Critical Periods of Development

Selected References:

- Ackerman S. Discovering the Brain. Washington (DC): National Academies Press (US); 1992. 6. The Development and Shaping of the Brain. Available from: https://www.ncbi.nlm.nih.gov/books/NBK234146/.
- American College of Obstetricians and Gynecologists (ACOG). 2024. Facts Are Important: Understanding and Navigating Viability. Retrieved from: https://www.acog.org/advocacy/facts-are-important/understanding-and-navigating-viability.
- Hales B, et al. 2018. Teratology Primer, 3rd Edition. Society for Birth Defects Research and Prevention. https://www.birthdefectsresearch.org/primer/
- Helwany M, et al. 2023. Embryology, Ear. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557588/
- Libretti S, Aeddula NR. 2023. Embryology, Genitourinary. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK559309/.
- Malhotra R, et al. 2023. Enhancing Omphalocele Care: Navigating Complications and Innovative Treatment Approaches. Cureus; 15(10):e47638.
- Moore KL, et al. 2013. The Developing Human: Clinically Oriented Embryology (9th Ed.). Saunders.
- Rentea RM, Gupta V. 2023. Gastroschisis. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557894/.
- Sadler TW. 2014. Langman's Medical Embryology (13th Edition), Philadelphia, PA: Wolters Kluwer.
- Singh R, Munakomi S. Embryology, Neural Tube. [Updated 2023 May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK542285/.
- The Centers for Disease Control and Prevention (CDC). 2024. Specific Birth Defects and Other Health Conditions. Retrieved from: https://www.cdc.gov/birth-defects/about/types.html.
- Tickle C. 2015. How the embryo makes a limb: determination, polarity and identity. J Anat; 227(4):418-30.
- Zaontz MR, Packer MG. 1997. Abnormalities of the external genitalia. Pediatr Clin North Am; 44(5):1267-97.

Descargo de responsabilidad: las hojas informativas de MotherToBaby están destinadas a fines de información general y no deben reemplazar los consejos de su proveedor de atención médica. MotherToBaby es un servicio de la Organización sin fines de lucro de Especialistas en Información de Teratología (OTIS). Copyright de OTIS, 1 de abril de 2025.

Critical Periods of Development

Selected References

- Abel MH, et al. 2017. Suboptimal maternal iodine intake is associated with impaired child neurodevelopment at 3 years of age in the Norwegian Mother and Child Cohort Study. J Nutr, 147(7):1314-1324.
- Alexander EK, et al. 2017. 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.
- Andersson M, Braegger CP. 2022. The role of iodine for thyroid function in lactating women and infants. Endocr Rev, 43(3):469-506.
- Council on Environmental Health. Iodine deficiency, pollutant chemicals, and the thyroid: new information on an old problem. Pediatrics, 133:1163-1166.
- Hamby T, et al. 2018. Maternal iodine excess: an uncommon cause of acquired neonatal hypothyroidism. J Pediatr Endocrinol Metab, 31(9):1061-1064.
- Kerver JM, et al. 2021. Prevalence of inadequate and excessive iodine intake in a US pregnancy cohort. Am J Obstet Gynecol, 224(1):82.e1-82.e8.
- Leung AM, et al. 2009. Iodine content of prenatal multivitamins in the United States. N Engl J Med, 360(9):939-940.
- Melse-Boonstra A, Mackenzie I. 2013. Iodine deficiency, thyroid function and hearing deficit: a review. Nutr Res Rev, 26(2):110-117.
- Næss S, et al. 2023. Infant iodine status and associations with maternal iodine nutrition, breast-feeding status and thyroid function. The British journal of nutrition, 129(5):854–863.
- Obican SG, et al. 2012. Teratology public affairs committee position paper: Iodine deficiency in pregnancy. Birth Defects Res A Clin Mol Teratol, 94(9):677-82.
- Partal-Lorente AB, et al. 2017. Iodine is associated to semen quality in men who undergo consultations for infertility. Reprod Toxicol, 73:1-7.
- Pawlak R, et al. 2023. Prevalence and predictors of low breast milk iodine concentration in women following vegan, vegetarian, and omnivore diets. Breastfeeding Medicine 18(1):37-42.
- Pérez-López FR. 2007. Iodine and thyroid hormones during pregnancy and postpartum. Gynecol Endocrinol, 23(7):414-428.
- Petersen E, et al. 2020. Iodine status of breastfed infants and their mothers' breast milk iodine concentration. Matern Child Nutr, 16(3):e12993.
- Purdue-Smithe AC, et al. 2022. Iodine and thyroid status during pregnancy and risk of stillbirth: A population-based nested case-control study. Matern Child Nutr, 18(1):e13252.
- Soldin OP, et al. 2003. Urinary iodine percentile ranges in the United States. Clin Chim Acta, 328(1-2):185-90.
- Thomas Jde V, Collett-Solberg PF. 2009. Perinatal goiter with increased iodine uptake and hypothyroidism due to excess maternal iodine ingestion. Horm Res, 72(6):344-7.
- Yang J, et al. 2017. Maternal iodine status during lactation and infant weight and length in Henan Province, China. BMC Pregnancy Childbirth. 17(1):383.
- Zhao W, et al. 2019. Iodine nutrition during pregnancy. Biol Trace Elem Res, 188(1): 196-207.
- Zimmermann MB. 2007. The impact of iodized salt or iodine supplements on iodine status during pregnancy, lactation and infancy. Public Health Nutr, 10(12A):1584-1595.

¿Preguntas? Llame al 866.626.6847 | Texto 855.999.3525 | Correo electrónico o chat en MotherToBaby.org .

Descargo de responsabilidad: las hojas informativas de MotherToBaby están destinadas a fines de información general y no deben reemplazar los consejos de su proveedor de atención médica. MotherToBaby es un servicio de la Organización sin fines de lucro de Especialistas en Información de Teratología (OTIS). Copyright de OTIS, 1 de abril de 2025.

Critical Periods of Development

Selected References:

- Amber MR, et al. 2015. Safety of popular herbal supplements in lactating women. J Hum Lact, 31(3):348-353.
- Ashar BH and Rowland-Seymour A. 2008. Advising patients who use dietary supplements. Am J Med, 121(2):91-97.
- Balbontin YM, et al. 2019. Herbal medicinal product use during pregnancy and the postnatal period. Obstetrics and gynecology, 133(5):920-932.
- Bruno LO et al. 2018. Pregnancy and herbal medicines: an unnecessary risk for women's health. Phytotherapy Research, 32(5):796-810.
- Ciganda C and Laborde A. 2003. Herbal infusions used for induced abortion. J Toxicol Clin Toxicol, 41(3):235-239.
- Dante G, et al. 2013. Herb remedies during pregnancy: a systematic review of controlled clinical trials. J Maternal-Fetal and Neonatal Med, 26(3): 306-312.
- Dante G et al. 2014. Herbal therapies in pregnancy: what works? Curr Opin Obstet Gynecol, 26:83-91.
- Frawley J et al. 2015. Women's use and self-prescription of herbal medicine during pregnancy: an examination of 1,835 pregnant women. Women's Health Issues, 25(4):396-402.
- Kim KH, et al. 2018. Characteristics and outcomes of female infertility treatment programs using traditional medicine in Korea: a multisite analysis. J Alternative and Complimentary Medicine, 24(6):570-577.
- Lei HL, et al. 2015. Relationship between risk factors for infertility in women and lead, cadmium, and arsenic blood levels: a cross-sectional study from Taiwan. BMC Public Health, 15:1220.

- Newmaster SG, et al. 2013. DNA Barcoding detects contamination and substitution in North American herbal products. BMC Medicine, 11:222.
- Smeriglio A, et al. 2014. Herbal products in pregnancy: experimental studies and clinical reports. Phytother Res, 28:1107-1116.
- Trabace L, et al. 2015. “Natural” relief of pregnancy-related symptoms and neonatal outcomes: above all do no harm. J Ethnopharmacol 174:396-402.
- Wang CC, et al. 2013. Pregnancy outcomes, embryonic and fetal development in maternal exposure to Chinese medicines. Birth Defects Res (Part C), 99:275-291.
- Zamawe C, et al. 2018. Effectiveness and safety of herbal medicines for induction of labour: a systematic review and meta-analysis. BMJ Open. 9(10):1-9.

Descargo de responsabilidad: las hojas informativas de MotherToBaby están destinadas a fines de información general y no deben reemplazar los consejos de su proveedor de atención médica. MotherToBaby es un servicio de la Organización sin fines de lucro de Especialistas en Información de Teratología (OTIS). Copyright de OTIS, 1 de abril de 2025.

Critical Periods of Development

Selected References

- Bernigaud C, et al. 2020. The Management of Scabies in the 21 st Century: Past, Advances and Potentials. Acta dermato-venereologica, 100.
- Bowden VR. 2012. Losing the louse: how to manage this common infestation in children. Pediatr Nurs, 38(5):253- 254, 277.
- Chan R & Hoyt-Austin AE. 2024. Scabies Infection While Expressing Human Milk for Critically Ill Infants: Is It Safe?. Breastfeeding medicine: the official journal of the Academy of Breastfeeding Medicine, 19(4):306–308.
- Cole SW, et al. 2011. Spinosad for treatment of head lice infestation. Pharmacother 45.7-8: 954-959.Clin Infect Dis. (2002) 35 (Supplement 2): S146-S151.
- Dzierzawski A. 1977. Embryo-toxicity studies of lindane in the golden hamster, rat and rabbit. Bull Vet Inst Pulawy, 21:85-93.

- Gunning K, et al. 2019. Lice and Scabies: Treatment Update. Am Fam Physician, 99(10):635-642.
- Gupta P. 1990. Teratogenic effects of cypermethrin in rats. J Environ Biol, 11(2):121-126.
- Hale, T. 2006. Medications and Mothers' Milk. Amarillo, TX: Hale Publishing.
- Kennedy D, et al. 2005. Pregnancy outcome following exposure to permethrin and use of teratogen information. Am J Perinatol, 22(2):87-90.
- Khera K, et al. 1982. Teratogenicity study on pyrethrum and rotenone (natural origin) in pregnant rats. J Toxicol Environ Health, 10:111-119.
- Khera K, et al. 1978 Teratogenicity studies on linuron, malathion, and methoxychlor in rats. Toxicol Appl Pharmacol, 45:435-444.
- Leachman SA, et al. 2006. The use of dermatologic drugs in pregnancy and lactation. Derm clin, 24.2:167-197.
- Miyamoto J. 1976 Degradation, metabolism and toxicity of synthetic pyrethroids. Environ Health Criter, 14:15-28.
- Morand A, et al. 2024. Management of scabies in children under 15 kg and pregnant or breastfeeding women: recommendations supported by the Centre of Evidence of the French Society of Dermatology. The British journal of dermatology, 191(6):1014–1016.
- Murase JE, et al. 2014. Safety of dermatologic medications in pregnancy and lactation: Part I. Pregnancy. J Amer Aca of Derm, 70:401-e1.
- Mytton OT, et al. 2007. Safety of benzyl benzoate lotion and permethrin in pregnancy: a retrospective matched cohort study. BJOG, 114(5):582-587.
- Nicolas P, et al. 2020. Safety of oral ivermectin during pregnancy: a systematic review and meta-analysis. Lancet Glob Health, 8:e92–e100.
- Ogbuokiri J, et al. 1994. Ivermectin levels in human breast milk [letter]. Eur J Clin Pharmacol, 46:89-90.
- Pacque M, et al. 1990. Pregnancy outcome after inadvertent ivermectin treatment during community-based distribution. The Lancet, 336.8729:1486-1489.
- Patel VM, et al. 2016. Safety of topical medications for scabies and lice in pregnancy. Ind J of Derm, 61(6): 583.
- Porto I. 2003. Antiparasitic drugs & lactation: focus on anthelmintics, scabicides, & pediculosis. J Hum Lact, 19:421-5.
- Rosumeck S, et al. 2018. Ivermectin and permethrin for treating scabies. Cochrane Database Syst Rev 4
- Salavastru CM, et al. 2017. European guideline for the management of scabies. J Eur Acad Dermatol Venereol JEADV, 31:1248–1253.
- Sánchez-Díaz M, et al. 2024. European survey on the management of scabies by dermatologists in children under 2 months, pregnancy and breastfeeding woman. Journal of the European Academy of Dermatology and Venereology, 38(11):e950–e953.
- Sciammarella J. Scabies. Retrieved November 2014 from: http://www.emedicine.com/EMERG/topic517.htm.
- Strong M, et al. 2007. Interventions for treating scabies. Cochrane Database Syst Rev, 3.
- Sunderkötter C, et al. 2021. Scabies: Epidemiology, Diagnosis, and Treatment. Dtsch Arztebl Int, 118(41):695-704. PMID: 34615594 PMCID: PMC8743988 DOI: 10.3238/arztebl.m2021.0296
- The Centers for Disease Control and Prevention (CDC). 2019. Parasites –Lice – Treatment. [Accessed 4/2021]. Available at URL: https://www.cdc.gov/parasites/lice/head/treatment.html
- The Centers for Disease Control and Prevention (CDC). 2019. Parasites –Scabies -Medication. [Accessed 4/2021]. Available at URL: https://www.cdc.gov/parasites/scabies/health_professionals/meds.html
- The Centers for Disease Control and Prevention (CDC). 2010. Parasites–Scabies. Available at URL: https://www.cdc.gov/parasites/scabies/index.html [Accessed 5/2023].
- Weill A et al. 2021. Scabies-infested pregnant women: A critical therapeutic challenge. PLOS Neglected Trop Dis, 15.1: e0008929.

¿Preguntas? Llame al 866.626.6847 | Texto 855.999.3525 | Correo electrónico o chat en MotherToBaby.org .

Descargo de responsabilidad: las hojas informativas de MotherToBaby están destinadas a fines de información general y no deben reemplazar los consejos de su proveedor de atención médica. MotherToBaby es un servicio de la Organización sin fines de lucro de Especialistas en Información de Teratología (OTIS). Copyright de OTIS, 1 de abril de 2025.

Critical Periods of Development

Selected References:

- Abdullah K., et al. 2020. Effect of asthma exacerbation during pregnancy in women with asthma: A population-based cohort study. The European Respiratory Journal, 55(2), 1901335.
- Ali Z. 2017. Asthma and Pregnancy: Possible to prevent complications?- With Special reference to the impact of obesity and type of airway inflammation. Dan Med J. 64(12):B5428
- Bláfoss, J. et al. 2019. Female asthma and atopy – impact on fertility: A systematic review. Journal of Asthma and Allergy, 12, 205–211.
- Blais L, et al. 2010. Effect of maternal asthma on the risk of specific congenital malformations: A population-based cohort study. Birth Defects Res A 88(4):216-222.
- Bonham C, et al. 2018. Asthma Outcomes and Management During Pregnancy. Chest. 153(2):515-527.
- Chaumont M et al. 2019. Fourth generation e-cigarette vaping induces transient lung inflammation and gas exchange disturbances: results from two randomized clinical trials. Am J Physiol Lung Cell Mol Physiol. 2019 May 1; 316(5): L705–L719.
- Crowe H M, et al. 2020. Association of Asthma Diagnosis and Medication Use with Fecundability: A Prospective Cohort Study. Clinical Epidemiology, 12, 579–587.
- Davies G, et al. 2020. Medicines prescribed for asthma, discontinuation. and perinatal outcomes, including breastfeeding: A population cohort analysis. PloS One, 15(12), e0242489.
- Garne E, et al. 2015. Use of asthma medication during pregnancy and risk of specific congenital anomalies: A European case-malformed control study. J Allergy Clin Immunol. Jul 25. pii: S0091-6749(15)00837-4.
- Han V X, et al.2021. Maternal acute and chronic inflammation in pregnancy is associated with common neurodevelopmental disorders: A systematic review. Translational Psychiatry, 11(1), 71.
- Howley M. M., et al., & National Birth Defects Prevention Study. 2020. Asthma Medication Use and Risk of Birth Defects: National Birth Defects Prevention Study, 1997-2011. The Journal of Allergy and Clinical Immunology. In Practice, 8(10), 3490-3499.e9.
- Jöud A, ET AL. 2022. Infertility, pregnancy loss and assisted reproduction in women with asthma: a population-based cohort study. Hum Reprod ;37(12):2932-2941.
- Kallen B, 2007. The safety of asthma medications during pregnancy. Expert Opin Drug Saf 6(1):15-26.

- Kwon HL, et al. 2006. The epidemiology of asthma during pregnancy: prevalence, diagnosis, and symptoms. Immunol Allergy Clin North Am 26(1):29-62.
- Liu X, et al. 2019. Parental asthma occurrence, exacerbations, and risk of attention-deficit/hyperactivity disorder. Brain, Behavior, and Immunity, 82, 302–308.
- Longo C, et al. 2020. Timing of Maternal Asthma Diagnosis in Relation to Adverse Perinatal Outcomes. The Journal of Allergy and Clinical Immunology. In Practice, 8(6), 1938-1946.e4.
- Mehta N, et al. 2015. Respiratory disease in pregnancy. Best Pract Res Clin Obstet Gynaecol. 29(5):598-611.
- Middleton P G, et al. 2020. ERS/TSANZ Task Force Statement on the management of reproduction and pregnancy in women with airways diseases. European Respiratory Journal, 55(2).
- Murphy VE, et al. 2005. Asthma during pregnancy: mechanisms and treatment implications. Eur Respir 25:731-750.
- Namazy JA, Schatz M. 2015. Pharmacotherapy options to treat asthma during pregnancy. Expert Opin Pharmacother;16(12):1783-91.
- National Asthma Education and Prevention Program. Working Group. 2004. Report on managing asthma during pregnancy: Recommendations for pharmacologic treatment. Update 2004. NIH publication NO.05-5236. Bethesda, MD: US Department of Health and Human Services; National Institutes of Health; National Heart, Lung, and Blood Institute.
- Rejnö G, et al. 2019. Maternal anxiety, depression and asthma and adverse pregnancy outcomes – a population based study. Sci Rep. Sep 11;9(1):13101. doi: 10.1038/s41598-019-49508-z
- Robijn AL, et al. 2019. Inhaled corticosteroid use during pregnancy among women with asthma: A systematic review and meta-analysis. Clin Exp Allergy. 2019 Jul 29. doi: 10.1111/cea.13474. [Epub ahead of print]
- Robijn AL, et al. 2020. Effect of maternal asthma exacerbations on perinatal outcomes: a population-based study. ERJ open research, 6(4).
- Robijn AL, et al. 2024. Adverse neonatal outcomes in pregnant women with asthma: An updated systematic review and meta-analysis. Int J Gynaecol Obstet, 166(2):596-606.
- Roff AJ, et al. 2024 Maternal asthma during pregnancy and risks of allergy and asthma in progeny: A systematic review and meta-analysis. *BJOG*.
- Schatz M, Dombrowski MP 2009. Clinical practice: Asthma in pregnancy. N Engl J Med 360(18):1862-1869.
- Tidemandsen C, et al. 2022. Asthma Is Associated With Pregnancy Loss and Recurrent Pregnancy Loss: A Nationwide Cohort Study. J Allergy Clin Immunol Pract. 10(9):2326-2332.e3.
- Vanders RL, Murphy VE. 2015. Maternal complications and the management of asthma in pregnancy. Womens Health (Lond Engl);11(2):183-91.
- Vejen Hansen, A, et al. 2019. Fertility treatment among women with asthma: A case-control study of 3689 women with live births. The European Respiratory Journal, 53(2), 1800597.
- Wang, M., et al.2020. Maternal asthma and the risk of hypertensive disorders of pregnancy: A systematic review and meta-analysis of cohort studies. Hypertension in Pregnancy, 39(1), 12–24.
- Wasilewska E, & Małgorzewicz, S. 2019. Impact of allergic diseases on fertility. Postepy Dermatologii I Alergologii, 36(5), 507–512.
- Yland J J, et al. 2020. Perinatal Outcomes Associated with Maternal Asthma and Its Severity and Control During Pregnancy. The Journal of Allergy and Clinical Immunology: In Practice, 8(6), 1928-1937.e3.

¿Preguntas? Llame al 866.626.6847 | Texto 855.999.3525 | Correo electrónico o chat en MotherToBaby.org .

Descargo de responsabilidad: las hojas informativas de MotherToBaby están destinadas a fines de información general y no deben reemplazar los consejos de su proveedor de atención médica. MotherToBaby es un servicio de la Organización sin fines de lucro de Especialistas en Información de Teratología (OTIS). Copyright de OTIS, 1 de abril de 2025.