

Lorazepam

Selected References:

- Bonnot O, et al. 2001. Maternal exposure to lorazepam and anal atresia in newborns: results from a hypothesis-generating study of benzodiazepines and malformations. *J Clin Psychopharmacol*; 21(4):456-458.
- Brandisuten RE, et al. 2017. Association of prenatal exposure to benzodiazepines and child internalizing problems: A sibling-controlled cohort study. *PLoS One*; 12(7):e0181042.
- Calderon-Margalit R, et al. 2009. Risk of preterm delivery and other adverse perinatal outcomes in relation to maternal use of psychotropic medications during pregnancy. *Am J Obstet Gynecol*; 201(6):579.e1-579.e8.
- Gandhi K, et al. 2023. Catatonia, Pregnancy, and Electroconvulsive Therapy (ECT). *Case Rep Psychiatry*; 7:2023:9601642.
- Iqbal MM, et al. 2002. Effects of commonly used benzodiazepines on the fetus, the neonate and the nursing infant. *Psychiatr Serv*; 53(1):39-49.
- Kargas GA et al. 1985. Perinatal mortality due to interaction of diphenhydramine and temazepam. *N Eng J Med*; 313(22):1417-1418.
- Kelly LE, et al. 2012. Neonatal Benzodiazepines Exposure during Breastfeeding. *J Pediatr*; 161(3):448-451.
- Lemmer P, et al. 2007. Quantification of lorazepam and lormetazepam in human breast milk using GC-MS in the negative chemical ionization mode. *J Anal Toxicol*; 31(4):224-226.
- Meng LC, et al. 2024. Benzodiazepine Use During Pregnancy and Risk of Miscarriage. *JAMA Psychiatry*; 81(4):366-373.
- Nishimura A, et al. 2021. Benzodiazepine Concentrations in the Breast Milk and Plasma of Nursing Mothers: Estimation of Relative Infant Dose. *Breastfeed Med*; 16(5):424-431.
- Noh Y, et al. 2022. First-trimester exposure to benzodiazepines and risk of congenital malformations in offspring: A population-based cohort study in South Korea. *PLoS Med*; 19(3):e1003945.
- Oberlander TF, et al. 2008. Major congenital malformations following prenatal exposure to serotonin reuptake inhibitors and benzodiazepines using population-based health data. *Birth Defects Res B Dev Reprod Toxicol*; 83(1):68-76.
- Ornoy A, et al. 1998. Is benzodiazepine use during pregnancy really teratogenic? *Reprod Toxicol*; 12(5):511-515.
- Viggedal G, et al. 1993. Mental development in late infancy after prenatal exposure to benzodiazepines-prospective study. *J Child Psychol Psychiatry*; 34(3):295-305.
- Sheehy O, et al. 2019. Association Between Incident Exposure to Benzodiazepines in Early Pregnancy and Risk of Spontaneous Abortion. *JAMA Psychiatry*; 76(9):948-957.
- Tinker SC, et al. 2019. Use of benzodiazepine medications during pregnancy and potential risk for birth defects, National Birth Defects Prevention Study, 1997-2011. *Birth Defects Res Jun*, 1;111(10):613-620.
- U.S. Food and Drug Administration. 2023. Ativan label. Accessed September 2024 from https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/017794s049lbl.pdf. [Accessed April 2026]
- Whitelaw AG, et al. 1981. Effect of maternal lorazepam on the neonate. *Br Med J (Clin Res Ed)*. 282(6270):1106-8.

Câu hỏi? Gọi 866.626.6847 | Gửi tin nhắn đến 855.999.3525 | Gửi email hoặc trò chuyện tại MotherToBaby.org.

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, April 1, 2026.

Lorazepam

Selected References:

- Alexander EK, et al. 2017. Guidelines of the American Thyroid Association for the diagnosis and management of thyroid disease during pregnancy and the postpartum. *Thyroid*, 27(3):315-389.
- Garsi JP, et al. 2008. Therapeutic administration of ¹³¹I for differentiated thyroid cancer: radiation dose to ovaries and outcome of pregnancies. *J Nucl Med*, 49(5):845-852.
- Hammami MM, et al. 1996. Radioiodine breast uptake in nonbreastfeeding women: clinical and scintigraphic characteristics. *J Nucl Med*, 37:26-31.
- Hyer S, et al. 2002. Testicular dose and fertility in men following I(¹³¹) therapy for thyroid cancer. *Clin Endocrinol (Oxf)*, 56:755-758.
- 2008. Radiation dose to patients from radiopharmaceuticals – Addendum 3 to ICRP Publication 53. ICRP Publication 106. *Ann ICRP*, 38(1-2):1-197.
- Iijima S, 2021. Effects of fetal involvement of inadvertent radioactive iodine therapy for the treatment of thyroid diseases during an unsuspected pregnancy. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 259:54-58.
- Ko KY, et al. 2016. Pregnancy outcome after I-131 therapy for patients with thyroid cancer: A nationwide population-based cohort study. *Medicine (Baltimore)*, 95(5):e2685.
- LeideSvegborn S, et al. 2016. Excretion of radionuclides in human breast milk after nuclear medicine examinations. Biokinetic and dosimetric data and recommendations on breastfeeding interruption. *Eur J Nucl Med Mol Imaging*, 43:808-821.
- Masiuk S, et al. 2022. Assessment of internal exposure to ¹³¹I and short-lived radio iodine isotopes and associated uncertainties in the Ukrainian cohort of persons exposed in utero. *Journal of Radiation Research*, 63(3):364-375.
- Mattsson S, et al. 2021. X-ray and molecular imaging during pregnancy and breastfeeding when should we be worried? *Radiation Protection Dosimetry*, 195(3-4):339-346.
- Motavalli LR, et al. 2016. Fetal and maternal dose assessment for diagnostic scans during pregnancy. *Phys Med Biol*, 61(9):3596-3608.
- Radacic-Aumiller M, et al. 2016. No adverse effects after radioiodine treatment at 3 weeks of pregnancy. *Clin Nucl Med*, 41(12):964-965.
- Read CH Jr, et al. 2004. A 36-year retrospective analysis of the efficacy and safety of radioactive iodine in treating young Graves' patients. *J Clin Endocrinol Metab*, 89:4229-4233.
- Schlumberger M, et al. 1996. Exposure to radioactive Iodine-131 for scintigraphy or therapy does not preclude pregnancy in thyroid cancer patients. *J Nucl Med*, 37:606-612.
- Sioka C, 2011. Fotopoulos A. Effect of I-131 therapy on gonads and pregnancy outcome in patients with thyroid cancer. *Fertil Steril*, 95(5):1552-1559.
- Tatham LM, et al. 2002. Population exposures to I-131 releases from Hanford Nuclear Reservation and preterm

birth, infant mortality, and fetal deaths. Int J Hyg Environ Health, 205:41-28.

- Zhang L, et al. 202. The effect of I-131 therapy on pregnancy outcomes after thyroidectomy in patients with differentiated thyroid carcinoma: a meta-analysis. Endocrine, 73:301-307.

Câu hỏi? Gọi 866.626.6847 | Gửi tin nhắn đến 855.999.3525 | Gửi email hoặc trò chuyện tại [MotherToBaby.org](https://www.MotherToBaby.org).

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, April 1, 2026.

Lorazepam

Selected References:

- AbbVie Inc. 2023. Orlistat product label. Available at: <https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=a86757b3-09c5-fd3b-1223-244e94f50a66&type=display>. Accessed 23 September 2025.
- AbbVie Inc. 2023. Oriahnn product label. Available at: <https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=99f6eee7-7e52-6999-7eb8-488d06dd1710&type=display>. Accessed 23 September 2025.
- Archer DF, et al. 2019. Elagolix suppresses ovulation in a dose-dependent manner: results from a 3-month, randomized study in ovulatory women. J Clin Endocrinol Metab 105(3): 821-832.

Câu hỏi? Gọi 866.626.6847 | Gửi tin nhắn đến 855.999.3525 | Gửi email hoặc trò chuyện tại [MotherToBaby.org](https://www.MotherToBaby.org).

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, April 1, 2026.

Lorazepam

Selected References:

- Al-Aqeedi RF, et al. 2008. Drug-eluting stent implantation for acute myocardial infarction during pregnancy with use of glycoprotein IIb/IIIa inhibitor, aspirin, and clopidogrel. *J Invasive Cardiol.* 20(5):e146-e149.
- Arimura T, et al. 2009. Acute myocardial infarction associated with pregnancy successfully treated with percutaneous coronary intervention. *Intern Med.* 48(16):1383-1386.
- Babic Z, et al. 2011. Successful primary percutaneous coronary intervention in the first trimester of pregnancy. *Catheter Cardiovasc Interv.* 77(4):522-555.
- Balmain S, et al. 2007. Acute myocardial infarction during pregnancy successfully treated with primary percutaneous coronary intervention. *Int J Cardiol.* 116(3):e85-e87.
- Bauer MEB, et al. 2012. Peripartum management of dual antiplatelet therapy and neuraxial labor analgesia after bare metal stent insertion for acute myocardial infarction. *Anesth Analg.* 115(3):613-615.
- Boztosun B, et al. 2008. Treatment of acute myocardial infarction in pregnancy with coronary artery balloon angioplasty and stenting: use of tirofiban and clopidogrel. *Int J Cardiol.* 127(3):413-416.
- De Santis M, et al. 2011. Clopidogrel treatment during pregnancy: a case report and a review of literature. *Intern Med.* 50(16):1769-1773.
- Geveart S, Schaubroeck H. 2021. Original data on pregnancy and ACS. *Int J Cardiol Congenit Heart Dis.* 5, (Supp 1).
- Klinzing P, et al. 2001. Case report: successful pregnancy and delivery after myocardial infarction and essential thrombocytopenia treated with clopidogrel. *Clin Exp Obstet Gynecol.* 28(4):215-216.
- Llinares Tello F, et al. 2007. [ST segment elevation acute coronary syndrome during pregnancy: a case report and review of therapeutic options] (Article in Spanish). *Med Intensiva.* 31(1):29-35.
- Martin M, et al. 2003. [Acute myocardial infarction during pregnancy. Treatment with clopidogrel] (Article in Spanish). *Med Clin (Barc).* 121(7):278-279.
- Myers GR, et al. 2011. Clopidogrel use throughout pregnancy in a patient with a drug-eluting coronary stent. *Obstet Gynecol.* (2 Pt 2):432-433.
- Nana M, et al. 2021. Antiplatelet therapy in pregnancy: A systematic review. *Pharmacol Res.* 168:105547.
- Nallamotheu BK, et al. 2005. Clinical problem solving. Double jeopardy. *N Engl J Med.* 353(1):75-80.
- Narouze S, et al. 2018. Interventional spine and pain procedures in patients on antiplatelet and anticoagulant medications: guidelines from the American Society of Regional Anesthesia and Pain Medicine, the European Society of Regional Anaesthesia and Pain Therapy, the American Academy of Pain Medicine, the International Neuromodulation Society, the North American Neuromodulation Society, and the World Institute of Pain. *Reg Anesth Pain Med.* 43(3):225-262.
- O'Shanahan N, et al. 2006. [Acute coronary syndrome without ST elevation during pregnancy]. (Article in Spanish). *Med Intensiva.* 30(4):180-182.
- Reilly CR, et al. 2014. Successful gestation and delivery using clopidogrel for secondary stroke prophylaxis: a

case report and literature review. Arch Gynecol Obstet. 290(3):591-594.

- Santiago-Diaz P, et al. 2009. [Platelet antiaggregants in pregnancy] (Article in Spanish). Rev Esp Cardiol. 62(10):1197-1198.
- Sanofi-aventis US. 2022. Plavix prescribing information. Available at <https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=de8b0b67-eb25-4684-83b5-7ad785314227&type=display#section-8.2>. [Accessed April 2026].
- Shah P, et al. 2004. Spontaneous dissection of the left main coronary artery. Can J Cardiol. 20(8):815-818.
- Van Neste M, et al. 2025. Clopidogrel transfer into human milk: case series – a contribution from the ConcePTION project. Front Pharmacol. 16:1499243.

Câu hỏi? Gọi 866.626.6847 | Gửi tin nhắn đến 855.999.3525 | Gửi email hoặc trò chuyện tại [MotherToBaby.org](https://www.MotherToBaby.org).

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, April 1, 2026.

Lorazepam

Selected References:

- Bailey DN, Briggs JR. 2002. Carisoprodol: an unrecognized drug of abuse. Am J Clin Pathol. 117(3):396-400. \
- Briggs GG, et al. 2008. High dose carisoprodol during pregnancy and lactation. Ann Pharmacother. 42(6):898-901.
- Grizzle TB, et al. 1995. Carisoprodol: reproductive assessment by continuous breeding in Swiss mice. Fundam Appl Toxicol. 24(1):132-139.
- Heinonen OP, et al. 1977. Birth defects and drugs in pregnancy. Littleton, MA: Publishing Sciences Group. 357-65.
- Nordeng H, et al. 2001. Transfer of carisoprodol to breast milk. Ther Drug Monit. 23:298-300.
- Nostrum Laboratories. 2021. Carisoprodol prescribing information. Available at:

<https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=ab22f1be-16c8-45b6-adaf-09e08bf7a545&type=display>. Accessed 10 August 2026.

- Prescribing Label for Soma. 2019. Available at:
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=6297cf20-830a-11dc-94c8-0002a5d5c51b>. Accessed 10 August 2026.

Câu hỏi? Gọi 866.626.6847 | Gửi tin nhắn đến 855.999.3525 | Gửi email hoặc trò chuyện tại [MotherToBaby.org](https://www.MotherToBaby.org).

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, April 1, 2026.