Acetaminophen (Paracetamol)

Selected References:

- Ahlqvist VH, et al. 2024. Acetaminophen Use During Pregnancy and Children's Risk of Autism, ADHD, and Intellectual Disability. JAMA, 331(14):1205–1214.
- Alwan S, et al. 2022. Paracetamol use in pregnancy – caution over causal inference from available data. Nat Rev Endocrinol, 18(3):190.
- American College of Obstetricians and Gynecologists (ACOG). 2025. Acetaminophen Use in Pregnancy and Neurodevelopmental Outcomes. Practice Advisory, ACOG. https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2025/09/acetaminophen-use-in-pregnancy-and-neurodevelopmental-outcomes
- Andrade C. 2016. Use of acetaminophen (paracetamol) during pregnancy and the risk of autism spectrum disorder in the offspring. J Clin Psychiatry; 77(2):e152-4. Arneja J, et al. 2020. Association between maternal acetaminophen use and adverse birth outcomes in a pregnancy and birth cohort. Pediatr Res; 87(7):1263-1269.
- Aselton P, et al. 1985. First-trimester drug use and congenital disorders. Obstet Gynecol 65:451-5.
- Aw M, et al. 1999. Neonatal paracetamol poisoning. Arch Dis Child Fetal Neonatal Ed; 81(1):F78.
- Baker BH, et al. 2020. Association of Prenatal Acetaminophen Exposure Measured in Meconium With Risk of Attention-Deficit/Hyperactivity Disorder Mediated by Frontoparietal Network Brain Connectivity. JAMA pediatrics, 174(11):1073–1081.
- Bauer AZ, et al. 2018. Prenatal paracetamol exposure and child neurodevelopment: A review. Hormones Behav 101:125-147.
- Baur AZ, et al. 2021. Paracetamol use during pregnancy – a call for precautionary action. Nat Rev Endocrinol, 17(12):757-766.
- Bornehag CG, et al. 2018. Prenatal exposure to acetaminophen and children's language development at 30 months. Eur Psychiatry, in press.
- Bornehag CG, et al. 2018. Reply to: Shukla et al., Commentary on: Prenatal exposure to acetaminophen and children's language development at 30 months. Eur Psychiatry 51:86.
- Brandlistuen RE, et al. 2013. Prenatal paracetamol exposure and child neurodevelopment: a sibling-controlled cohort study. Int J Epidemiol; 42(6):1702-13.
- Castro CT, et al. 2022. Effect of Acetaminophen use during pregnancy on adverse pregnancy outcomes: a systematic review and meta-analysis. Expert Opin Drug Saf, 21(2):241-251.
- D'Antonio F, et al. 2026. Prenatal paracetamol exposure and child neurodevelopment: a systematic review and meta-analysis. The Lancet Obstetrics, Gynaecology, & Women's Health; 2, e190-e198.
- Damker P, et al. 2022. Handle with care – interpretation, synthesis and dissemination of data on paracetamol in pregnancy. Nat Rev Endocrinol, 18:191.
- Damkier P, et al. 2025. Acetaminophen in Pregnancy and Attention-Deficit and Hyperactivity Disorder and Autism Spectrum Disorder. Obstetrics and Gynecology, 145(2):168–176.
- Feldkamp ML, et al. 2010. Acetaminophen use in pregnancy and risk of birth defects. Obstet Gynecol;
- Golding J, et al. 2020. Associations between paracetamol (acetaminophen) intake between 18 and 32 weeks gestation and neurocognitive outcomes in the child: A longitudinal cohort study. Paediatr Perinat Epidemiol; 34(3):257-266.
- Harvard Health Publishing. 2017. Acetaminophen safety: Be cautious but not afraid. https://www.health.harvard.edu/pain/acetaminophen-safety-be-cautious-but-not-afraid [Accessed 5/18]115(1):109-15.
- Jick H, et al. 1981. First-trimester drug use and congenital disorders. JAMA; 246(4):343-6.
- Li DK, et al. 2003. Exposure to non-steroidal anti-inflammatory drugs during pregnancy and risk of miscarriage: population-based cohort study. BMJ, 327(7411):368. doi: 10.1136/bmj.327.7411.368.

- Li D, et al. 2018. Use of nonsteroidal anti-inflammatory drugs during pregnancy and risk of miscarriage. Am J Obstet Gynecol; 219(3):275.e1-275e8.
- Kang EM, et al. 2009. Prenatal exposure to acetaminophen and asthma in children. Obstet Gynecol; 114 (6):1295-1306.
- Liew Z, et al. 2019. Use of negative control exposure analysis to evaluate confounding: An example of acetaminophen exposure and attention-deficit/hyperactivity disorder in Nurses' Health Study II. Am J Epidemiol 188(4): 768-775.
- Liew Z, et al. 2014. Acetaminophen use during pregnancy, behavioral problems, and hyperkinetic disorders. JAMA Pediatr;168(4):313-20.
- Marsh CA, et al. 2014. Case-control analysis of maternal prenatal analgesic use and cardiovascular malformations: Baltimore-Washington Infant Study. Am J Obstet Gynecol; 211(4):404.e1-9.
- McElhatton PR, et al. 1997. Paracetamol overdose in pregnancy analysis of the outcomes of 300 cases referred to the Teratology Information Service. Reprod Toxicol; 11(1):85-94.
- Niederhoff H and Zahradnik HP 1983. Analgesics during pregnancy. Am J Med; 75:117-120.
- Ricci C et al. 2023. In utero acetaminophen exposure and child neurodevelopmental outcomes: Systematic review and meta-analysis. Paediatric and perinatal epidemiology, 37(5):473–484.
- Riggs BS, et al. 1989. Acute acetaminophen overdose during pregnancy. Obstet Gynecol; 74(2):247-53.
- Rosevear SK and Hope PL. 1989. Favourable neonatal outcome following maternal paracetamol overdose and severe fetal distress. Case report. Br J Obstet Gynaecol; 96(4):491-3.
- Smarr MM, et al. 2016. Urinary paracetamol and time-to-pregnancy. Hum Reprod, 31(9):2119–2127.
- Wesselink AK, et al. 2020. Association Between Male Use of Pain Medication and Fecundability. Am J Epidemiol, 189(11):1348–1359.
- Zafeiri A, et al. 2022. Maternal over-the-counter analgesics use during pregnancy and adverse perinatal outcomes: cohort study of 151,141 singleton pregnancies. BMJ Open, 12:e048092.

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Acetaminophen (Paracetamol)

Selected References:

- ACOG Committee on Health Care for Underserved Women. 2011 (reaffirmed 2021). Committee Opinion No. 479: Methamphetamine abuse in women of reproductive age. Obstet Gynecol; 117:751-5.
- Ajayi AF et al. 2020. The physiology of male reproduction: Impact of drugs and their abuse on male fertility. Andrologia; *52*(9): e13672.
- Brecht ML, Herbeck DM. 2014. Pregnancy and fetal loss reported by methamphetamine-using women. Subst Abuse; 8:25-33.
- Chang L, et al. 2004. Smaller subcortical volumes and cognitive deficits in children with prenatal methamphetamine exposure. Psych Res:Neuroimaging; 132:95-106.
- Chomchai C, et al. 2016. Transfer of methamphetamine (MA) into breast milk and urine of postpartum women who smoked MA tablets during pregnancy: Implications for initiation of breastfeeding. J Hum Lact; 32:333-9.
- Chu EK, et al. 2020. Behavior Problems During Early Childhood in Children With Prenatal Methamphetamine Exposure. Pediatrics; 146(6):e20190270.
- Cohen JM, et al. 2017. Placental complications associated with psychostimulant use in pregnancy. Obstet Gynecol; 130(6):1192-201.
- Courtney KE, Ray LA. 2014. Methamphetamine: an update on epidemiology, pharmacology, clinical phenomenology, and treatment literature. Drug Alcohol Depend; 1;143:11-21.
- Derauf C, et al. 2012. Prenatal methamphetamine exposure and inhibitory control among young school-age children. J Pediatr; 161(3):452-9.
- Dinger J, et al. 2017. Methamphetamine consumption during pregnancy – effects on child health. Pharmacopsychiatry; 50(3):107-113.
- Dyk Jv, et al. 2014. Maternal methamphetamine use in pregnancy and long-term neurodevelopmental and behavioral deficits in children. J Popul Ther Clin Pharmacol; 21(2):e185-96.
- Eriksson M, et al. 1981. Amphetamine addiction and pregnancy II. Pregnancy, delivery and the neonatal period. Socio-medical aspects. Acta Obstet Gynecol Scand; 60:253-259, 1981.
- Garey JD, et al. 2020 Teratogen update: Amphetamines. Birth Defects Res; 112(15):1171-1182.
- Golub M, et al. 2005. NTP CERHR Expert Panel Report on the reproductive and developmental toxicity of amphetamine and methamphetamine. Birth Defects Res B Dev Reprod Toxicol; 74(6):471-584.
- Good MM, et al. 2010. Methamphetamine use during pregnancy: maternal and neonatal implications. Obstet Gynecol; 116(2 Pt 1):330-4.
- Gorman MC, et al. 2014. Outcomes in pregnancies complicated by methamphetamine use. Am J Obstet Gynecol; 211(4):429.e1-7.
- Hamed M, et al. 2023. Psychoactive drugs and male fertility: impacts and mechanisms. Reprod Biol Endocrinol; 21,69.
- Harst L, et al. 2021. Prenatal Methamphetamine Exposure: Effects on Child Development–A Systematic Review. Dtsch Arztebl Int. 7;118(18):313-319
- Hayer S, et al. 2024. Prenatal methamphetamine use increases risk of adverse maternal and neonatal outcomes. American journal of obstetrics and gynecology; 231(3),356.e1–356.e15.
- Heinonen OP, et al. 1977. Birth Defects and Drugs in Pregnancy. Littleton, MA: John Wright-PSG, pp 346-347, 439.
- LaGasse LL, et al. 2011. Prenatal methamphetamine exposure and neonatal neurobehavioral outcome in the

USA and New Zealand. Neurotoxicol Teratol; 33(1):166-75.

- LaGasse LL, et al. 2012. Prenatal methamphetamine exposure and childhood behavior at 3 and 5 years of age. Pediatrics; 129(4):681-688.
- Little BB, et al. 1988. Methamphetamine abuse during pregnancy: outcome and fetal effects. Obstet Gynecol; 72:541-4.
- Kalaitzopoulos DR, et al. 2018. Effect of methamphetamine hydrochloride on pregnancy outcome: A systematic review and meta-analysis. J Addict Med;. 12(3):220-226.
- Kittirattanapaiboon P, et al. 2017. Methamphetamine use and dependence in vulnerable female populations. Curr Opin Psychiatry; 30(4):247-252.
- Kwiatkowski MA, et al. 2018. Cognitive outcomes in prenatal methamphetamine exposed children aged six to seven years. Compr Psychiatry; 80:24-33.
- Newport DJ, et al. 2016. Prenatal psychostimulant and antidepressant exposure and risk of hypertensive disorders of pregnancy. J Clin Psychiatry; 77(11):1538-45.
- Nguyen D, et al. 2010. Intrauterine growth of infants exposed to prenatal methamphetamine: results from the infant development, environment, and lifestyle study. J Pediatr; 157(2):337-9.
- Ornoy A. 2018. Pharmacological treatment of attention deficit hyperactivity disorder during pregnancy and lactation. Pharm Res; 35:46.
- Pentecost R, et al. 2021. Scoping Review of the Associations Between Perinatal Substance Use and Perinatal Depression and Anxiety. J Obstet Gynecol Neonatal Nurs; 50(4):382-391
- Pflügner A, et al. 2018. [Methamphetamine consumption during pregnancy and its effects on neonates]. Klin Padiatr; 230(1):31-38.
- Pierce SL, et al. 2019. Methamphetamine-associated cardiomyopathy in pregnancy. Mayo Clinic Proc; 94(3):551-554.
- Rastegar-Pouyani N, et al. 2025. Prenatal Exposure to Methamphetamine and Its Association With Birth Outcomes: A Meta-Analysis. Birth defects research; 117(7), e2488.
- Roussotte FF, et al. 2012. Frontostriatal connectivity in children during working memory and the effects of prenatal methamphetamine, alcohol, and polydrug exposure. Dev Neurosci; 34(1):43-57.
- Sanjari Moghaddam H, et al. 2021. Effects of Prenatal Methamphetamine Exposure on the Developing Human Brain: A Systematic Review of Neuroimaging Studies. ACS Chem Neurosci. 4;12(15):2729-2748.
- Sankaran, D, et al. 2021. Methamphetamine: burden, mechanism and impact on pregnancy, the fetus, and newborn. J Perinatol.
- Shah R, et al. 2012. Prenatal methamphetamine exposure and short-term maternal and infant medical outcomes. Am J Perinatol; 29(5):391-400.
- Smid MC, et al. 2019. Stimulant use in pregnancy: An under-recognized epidemic among pregnant women. Clin Obstet Gynecol; 62(1):168-184.
- Smith LM, et al. 2003. Effects of prenatal methamphetamine exposure on fetal growth and drug withdrawal symptoms in infants born at term. J Dev Behav Pediatr; 24(1):17-23.
- Smith LM, et al. 2006. The infant development, environment, and lifestyle study: effects of prenatal methamphetamine exposure, polydrug exposure, and poverty on intrauterine growth. Pediatrics; 118(3):1149-56.
- Smith LM, et al. 2008. Prenatal methamphetamine use and neonatal neurobehavioral outcome. Neurotoxicol Teratol; 30(1):20-28.
- Smith LM, et al. 2011. Motor and cognitive outcomes through three years of age in children exposed to prenatal methamphetamine. Neurotoxicol Teratol; 33(1):176-84.
- Stewart JL, Meeker JE. 1997. Fetal and infant deaths associated with maternal methamphetamine abuse. J Anal Toxicol; 21(6):515-7.
- Twomey J, et al. 2013. Prenatal methamphetamine exposure, home environment, and primary caregiver risk factors predict child behavioral problems at 5 years. The American journal of orthopsychiatry; 83(1):64-72.
- Wouldes TA, et al. 2014. Prenatal methamphetamine exposure and neurodevelopmental outcomes in children

from 1 to 3 years. Neurotoxicol Teratol; 42:77-84.
- Wouldes TA, Lester BM. 2023. Opioid, methamphetamine, and polysubstance use: perinatal outcomes for the mother and infant. Front Pediatr. 1:1305508.
- Wright TE, et al. 2015. Methamphetamines and pregnancy outcomes. J Addict Med; 9(2):111-7.

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Acetaminophen (Paracetamol)

Selected References:

- Ali, R, et al. 2022. Review of recent evidence on the management of heartburn in pregnant and breastfeeding women. BMC gastroenterology; 22.1: 1-10.
- Anderka M, et al. 2012. National Birth Defects Prevention Study. Medications used to treat nausea and vomiting of pregnancy and the risk of selected birth defects. Birth Defects Res A Clin Mol Teratol; 94:22-30.
- Andersen ABT, et al. 2012. Prenatal exposure to acid-suppressive drugs and the risk of toddler asthma: a population-based Danish cohort study. Alim Pharmacol Ther; 35:1190-1198.
- Anderson P. 2018. Treating gastroesophageal reflux and heartburn while breastfeeding. Breastfeed Med;13(7):463–4.
- Bank, T, et al. 2024. Challenges in Conducting Clinical Trials for Preeclampsia. Curr Hypertens Rep 26, 59–68.
- Bor S, et al. 2017. The levels of pantoprazole in human breast milk and plasma: two compartment model. Neurogastroenterol Motil; 29:79–80.
- Dehlink E, et al. 2009. First evidence of a possible association between gastric acid suppression during pregnancy and childhood asthma: a population-based register study. Clin Exp Allergy 39:246-53.
- Diav-Citrin O, et al. 2005. The safety of proton pump inhibitors in pregnancy: a multicentre prospective controlled study. Aliment Pharmacol Ther; 21:269-75.
- Erichsen R, et al. 2014. Maternal use of proton pump inhibitors during early pregnancy and the prevalence of hypospadias in male offspring. Am J Ther; 21: 254-259.

- Gill SK et al. 2009. The safety of proton pump inhibitors (PPIs) in pregnancy: a meta-analysis. Am J Gastroenterol; 104(6): 1541-1545.
- Hastie R, et al. 2019. Proton pump inhibitors and preeclampsia risk among 157 720 women: a Swedish population register–based cohort study. Hypertension; 73(5):1097–103.
- Huijgen NA. 2016. Are proton-pump inhibitors harmful for the semen quality of men in couples who are planning pregnancy? Fertility and Sterility, 106(7), 1666-1672.
- Kallen B. 1998. Delivery outcome after the use of acid-suppressing drugs in early pregnancy with special reference to omeprazole. Br J Obstet Gynaecol; 105:877-881.
- Kallen B. 2001. Use of omeprazole during pregnancy—no hazard demonstrated in 955 infants exposed during pregnancy. Eur J Obstet Gynecol Reprod Biol; 96:63-68.
- Keihani, S. et al. 2018. Proton-pump inhibitor use does not affect semen quality in subfertile men. Asian journal of andrology, 20(3), 290.
- Lalkin A, et al. 1998. The safety of omeprazole during pregnancy: a multicenter prospective controlled study. Am J Obstet Gynecol; 179(3 Pt 1): 727-730.
- Li, C, et al. 2020. Systematic review with meta-analysis: the risks of proton pump inhibitors during pregnancy. Alimentary pharmacology & therapeutics; 51.4: 410-420.
- Mahadevan, Uma. 2007. “Gastrointestinal Medications in Pregnancy.” Best Practice & Research Clinical Gastroenterology; 21(5): 849–77.
- Majithia, R., & Johnson, D. A. (2012). Are Proton Pump Inhibitors Safe during Pregnancy and Lactation? 10.
- Marshall JK, et al. 1998. Omeprazole for refractory gastroesophageal reflux disease during pregnancy and lactation. Can J Gastroenterol; 12: 225-227.
- Matok I, et al. 2012. The safety of fetal exposure to proton-pump inhibitors during pregnancy. Dig Dis Sci; 57:699-705.
- Mills K, et al. 2024. The effects of proton pump inhibitors during pregnancy on treatment of preeclampsia and related outcomes: a systematic review and meta-analysis. Am J Obstet Gynecol MFM; 6(10):101478.
- Mumtaz, N, et al. 2022. Harmful Consequences of Proton Pump Inhibitors on Male Fertility: An Evidence from Subchronic Toxicity Study of Esomeprazole and Lansoprazole in Wistar Rats. International Journal of Endocrinology; 2022:4479261.
- Nikfar S, et al. 2002. Use of proton pump inhibitors during pregnancy and rates of major malformations: a meta-analysis. Dig Dis Sci; 47:1526-9.
- Neuman R, et al. 2022. Omeprazole Administration in Preterm Preeclampsia: a Randomized Controlled Trial to Study Its Effect on sFlt-1 (Soluble Fms-Like Tyrosine Kinase-1), PlGF (Placental Growth Factor), and ET-1 (Endothelin-1). Hypertension; 79(6):1297-1307.
- Pasternak B, Hviid A. 2010. Use of proton-pump inhibitors in early pregnancy and the risk of birth defects. N Engl J Med; 363:2114-2123.
- Saito J, et al. 2020. Esomeprazole During Pregnancy and Lactation: Esomeprazole Levels in Maternal Serum, Cord Blood, Breast Milk, and the Infant’s Serum. Breastfeeding Medicine; 15(9):598-601.
- Thélin CS, & Richter JE. 2020. Review article: the management of heartburn during pregnancy and lactation. Alimentary Pharmacology & Therapeutics; 51(4), 421–434.
- Yitshak-Sade M, et al. 2016. Prenatal exposure to H2 blockers and to proton pump inhibitors and asthma development in offspring. J Clinic Pharmacol; 56: 116-123.

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Acetaminophen (Paracetamol)

Selected References:

- Amstrong, C. 2008. ACOG Guidelines on Psychiatric Medication Use During Pregnancy and Lactation. Am Fam Physician; 78(6):772-778.
- Eberhard-Gran MM, et al. 2006. Use of psychotropic medications in treating mood disorders during lactation: practical recommendations. CNS Drugs; 20(3):187-98.
- Frey OR, et al. 1999. Adverse effects in a newborn infant breast-fed by a mother treated with doxepin. Ann Pharmacother; 33(6):690-3.
- Iqbal M. 1999. Effects of Antidepressants During Pregnancy and Lactation. Ann Clin Psychiatry; 11(4):237-56.
- Kemp J, et al. 198. Excretion of doxepin and N-desmethyldoxepin in human milk. Br J Clin Pharmacol 20:497-9.
- Kirchheiner J, et al. 2005. Impact of the CYP2D6 ultra-rapid metabolizer genotype on doxepin pharmacokinetics and serotonin in platelets. Pharmacogenet Genomics; 15(8):579–87.
- Matheson I, et al. 1985. Respiratory depression caused by N-desmethyldoxepin in breast milk. Lancet 2: 1124.
- 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). Reprod Toxicol; 10:285-94.
- Miller M, et al. 2020. Sleep Pharmacotherapy for Common Sleep Disorders in Pregnancy and Lactation. Chest; 157(1):184-197.
- Nulman I, et al. 1997. Neurodevelopment of children exposed in utero to antidepressant drugs. N Engl J Med; 336:258-62.
- Steiner M. 2012. Prenatal exposure to antidepressants: how safe are they? Am J Psychiatry; 169(11): 1130–1132.
- Venkatesh KK, et al. 2017. Impact of antidepressant treatment during pregnancy on obstetric outcomes among women previously treated for depression: an observational cohort study. J Perinatol; 37(9):1003-1009.

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Acetaminophen (Paracetamol)

Selected References:

- Benyamini L, et al. 2005. The safety of amoxicillin/clavulanic acid and cefuroxime during lactation. Ther Drug Monit. 27(4):499–502.
- Boissiere-O'Neill T, et al. 2026. Exposure to Systemic Antimicrobials During Pregnancy and Risk of Miscarriage: A Population-Based Registry Study. BJOG 133(7):1394–1404.
- Chu YN, et al. 2019. Toxic epidermal necrolysis in an infant induced by drug intake through breast milk. Dermatologica Sinica. 37(2):86–89.
- Crider KS, et al. 2009. Antibacterial medication use during pregnancy and risk of birth defects: National Birth Defects Prevention Study. Archives of Pediatrics & Adolescent Medicine, 163(11), 978–985.
- Czeizel AE, et al. 2001. Use of cephalosporins during pregnancy and in the presence of congenital anomalies: a population-based, case-control study. Am J Obstet Gynecol. 184(6):1289-1896.
- Ilett KF, et al. 2006. Transfer of probenecid and cephalexin into breast milk. Ann Pharmacother. 40(5):986–989.
- Ito S, et al. 1993. Prospective follow-up of adverse reactions in breast-fed infants exposed to maternal medication. Am J Obstet Gynecol. 168(5):1393–1399.
- Kafetzi D, et al. 1981. Passage of cephalosporins and amoxicillin into the breast milk. Acta Paediatr Scand. 70(3):285-288.
- Rau A, et al. 2024. Management of Acne in Pregnancy, Am J Clin Dermatol. 25(3):465-471.
- Saad AF, et al. 2025. Prophylactic Oral Cephalexin and Metronidazole Compared With Placebo After Cesarean Delivery to Reduce Infection Complications in Women With Obesity: A Randomized Controlled Trial. Obstet Gynecol. 146(1):113-120.
- Teva Pharmaceuticals. 2020. Cephalexin product label. Available at: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=19307ff0-71de-477b-965d-ea243e5ede3a. [Accessed April 4 2026]

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