

## ***Obstetrics Grand Rounds: Late Preterm Antenatal Corticosteroids***

### **References**

Battarbee AN, Ye Y, Szychowski JM, Casey BM, Tita AT, Boggess KA. Euglycemia after antenatal late preterm steroids: a multicenter, randomized controlled trial. *Am J Obstet Gynecol MFM*. 2022 Jul;4(4):100625. doi: 10.1016/j.ajogmf.2022.100625. Epub 2022 Mar 26. PMID: 35346889; PMCID: PMC9195161.

Clapp MA, Melamed A, Freret TS, James KE, Gyamfi-Bannerman C, Kaimal AJ. US Incidence of Late-Preterm Steroid Use and Associated Neonatal Respiratory Morbidity After Publication of the Antenatal Late Preterm Steroids Trial, 2015-2017. *JAMA Netw Open*. 2022 May 2;5(5):e2212702. doi: 10.1001/jamanetworkopen.2022.12702. PMID: 35583868; PMCID: PMC9118048.

Committee on Obstetric Practice. Committee Opinion No. 713: Antenatal Corticosteroid Therapy for Fetal Maturation. *Obstet Gynecol*. 2017 Aug;130(2):e102-e109. doi: 10.1097/AOG.0000000000002237. PMID: 28742678.

Deshmukh M, Patole S. Antenatal corticosteroids for impending late preterm (34-36+6 weeks) deliveries-A systematic review and meta-analysis of RCTs. *PLoS One*. 2021 Mar 22;16(3):e0248774. doi: 10.1371/journal.pone.0248774. PMID: 33750966; PMCID: PMC7984612.

Gulersen M, Gyamfi-Bannerman C, Greenman M, Lenchner E, Rochelson B, Bornstein E. Time interval from late preterm antenatal corticosteroid administration to delivery and the impact on neonatal outcomes. *Am J Obstet Gynecol MFM*. 2021 Sep;3(5):100426. doi: 10.1016/j.ajogmf.2021.100426. Epub 2021 Jun 18. PMID: 34153514.

Gyamfi-Bannerman C, Thom EA, Blackwell SC, Tita AT, Reddy UM, et al; NICHD Maternal-Fetal Medicine Units Network. Antenatal Betamethasone for Women at Risk for Late Preterm Delivery. *N Engl J Med*. 2016 Apr 7;374(14):1311-20. doi: 10.1056/NEJMoa1516783. Epub 2016 Feb 4. Erratum in: *N Engl J Med*. 2023 May 4;388(18):1728. PMID: 26842679; PMCID: PMC4823164.

Gyamfi-Bannerman C, Jablonski KA, Blackwell SC, Tita ATN, Reddy UM, et al; Eunice Kennedy Shriver National Institute of Child Health Human Development Maternal-Fetal Medicine Units Network. Evaluation of Hypoglycemia in Neonates of Women at Risk for Late Preterm Delivery: An Antenatal Late Preterm Steroids Trial Cohort Study. *Am J Perinatol*. 2023 Apr;40(5):532-538. doi: 10.1055/s-0041-1729561. Epub 2021 May 27. PMID: 34044454; PMCID: PMC8626537.

Gyamfi-Bannerman C, Clifton RG, Tita ATN, Blackwell SC, Longo M, et al; Eunice Kennedy Shriver Maternal-Fetal Medicine Units Network. Neurodevelopmental Outcomes After Late Preterm Antenatal Corticosteroids: The ALPS Follow-Up Study. *JAMA*. 2024 May 21;331(19):1629-1637. doi: 10.1001/jama.2024.4303. PMID: 38656759; PMCID: PMC11044009.

McElwee ER, Wilkinson K, Crowe R, Hardy KT, Newman JC, et al. Latency of late preterm steroid administration to delivery and risk of neonatal hypoglycemia. *Am J Obstet Gynecol MFM*. 2022 Sep;4(5):100687. doi: 10.1016/j.ajogmf.2022.100687. Epub 2022 Jul 10. PMID: 35820608.

McGoldrick E, Stewart F, Parker R, Dalziel SR. Antenatal corticosteroids for accelerating fetal lung maturation for women at risk of preterm birth. *Cochrane Database Syst Rev*. 2020 Dec 25;12(12):CD004454. doi: 10.1002/14651858.CD004454.pub4. PMID: 33368142; PMCID: PMC8094626.

Ninan K, Murphy KE, McDonald SD. Study Quality Must Be Considered When Evaluating Long-term Outcomes of Antenatal Corticosteroid Therapy in Children-Reply. *JAMA Pediatr.* 2022 Oct 1;176(10):1049. doi: 10.1001/jamapediatrics.2022.2858. PMID: 35969385.

Norman J, Shennan A, Jacobsson B, Stock SJ; FIGO Working Group for Preterm Birth. FIGO good practice recommendations on the use of prenatal corticosteroids to improve outcomes and minimize harm in babies born preterm. *Int J Gynaecol Obstet.* 2021 Oct;155(1):26-30. doi: 10.1002/ijgo.13836. Erratum in: *Int J Gynaecol Obstet.* 2022 May;157(2):486. doi: 10.1002/ijgo.14145. PMID: 34520057.

Sentilhes L, Sénat MV, Ancel PY, Azria E, Benoist G, et al. Prevention of spontaneous preterm birth: Guidelines for clinical practice from the French College of Gynaecologists and Obstetricians (CNGOF). *Eur J Obstet Gynecol Reprod Biol.* 2017 Mar;210:217-224. doi: 10.1016/j.ejogrb.2016.12.035. Epub 2016 Dec 30. PMID: 28068594.

Society for Maternal-Fetal Medicine (SMFM). Electronic address: [pubs@smfm.org](mailto:pubs@smfm.org); Reddy UM, Deshmukh U, Dude A, Harper L, Osmundson SS. Society for Maternal-Fetal Medicine Consult Series #58: Use of antenatal corticosteroids for individuals at risk for late preterm delivery: Replaces SMFM Statement #4, Implementation of the use of antenatal corticosteroids in the late preterm birth period in women at risk for preterm delivery, August 2016. *Am J Obstet Gynecol.* 2021 Nov;225(5):B36-B42. doi: 10.1016/j.ajog.2021.07.023. Epub 2021 Aug 5. PMID: 34363784.

Stutchfield P, Whitaker R, Russell I; Antenatal Steroids for Term Elective Caesarean Section (ASTECS) Research Team. Antenatal betamethasone and incidence of neonatal respiratory distress after elective caesarean section: pragmatic randomised trial. *BMJ.* 2005 Sep 24;331(7518):662. doi: 10.1136/bmj.38547.416493.06. Epub 2005 Aug 22. PMID: 16115831; PMCID: PMC1226243.

Stutchfield PR, Whitaker R, Gliddon AE, Hobson L, Kotecha S, Doull IJ. Behavioural, educational and respiratory outcomes of antenatal betamethasone for term caesarean section (ASTECS trial). *Arch Dis Child Fetal Neonatal Ed.* 2013 May;98(3):F195-200. doi: 10.1136/archdischild-2012-303157. Epub 2013 Feb 19. PMID: 23424017; PMCID: PMC3623033.

Travers CP, Clark RH, Spitzer AR, Das A, Garite TJ, Carlo WA. Exposure to any antenatal corticosteroids and outcomes in preterm infants by gestational age: prospective cohort study. *BMJ.* 2017 Mar 28;356:j1039. doi: 10.1136/bmj.j1039. PMID: 28351838; PMCID: PMC5373674.

WHO ACTION Trials Collaborators. Antenatal dexamethasone for late preterm birth: A multi-centre, two-arm, parallel, double-blind, placebo-controlled, randomized trial. *EclinicalMedicine.* 2022 Feb 12;44:101285. doi: 10.1016/j.eclinm.2022.101285. PMID: 35198915; PMCID: PMC8850324.

Yenuberi H, Ross B, Sasmita Tirkey R, Benjamin SJ, Rathore S, et al. Late-Preterm Antenatal Steroids for Reduction of Neonatal Respiratory Complications: A Randomized Controlled Trial. *Obstet Gynecol.* 2024 Apr 1;143(4):468-474. doi: 10.1097/AOG.0000000000005520. Epub 2024 Feb 8. PMID: 38330411.

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[WHO recommendations on antenatal corticosteroids for improving preterm birth outcomes](#)