

Penicillin G

Selected References:

- Chu S, et al. 2015. Periconceptional and Gestational Exposure to Antibiotics and Childhood Asthma. PLoS One 10(10):e0140443
- Crider KS, et al. 2009. Antibacterial medication use during pregnancy and risk of birth defects: National Birth Defects Prevention Study. Arch Pediatr Adolesc Med. 163(11):978-985.
- Czeizel AE, et al. 1999. A population-based case-control teratological study of three parenteral penicillins G. Congenital Anomalies 39:117-126.
- Dencker BB, et al. 2002. Birth outcome of 1886 pregnancies after exposure to phenoxymethylpenicillin in utero. Clin Microbiol Infect 8:196-201.
- Gallagher, JS. 1988. Anaphylaxis in pregnancy. Obstet Gynecol 71:491-493.
- Greene H, et al. 1946. Excretion of penicillin in human milk following parturition. Am J Obstet Gynecol 51:732-733.
- Heinonen OP, et al. 1977. Birth Defects and Drugs in Pregnancy. Publishing Sciences Group: 299-313, 435.
- Jepsen P, et al. 2003. A population-based study of maternal use of amoxicillin and pregnancy outcome in Denmark. Br J Clin Pharmacol 55(2):216-221.
- Kosim H. 1959. Intrauterine fetal death as a result of anaphylactic reaction to penicillin in a pregnant woman. Dapim Refuiim 18:136-137.
- Meeraus WH, et al. 2015. Association between antibiotic prescribing in pregnancy and cerebral palsy or epilepsy in children born at term: a cohort study using the health improvement network. PLoS One 10(3): e0122034.
- Nahum GG, et al. 2006. Antibiotic use in pregnancy and lactation: what is and is not known about teratogenic and toxic risks. Obstet Gynecol 107(5):1120-38.
- Njotto LL, et al. 2023. Maternal and early-life exposure to antibiotics and the risk of autism and attention-deficit hyperactivity disorder in childhood: a Swedish population-based cohort study. Drug Saf. 46(5):467-478.
- Ortqvist AK, et al. 2014. Antibiotics in fetal and early life and subsequent childhood asthma: nationwide population based study with sibling analysis. BMJ. 349:g6979.
- Ravid R & Toaff R. 1972. On the possible teratogenicity of antibiotic drugs administered during pregnancy – a prospective study. Drugs and Fetal Development: 505-510.
- Simons & Schatz. 2012. Anaphylaxis during pregnancy. J Allergy Clin Immunol 130(3): 597-606.

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Penicillin G

Selected References:

- Agache I, et al. 2010. Risk factors and asthma phenotypes in children and adults with seasonal allergic rhinitis. *Phys Sportsmed* 38(4):81-86.
- Cao S, et al. 2020. Changes in children's asthma prevalence over two decades in Lanzhou: effects of socioeconomic, parental and household factors. *J Thorac Dis* 12(10):6365-6378.
- Centers for Disease Control and Prevention. 2020. General Information about Mold. Available from URL: <https://www.cdc.gov/mold-health/about/index.html>
- Centers for Disease Control and Prevention. 2004. Investigation of acute idiopathic pulmonary hemorrhage among infants – Massachusetts, December 2002-June 2003. *MMWR* 53:817-820.
- Centers for Disease Control and Prevention. 2020. Natural Disasters and Severe Weather. Mold after a Disaster. Available from URL: <https://www.cdc.gov/disasters/mold/>.
- Centers for Disease Control and Prevention. 2000. Update: pulmonary hemorrhage/hemosiderosis among infants – Cleveland, Ohio, 1993-1996. *MMWR* 49:180-184.
- DiPaolo JA, et al. 1967. Teratogenic response by hamsters, rats and mice to aflatoxin B1. *Nature* 215:638-9.
- Etzel RA, et al. 1998. Acute pulmonary hemorrhage in infants associated with exposure to *Stachybotrys atra* and other fungi. *Arch Pediatr Adolesc Med* 152:757-762.
- Gallant MJ, et al. 2020. Prenatal and early-life exposure to indoor air-polluting factors and allergic sensitization at 2 years of age. *Ann Allergy Asthma Immunol* 124(3):283-287.
- Hayes AW, et al. 1974. Teratogenic effects of ochratoxin A in mice. *Teratology* 9:93-7.
- Korpinen E. 1974. Studies on *Stachybotrys alternans*: effect of low doses of *stachybotrys* toxins on pregnancy of mice. *Acta Path Microbiol Scand* 82:457-464.
- Lee E, et al. 2020. Prenatal mold exposure is associated with development of atopic dermatitis in infants through allergic inflammation. *J Pediatr (Rio J)* 96:125-31.
- Loth EA, et al. 2015. Experimental *Paracoccidioidomycosis* in pregnant rats. *Rev Inst Med Trop San Paulo* 57(6): 515-518.
- Magoha H, et al. 2014. Association between aflatoxin M1 exposure through breast milk and growth impairment in infants from Northern Tanzania. *World Mycotoxin J* 7(3): 277-284.
- Magoha H, et al. 2014. Fumonisin B1 contamination in breast milk and its exposure in infants under 6 months of age in Rombo, Northern Tanzania. *Food Chem Toxicol* 74:112-116.
- Martyny JW, et al. 2005. Aerosolized sodium hypochlorite inhibits viability and allergenicity of mold on building materials. *J Allergy Clin Immunol* 116:630-635.
- Reddy CS, et al. 1981. Teratogenicity of secalonic acid D in mice. *J Toxicol Environ Health* 7:445-55.
- Strina A, et al. 2014. Risk factors for no-atopic asthma/wheeze in children and adolescents: a systematic review. *Emerg Themes Epidemiol* 11:5.

- US Environmental Protection Agency (EPA). 2024. Mold and Health. Available at URL: <https://www.epa.gov/mold/mold-and-health>
- US Environmental Protection Agency (EPA). 2018. Mold and Your Home. Available at URL: <https://www.epa.gov/mold/mold-and-your-home>.

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Penicillin G

Selected References:

- Alhomoud MA, et al. The Potential Preventive Effect of Pregnancy and Breastfeeding on Multiple Sclerosis. *Eur Neurol*. 2021;84(2):71-84.
- Amato MP and Portaccio E. 2015. Fertility, pregnancy and childbirth in patients with multiple sclerosis: impact of disease-modifying drugs. *CNS Drugs*. 29(3): 207-20.
- Andersen JB, et al. Pregnancy-Related and Perinatal Outcomes in Women With Multiple Sclerosis: A Nationwide Danish Cross-sectional Study. *Neurol Clin Pract*. 2021 Aug;11(4):280-290.
- Arafa A, et al. Does multiple sclerosis increase the risk of preeclampsia? A systematic review and meta-analysis. *Hypertens Pregnancy*. 2021 Aug;40(3):180-185.
- Ashtari F, et al. Investigating the interaction between fertility, pregnancy, and multiple sclerosis. *J Educ Health Promot*. 2021 Jun 30;10:220.
- Berenguer-Ruiz L, et al. 2019. Relapses and obstetric outcomes in women with multiple sclerosis planning pregnancy. *J Neurol* 266(10):2512-2517.
- Bove R. 2016. Women's Issues in Multiple Sclerosis. *Semin Neurol*. 36(2):154-62.
- Bsteh G, et al. 2020. Pregnancy and multiple sclerosis in the DMT era: A cohort study in Western Australia. *Mult Scler*. 26(1): 69-78.
- Carta A, et al. Maternal multiple sclerosis is not a risk factor for neurodevelopmental disorders in offspring. *Mult Scler J Exp Transl Clin*. 2021 May 28;7(2).

- Coyle PK. 2016. Management of women with multiple sclerosis through pregnancy and after childbirth. *Ther Adv Neurol Disord.* May;9(3):198-210.
- Cuello JP, et al. 2017. Multiple sclerosis and pregnancy: a single-centre prospective comparative study. *Neurologia.* 32(2):92-98.
- D'Amico E, et al. Male fertility in relapsing-remitting multiple sclerosis patients treated with natalizumab and ocrelizumab: A prospective case-control study. *Mult Scler.* 2021 Dec;27(14):2284-2287.
- Eid K, et al. Perinatal Depression and Anxiety in Women With Multiple Sclerosis: A Population-Based Cohort Study. *Neurology.* 2021 Jun 8;96(23):e2789-e2800.
- Fragoso YD, et al. 2013. The effects of long-term exposure to disease-modifying drugs during pregnancy in multiple sclerosis, *Clin Neurol Neurosurg.* Feb;115(2): 154-9.
- Houtchens MK, et al. 2018. Pregnancy rates and outcomes in women with and without MS in the United States. *Neurology* 2018;91:e1559-69.
- Hughes SE, et al. 2014. Predictors and dynamics of postpartum relapses in women with multiple sclerosis. *Mult Scler* 20(6) 739-746.
- Jokubaitis VG, et al; MS Base Study Group. 2016. Predictors of long-term disability accrual in relapse-onset multiple sclerosis. *Ann Neurol.* 80(1):89-100.
- Lamaita R, et al. Multiple Sclerosis in Pregnancy and its Role in Female Fertility: A Systematic Review. *JBRA Assist Reprod.* 2021 Jul 21;25(3):493-499.
- Langer-Gould A. 2019. Pregnancy and family planning in multiple sclerosis. *Continuum* 25(3):773-792.
- Lu E, et al. 2014. Birth outcomes of pregnancies fathered by men with multiple sclerosis. *Mult Scler* Feb;20(9):1260-1264.
- Mahlanza TD, et al. Prospective growth and developmental outcomes in infants born to mothers with multiple sclerosis. *Mult Scler.* 2021 Jan;27(1):79-89.
- Massarotti C, et al. Effect of Multiple Sclerosis and Its Treatments on Male Fertility: Cues for Future Research. *J Clin Med.* 2021 Nov 19;10(22):5401.
- Moccia M, et al. 2023. Fertility, pregnancy and childbirth in women with multiple sclerosis: a population-based study from 2018 to 2020. *Journal of Neurology, Neurosurgery & Psychiatry,* 94:689-697.
- Neuteboom RF, et al. 2012. Pregnancy in multiple sclerosis: clinical and self-report scales. *J Neurol.* 259(2):311-7.
- Paidas PJ, et al. 2012. Pregnancy and multiple sclerosis (MS): A beneficial association. Possible therapeutic application of embryo-specific Pre-implantation Factor (PIF*). *Am J Reprod Immunol* 68(6):456-64.
- Pecori C, et al. 2014. Paternal therapy with disease modifying drugs in multiple sclerosis and pregnancy outcomes: a prospective observational multicentric study. *BMC Neurol.* 14:114.
- Sadovnick D. et al. 2023. The Canadian Multiple Sclerosis Pregnancy Study: First-trimester miscarriages in women with multiple sclerosis. *Multiple Sclerosis Journal,* 29(3), 407-414.
- Safarinejad MR. 2008. Evaluation of endocrine profile, hypothalamic-pituitary-testis axis and semen quality in multiple sclerosis. *J Neuroendocrinol.* 20(12):1368-1375.
- Villaverde-Gonzalez R, et al. 2020. Discontinuation of disease-modifying treatments in multiple sclerosis to plan a pregnancy: A retrospective registry study. *Mult Scler Relat Disord.* 46:102518.
- Voskuhl R, Momtazee C. 2017. Pregnancy: Effect on Multiple Sclerosis, Treatment Considerations, and Breastfeeding. *Neurotherapeutics.* 14(4):974-984.
- Weber-Schoendorfer C and Schaefer C. 2009. Multiple sclerosis, immunomodulators, and pregnancy outcome: a prospective observational study. *Mult Scler* 15(9):1037-1042.
- Zanghi A, et al. 2020. Pregnancy and the postpartum period in women with relapsing-remitting multiple sclerosis treated with old and new disease-modifying treatments: A real-world multicenter experience. *Front Neurol* 11:105.
- Ziemssen T, et al. 2001. Risk-benefit assessment of glatiramer acetate in multiple sclerosis. *Drug Saf.* 24(13):979-990.

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Penicillin G

Selected References:

- Abdel-Aleem H, et al. 2003. The pharmacokinetics of the prostaglandin E1 analogue misoprostol in plasma and colostrum after postpartum oral administration. *Eur J Obstet Gynecol Reprod Biol*; 108(1):25-8.
- Abdelshafy A, et al. 2019. Sublingual vs vaginal misoprostol for completion of first trimester missed abortion: a randomised controlled trial. *Eur J Contracept Reprod Health Care* 12: 1-6.
- Ameri A, et al. 2024. Effect of misoprostol versus oxytocin on delivery outcomes after labour induction in pregnant women: A systematic review and meta-analysis of randomized controlled trials. *Eur J Obstet Gynecol Reprod Biol*. 292:75-88.
- Auffret M, et al. 2016. Misoprostol exposure during the first trimester of pregnancy: Is the malformation risk varying depending on the indication? *Eur J Obstet Gynecol Reprod Biol*; 207:188-192.
- Bernard N, et al. 2013. Continuation of pregnancy after first-trimester exposure to mifepristone: an observational prospective study. *BJOG*; 120:568-575.
- Bord I, et al. 2014. Misoprostol treatment for early pregnancy failure does not impair future fertility. *Gynecol Endocrinol*; 30(4):316-9.
- Brasil R, et al. 2000. Misoprostol and congenital anomalies. *Pharmacoepidemiol Drug Saf*; 9(5):401-3.
- Brown SE, et al. 2001. Vaginal misoprostol enhances intrauterine insemination. *Hum Reprod* 2001; 16(1):96-101.
- Coelho KE, et al. 2000. Misoprostol embryotoxicity: clinical evaluation of fifteen patients with arthrogryposis. *Am J Med Genet*; 95(4):297-301.
- da Silva Dal Pizzol T, et al. 2006. Prenatal exposure to misoprostol and congenital anomalies: systematic review and meta-analysis. *Reprod Toxicol*; 22(4):666-71.
- Dal Pizzol Tda S, et al. 2008. Exposure to misoprostol and hormones during pregnancy and risk of congenital anomalies. *Cad Saude Publica*; 24(6):1447-53.
- Genest DR, et al. 1999. Terminal transverse limb defects with tethering and omphalocele in a 17 week fetus following first trimester misoprostol exposure. *Clin Dysmorphol*; 8(1):53-8.
- Gonzalez CH, et al. 1993. Limb deficiency with or without Möbius sequence in seven Brazilian children associated with misoprostol use in the first trimester of pregnancy. *Am J Med Genet*; 47(1):59-64.
- Gonzalez CH, et al. 1998. Congenital abnormalities in Brazilian children associated with misoprostol misuse in

first trimester of pregnancy. Lancet; 351(9116):1624-7.

- Holmes LB, et al. 2018. Malformations attributed to the process of vascular disruption. Birth Defects Res; 110(2):98-107.
- Kandahari N, et al. 2023. Fetal heart rate patterns and the incidence of adverse events after oral misoprostol administration for cervical ripening among low-risk pregnancies. J Matern Fetal Neonatal Med. 36(1):2199344.
- Kim C, et al. 2017. Medical treatments for incomplete miscarriage. Cochrane Database Syst Rev; 1(1):CD007223.
- Orioli IM, Castilla EE. 2000. Epidemiological assessment of misoprostol teratogenicity. BJOG; 107(4):519-23.
- Ozbasli E, et al. 2022. Labor induction with intravaginal misoprostol versus spontaneous labor: maternal and neonatal outcomes. Biomed Res Int. 2022:2826927.
- Pastuszek AL, et al. 1998. Use of misoprostol during pregnancy and Möbius' syndrome in infants. N Engl J Med; 338(26):1881-5.
- Patel F, Cusack J. 2019. Möbius sequence with central hypoventilation in a neonate after failed elective medical termination of pregnancy. Arch Dis Child Fetal Neonatal Ed; 104(1):F49.
- Pfizer Laboratories Div Pfizer Inc. Last updated July 9, 2021. Cytotec drug label. Source: National Library of Medicine. Available at <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=4ab12da7-5731-4e06-bf1c-bc3f2e711f12>.
- Schuler L, et al. 1999. Pregnancy outcome after exposure to misoprostol in Brazil: a prospective controlled study. Reprod Toxicol; 13:147-151.
- Shimizu T, et al. 1992. Prostaglandin E1, E2, and F2 alpha in human milk and plasma. Biol Neonate; 61:222-5.
- Song J. 2000. Use of misoprostol in obstetrics and gynecology. Obstet Gynecol Surv; 55(8):503-10.
- van Look PF, von Hertzen H. 1995. Misoprostol and birth defects. BMJ; 310(6972):128.
- Vargas FR, et al. 2000. Prenatal exposure to misoprostol and vascular disruption defects: a case-control study. Am J Med Genet; 95(4):302-6.
- Vauzelle C, et al. 2013. Birth defects after exposure to misoprostol in the first trimester of pregnancy: Prospective follow-up study. Reprod Toxicol; 36:98-103.
- Vendramini-Pittoli S, et al. 2013. Clinical findings in children with congenital anomalies and misoprostol intrauterine exposure: a study of 38 cases. J Pediatr Genet. 2013 Dec;2(4):173-80.
- Vogel D, et al. 2004. Misoprostol versus methylergometrine: pharmacokinetics in human milk. Am J Obstet Gynecol; 191:2168-73.
- Yip SK, et al. 2000. Misoprostol's effect on uterine arterial blood flow and fetal heart rate in early pregnancy. Obstet Gynecol; 95(2):232-5.

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Penicillin G

Selected References:

- Carmichael SL, et.al. 2005. Maternal progestin intake and risk of hypospadias. Archives of Pediatrics & Adolescent Medicine, 159(10):957-962.
- Check JH, et al. 1986. The risk of fetal anomalies as a result of progesterone therapy during pregnancy. Fertil Steril, 45:575-577.
- Committee on Drugs. 2001. The transfer of drugs and other chemicals into human milk. Pediatrics, 108(3):776-789.
- American College of Obstetricians and Gynecologists' Committee on Practice Bulletins-Obstetrics. 2021. rPrediction and prevention of spontaneous preterm birth: ACOG Practice Bulletin, Number 234. Obstet Gynecol, 138(2):e65-e90.
- Devall AJ, et al. 2021. Progestogens for preventing miscarriage: A network meta-analysis. Cochrane Database Sys Rev, 4(4):CD013792.
- Duds I, et al. 2006. Population-based case-control teratogenic study of hydroxyprogesterone treatment during pregnancy. Congenit Anom (Kyoto), 46:194-198.
- Fawzy M, et al. 2008. Treatment options and pregnancy outcome in women with idiopathic recurrent miscarriage: a randomized placebo-controlled study. Arch Gynecol Obstet, 278(1):33-38.
- Heinonen OP, et al. 1977. Birth Defects and Drugs in Pregnancy. Littleton, Mass.: John Wright-PSG, pp 389, 391-392, 394, 443, 478, 497.
- Heinonen OP, et al. 1977. Cardiovascular birth defects and antenatal exposure to female sex hormones. N Engl J Med, 296:67-60.
- Massai R, et al. 2005. Extended use of a progesterone-releasing vaginal ring in nursing women: a phase II clinical trial. Contraception, 72:352-357.
- Michaelis J, et al. 1983. Prospective study of suspected associations between certain drugs administered during early pregnancy and congenital malformations. Teratology, 27:57-64.
- Norman JE, et al. 2009. Progesterone for the prevention of preterm birth in twin pregnancy (STOPPIT): a randomised, double-blind, placebo-controlled study and meta-analysis. Lancet, 373(9680):2034-2040.
- Practice Committee of the American Society for Reproductive Medicine. 2008. Progesterone supplementation during the luteal phase and in early pregnancy in the treatment of infertility: an educational bulletin. Fertility and Sterility, 89(4):789-792.
- Practice Committee of the American Society for Reproductive Medicine. 2012. Evaluation and treatment of recurrent pregnancy loss: a committee opinion. Fertility and Sterility, 98(5):1103-1111.
- RamaRao S, et al. 2013. Progesterone vaginal ring: Introducing a contraceptive to meet the needs of breastfeeding women. Contraception, 88(5):591-598.
- Roy M, et al. 2020. Progesterone vaginal ring as a new contraceptive option for lactating mothers: Evidence from a multicenter non-randomized comparative clinical trial in India. Contraception, 102(3):159-167.
- Silver RI, et al. 1999. In vitro fertilization is associated with an increased risk of hypospadias. J Urology, 161(6):1954-1957.

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