Levels and Effects

### Summary of Use during Lactation

Linezolid is excreted into breastmilk in concentration likely to be effective against staphylococcal strains found in mastitis.[1][2][3] Limited data indicate that the maximum dose an infant would receive through breastmilk would be much less than the standard infant dose and that resulting infant serum levels are trivial.

If linezolid is required by the mother, it is not a reason to discontinue breastfeeding. Monitor the infant for possible effects on the gastrointestinal tract, such as diarrhea, vomiting, and candidiasis (e.g., thrush, diaper rash). However, because there is no published experience with linezolid during breastfeeding, an alternate drug may be preferred, especially while nursing a newborn or preterm infant.

## Drug Levels

*Maternal Levels.* A 32-year-old lactating woman was given a single dose of 600 mg of linezolid orally. Milk samples were taken at 10 time points over the next 24 hours. The peak concentration of linezolid in breastmilk occurred 2 hours after the dose with a value of 12.4 mg/L. Milk concentrations fell with a half-life of 6.5 hours and were detectable up to 24 hours after the dose.[2] Using the peak milk level data from this patient, an exclusively breastfed infant would receive an estimated maximum of about 2 mg/kg daily with the maximum recommended maternal dosage. The established maximum dosage of linezolid for infants is 30 mg/kg daily.

A woman was given oral linezolid 600 mg every 12 hours for methicillin-resistant Staph. aureus mastitis. She pumped milk from both breasts 8 times daily on days 1 and 14 of therapy. Peak breastmilk linezolid levels were 9.75 mg/L on day 1 and 18.73 mg/L on day 14. The authors calculated that a fully breastfed infant would receive 7.85% of the weight-adjusted maternal dosage on day 1 and 15.61% on day 14. Using the average milk level on day 14, a fully breastfed infant would receive a dosage of 1.84 mg/kg daily, which is less than the maximum dosage of linezolid for infants of 30 mg/kg daily.[3]

A woman taking linezolid 600 mg orally every 12 hours donated breastmilk samples at various times over a 24 hour period after about 45 hours after the first dose. Breastmilk linezolid levels ranged from 3.5 to 12.2 mg/L, with the highest level shortly after a dose and the lowest shortly before the following dose.[4]

*Infant Levels.* A random blood sample was taken from a breastfed (extent not stated) infant about 3 to 4 hours after a maternal dose and found to contain <0.2 mg/L of linezolid, although the time of the previous breastfeeding was not known. A breast milk sample obtained 1 hour after the infant's serum sample and 4 hours after linezolid administration was 8.9 mg/L.[4]

## 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.

## Alternate Drugs to Consider

(Methicillin-resistant Staph. aureus) Doxycycline, Minocycline, Trimethoprim-Sulfamethoxazole, Vancomycin

## References

1. Delgado S, Arroyo R, Jimenez E et al. Staphylococcus epidermidis strains isolated from breast milk of women suffering infectious mastitis: potential virulence traits and resistance to antibiotics. BMC Microbiol. 2009;9:82. PubMed PMID: 19422689.
2. Sagirli O, Onal A, Toker S, Oztunc A. Determination of linezolid in human breast milk by high-performance liquid chromatography with ultraviolet detection. J AOAC Int. 2009;92:1658-62. PubMed PMID: 20166583.
3. Rowe HE, Felkins K, Cooper SD, Hale TW. Transfer of linezolid into breast milk. J Hum Lact. 2014;30:410-2. PubMed PMID: 25098610.
4. Lim FH, Lovering AM, Currie A et al. Linezolid and lactation: Measurement of drug levels in breast milk and the nursing infant. J Antimicrob Chemother. 2017;72:2677-8. Letter. PubMed PMID: 28541475.

# Substance Identification

## Substance Name

Linezolid

## CAS Registry Number

165800-03-3

## Drug Class

Breast Feeding

Lactation

Anti-Infective Agents

Anti-Bacterial Agents