Perinatology

1. MCG Criteria Used

Clinical Criteria: MCG Care Guidelines, 30th Edition

- Amniocentesis (MCG ORG: A-0160 AC, 30th Edition)
- Pregnant Uterus Fetal Biophysical Profile with or without Nonstress Testing (MCG ORG: A-0435 AC, 30th Edition)

Applicable CPT / HCPCS Codes:

CPT / HCPCS Code	Description
59000	Amniocentesis, diagnostic
59001	Amniocentesis, therapeutic amniotic fluid reduction, including ultrasound guidance
76946	Ultrasonic guidance for amniocentesis, imaging supervision and interpretation
76801-76817	Ultrasound, pregnant uterus, real time with image documentation, fetal and maternal evaluation
76818, 76819	Fetal biophysical profile, with and without nonstress testing
59025	Fetal nonstress test

2. Statement of Rationale

Akido Labs uses the criteria in MCG Care Guidelines (30th Edition) to supplement the general Medicare criteria regarding perinatology services, including diagnostic amniocentesis and the fetal biophysical profile with or without nonstress testing, where Medicare coverage criteria are not fully established or require additional clinical specificity. MCG criteria are used to ensure consistency in reviewing the conditions to be met for coverage of perinatology services and to determine when such services are medically necessary. Perinatal diagnostic testing balances the value of detecting fetal compromise or genetic and infectious conditions against the procedural risk to the pregnancy. Amniocentesis is invasive and carries a defined risk of pregnancy loss, while antepartum surveillance can either prevent stillbirth when appropriately applied or precipitate unnecessary intervention when overused. Absent consistent, evidence-based selection criteria, there is material risk of both inappropriate denial of medically necessary testing and inappropriate approval of testing that exposes the pregnancy to avoidable risk.

Potential Clinical Harms:

Amniocentesis: Inappropriate denial of amniocentesis in a pregnancy with a clear indication, such as a positive aneuploidy screen, suspected fetal infection, or the need to document fetal pulmonary maturity, could leave a diagnosable and potentially manageable condition undetected, removing the opportunity for informed decision-making and timely care. Conversely, inappropriate approval of amniocentesis without an indication exposes the pregnancy to a procedure-

attributable fetal loss rate of approximately 0.3 percent and additional risk in multiple gestations, without offsetting benefit.

Fetal Biophysical Profile: Inappropriate denial of the fetal biophysical profile in a pregnancy with risk factors for uteroplacental insufficiency could fail to detect fetal compromise, increasing the risk of stillbirth. Inappropriate approval in low-risk pregnancies generates equivocal results that prompt unnecessary obstetric intervention, including avoidable induction or cesarean delivery.

Clinical Benefits:

Amniocentesis: MCG criteria specify validated indications for amniocentesis drawn from obstetric specialty society guidance, including positive or high-risk aneuploidy screening, abnormal ultrasound findings, suspected fetal infection, and assessment of fetal pulmonary maturity. By tying the procedure to a defined indication, these criteria directly mitigate the harm of leaving a diagnosable condition undetected while protecting pregnancies without an indication from the procedure-attributable loss risk identified above.

Fetal Biophysical Profile: MCG criteria reserve the fetal biophysical profile for pregnancies with defined risk factors for fetal compromise and apply the validated scoring framework in which a score of 8 to 10 is normal, 6 is equivocal, and 4 or less is abnormal. This evidence-based selection directly counters the harm of undetected fetal compromise in at-risk pregnancies while preventing the unnecessary obstetric intervention that follows from testing low-risk pregnancies. The clinical benefits of using MCG Care Guidelines are highly likely to outweigh any clinical harms, including delayed or decreased access to services, because the criteria incorporate appropriateness thresholds drawn from current obstetric specialty society guidelines and are unlikely to lead to inappropriate denials.

3. Explanation of Supplementation

Basis for Use: Original Medicare clinical criteria are not fully established and require supplementation to ensure consistent medical necessity determinations for perinatology services. While Medicare statutes establish the general 'reasonable and necessary' standard, they do not specify the clinical indications (e.g., which screening results or pregnancy risk factors warrant invasive diagnostic amniocentesis or antepartum fetal surveillance) required to distinguish indicated from nonindicated perinatal testing.

Applicable Medicare References: Social Security Act Section 1862(a)(1): 'Reasonable and necessary' standard Code of Federal Regulations: 42 CFR 410.32 (diagnostic tests; ordering and medical necessity) Medicare Benefit Policy Manual, Chapter 15: Covered Medical and Other Health Services (CMS IOM Publication 100-02) Medicare Program Integrity Manual, Chapter 6, Section 6.5 (CMS IOM Publication 100-08) Code of Federal Regulations: 42 CFR 419.22; 42 CFR 422.101 Medicare Coverage Database: https://www.cms.gov/medicare-coverage-database/search.aspx For these perinatology services, no specific NCD or LCD fully establishes clinical indication thresholds; Original Medicare criteria are not fully established, requiring supplementation. Within the above statutes and regulations, MCG criteria assist in determining the appropriateness of diagnostic amniocentesis based on defined indications and the appropriateness of fetal biophysical profile testing based on defined pregnancy risk factors and the validated scoring framework. Use of these criteria helps ensure perinatology services are not incorrectly denied when medically appropriate, nor incorrectly approved when not reasonable and necessary, and may decrease inappropriate denials by creating a consistent set of evidence-based review criteria.

4. Summary of Clinical Evidence

Note: The following evidence summary is derived directly from MCG Care Guidelines, 30th Edition (guidelines A-0160 and A-0435). The reference lists below are drawn from those respective MCG guidelines.

Background

Amniocentesis (MCG ORG: A-0160 AC) Amniocentesis, the removal of amniotic fluid under ultrasound guidance, is generally performed during the second trimester (over 15 weeks gestation) for cytogenetic analysis of fetal cells; third-trimester amniocentesis is typically performed for nongenetic reasons such as documentation of fetal pulmonary maturity or exclusion of infection. A society guideline based on a systematic review states that the fetal loss rate attributable to amniocentesis is approximately 0.3 percent, and the risk is higher in twin pregnancies. First-trimester amniocentesis carries an increased risk of amniotic fluid leak, fetal loss, and talipes equinovarus and is not recommended.

Fetal Biophysical Profile (MCG ORG: A-0435 AC) The fetal biophysical profile is a noninvasive test used to gauge the presence or absence of fetal asphyxia and the risk of fetal death in the antenatal period. It uses ultrasound to score fetal breathing movement, fetal body movement, fetal tone, fetal heart rate reactivity (nonstress testing), and amniotic fluid volume, each scored 0 or 2 for a maximum of 10; a score of 8 to 10 is normal, 6 is equivocal, and 4 or less is abnormal. It is indicated in pregnancies with risk factors for uteroplacental insufficiency or fetal compromise.

Evidence Summary

Amniocentesis (MCG ORG: A-0160 AC) This guideline (30th Edition) is supported by peer-reviewed articles and obstetric specialty society guidance establishing the indications for diagnostic amniocentesis, the procedure-attributable loss rate, and the elevated risk in multiple gestations and first-trimester procedures, supporting indication-based selection.

Fetal Biophysical Profile (MCG ORG: A-0435 AC) This guideline (30th Edition) is supported by peer-reviewed articles and obstetric consensus guidelines establishing the biophysical profile as a validated tool for antepartum fetal surveillance in at-risk pregnancies, with scoring thresholds that guide the need for further evaluation or delivery.

Rationale (from MCG) Use of these MCG care guidelines helps the clinician identify patient-specific clinical factors that establish the medical necessity of perinatal diagnostic testing. The evidence-based clinical criteria ensure patients receive the most appropriate evaluation for their specific clinical situation, reduce unnecessary procedural risk to the pregnancy, and provide a standard that can reduce disparities in care. These guidelines supplement but do not replace, modify, or supersede existing Medicare regulations or applicable NCDs or LCDs.

Related CMS Coverage Guidance (as cited in MCG 30th Edition): Code of Federal Regulations (CFR): 42 CFR 410.32; 42 CFR 419.22; 42 CFR 422.101; CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 15; CMS IOM Publication 100-08, Medicare Program Integrity Manual, Chapter 6, Section 6.5; Medicare Coverage Database: https://www.cms.gov/medicare-coverage-database/search.aspx

References with Citation Summary -- Amniocentesis (MCG ORG: A-0160 AC, 30th Edition)

1. Graham GM, Park JS, Norwitz ER. Antepartum fetal assessment and therapy. In: Chestnut DH, et al., editors. Chestnut's Obstetric Anesthesia. 6th ed. Elsevier; 2020:97-131. [Context Link 1, 2, 3]
2. Patterson DA, Andazola JJ. Amniocentesis. In: Fowler GC, editor. Pfenninger and Fowler's Procedures for Primary Care. 4th ed. Philadelphia, PA: Elsevier; 2020:1003-1007. [Context Link 1]

3. Navaratnam K, Alfirevic Z; the Royal College of Obstetricians and Gynaecologists. Amniocentesis and Chorionic Villus Sampling. Green-top Guideline No. 8 [Internet] Royal College of Obstetricians & Gynecologists. 2021 Oct Accessed at: https://www.rcog.org.uk/. [accessed 2025 Sep 16] [Context Link 1] View abstract...
4. Nassr AA, et al. Obstetrical outcomes following amniocentesis performed after 24 weeks of gestation: A systematic review and meta-analysis. Prenatal Diagnosis 2023;43(11):1425-1432. DOI: 10.1002/pd.6435. [Context Link 1] View abstract...
5. Prenatal diagnostic testing for genetic disorders. Practice Bulletin No. 162:. Obstetrics & Gynecology 2016 (reaffirmed by ACOG 2024);127(5):e108-e122. DOI: 10.1097/AOG.0000000000001405. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4, 5, 6, 7] View abstract...
6. Wilson RD, et al. Prenatal diagnosis procedures and techniques to obtain a diagnostic fetal specimen or tissue: maternal and fetal risks and benefits. Journal of Obstetrics and Gynaecology Canada 2015;37(7):656-70. [Context Link 1] View abstract...
7. Alfirevic Z, Navaratnam K, Mujezinovic F. Amniocentesis and chorionic villus sampling for prenatal diagnosis. Cochrane Database of Systematic Reviews 2017, Issue 9. Art. No.: CD003252. DOI: 10.1002/14651858.CD003252.pub2. [Context Link 1] View abstract...
8. Audibert F, Wou K, Okun N, De Bie I, Wilson RD. Guideline no. 456: prenatal screening for fetal chromosomal anomalies. Journal of Obstetrics and Gynaecology Canada 2024;46(11):102694. DOI: 10.1016/j.jogc.2024.102694. [Context Link 1] View abstract...
9. Salomon LJ, Sotiriadis A, Wulff CB, Odibo A, Akolekar R. Risk of miscarriage following amniocentesis or chorionic villus sampling: systematic review of literature and updated meta-analysis. Ultrasound in Obstetrics & Gynecology 2019;54(4):442-451. DOI: 10.1002/uog.20353. [Context Link 1] View abstract...
10. Audibert F, Gagnon A. Prenatal screening for and diagnosis of aneuploidy in twin pregnancies. No. 262. Journal of Obstetrics and Gynaecology Canada 2017;39(9):e347-e361. DOI: 10.1016/j.jogc.2017.06.015. (Reaffirmed 2024 Sep) [Context Link 1, 2] View abstract...
11. Giovannopoulou E, et al. Invasive prenatal diagnostic testing for aneuploidies in singleton pregnancies: a comparative review of major guidelines. Medicina (Kaunas, Lithuania) 2022;58(10):Online. DOI: 10.3390/medicina58101472. [Context Link 1, 2] View abstract...
12. D'Antonio F, Khalil A. Screening and diagnosis of chromosomal abnormalities in twin pregnancy. Best Practice and Research. Clinical Obstetrics and Gynaecology 2022;84:229-239. DOI: 10.1016/j.bpobgyn.2022.10.001. [Context Link 1] View abstract...
13. Vink J, Fuchs K, D'Alton ME. Amniocentesis in twin pregnancies: a systematic review of the literature. Prenatal Diagnosis 2012;32(5):409-16. DOI: 10.1002/pd.2897. [Context Link 1] View abstract... Ambulatory Care > Procedures and Diagnostic Tests > Obstetrics and Gynecology >Amniocentesis (A-0160) 6/26/26, 5:22 PM AC - Amniocentesis https://careweb.careguidelines.com/ed30/ac/ac02_075.htm 4/10
14. Enzensberger C, et al. Outcome after second-trimester amniocentesis and first-trimester chorionic villus sampling for prenatal diagnosis in multiple gestations. Ultraschall in der Medizin 2014;35(2):166-72. DOI: 10.1055/s-0032-1330700. [Context Link 1] View abstract...
15. Wilson RD. Intrauterine fetal diagnostic testing in women with chronic viral infections: Guideline no. 409. Journal of Obstetrics and Gynaecology Canada 2020;42(12):1555-1562.e1. DOI: 10.1016/j.jogc.2020.09.007. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
16. Collins SL, Impey L. Prenatal diagnosis: types and techniques. Early Human Development 2012;88(1):3-8. DOI: 10.1016/j.earlhumdev.2011.11.003. [Context Link 1, 2] View abstract...
17. Byrne L, et al. BHIVA Guidelines for the Management of HIV in Pregnancy and the Postpartum Period 2025. [Internet] British HIV Association. 2025 Accessed at: https://www.bhiva.org/. [accessed 2025 Sep 08] [Context Link 1, 2]
18. Mari G, et al. Society for Maternal-Fetal Medicine (SMFM) Clinical Guideline #8: the fetus at risk for anemia-diagnosis and management. American Journal of Obstetrics and Gynecology 2015;212(6):697-710. DOI: 10.1016/j.ajog.2015.01.059. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
19. Paternal and fetal genotyping in the management of alloimmunization in pregnancy. Update to practice bulletin no. 192, management of alloimmunization during pregnancy. Obstetrics & Gynecology 2024;Online. DOI: 10.1097/AOG.0000000000005630. (Reaffirmed 2025 Jul) [Context Link 1, 2]

20. Perinatal infections. In: Guidelines for Perinatal Care. 8th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2017:479-558. [Context Link 1, 2, 3]
21. Society for Maternal- Fetal Medicine (SMFM), Hughes BL, Gyamfi-Bannerman C. Society for Maternal-Fetal Medicine (SMFM) Consult #39: Diagnosis and antenatal management of congenital cytomegalovirus (CMV) infection. American Journal of Obstetrics and Gynecology 2016;214(6):B5-11. DOI: 10.1016/j.ajog.2016.02.042. [Context Link 1, 2, 3] View abstract...
22. Dinsmoor MJ, et al. Amniocentesis to diagnose congenital cytomegalovirus infection following maternal primary infection. American Journal of Obstetrics and Gynecology MFM 2022;4(4):Online. DOI: 10.1016/j.ajogmf.2022.100641. [Context Link 1] View abstract...
23. Chatzakis C, Sotiriadis A, Dinas K, Ville Y. Neonatal and long-term outcomes of infants with congenital cytomegalovirus infection and negative amniocentesis: systematic review and meta-analysis. Ultrasound in Obstetrics & Gynecology 2023;61(2):158-167. DOI: 10.1002/uog.26128. [Context Link 1] View abstract...
24. Khalil A, Heath PT, Jones CE, Soe A, Ville YG, Royal College of Obstetricians and Gynaecologists. Congenital cytomegalovirus infection: update on screening, diagnosis and treatment: scientific impact paper no. 56. BJOG: An International Journal of Obstetrics and Gynaecology 2025;132(2):e42-e52. DOI: 10.1111/1471-0528.17966. [Context Link 1] View abstract...
25. Permar SR, Gantt S. Cytomegalovirus. In: Maldonado YA, et al., editors. Remington and Klein's Infectious Diseases of the Fetus and Newborn Infant. 9th ed. Elsevier; 2025:640-687.e19. [Context Link 1]
26. Society for Maternal-Fetal Medicine (SMFM), Martins JG, Biggio JR, Abuhamad A. Society for Maternal-Fetal Medicine (SMFM) Consult Series #52: Diagnosis and management of fetal growth restriction. American Journal of Obstetrics and Gynecology 2020;223(4):B2-B17. DOI: 10.1016/j.ajog.2020.05.010. (Reaffirmed 2024 Sep) [Context Link 1, 2] View abstract...
27. Prusa AR, Kasper DC, Pollak A, Olischar M, Gleiss A, Hayde M. Amniocentesis for the detection of congenital toxoplasmosis: results from the nationwide Austrian prenatal screening program. Clinical Microbiology and Infection 2015;21(2):191.e1-8. DOI: 10.1016/j.cmi.2014.09.018. [Context Link 1, 2] View abstract...
28. Wallon M, Kieffer F, Peyron F, Mandelbrot L, Garweg J. Toxoplasmosis. In: Maldonado YA, et al., editors. Remington and Klein's Infectious Diseases of the Fetus and Newborn Infant. 9th ed. Elsevier; 2025:859-951.e24. [Context Link 1]
29. O'Neill E, Thorp J. Antepartum evaluation of the fetus and fetal well being. Clinical Obstetrics and Gynecology 2012;55(3):722-730. DOI: 10.1097/GRF.0b013e318253b318. [Context Link 1, 2] View abstract...
30. Porreco RP, Heyborne KD, Shapiro H. Amniocentesis in the management of preterm premature rupture of the membranes: a retrospective cohort analysis. Journal of Maternal-Fetal & Neonatal Medicine 2008;21(8):573-9. DOI: 10.1080/14767050802178011. [Context Link 1, 2, 3, 4] View abstract...
31. Towers CV, Freeman RK, Nageotte MP, Garite TJ, Lewis DF, Quilligan EJ. The case for amniocentesis for fetal lung maturity in late-preterm and early-term gestations. American Journal of Obstetrics and Gynecology 2014;210(2):95-6. DOI: 10.1016/j.ajog.2013.10.004. [Context Link 1] View abstract...
32. Varner S, et al. Amniocentesis for fetal lung maturity: will it become obsolete? Reviews in Obstetrics and Gynecology 2013;6(3-4):126-34. [Context Link 1] View abstract...
33. Avoidance of nonmedically indicated early-term deliveries and associated neonatal morbidities: ACOG Committee Opinion No. 765. Obstetrics & Gynecology 2019 (ACOG reaffirmed 2025);133(2):e156-e163. DOI: 10.1097/AOG.0000000000003076. (Reaffirmed 2025 Sep) [Context Link 1] View abstract...
34. Rose NC, et al. Screening for fetal chromosomal abnormalities. ACOG Practice Bulletin No. 226. Joint Guideline of the ACOG Obstetrics, Committee on Genetics and Society for Maternal-Fetal Medicine. Obstetrics and Gynecology 2020 (ACOG reaffirmed 2024);136(4):e48-e69. DOI: 10.1097/AOG.0000000000004084. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19] View abstract...
35. LeFevre NM, Sundermeyer RL. Fetal aneuploidy: screening and diagnostic testing. American Family Physician 2020;101(8):481-488. [Context Link 1] View abstract...

36. Audibert F, et al. Joint SOGC-CCMG guideline: update on prenatal screening for fetal aneuploidy, fetal anomalies, and adverse pregnancy outcomes. No. 348. Journal of Obstetrics and Gynaecology Canada 2017;39(9):805-817. DOI: 10.1016/j.jogc.2017.01.032. (Reaffirmed 2024 Aug) [Context Link 1, 2, 3] View abstract...
37. Alldred SK, et al. First trimester serum tests for Down's syndrome screening. Cochrane Database of Systematic Reviews 2015, Issue 11. Art. No.: CD011975. DOI: 10.1002/14651858.CD011975. [Context Link 1] View abstract... Ambulatory Care > Procedures and Diagnostic Tests > Obstetrics and Gynecology >Amniocentesis (A-0160) 6/26/26, 5:22 PM AC - Amniocentesis https://careweb.careguidelines.com/ed30/ac/ac02_075.htm 5/10
38. Wright D, et al. First-trimester combined screening for trisomy 21 at 7-14 weeks' gestation. Ultrasound in Obstetrics & Gynecology 2010;36(4):404-11. DOI: 10.1002/uog.7755. [Context Link 1] View abstract...
39. Lutgendorf MA, Stoll KA, Knutzen DM, Foglia LM. Noninvasive prenatal testing: limitations and unanswered questions. Genetics in Medicine 2014;16(4):281-5. DOI: 10.1038/gim.2013.126. [Context Link 1] View abstract...
40. Breathnach FM, et al. First- and second-trimester screening: detection of aneuploidies other than Down syndrome. Obstetrics & Gynecology 2007;110(3):651-7. DOI: 10.1097/01.AOG.0000278570.76392.a6. [Context Link 1] View abstract...
41. Malone FD, et al. First-trimester or second-trimester screening, or both, for Down's syndrome. New England Journal of Medicine 2005;353(19):2001-11. DOI: 10.1056/NEJMoa043693. [Context Link 1] View abstract...
42. Sonek J, Croom C. Second trimester ultrasound markers of fetal aneuploidy. Clinical Obstetrics and Gynecology 2014;57(1):159-181. DOI: 10.1097/GRF.0000000000000012. [Context Link 1, 2, 3] View abstract...
43. Society for Maternal-Fetal Medicine (SMFM). Prabhu M, Kuller JA, Biggio JR. Society for Maternal-Fetal Medicine Consult Series #57: Evaluation and management of isolated soft ultrasound markers for aneuploidy in the second trimester: (Replaces Consults #10, Single umbilical artery, October 2010; #16, Isolated echogenic bowel diagnosed on second-trimester ultrasound, August 2011; #17, Evaluation and management of isolated renal pelviectasis on second-trimester ultrasound, December 2011; #25, Isolated fetal choroid plexus cysts, April 2013; #27, Isolated echogenic intracardiac focus, August 2013). American Journal of Obstetrics and Gynecology 2021;225(4):B2-B15. DOI: 10.1016/j.ajog.2021.06.079. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
44. Kruszka P, Regier D. Inborn errors of metabolism: from preconception to adulthood. American Family Physician 2019;99(1):25-32. [Context Link 1, 2] View abstract...
45. Quinn AM, Valcarcel BN, Makhamreh MM, Al-Kouatly HB, Berger SI. A systematic review of monogenic etiologies of nonimmune hydrops fetalis. Genetics in Medicine 2021;23(1):3-12. DOI: 10.1038/s41436-020-00967-0. [Context Link 1] View abstract...
46. Stuurman KE, et al. Prenatal ultrasound findings of rasopathies in a cohort of 424 fetuses: update on genetic testing in the NGS era. Journal of Medical Genetics 2019;56(10):654-661. DOI: 10.1136/jmedgenet-2018-105746. [Context Link 1, 2] View abstract...
47. Bilancia CG, Ganapathi M, Levy B. Prenatal diagnosis of chromosome abnormalities. In: Pandya PP, Oepkes D, Sebire NJ, Wapner RJ, editors. Fetal Medicine: Basic Science and Clinical Practice. 3rd ed. Elsevier; 2020:233-246.e3. [Context Link 1, 2, 3]
48. Walkiewicz M, Van den Veyver IB. Advances in molecular genetics including fetal sequencing. In: Pandya PP, Oepkes D, Sebire NJ, Wapner RJ, editors. Fetal Medicine: Basic Science and Clinical Practice. 3rd ed. Elsevier; 2020:247-253.e1. [Context Link 1]
49. Jelin AC, Van den Veyver IB. Preconception and prenatal screening and diagnosis. In: Cohn RD, Scherer SW, Hamosh A, editors. Thompson & Thompson Genetics and Genomics in Medicine. 9th ed. Elsevier; 2024:391-409. [Context Link 1, 2, 3]
50. Ghi T, et al. ISUOG Practice Guidelines: invasive procedures for prenatal diagnosis. Ultrasound in Obstetrics & Gynecology 2016;48(2):256-268. DOI: 10.1002/uog.15945. (Reaffirmed 2025 Jul) [Context Link 1, 2, 3, 4, 5] View abstract...
51. Wojcik MH, Reimers R, Poorvu T, Agrawal PB. Genetic diagnosis in the fetus. Journal of Perinatology 2020;40(7):997-1006. DOI: 10.1038/s41372-020-0627-z. [Context Link 1] View abstract...

52. Rogers R, Mardy A. Chorionic villous testing versus amniocentesis after abnormal noninvasive prenatal testing. Clinical Obstetrics and Gynecology 2023;66(3):595-606. DOI: 10.1097/GRF.0000000000000801. [Context Link 1] View abstract...
53. Mardy AH, Norton ME. Diagnostic testing after positive results on cell free DNA screening: CVS or amnio? Prenatal Diagnosis 2021;41(10):1249- 1254. DOI: 10.1002/pd.6021. [Context Link 1] View abstract...
54. Carlson LM, Vora NL. Prenatal diagnosis: screening and diagnostic tools. Obstetrics and Gynecology Clinics of North America 2017;44(2):245- 256. DOI: 10.1016/j.ogc.2017.02.004. [Context Link 1, 2, 3, 4, 5, 6] View abstract...
55. Khalifeh A, Weiner S, Berghella V, Donnenfeld A. Trends in invasive prenatal diagnosis: effect of sequential screening and noninvasive prenatal testing. Fetal Diagnosis and Therapy 2016;39(4):292-6. DOI: 10.1159/000441028. [Context Link 1, 2] View abstract...
56. Paiboonsukwong K, Jopang Y, Winichagoon P, Fucharoen S. Thalassemia in Thailand. Hemoglobin 2022;46(1):53-57. DOI: 10.1080/03630269.2022.2025824. [Context Link 1] View abstract...
57. Jain D, Atmapoojya P, Colah R, Lodha P. Sickle cell disease and pregnancy. Mediterranean Journal of Hematology and Infectious Diseases 2019;11(1):e2019040. DOI: 10.4084/MJHID.2019.040. [Context Link 1] View abstract...
58. Chen LM, Blank SV, Burton E, Glass K, Penick E, Woodard T. Reproductive and hormonal considerations in women at increased risk for hereditary gynecologic cancers: Society of Gynecologic Oncology and American Society for Reproductive Medicine Evidence-Based Review. Fertility and Sterility 2019;112(6):1034-1042. DOI: 10.1016/j.fertnstert.2019.07.1349. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
59. Maher JY, Gomez-Lobo V, Merke DP. The management of congenital adrenal hyperplasia during preconception, pregnancy, and postpartum. Reviews in Endocrine & Metabolic Disorders 2023;24(1):71-83. DOI: 10.1007/s11154-022-09770-5. [Context Link 1] View abstract...
60. Benn P, et al. Position Statement from the Chromosome Abnormality Screening Committee on Behalf of the Board of the International Society for Prenatal Diagnosis. [Internet] International Society for Prenatal Diagnosis. 2015 Feb Accessed at: https://www.ispdhome.org/. [accessed 2025 Sep 12] [Context Link 1, 2]
61. Gross SJ, Gheorghe CP. Genetic aspects of perinatal disease and prenatal diagnosis. In: Martin RJ, Fanaroff AA, editors. Fanaroff and Martin's Neonatal-Perinatal Medicine. 12th ed. Elsevier; 2025:150-170. [Context Link 1, 2]
62. Jenkins M, Seasely AR, Subramaniam A. Prenatal genetic testing 2: diagnostic tests. Current Opinion in Pediatrics 2022;34(6):553-558. DOI: 10.1097/MOP.0000000000001174. [Context Link 1] View abstract...
63. Conner SN, Longman RE, Cahill AG. The role of ultrasound in the diagnosis of fetal genetic syndromes. Best Practice and Research. Clinical Obstetrics and Gynaecology 2014;28(3):417-28. DOI: 10.1016/j.bpobgyn.2014.01.005. [Context Link 1, 2] View abstract... Ambulatory Care > Procedures and Diagnostic Tests > Obstetrics and Gynecology >Amniocentesis (A-0160) 6/26/26, 5:22 PM AC - Amniocentesis https://careweb.careguidelines.com/ed30/ac/ac02_075.htm 6/10
64. Bakker M, Pajkrt E, Bilardo CM. Increased nuchal translucency with normal karyotype and anomaly scan: what next? Best Practice and Research. Clinical Obstetrics and Gynaecology 2014;28(3):355-366. DOI: 10.1016/j.bpobgyn.2013.10.004. [Context Link 1] View abstract...
65. Breathnach FM, Malone FD. Screening for aneuploidy in first and second trimesters: is there an optimal paradigm? Current Opinion in Obstetrics and Gynecology 2007;19(2):176-82. DOI: 10.1097/GCO.0b013e3280895e00. [Context Link 1] View abstract...
66. Breathnach FM, Fleming A, Malone FD. The second trimester genetic sonogram. American Journal of Medical Genetics. Part C. Seminars in Medical Genetics 2007;145(1):62-72. DOI: 10.1002/ajmg.c.30116. [Context Link 1, 2] View abstract...
67. Society for Maternal-Fetal Medicine (SMFM). Mild fetal ventriculomegaly: diagnosis, evaluation, and management. American Journal of Obstetrics and Gynecology 2018;219(1):B2-B9. DOI: 10.1016/j.ajog.2018.04.039. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
68. Wilson KL, et al. NSGC practice guideline: prenatal screening and diagnostic testing options for chromosome aneuploidy. Journal of Genetic Counseling 2013;22(1):4-15. DOI: 10.1007/s10897-012-9545-3. [Context Link 1, 2] View abstract...

69. Society for Maternal-Fetal Medicine (SMFM), Norton ME, Chauhan SP, Dashe JS. Society for Maternal-Fetal Medicine (SMFM) Clinical Guideline #7: nonimmune hydrops fetalis. American Journal of Obstetrics and Gynecology 2015;212(2):127-139. DOI: 10.1016/j.ajog.2014.12.018. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
70. American College of Obstetricians and Gynecologists, et al. Obstetric care consensus #10: management of stillbirth: (replaces practice bulletin number 102, March 2009. Reaffirmed 2025). American Journal of Obstetrics and Gynecology 2020;222(3):B2-B20. DOI: 10.1016/j.ajog.2020.01.017. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
71. El Hachem H, Crepaux V, May-Panloup P, Descamps P, Legendre G, Bouet PE. Recurrent pregnancy loss: current perspectives. International Journal of Women's Health 2017;9:331-345. DOI: 10.2147/IJWH.S100817. [Context Link 1] View abstract...
72. Hyde KJ, Schust DJ. Genetic considerations in recurrent pregnancy loss. Cold Spring Harbor Perspectives in Medicine 2015;5(3):a023119. DOI: 10.1101/cshperspect.a023119. [Context Link 1, 2, 3] View abstract...
73. Scriven PN. Squaring the circle of recurrent pregnancy loss (RPL). Journal of Assisted Reproduction and Genetics 2020;37(5):1067-1068. DOI: 10.1007/s10815-020-01780-z. [Context Link 1, 2] View abstract...
74. Bianco K, Caughey AB, Shaffer BL, Davis R, Norton ME. History of miscarriage and increased incidence of fetal aneuploidy in subsequent pregnancy. Obstetrics & Gynecology 2006;107(5):1098-102. DOI: 10.1097/01.AOG.0000215560.86673.22. [Context Link 1] View abstract...
75. Nikitina TV, Sazhenova EA, Zhigalina DI, Tolmacheva EN, Sukhanova NN, Lebedev IN. Karyotype evaluation of repeated abortions in primary and secondary recurrent pregnancy loss. Journal of Assisted Reproduction and Genetics 2020;37(3):517-525. DOI: 10.1007/s10815-020-01703-y. [Context Link 1] View abstract...
76. Society for Maternal-Fetal Medicine (SMFM). Electronic address: pubs@smfm.org, Dugoff L, Norton ME, Kuller JA. The use of chromosomal microarray for prenatal diagnosis. American Journal of Obstetrics and Gynecology 2016;215(4):B2-B9. DOI: 10.1016/j.ajog.2016.07.016. [Context Link 1] View abstract...
77. Page JM, Silver RM. Genetic causes of recurrent pregnancy loss. Clinical Obstetrics and Gynecology 2016;59(3):498-508. DOI: 10.1097/GRF.0000000000000217. [Context Link 1] View abstract...
78. Practice Committee of the American Society for Reproductive Medicine. Evaluation and treatment of recurrent pregnancy loss: a committee opinion. Fertility and Sterility 2012;98(5):1103-1111. DOI: 10.1016/j.fertnstert.2012.06.048. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
79. Reddy UM, Silver RM, Gomez Slagle HB. Stillbirth. In: Landon MB, et al., editors. Gabbe's Obstetrics: Normal and Problem Pregnancies. 9th ed. Elsevier; 2025:628-638.e3. [Context Link 1]
80. Reddy UM, Silver RM. Stillbirth. In: Lockwood CJ, et al., editors. Creasy and Resnik's Maternal-Fetal Medicine: Principles and Practice. 9th ed. Philadelphia, PA: Elsevier; 2023:782-798.e4. [Context Link 1]
81. Haberle J, et al. Suggested guidelines for the diagnosis and management of urea cycle disorders: First revision. Journal of Inherited Metabolic Disease 2019;42(6):1192-1230. DOI: 10.1002/jimd.12100. [Context Link 1, 2] View abstract...
82. Priya PK, Mishra VV, Roy P, Patel H. A study on balanced chromosomal translocations in couples with recurrent pregnancy loss. Journal of Human Reproductive Sciences 2018 Oct-Dec;11(4):337-342. DOI: 10.4103/jhrs.JHRS_132_17. [Context Link 1] View abstract...
83. Wilch ES, Morton CC. Historical and clinical perspectives on chromosomal translocations. Advances in Experimental Medicine and Biology 2018;1044:1-14. DOI: 10.1007/978-981-13-0593-1_1. [Context Link 1] View abstract...
84. Blumenfeld YJ, Taylor J, Lee HC, Hudgins L, Sung JF, El-Sayed YY. Utilization of available prenatal screening and diagnosis: effects of the California screen program. Journal of Perinatology 2012;32(12):907-12. DOI: 10.1038/jp.2012.8. [Context Link 1, 2] View abstract...
85. Society for Maternal-Fetal Medicine (SMFM). Society for Maternal-Fetal Medicine Consult Series #60: Management of pregnancies resulting from in vitro fertilization. American Journal of Obstetrics and Gynecology 2022;226(3):B2-B12. DOI: 10.1016/j.ajog.2021.11.001. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...

86. Nishiyama M, et al. Chromosome abnormalities diagnosed in utero: a Japanese study of 28?983 amniotic fluid specimens collected before 22 weeks gestations. Journal of Human Genetics 2015;60(3):133-7. DOI: 10.1038/jhg.2014.116. [Context Link 1] View abstract...
87. Kollmann M, Haeusler M, Haas J, Csapo B, Lang U, Klaritsch P. Procedure-related complications after genetic amniocentesis and chorionic villus sampling. Ultraschall in der Medizin 2013;34(4):345-8. DOI: 10.1055/s-0032-1312939. [Context Link 1] View abstract...
88. Vermeesch JR, Voet T, Devriendt K. Prenatal and pre-implantation genetic diagnosis. Nature Reviews. Genetics 2016;17(10):643-656. DOI: 10.1038/nrg.2016.97. [Context Link 1] View abstract...
89. Brezina PR, Brezina DS, Kearns WG. Preimplantation genetic testing. British Medical Journal 2012;345:e5908. [Context Link 1] View abstract... Ambulatory Care > Procedures and Diagnostic Tests > Obstetrics and Gynecology >Amniocentesis (A-0160) 6/26/26, 5:22 PM AC - Amniocentesis https://careweb.careguidelines.com/ed30/ac/ac02_075.htm 7/10
90. Brezina PR, Kutteh WH. Clinical applications of preimplantation genetic testing. British Medical Journal 2015;350:g7611. [Context Link 1] View abstract...
91. Preimplantation genetic testing: a Practice Committee opinion. Fertility and Sterility 2007;88(6):1497-504. DOI: 10.1016/j.fertnstert.2007.10.010. [Context Link 1] View abstract...
92. Zwingerman R, Langlois S. Prenatal testing after IVF with preimplantation genetic testing for aneuploidy. Committee opinion no. 406. Journal of Obstetrics and Gynaecology Canada 2020;42(1):1437-1443 e1. DOI: 10.1016/j.jogc.2019.11.069. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
93. Lisonkova S, Sabr Y, Joseph KS. Diagnosis of subclinical amniotic fluid infection prior to rescue cerclage using gram stain and glucose tests: an individual patient meta-analysis. Journal of Obstetrics and Gynaecology Canada 2014;36(2):116-22. [Context Link 1] View abstract...
94. Romero R, Panaitescu B, Feghali M, Meyyazhagan A, Neshek BN, Simhan HN. Spontaneous preterm labor and birth: definition, risk factors, diagnosis, management, and prevention. In: Landon MB, et al., editors. Gabbe's Obstetrics: Normal and Problem Pregnancies. 9th ed. Elsevier; 2025:656-687.e13. [Context Link 1]
95. Lamale-Smith LM, Pinson KA. Amniotic fluid disorders. In: Landon MB, et al., editors. Gabbe's Obstetrics: Normal and Problem Pregnancies. 9th ed. Elsevier; 2025:543-550.e2. [Context Link 1, 2]
96. Intrapartum care of the mother. In: Guidelines for Perinatal Care. 8th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2017:227-278. [Context Link 1, 2]
97. Prelabor rupture of membranes: ACOG practice bulletin, number 217. Obstetrics & Gynecology 2020 (ACOG reaffirmed 2023);135(3):e80-e97. DOI: 10.1097/AOG.0000000000003700. (Reaffirmed 2025 Apr) [Context Link 1, 2] View abstract...
98. Committee on Obstetric Practice. Antenatal corticosteroid therapy for fetal maturation. Committee Opinion no. 713. Obstetrics & Gynecology 2017 (ACOG reaffirmed 2024);130(2):e102-e109. DOI: 10.1097/AOG.0000000000002237. (Reaffirmed 2025 May) [Context Link 1] View abstract...
99. Van Opstal D, Srebniak MI. Cytogenetic confirmation of a positive NIPT result: evidence-based choice between chorionic villus sampling and amniocentesis depending on chromosome aberration. Expert Review of Molecular Diagnostics 2016;16(5):513-20. DOI: 10.1586/14737159.2016.1152890. [Context Link 1] View abstract...
100. Tamminga S, van Maarle M, Henneman L, Oudejans CB, Cornel MC, Sistermans EA. Maternal plasma DNA and RNA sequencing for prenatal testing. Advances in Clinical Chemistry 2016;74:63-102. DOI: 10.1016/bs.acc.2015.12.004. [Context Link 1] View abstract...
101. Norton ME, et al. Cell-free DNA analysis for noninvasive examination of trisomy. New England Journal of Medicine 2015;372(17):1589-97. DOI: 10.1056/NEJMoa1407349. [Context Link 1] View abstract...
102. Shaffer BL, Norton ME. Cell-free DNA screening for aneuploidy and microdeletion syndromes. Obstetrics and Gynecology Clinics of North America 2018;45(1):13-26. DOI: 10.1016/j.ogc.2017.10.001. [Context Link 1] View abstract...
103. Alldred SK, Deeks JJ, Guo B, Neilson JP, Alfirevic Z. Second trimester serum tests for Down's Syndrome screening. Cochrane Database of Systematic Reviews 2012, Issue 6. Art. No.: CD009925. DOI: 10.1002/14651858.CD009925. [Context Link 1, 2] View abstract...

104. Rydberg C, Tunon K. Detection of fetal abnormalities by second-trimester ultrasound screening in a non-selected population. Acta Obstetricia et Gynecologica Scandinavica 2017;96(2):176-82. DOI: 10.1111/aogs.13037. [Context Link 1] View abstract...
105. Oepkes D, et al. Doppler ultrasonography versus amniocentesis to predict fetal anemia. New England Journal of Medicine 2006;355(2):156-64. DOI: 10.1056/NEJMoa052855. [Context Link 1] View abstract...
106. Medical and obstetric complications. In: Guidelines for Perinatal Care. 8th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2017:301- 346. [Context Link 1]
107. Centers for Medicare and Medicaid Services. "Hospital services excluded from payment under the hospital outpatient prospective payment system." 42 CFR 419.22 Washington, DC 2023 Jul [accessed 2025 Jul 22] Accessed at: https://www.ecfr.gov/. [Context Link 1]
108. Centers for Medicare and Medicaid Services. "Requirements relating to basic benefits." 42 CFR 422.101 Washington, DC 2025 Jun 03 [accessed 2025 Jul 23] Accessed at: https://www.ecfr.gov/. [Context Link 1]
109. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 14 - Medical Devices Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/. [accessed 2025 Sep 09] [Context Link 1]
110. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 15 - Covered Medical and Other Health Services Rev. 13108 [Internet] Centers for Medicare and Medicaid Services. 2025 Apr 11 Accessed at: https://www.cms.gov/manuals/. [accessed 2025 Sep 09] [Context Link 1]
111. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 16 - General Exclusions From Coverage Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: https://www.cms.gov/Regulations-and Guidance/Guidance/Manuals/. [accessed 2025 Sep 09] [Context Link 1]
112. Medicare Coverage Database. [Internet] Centers for Medicare and Medicaid Services. Accessed at: https://www.cms.gov/medicare-coverage database/search.aspx? Updated 2025 [accessed 2025 Oct 23] [Context Link 1]

References with Citation Summary -- Pregnant Uterus Fetal Biophysical Profile (MCG ORG: A-0435 AC, 30th Edition)

1. Liston R, Sawchuck D, Young D. No. 197a-Fetal health surveillance: antepartum consensus guideline. Journal of Obstetrics and Gynaecology Canada 2018;40(4):e251-e271. DOI: 10.1016/j.jogc.2018.02.007. [Context Link 1, 2, 3, 4] View abstract...
2. Greenberg MB, Driggers RW. Antepartum fetal evaluation. In: Landon MB, et al., editors. Gabbe's Obstetrics: Normal and Problem Pregnancies. 9th ed. Elsevier; 2025:516-542.e4. [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14] Ambulatory Care > Imaging > Ultrasound >Pregnant Uterus Fetal Biophysical Profile (with or without Nonstress Testing) (A-0435) 6/26/26, 5:22 PM AC - Pregnant Uterus Fetal Biophysical Profile (with or without Nonstress Testing) https://careweb.careguidelines.com/ed30/ac/ac01_131.htm 3/5
3. Antepartum fetal surveillance: ACOG Practice Bulletin, number 229. Obstetrics & Gynecology 2021 (ACOG reaffirmed 2024);137(6):e116-e127. DOI: 10.1097/AOG.0000000000004410. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4, 5, 6, 7] View abstract...
4. American College of Obstetricians and Gynecologists' Committee on Obstetric Practice, Society for Maternal-Fetal Medicine. Indications for outpatient antenatal fetal surveillance: ACOG committee opinion, number 828. Obstetrics & Gynecology 2021 (ACOG reaffirmed 2024);137(6):e177-e197. DOI: 10.1097/AOG.0000000000004407. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4, 5, 6, 7, 8] View abstract...
5. Niles KM, et al. Guideline no. 441: antenatal fetal health surveillance. Journal of Obstetrics and Gynaecology Canada 2023;45(9):665-677.e3. DOI: 10.1016/j.jogc.2023.05.020. [Context Link 1] View abstract...
6. Crimmins S, Desai A, Block-Abraham D, Berg C, Gembruch U, Baschat AA. A Comparison of Doppler and biophysical findings between liveborn and stillborn growth restricted fetuses. American Journal of Obstetrics and Gynecology 2014;211(6):669, e1-669 e10. DOI: 10.1016/j.ajog.2014.06.022. [Context Link 1] View abstract...

7. Wang M, Fontaine P. Common questions about late-term and postterm pregnancy. American Family Physician 2014;90(3):160-165. [Context Link 1] View abstract...
8. Williamson B, LeFevre N, Kolker A, Sundermeyer RL. Common issues in prenatal care: antepartum fetal surveillance. FP Essentials 2023;525:24- 31. [Context Link 1] View abstract...
9. Kingdom J, et al. Guideline no. 442: fetal growth restriction: screening, diagnosis, and management in singleton pregnancies. Journal of Obstetrics and Gynaecology Canada 2023;45(10):Online. DOI: 10.1016/j.jogc.2023.05.022. [Context Link 1, 2] View abstract...
10. Ott WJ. Development of a fetal risk assessment score for the prediction of neonatal outcome in the growth-restricted fetus. Journal of Maternal Fetal & Neonatal Medicine 2012;25(10):1941-1944. DOI: 10.3109/14767058.2012.679712. [Context Link 1] View abstract...
11. Baschat AA, et al. The role of the fetal biophysical profile in the management of fetal growth restriction. American Journal of Obstetrics and Gynecology 2022;226(4):475-486. DOI: 10.1016/j.ajog.2022.01.020. [Context Link 1] View abstract...
12. Expert Panel on Women's Imaging:, et al. ACR Appropriateness Criteria® growth disturbances-risk of fetal growth restriction. Journal of the American College of Radiology 2019;16(5S):S116-S125. DOI: 10.1016/j.jacr.2019.02.009. [Context Link 1] View abstract...
13. Lees CC, et al. ISUOG Practice Guidelines: diagnosis and management of small-for-gestational-age fetus and fetal growth restriction. Ultrasound in Obstetrics & Gynecology 2020;56(2):298-312. DOI: 10.1002/uog.22134. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
14. Everett TR, Peebles DM. Antenatal tests of fetal wellbeing. Seminars in Fetal and Neonatal Medicine 2015;20(3):138-143. DOI: 10.1016/j.siny.2015.03.011. [Context Link 1, 2, 3, 4] View abstract...
15. Association of Women's Health, Obstetric and Neonatal Nurses. Decreased fetal movement: AWHONN practice brief #20. Journal of Obstetric, Gynecologic, and Neonatal Nursing 2024;53(2):e1-e3. DOI: 10.1016/j.jogn.2023.11.007. [Context Link 1] View abstract...
16. American College of Obstetricians and Gynecologists. Management of late-term and postterm pregnancies. Practice bulletin no. 146. Obstetrics & Gynecology 2014 (ACOG reaffirmed 2024);124(2 Pt 1):390-6. DOI: 10.1097/01.AOG.0000452744.06088.48. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3] View abstract...
17. Daskalakis G, et al. Induction of labor versus expectant management for pregnancies beyond 41 weeks. Journal of Maternal-Fetal & Neonatal Medicine 2014;27(2):173-176. DOI: 10.3109/14767058.2013.806892. [Context Link 1] View abstract...
18. Lalor JG, Fawole B, Alfirevic Z, Devane D. Biophysical profile for fetal assessment in high risk pregnancies. Cochrane Database of Systematic Reviews 2008, (verified by Cochrane 2012 Apr), Issue 1. Art. No.: CD000038. DOI: 10.1002/14651858.CD000038.pub2. [Context Link 1] View abstract...
19. Grivell RM, Wong L, Bhatia V. Regimens of fetal surveillance for impaired fetal growth. Cochrane Database of Systematic Reviews 2012, Issue 6. Art. No.: CD007113. DOI: 10.1002/14651858.CD007113.pub3. [Context Link 1] View abstract...
20. Committee on Clinical Consensus-Obstetrics, Society for Maternal-Fetal Medicine. Pregnancy at age 35 years or older. American Journal of Obstetrics and Gynecology 2022 (reaffirmed 2025);Online. DOI: 10.1016/j.ajog.2022.07.022. (Reaffirmed 2025 Sep) [Context Link 1, 2] View abstract...
21. Zafman KB, Bruck E, Rebarber A, Saltzman DH, Fox NS. Antenatal testing for women with preexisting medical conditions using only the ultrasonographic portion of the biophysical profile. Obstetrics & Gynecology 2018;132(4):1033-1039. DOI: 10.1097/AOG.0000000000002811. [Context Link 1, 2] View abstract...
22. Sotiriadis A, et al. ISUOG Practice Guidelines: role of ultrasound in screening for and follow-up of pre-eclampsia. Ultrasound in Obstetrics & Gynecology 2019;53(1):7-22. DOI: 10.1002/uog.20105. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
23. Society for Maternal-Fetal Medicine (SMFM). Society for Maternal-Fetal Medicine Consult Series #60: Management of pregnancies resulting from in vitro fertilization. American Journal of Obstetrics and Gynecology 2022;226(3):B2-B12. DOI: 10.1016/j.ajog.2021.11.001. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
24. Calderon AC, Berezowski AT, Marcolin AC, Martins WP, Duarte G, Cavalli RC. Ultrasonography in pregnant women with antiphospholipid syndrome using salicylic acid and heparin. Archives of Gynecology and Obstetrics 2011;284(1):79-84. DOI: 10.1007/s00404-010-1612-0. [Context Link 1, 2] View abstract...

25. Miailhe G, Le Ray C, Timsit J, Lepercq J. Factors associated with urgent cesarean delivery in women with type 1 diabetes mellitus. Obstetrics & Gynecology 2013;121(5):983-989. DOI: 10.1097/AOG.0b013e31828b6d97. [Context Link 1] View abstract...
26. Jha P, et al. Multiple Gestations. ACR Appropriateness Criteria [Internet] American College of Radiology (ACR). 2024 Accessed at: https://www.acr.org. [accessed 2024 May 07] [Context Link 1, 2]
27. Booker W, et al. Antenatal surveillance in twin pregnancies using the biophysical profile. Journal of Ultrasound in Medicine 2015;34(11):2071- 2075. DOI: 10.7863/ultra.14.12063. [Context Link 1, 2] View abstract...
28. Shaddeau AK, Burd I. Antenatal monitoring after preterm prelabor rupture of membranes. Obstetrics and Gynecology Clinics of North America 2020;47(4):625-632. DOI: 10.1016/j.ogc.2020.08.009. [Context Link 1, 2] View abstract... Ambulatory Care > Imaging > Ultrasound >Pregnant Uterus Fetal Biophysical Profile (with or without Nonstress Testing) (A-0435) 6/26/26, 5:22 PM AC - Pregnant Uterus Fetal Biophysical Profile (with or without Nonstress Testing) https://careweb.careguidelines.com/ed30/ac/ac01_131.htm 4/5
29. Walton JR, Peaceman AM. Identification, assessment and management of fetal compromise. Clinics in Perinatology 2012;39(4):753-768. DOI: 10.1016/j.clp.2012.09.001. [Context Link 1] View abstract...
30. Centers for Medicare and Medicaid Services. "Hospital services excluded from payment under the hospital outpatient prospective payment system." 42 CFR 419.22 Washington, DC 2023 Jul [accessed 2025 Jul 22] Accessed at: https://www.ecfr.gov/. [Context Link 1]
31. Centers for Medicare and Medicaid Services. "Requirements relating to basic benefits." 42 CFR 422.101 Washington, DC 2025 Jun 03 [accessed 2025 Jul 23] Accessed at: https://www.ecfr.gov/. [Context Link 1]
32. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 14 - Medical Devices Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/. [accessed 2025 Sep 09] [Context Link 1]
33. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 15 - Covered Medical and Other Health Services Rev. 13108 [Internet] Centers for Medicare and Medicaid Services. 2025 Apr 11 Accessed at: https://www.cms.gov/manuals/. [accessed 2025 Sep 09] [Context Link 1]
34. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 16 - General Exclusions From Coverage Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: https://www.cms.gov/Regulations-and Guidance/Guidance/Manuals/. [accessed 2025 Sep 09] [Context Link 1]
35. Medicare Coverage Database. [Internet] Centers for Medicare and Medicaid Services. Accessed at: https://www.cms.gov/medicare-coverage database/search.aspx? Updated 2025 [accessed 2025 Oct 23] [Context Link 1]

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