

Malaria

Selected References:

- Accrombessi M, et al. 2018. Cohort profile: effect of malaria in early pregnancy on fetal growth in Benin (RECIPAL preconceptional cohort). *BMJ Open*. 2018 Jan 8;8(1):e019014.
- Alecrim WD, et al. 2000. Plasmodium falciparum infection in the pregnant patient. *Infect Dis Clin North Am*; 14:83-95.
- Arguin PM. 2009. S.F.S.S. Chapter 2: Malaria, The Pre-Travel Consultation. Centers for Disease Control and Prevention: Atlanta, GA.
- Coll O, et al. 2008. Treatment and prevention of malaria in pregnancy and newborn. *J Perinat Med*. 36(1):15-29.
- Garrison A, et al. 2022 The effects of malaria in pregnancy in neurocognitive development in children at 1 and 6 years of age in Benin: A prospective mother-child cohort. *Clin Infect Dis*. 74(5):766-775.
- Ighanesebhor S.E. 1995. Clinical characteristics of neonatal malaria. *J Trop Pediatr*. 41(6):330-333.
- Kojom Foko LP, Singh V. 2023. Malaria in pregnancy in India: a 50-year bird's eye. *Front Public Health*. 11: 1150466-1150466
- Lawford H, et al. 2021. Associations between malaria in pregnancy and neonatal neurological outcomes. *Int J Infect Dis*. 112: 144-151.
- Lufele E, et al. 2017. Risk factors and pregnancy outcomes associated with placental malaria in a prospective cohort of Papua New Guinean women. *Malar J*; 16(1):427.
- Mahande AM, Mahande MJ. 2016. Prevalence of parasitic infections and associations with pregnancy complications and outcomes in northern Tanzania: a registry-based cross-sectional study. *BMC Infect Dis*. 16:78.
- McGready R, et al. 2012. Adverse effects of falciparum and vivax malaria and the safety of antimalarial treatment in early pregnancy: a population-based study. *Lancet Infect Dis*. 12(5):388-396.
- Moore KA, et al. 2017. Quantification of the association between malaria in pregnancy and stillbirth: a systematic review and meta-analysis. *Lancet Glob Health*; 5(11):e1101-e1112.
- Nathwani D, et al. 1992. Plasmodium falciparum malaria in pregnancy: review. *Br J Obstet Gynaecol* 99:118-121.
- Park S, et al. 2020. Impact of Malaria in Pregnancy on Risk of Malaria in Young Children: Systematic Review and Meta-Analyses. *J Infect Dis*. 222(4):538-550. doi: 10.1093/infdis/jiaa139
- Patel JC, et al. 2017. Increased risk of low birth weight in women with placental malaria associated with P. falciparum VAR2CSA clade. *Sci Rep* 7(1): 7768.
- Saito M, et al. 2020. Deleterious effects of malaria in pregnancy on the developing fetus: a review on prevention and treatment with antimalarial drugs. *Lancet Child Adolesc Health*. 4(10):761-774.
- Sartelet H, et al. 1996. Malaria associated pre-eclampsia in Senegal. *Lancet* 347:1121.
- Schmiegelow C, et al. 2013. Malaria and fetal growth alterations in the 3(rd) trimester of pregnancy: a longitudinal ultrasound study. *PLoS One*. 8(1):e53794.
- Shulman CE, et al. 2002. Malaria as a cause of severe anemia in pregnancy. *Lancet* 360:494.
- Singer R et al. 1987. Decreased semen quality in a male infected with malaria. *Int J Androl* 10:685-9.
- U.S. Centers for Disease Control (CDC). 2024. About Malaria. Available at: <https://www.cdc.gov/malaria/about/index.html>. Accessed 17 Feb 2026.
- Umbers AJ, et al. 2011. Malaria in pregnancy: small babies, big problem. *Trends Parasitol*. 27(4):168-75.
- Unger HW, et al. 2023. The effect and control of malaria in pregnancy and lactating women in the Asia-Pacific region. *Lancet Glob Health*. 11(11) e1805-e1818.
- World Health Organization (WHO). Malaria. Available at: <https://www.who.int/malaria/en/> [Accessed 2/2020].

- Zakama AK, et al. 2019. Malaria in Pregnancy: What the Obstetric Provider in Nonendemic Areas Needs to Know. *Obstet Gynecol Surv.* 74(9):546-556.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [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, February 1, 2026.

Malaria

Selected References:

- Altshuler LL, et al. 1996. Pharmacologic Management of Psychiatric Illness during Pregnancy: Dilemmas and Guidelines. *Am J Psychiatry*, 153(5):592-606.
- Ban L, et al. 2012. Live and Non-Live Pregnancy Outcomes among Women with Depression and Anxiety: A Population-Based Study. *PLoS ONE*, 7(8):e43462.
- Bennet PN, The WHO Working Group. 1988. *Drugs and Human Lactation*. Elsevier, Amsterdam, New York, Oxford, pp. 289-290.
- Committee on Drugs, American Academy of Pediatrics. 2001. The transfer of drugs and other chemicals into human breast milk. *Pediatrics*, 108:776-89.
- Deligiannidis K, et al. 2014. A Review of Pharmacokinetic Changes and Clinical Recommendations for Therapeutic Drug Monitoring. *J Clin Psychopharmacology*, 34(2):244-255.
- Desaunay P, et al. 2022. Neonatal hypotonia following in utero exposure to antidepressant drugs. *J Pediatr*, 245:222-226.e2.
- Ericson A, et al. 1999. Delivery outcome after the use of antidepressants in early pregnancy. *Eur J Clin Pharmacol*, 55:503-508.
- Hemels MEH, et al. 2005. Antidepressant Use During Pregnancy and the Rates of Spontaneous Abortions: A Meta-Analysis. *Ann Pharmacother*, 39(5):803-809.

- Horst PGJ, et al. 2011. Clomipramine concentration and withdrawal symptoms in 10 neonates. *Br J Clin Pharmacol*, 73(2):295-302.
- Huybrechts KF, et al. 2015. Antidepressant use late in pregnancy and risk of persistent pulmonary hypertension of the newborn. *JAMA*, 313(21):2142-2151.
- Larsen ER, et al. 2015. Use of psychotropic drugs during pregnancy and breastfeeding. *Acta Psychiatr Scand*, 132:1-28.
- McElhatton PR, et al. 1996. The Outcome of Pregnancy in 689 Women Exposed to Therapeutic Doses of Antidepressants. A Collaborative Study of The European Network of Teratology Information Services (ENTIS)
- Misri S, et al. 1991. Tricyclic drugs in pregnancy and lactation: a preliminary report. *Int J Psychiatry Med*, 21(2):157-171.
- Mitchell JE, Popkin MK. 1983. Antidepressant drug therapy and sexual dysfunction in men: a review. *J Clin Psychopharm*, 3:76-79.
- Nulman I, et al. 1997. Neurodevelopment of Children Exposed in Utero to Antidepressant Drugs. *The New England Journal of Medicine*, 336(4):258-262.
- Nulman I, et al. 2002. Child Development Following Exposure to Tricyclic Antidepressant or Fluoxetine throughout Fetal Life: A Prospective, Controlled Study. *Am J Psychiatry*, 159(11):1889-1895.
- Osborne LM, et al. 2014. Returning to tricyclic antidepressants for depression during childbearing: clinical and dosing challenges. *Arch Womens Ment Health*, 17:239-246.
- Pearson KH, et al. 2007. Birth Outcomes Following Prenatal Exposure to Antidepressants. *J Clin Psychiatry*, 68(8):1284-1289.
- Shah AA, et al. 2015. Are Psychotropic Drugs Safe to Use During Lactation? *Psychiatric Annals*, 45(2):77-82.
- Shatan C, et al. 1966. Withdrawal Symptoms after Abrupt Termination of Imipramine. *Canadian Psychiatric Association Journal*, 11:150-158.
- Uguz F, et al. 2014. Low-dose imipramine for treatment of panic disorder during pregnancy: a retrospective chart review. *J Clin Psychopharmacol*, 34(4):513-515.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [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, February 1, 2026.

Malaria

Selected References:

- Abramowitz A, et al. 2017. Treatment options for hyperemesis gravidarum. *Arch Womens Ment Health*. 20(3): 363-372.
- American College of Obstetricians and Gynecologists (ACOG). 2018. ACOG Practice Bulletin No. 189: Nausea and vomiting on pregnancy. *Obstet Gynecol*. 131(1):e15-e30.
- Anderka M, et al. 2012. Medications used to treat nausea and vomiting of pregnancy and the risk of selected birth defects. *Birth Defects Res A Clin Mol Teratol*. 94(1):22-30.
- Association of Professors of Gynecology and Obstetrics (APGO). 2015. Educational series on women's health issues on nausea and vomiting of pregnancy.
- Attard CL, et al. 2002. The burden of illness of severe nausea and vomiting of pregnancy in the United States. *Am J Obstet Gynecol*. 186(5 Suppl):S220-S227.
- Bruun MR, et al. 2021. Nausea During Pregnancy and Timing of Pubertal Development in Sons and Daughters: A Population-Based Cohort Study. *Clin Epidemiol*. 13:895-905.
- Chortatos A, et al. 2015. Pregnancy complications and birth outcomes among women experiencing nausea only or nausea and vomiting during pregnancy in the Norwegian Mother and Child Cohort Study. *BMC Pregnancy Childbirth*. 15:138.
- Clark SM, et al. 2014. The outpatient management and special considerations of nausea and vomiting in pregnancy. *Semin Perinatol*. 38(8):496-502.
- Clark SM, et al. 2024. Inpatient Management of Hyperemesis Gravidarum. *Obstet Gynecol*. 143(6):745-758.
- Colodro-Conde L, et al. 2016. Nausea & Vomiting During Pregnancy is Highly Heritable. *Behav Genet*. 46(4):481-491.
- Einarson A, et al. 2007. Treatment of nausea and vomiting in pregnancy. *Can Fam Physician*. 53(12): 2109-2111.
- Ebrahimi N, et al. 2010. Optimal management of nausea and vomiting of pregnancy. *Int J Womens Health*. 2: 241-248.
- Fejzo M, et al. 2015. Neurodevelopmental delay in children exposed in utero to hyperemesis gravidarum. *Eur J Obstet Gynecol Reprod Biol*. 189:79-84.
- Fiaschi L, et al. 2018. Adverse Maternal and Birth Outcomes in Women Admitted to Hospital for Hyperemesis Gravidarum: a Population-Based Cohort Study. *Paediatr Perinat Epidemiol*. 32(1):40-51.
- Gill SK, et al. 2009. The effect of Acid-reducing pharmacotherapy on the severity of nausea and vomiting of pregnancy. *Obstet Gynecol Int*. 2009:585269.
- Gu L, et al. 2021. Association of nausea and vomiting of pregnancy with infant growth in the first 24 months of life. *Arch Gynecol Obstet*. 304(2):429-438
- Heitmann K, et al. 2016. Nausea in pregnancy: attitudes among pregnant women and general practitioners on treatment and pregnancy care. *Scand J Prim Health Care*. 34(1):13-20.
- Heitmann K, et al. 2016. Treatment of nausea and vomiting during pregnancy -a cross-sectional study among 712 Norwegian women. *Eur J Clin Pharmacol*. 72(5):593-604.
- Koren G, et al. 2004. Pre-emptive therapy for severe nausea and vomiting of pregnancy and hyperemesis gravidarum. *J Obstet Gynaecol*. 24(5):530-533.
- Koren G, et al. 2014. The protective effects of nausea and vomiting of pregnancy against adverse fetal outcome - a systematic review. *Reprod Toxicol*. 47:77-80.
- Madjunkova S, et al. 2013. The Leading Concerns of American Women with Nausea and Vomiting of Pregnancy Calling Motherisk NVP Helpline. *Obstet Gynecol Int*. 2013:752980. doi: 10.1155/2013/752980.
- Maltepe C, et al. 2013. The management of nausea and vomiting of pregnancy and hyperemesis gravidarum-a

2013 update. *J Popul Ther Clin Pharmacol*. 20(2):e184-92.

- Maltepe C, et al. 2013. Preemptive treatment of nausea and vomiting of pregnancy: results of a randomized controlled trial. *Obstet Gynecol Int*. 2013; 2013:809787.
- McCormack D. 2010. Hypnosis for hyperemesis gravidarum. *J Obstet Gynaecol*. 30(7):647-653.
- Muchanga SMJ, Japan Environment and Children's Study Group, et al. 2020. Association between nausea and vomiting of pregnancy and postpartum depression: the Japan Environment and Children's Study. *J Psychosom Obstet Gynaecol*. 4(1):2-10.
- Nana M, et al. 2026. Hyperemesis gravidarum. *Lancet*. 407(10523):78-89.
- Nulman I, et al. 2009. Long-term neurodevelopment of children exposed to maternal nausea and vomiting of pregnancy and Diclectin. *J Pediatr*.155(1):45-50. Oudmana E, et al. 2019. Wernicke's encephalopathy in hyperemesis gravidarum:
- A systematic review. *Eur J Obstet Gynecol Reprod Biol*. 236:84-93.
- Regodón Wallin A, et al. 2020. Nausea, vomiting and poor appetite during pregnancy and adverse birth outcomes in rural Nepal: an observational cohort study. *BMC Pregnancy Childbirth*. 20(1):545.
- Varela P, Deltsidou A. 2021. Hyperemesis gravidarum and neonatal outcomes: A systematic review of observational studies. *Taiwan J Obstet Gynecol*. 60(3):422-432.
- Veenendaal MV, et al. 2011. Consequences of hyperemesis gravidarum for offspring: a systematic review and meta-analysis. *BJOG*. 118(11):1302-1313.
- Wang H, et al. 2020. Severe nausea and vomiting in pregnancy: psychiatric and cognitive problems and brain structure in children. *BMC Med*. 18(1):228.
- Weigel RM, Weigel MM. 1989. Nausea and vomiting of early pregnancy and pregnancy outcome. A meta-analytical review. *Br J Obstet Gynaecol*; 96(11):1312-1318.
- Zhang Y, et al. 2018. Association between severe nausea and vomiting in early pregnancy and the risk of neural tube defects in Northern China. *Birth Defects Res*. 110(5):406-412.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [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, February 1, 2026.

Malaria

Selected References:

- Anderson PO, et al. 2007. Hydrocodone excretion into breast milk: the first two reported cases. *Breastfeeding Medicine*, 2(1):10-14.
- Azuine RE, et al, 2019. Prenatal risk factors and perinatal and postnatal outcomes associated with maternal opioid exposure in an urban, low-income, multiethnic US population. *JAMA Network Open*, 2(6); e196405-196405.
- Broussard CS, et al, 2011. Maternal treatment with opioid analgesics and risk for birth defects. *Am J Obstet Gynecol*, 204(4):314.e1-11.
- Desai RJ, et al, 2015. Exposure to prescription opioid analgesics in utero and risk of neonatal abstinence syndrome: population based cohort study. *BMJ*, 350:h2012.
- Fishman B, et al. 2019. Pregnancy outcome following opioid exposure: A cohort study. *PLoS One*, 14(7):e0219061.
- Flannagan KS, et al. 2020. Prescription opioid use among populations of reproductive age: effects on fertility, pregnancy loss, and pregnancy complications. *Epidemiol Rev*, 42(1):117-133.
- Fronczak CM, et al. 2012. The insults of illicit drug use on male fertility. *Journal of Andrology*, 33(4): 515-528.
- Heinonen OP, et al. 1977. *Birth Defects and Drugs in Pregnancy*. Littleton, MA: Publishing Sciences Group.
- Hsieh A. 2018. Management strategies in opioid abuse and sexual dysfunction: a review of opioid-induced androgen deficiency. *Sexual Medicine Reviews*, 6(4):618-623.
- Kellogg A, et al. 2011. Current trends in narcotic use in pregnancy and neonatal outcomes. *Am J Obstet Gynecol*, 204(3):259.e1-4.
- Lind JN, et al. 2017. Maternal use of opioids during pregnancy and congenital malformations: a systematic review. *Pediatrics*, 139(6):e20164131.
- Madadi P, et al. 2012. Pharmacogenetics of opioids for the treatment of acute maternal pain during pregnancy and lactation. *Curr Drug Metab*, 13(6):721-727.
- Patrick SW, et al. 2015. Prescription opioid epidemic and infant outcomes. *Pediatrics*, 135(5):842-850.
- Reece-Stremtan S, et al. 2017. ABM Clinical Protocol #15: Analgesia and Anesthesia for the Breastfeeding Mother, Revised 2017. *Breastfeeding Medicine*, 12(9):500-506.
- Rosa F, personal communication, FDA. 1993. Cited in: Briggs GG, et al. *Drugs in Pregnancy and Lactation Online*, Hudson, Ohio: Wolters Kluwer Clinical Drug Information, Inc. Nov 15, 2017.
- Ryan KS, et al. 2023. Opioid use in pregnancy: a review. *Obstet Gynecol Surv*, 78(1):35-49.
- Sauberan JB, et al. 2011. Breast milk hydrocodone and hydromorphone levels in mothers using hydrocodone for postpartum pain. *Obst Gynecol*, 117(3):611-617.
- Schick B, et al. 1996. Preliminary analysis of first trimester exposure to oxycodone and hydrocodone. *Reprod Toxicol*, 10:162.
- Semet M, et al. 2017. The impact of drugs on male fertility: a review. *Andrology*, 5(4):640-663.
- Shirel T, et al. 2016. Maternal opioid dose is associated with neonatal abstinence syndrome in children born to women with sickle cell disease. *Am J Hematology*, 91(4):416-419.
- Smith MV, et al. 2015. Clinical correlates of prescription opioid analgesic use in pregnancy. *Matern Child Health J*, 19(3):548-556.
- Suján AC, et al. 2019. Maternal prescribed opioid analgesic use during pregnancy and associations with adverse birth outcomes: a population-based study. *PLoS Medicine*, 16(12):e1002980.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [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, February 1, 2026.

Malaria

Selected References:

- Ahmadi A, et al. 2022. Prevalence of *Listeria monocytogenes* infection in women with spontaneous abortion, normal delivery, fertile and infertile. *BMC Pregnancy and Childbirth*. 22(1):974.
- Ahmed S, et al. 2024. Listeriosis Infection in Pregnancy: A Case Series. *Cureus*; 16(11):e74135.
- Awofiasayo A, et al. 2015. Pregnancy-associated listeriosis in England and Wales. *Epidemiol Infect*. 143(2):249-256.
- Basri NI.2024.Listeriosis in pregnancy: a challenge in diagnosis. *BMJ Case Rep*; 17(4):e259938.
- Bortolussi R, Mailman TL. Listeriosis. 2006. Remington JS, Klein JO, editors. *Infectious diseases of the fetus and newborn infant*. 6th ed. W.B. Saunders Company, p. 465-483.
- Castaño Frías L,et al.2024. Case Series of *Listeria monocytogenes* in Pregnancy: Maternal-Foetal Complications and Clinical Management in Six Cases. *Microorganisms*; 12(11):2306.
- Charlier C, et al. MONALISA study group. 2017. Clinical features and prognostic factors of listeriosis: the MONALISA national prospective cohort study. *Lancet Infect Dis*. 17(5):510-519.
- Cito G, et al. 2005. Listeriosis in pregnancy: a case report. *J Maternal Fetal Neonatal Med*.18(6):367-368.
- Craig, AM, et al. 2019. Listeriosis in pregnancy: a review. *Obstet Gynecol Surv*. 74(6):362-368.
- Craig A, et al. 2022. Maternal and obstetric outcomes of listeria pregnancy: insights from a national cohort. *J Matern Fetal Neonatal Med*; 35(25):10010-10016.
- Desai RW, et al. 2017. Pregnancy-related listeriosis. *Birth Defects Res*. 15;109(5):324-335.
- Fotopoulou ET, et al. 2024. *Listeria monocytogenes*: the silent assassin. *J Med Microbiol*. 73(3):001800.
- HasbúnJ,et al. 2013. Chorioamnionitis caused by *Listeria monocytogenes*: a case report of ultrasound features of fetal infection. *Fetal Diagn Ther*. 33(4):268-271.
- LaTugaMS.2025. Invasive Neonatal Listeriosis. *Neoreviews*; 26(9):e615-e620.
- Lorber B. *Listeria monocytogenes*. 2005. Mandell GL, Bennett JE, Dolin R, editors. *Principles and practice of infectious diseases*. 6th ed. Elsevier Churchill Livingstone; p. 2478-2484.
- Jackson KA, et al. 2010. Pregnancy-associated listeriosis. *Epidemiol Infect*.138(10):1503-1509.
- Janakiraman V. 2008. Listeriosis in pregnancy: diagnosis, treatment, and prevention. *RevObstetGynecol*. 1(4):179-185.

- Johnson LJ, et al. 2021. Humanplacentaltrophoblasts infected by *Listeria monocytogenes* undergo a pro-inflammatory switch associated with poor pregnancy outcomes. *Front Immunol.* 12:709466.
- Koopmans MM, et al. 2023. Human Listeriosis. *Clin Microbiol Rev*; 36(1):e0006019.
- Kraus V Jr, et al. 2024. *Listeria* in Pregnancy-The Forgotten Culprit. *Microorganisms*; 12(10):2102.
- Quinlivan JA, et al. 1988. Ultrasound features of congenital listeriosis- a case report. *Prenat Diagn.* 18(10):1075-1078.
- Sappenfield E, et al. 2013. Pregnancy and susceptibility to infectious diseases. *Infect Dis Obstet Gynecol.* 2013:752852.
- Simon K, et al. 2018. *Listeria*, then and now: a call to reevaluate patient teaching based on analysis of US federal databases, 1998-2016. *J Midwifery Womens Health.* 63(3):301-308.
- Sarr M, et al. 2021. A *Listeria monocytogenes* clone in human breast milk associated with severe acute malnutrition in West Africa: a multicentric case-controlled study. *PLoS Negl Trop Dis.* 15(6):e0009555.
- Silver, HM. 1998. Listeriosis during pregnancy. *Obstet Gynecol Surv.* 53(12):737-740.
- The American College of Obstetricians and Gynecologists. 2014, reaffirmed 2019. Committee Opinion No. 614: Management of pregnant women with presumptive exposure to *Listeria monocytogenes*. *Obstet Gynecol.* 124(6):1241-1244.
- The Centers for Disease Control and Prevention (CDC), 2024. About *Listeria* infection. <https://www.cdc.gov/listeria/about/index.html> [Accessed 2/2026].
- The Centers for Disease Control and Prevention (CDC). 2011 Outbreak of *Listeria* Infections Linked to Whole Cantaloupes: <https://www.cdc.gov/listeria/outbreaks/cantaloupes-jensen-farms/index.html>
- U.S. Department of Health and Human Services. 2024. *Listeria*, FoodSafety.Gov. available at: <https://www.foodsafety.gov/food-poisoning/bacteria-and-viruses#listeria>
- Vázquez-Boland JA, et al. 2017. *Listeria* placental infection. *Mbio.* 8(3):e00949-17.
- Vidal EN, et al. 2019. Listeriosis during pregnancy and in newborns: 18 Years of data from a large tertiary hospital in Singapore. *J Pediatric Infect Dis Soc.* 9(4):498-501.
- Wong JMH, et al. 2024. Listeriosis in pregnancy. *CMAJ.* 196(28):E978.
- Zhan Y, et al. 2023. Perinatal infection with *Listeria monocytogenes*: a 10-year hospital-based study in western China. *J Inflamm Res.* 16:1243-1254.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [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, February 1, 2026.