MedStar Health

Management of Perinatal Care

Clinical Practice Guideline

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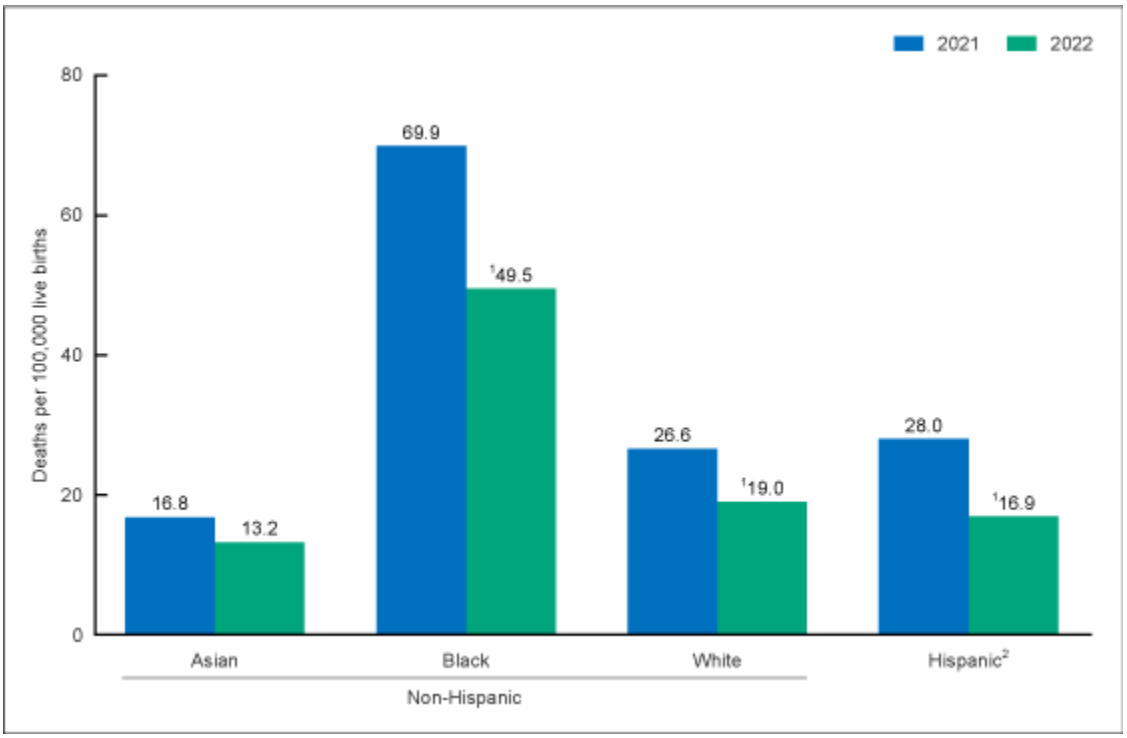
"*These guidelines are provided to assist physicians and other clinicians in making decisions regarding the care of their patients. They are not a substitute for individual judgment brought to each clinical situation by the patient's primary care provider-in collaboration with the patient. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication but should be used with the clear understanding that continued research may result in new knowledge and recommendations".*

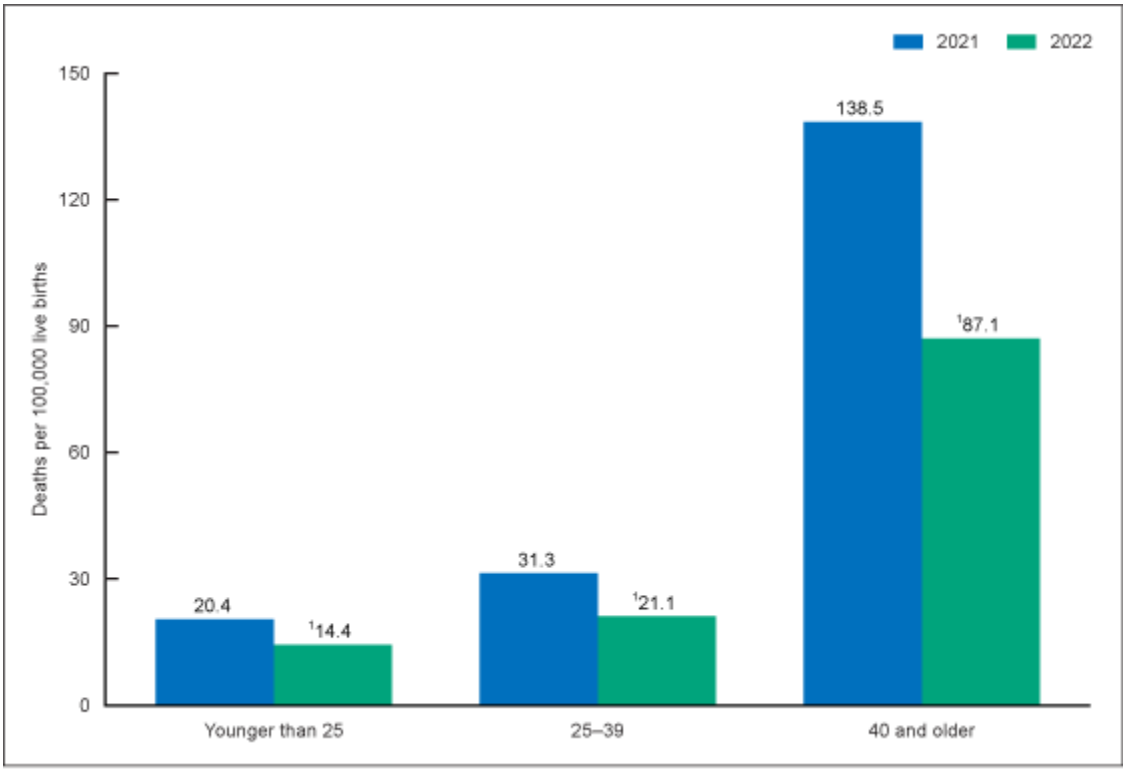
According to most recent data from the Center for Disease Control, the maternal mortality rate for 2022 has decreased to 22.3 deaths per 100, 000 live births, compared with a rate of 32.9 in 2021. And while the overall rate has decreased, for all races and age groups, there continues to be a disproportionately higher rate for Black non-Hispanic and Hispanic women. The Black maternal mortality rate is 49.5 deaths per 100,000 compared to that of White women at 19.0. The rate for women over 40 years of age was 6 times higher than the rate for those under the age of 25 years.

Figure 2. Maternal mortality rate, by race and Hispanic origin: United States, 2021 and 2022



[1]Statistically significant decrease from previous year ($p < 0.05$).
[2]Hispanic people may be of any race.
NOTE: Race groups are single race.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data files

Figure 3. Maternal mortality rate, by age group: United States, 2021 and 2022



[1]Statistically significant decrease from previous year ($p < 0.05$).
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data files.

General Principles: The MedStar Health Obstetrical Service line endorses the ACOG Perinatal Care Guidelines and ACOG Committee Opinions as a source of guidance for clinical care of women throughout the MedStar Health system.

The following is a summary of clinical actions excerpted from:

A. American Academy of Pediatrics, American College of Obstetricians and Gynecologists. *Guidelines for Perinatal Care. 8th ed.* Elk Grove Village (IL): AAP; Washington, DC: American College of Obstetricians and Gynecologists; 2017. 693 pages. ISBN 9781934984967 (ACOG); ISBN 9781610020879 (AAP)

B. ACOG Committee Opinion Number 736: Optimizing Postpartum Care, May 2018

Additional sources are cited and included in the references at the end of the document.

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Preconception care is acknowledged as an important component of high-quality prenatal care but is beyond the scope of this summary document. Additional information on this topic can be found in the *Guidelines for Perinatal Care 8th edition* cited above.

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Prenatal Care

Quality Goals:

- Improve the timeliness of prenatal care.
- Establish prenatal care within the first trimester or within 42 days of enrollment.
- Provide education and recommended screening and intervention.
- Monitor progression of pregnancy.
- Assess the well-being of the woman and her fetus.
- Early detection and intervention of high-risk factors.
- Complete 80% of expected prenatal visits. (ACOG recommends 14 visits).
- Decrease the incidence of smoking during pregnancy.
- Improve the frequency of appropriate testing during pregnancy.

Office visits

The frequency of visits is determined by individual needs and assessed risk factors. The timeline below is typically followed for routine pregnancies:

- Advise office visit at 8-10 weeks of pregnancy (or earlier if the patient is at risk for ectopic pregnancy).
- Every 4 weeks for first 28 weeks.
- Every 2 – 3 weeks until 36 weeks.
- Every week after 36 weeks delivery.

First Prenatal Visit (8-10 weeks of pregnancy)

Assessment at this visit should include:

- General exam to confirm pregnancy.
- Initial history and physical
    - With specific attention to hypertension, preeclampsia, Type 1 or Type 2 diabetes and prior gestational diabetes, prior post-partum thyroiditis. Eye examinations should occur before pregnancy or in the first trimester in patients with preexisting type 1 or type 2 diabetes. Individuals with diabetes should be counseled on the risk of development and/or progression of diabetic retinopathy. Patients should be monitored every trimester and for 1 year postpartum as indicated by the degree of retinopathy.[1]
- Family medical history.
- Genetic history.
- Complete needs assessment.
- Preterm labor risk, education and prevention.
- Assess for tobacco, alcohol, drug use.
- Domestic violence screening.
- Screen for depression (current or historical) using a standardized screening tool.
- If the individual will be traveling, recommend checking the CDC website for information on Zika.

- Prescriptions: prenatal vitamins and iron supplementation as necessary. Review patient's current medications and supplements for potential teratogens and provide education about medications in pregnancy.

Education and counseling

- Scope of care provided in the office and anticipated schedule of visits.
- Expected course of pregnancy.
- Counseling regarding specific complications.
- Discuss routine lab studies/testing.
- Discuss genetic counseling and available prenatal diagnostic testing (invasive and non-invasive) including non-invasive prenatal screening (NIPS) for aneuploidy testing, nuchal translucency (NT) sonogram and blood testing for First Trimester Screening (FTS).
- Schedule testing at appropriate gestational age
    - Nuchal translucency and FTS done at 12-13 weeks gestation
    - Cell free DNA, non-invasive prenatal screening (NIPS) can be done any time after 10 weeks and should be accompanied by appropriate counseling.
    - NIPS and invasive testing (chorionic villus sampling, amniocentesis) would typically apply to all women over 35 or otherwise at increased risk for aneuploidy, preceded by genetic counseling.
- Discuss high risk conditions.
- Education regarding: Labor and delivery, nutrition, exercise, working, air travel, routine dental care, tobacco use and smoke exposure, alcohol/drug consumption, over-the-counter medications, pets, etc.
- Practices to promote health maintenance such as use of safety restraints including lap and shoulder belts.
- Assess barriers to care (transportation, childcare issues, work schedule).
- Encourage maternity program enrollment and prenatal classes.
- Encourage and provide whooping cough (Tdap 27th -36th week), RSV vaccine (32-36 weeks between September and January), COVID-19, and influenza vaccination, regardless of the stage of pregnancy during influenza season. A complete list of recommended vaccines during pregnancy can be found on the CDC website: CDC-Recommended Vaccines in Pregnancy

- COVID-19 and Pregnancy
    - Vaccination is endorsed by the American College of Obstetrics and Gynecology and the Society of Maternal Fetal Medicine[2,3]
    - Pregnancy is a recognized risk factor for severe COVID-19.
    - Individuals of color and with comorbid conditions are at added risk
    - Vaccination is safe and effective against COVID-19 infection in any trimester.
    - mRNA (Pfizer and Moderna) and Novavax are preferred over the J&J (Jansen) vaccine
    - ACOG recommends that pregnant and recently pregnant people up to 6 weeks postpartum receive a booster dose of COVID-19 vaccine following the completion of their initial COVID-19 vaccine or vaccine series.

Consult the CDC or ACOG website for the most recent recommendations on COVID vaccinations.

Routine Laboratory/diagnostic studies

- Blood type and screen.
- Complete Blood Count (CBC) for Hct/Hgb, MCV and Platelet Count.
- Hepatitis Screening: Hepatitis B surface antigen (HBsAg) and Hepatitis C antibody test.
- Syphilis screening.
- Screening for gestational diabetes if at high risk (see section on gestational diabetes below).

- HIV testing unless they decline (opt-out approach). For women that decline the provider should address objections and strongly encourage HIV screening.
- Cervical Cancer Screening (if the patient is due).
- Urine C&S and urine dip for protein and glucose. Routine urine dip-stick testing is not recommended unless the woman has risk factors/symptoms of a urinary tract infection, renal disease, pre-eclampsia, unusual edema, or hypertension.
- USPSTF recommends screening for asymptomatic bacteria using urine culture in pregnant persons.
- Check hemoglobin electrophoresis in the high-risk population

Genetic and infectious disease testing and counseling

Genetic Screening

- It is reasonable to offer cystic fibrosis carrier screening to all couples regardless of ethnicity. Genetic counseling is recommended for individuals with a family history of cystic fibrosis or those found to be carriers.
- Hemoglobinopathy screening should be offered to individuals of African, Southeast Asian and Mediterranean descent. Couples at risk for having a child with sickle cell disease or thalassemia should be offered genetic counseling to review prenatal testing and reproduction options.
- Patients of Ashkenazi Jewish decent should be offered prenatal carrier screening for hereditary diseases common in this group.
- Screening for spinal muscular atrophy should be offered to all individuals who are considering pregnancy or are currently pregnant[4]
- In patients with a family history of spinal muscular atrophy, molecular testing reports of the affected individual and carrier testing of the related parent should be reviewed, if possible, before testing. If the reports are not available, *SMN1* deletion testing should be recommended for the low-risk partner.[4]

Infectious Disease

- All pregnant women should be screened for chlamydia during the first prenatal visit. If positive, a test of cure should be offered to the patient four weeks after completing treatment and provide counseling to decrease risk of re-infection and refer partner for testing and treatment. Those individuals that are less than or equal to 25 years of age or at risk for chlamydia infection should be screened again during the third trimester.
- All pregnant individuals at risk for sexually transmitted diseases should be screened for gonorrhea at the initial prenatal visit. Risk factors include age less than 25, a previous infection, new or multiple sex partners, inconsistent condom use, commercial sex work and drug use. If positive, a test of cure should be offered to the patient four weeks after completing treatment and provide counseling to decrease risk of reinfection and refer partner for testing and treatment. Repeat screening is recommended during the third trimester of pregnancy.
- Rescreen for HIV in the third trimester for individuals at high risk of acquisition.
- Rescreen for syphilis in individuals at high risk of acquisition.
- All pregnant individuals should receive influenza immunization at any time of the year but especially from October through May. Inactivated vaccines are all safe for mother and fetus at any point during the pregnancy. Live Attenuated vaccines should not be administered. There is no evidence of adverse consequences to thimerosal containing preparations and so they are safe to use.

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Gestational Diabetes (GDM) Risk

The American College of Obstetricians and Gynecologist does not recommend routine screening for GDM before 24 weeks of gestation. Patients with the following risk factors should be screened for gestational diabetes at the first prenatal visit:

- Pre-pregnancy BMI ≥ 25, or greater than 23 in Asian Americans, and have one or more additional risk factor:
  - Previous medical history of GDM
  - Physical inactivity
  - High-risk race or ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
  - Have previously given birth to an infant weighing 4,000g (approximately 9 lbs.) or more
  - Hypertension (140/90 mm Hg or on therapy for hypertension)
  - High-density lipoprotein cholesterol level less than or equal to 35 mg/dL (0.90 mmol/L), a fasting triglyceride level greater than or equal to 250 mg/dL (2.82 mmol/L)
  - Presence of polycystic ovarian syndrome
  - A1C greater than or equal to 5.7%, impaired glucose tolerance, or impaired fasting glucose on previous testing
  - Other clinical conditions associated with insulin resistance (e.g., prepregnancy body mass index greater than 40 kg/m2, acanthosis nigricans)
  - History of cardiovascular disease

If pregestational or gestational diabetes mellitus is not diagnosed, blood glucose testing should be repeated at 24–28 weeks of gestation.

For Medicaid patients, complete and submit the Maryland Prenatal Risk Assessment form or the District of Columbia OB Risk form called the OB Global Authorization form at the time of the first prenatal visit.

Subsequent Prenatal Visits

Every visit

- Vital signs.
- Weight (height/weight/BMI – initial visit).
- Fetal assessment from 10th week.
- Uterine size for progressive growth and consistency with EDD.
- Domestic violence screening.
- Assessment of tobacco use and smoke exposure.
- Urine dip for protein and glucose if risk factors/symptoms of a urinary tract infection, renal disease, pre-eclampsia, unusual edema, or hypertension.

Specific Visit: 11 – 14 weeks

- Pelvic exam, if fetal heart tones (FHT) not heard with amplification.
- Breastfeeding has well documented short- and long-term medical and neurodevelopmental advantages for infants. As such, breastfeeding should be strongly encouraged during prenatal care as the best choice for feeding. Patients should be offered breastfeeding educational material and classes during pregnancy and provided resources for assistance after delivery.
- Review laboratory data. Offer iron supplementation for patients with anemia.

- Offer screening tests for aneuploidy, nuchal translucency sonogram and blood testing for First Trimester Screening. All pregnant individuals, regardless of age, should be counseled about non-invasive and invasive prenatal diagnostic testing for aneuploidy with a discussion of the risks and benefits of each. Individuals found to have increased risk for aneuploidy with non-invasive screening should be offered genetic counseling and the option of chorionic villus sampling (CVS) or second trimester amniocentesis.
- If previous low transverse cesarean delivery, discuss the risks, benefits, and alternatives to a trial of labor after cesarean as well as the risks and benefits of repeat cesarean delivery.
- Use low dose aspirin after 12 weeks gestation for persons at high risk of preeclampsia.

Specific Visit: 15-20 weeks

- Offer anatomic survey ultrasound to be completed at 18-20 weeks.
- Offer screening test for aneuploidy with a serum Multiple Marker Screen if the patient did not have first trimester screening (invasive or non-invasive) for aneuploidy. This also incorporates neural tube defect (NTD) screening. Screening and invasive diagnostic testing for aneuploidy should be available to all individuals who present for prenatal care before 20 weeks of gestation regardless of maternal age. Offer genetic counseling and the option of second trimester amniocentesis to individuals found to have increased risk for aneuploidy with screening.
- Offer neural tube defect screening (MSAFP) to individuals who elect first trimester screening or invasive testing for aneuploidy.
- Review signs and symptoms of pre-term labor (PTL).
- Review results of MSAFP/Multiple Marker screen and ultrasound if not already done.

Specific Visit: 24 – 28 weeks

- Screen for gestational diabetes. Order Glucose Tolerance Test if screen is abnormal.
- Select baby's medical provider.
- Discuss normal fetal movement.
- Discuss prenatal classes.
- Discuss post-partum contraception. If applicable, patient should sign Medicaid consent for sterilization at this gestational age.

Specific Visit: 27-36 weeks

- Vaccinate with TDAP (Tdap) for whooping cough prevention should be administered during each pregnancy, irrespective of patient's prior history of receiving. Optimal timing is between 27-36 weeks gestation to maximize maternal antibody response and passive antibody transfer levels in the newborn. Discuss with the patient that other adults who will be around her newborn, such as husbands, grandparents, older siblings, and babysitters, should also be vaccinated.

Specific Visit: 28 weeks

- Repeat type and screen if Rh negative, CBC for Hct/Hgb, MCV and platelet count
- Administer Rh-immune globulin if Rh (-) and indirect Coombs (-).
- Screen for gestational diabetes if not done at 24 wks.
- Discuss prenatal classes if not done at 24 wks.
- Confirm and document name of baby's medical provider.
- Counsel woman about risks and benefits of circumcision.
- Discuss and encourage all individuals to breast feed.
- Discuss cord blood banking to allow a pregnant woman to make an informed decision on whether to participate in a public or private umbilical cord blood banking program. (Per PA House Bill 874).

Specific Visit: 32 – 34 weeks

- Repeat testing for individuals at risk for sexually transmitted disease, including syphilis screen, HIV, gonorrhea, and chlamydia. Repeat STI testing should be done during the third trimester starting as early as 28 weeks up until 36 weeks or at the time of delivery if not done in the third trimester.[4]
- Discuss Group B Strep screening and management protocol.
- Education and anticipatory guidance regarding breastfeeding.

Specific Visit: 36 weeks

- Determine fetal position.
- Group B Strep screen is performed at 35-37 weeks. Screening not needed if treatment in labor is indicated based on other risk factors such as group B strep bacteria during any trimester of the current pregnancy or previous infant with invasive GBS disease. Antibiotic resistance testing if Penicillin Allergic. Include STI screening if not done earlier in the third trimester.
- Discuss the risks and benefits of HSV prophylaxis in individuals with a history of genital herpes.
- Labor education: latent phase of labor, rupture of membranes (ROM), active labor management, analgesia in labor.
- Counsel regarding labor induction indicating that in the absence of medical indications, labor should not be induced prior to 39 weeks gestation. Such early-term deliveries (37-38 6/7 weeks gestation) are associated with higher morbidity and mortality rates when compared to neonates and infants delivered between 39 weeks and 40 weeks of gestation.

Specific Visit: 38 weeks

- Review labor education; discuss again contraception, with an emphasis on the benefits of long-acting reversible contraception such as IUDs and implants.
- Education and anticipatory guidance regarding breastfeeding. Discuss patient's preference: exclusive breastfeeding, mixed breastfeeding/formula, or formula.

Specific Visit: > 41 weeks

- Baseline non-stress test (NST) or contraction stress test (CST), ultrasonography (US), biophysical profile (BPP) or a combination of these tests.
- Discuss labor induction > 41 weeks.

Postpartum Care

Postpartum coverage: In accordance with Section 9812 of the American Rescue Plan Act of 2021, a new section was added to the Social Security Act (section 1902(e)(16) that extends postpartum coverage for Medicaid enrollees to 12 months after delivery. This was implemented on April 1, 2022 in Maryland and the District of Columbia.

The most recent recommendations from ACOG[7] encourage practitioners to consider the postpartum care on ongoing process to address the health of the woman according to her individual needs. It is recommended that all individuals have contact with their OB provider within 3 weeks of delivery. Consider resources like telehealth or visiting health professionals for low resource areas for patients. This should be followed up with a comprehensive postpartum visit no later than 12 weeks after birth. This is a change from the traditional 6-8 weeks.

Components of Postpartum Care

- Pelvic exam and /or weight, BP, breast, abdomen exam, wound check.
- Screen for postpartum depression and anxiety with a validated instrument. Refer for intervention if indicated.
- Follow up on preexisting mental health disorder, refer for or confirm attendance with appointments and titrate medications as appropriate for the postpartum period.
- Screen for domestic violence.
- Screen for substance abuse and refer as appropriate.
- Screen for tobacco use and relapse and treat/refer as appropriate.
- Provide guidance regarding local services for mentoring and support.
- Discuss sexual activity, future family planning, and contraception with an emphasis on the benefits of long-acting reversible contraception and birth spacing.
- Review nutrition and exercise. Discuss method of infant feeding and the patient's infant feeding plan (exclusive breastfeeding for at least 6 months, formula, or mixed) and general infant care plan.
- Educate individuals about medications and other substances that can be passed to the infant in breast milk. Information on specific drugs may be found in the Drugs and Lactation Database
- Confirm infant has source of medical care.
- Discuss childcare strategy for return to work or school including immunizations for all care providers.
- Individuals with GDM should be screened for diabetes 6-12 weeks postpartum and should be followed up with subsequent screening for the development of diabetes or pre-diabetes for at least 3 years.
- Evaluate for postpartum problems: perineal/C-section wound pain, urinary incontinence, fecal incontinence, dyspareunia/reduced sexual desire, fatigue/sleep issues, medication needs/titration
- Confirm that delivery information is accurately documented, including complications, neonatal outcome.
- Perform health maintenance including immunizations, Pap test and pelvic exam per recommended schedule.
- Transition individuals to primary care or subspecialist health care providers for follow up care as indicated.

Postpartum vaccines:
According to the CDC Adult Immunization Schedule[6]

- Individuals (including individuals who are breastfeeding) who have not received a dose of Tdap previously should receive Tdap immediately after delivery and before discharge from the hospital. If Tdap cannot be administered before discharge, it should be administered as soon as feasible. Additionally, other family members and direct care caregivers should receive Tdap as recommended.
- Individuals with no evidence of immunity to rubella in the prenatal period should receive MMR as soon after delivery as possible including prior to discharge from the hospital.
- ACOG recommends that pregnant and recently pregnant people up to 6 weeks postpartum receive a booster dose of COVID-19 vaccine following the completion of their initial COVID-19 vaccine or vaccine series.

Co-existing Medical Conditions:
Individuals with chronic conditions such as hypertension, obesity, diabetes, thyroid disorders, renal disease, and mood disorders should be counseled regarding timely follow up with OB or PCP. For individuals with DM, HTN, or mental health conditions, it is important to recommend a postpartum visit sooner than 6 weeks. Consider the first visit at i 1-2

weeks, then 4-6 weeks, and another at 8 weeks. Plan to utilize provide resources from internal medicine, psychiatry, cardiology, and pelvic floor rehabilitation sites.

- Consider home blood pressure monitoring for individuals with preexisting hypertension or preeclampsia.
- Eye examinations should occur before pregnancy or in the first trimester in patients with preexisting type 1 or type 2 diabetes, and then patients should be monitored every trimester and for 1 year postpartum as indicated by the degree of retinopathy.[1]
- Individuals with a history of postpartum thyroiditis be screened with serum thyroid stimulating hormone measurement at 3 and 6 months postpartum and then annually.[8]

References:

1) American Diabetes Association: Standards of Medical Care in Diabetes 2022 Section 12
2) ACOG and SMFM Recommend COVID-19 Vaccination for Pregnant Individuals.
3) Practice Advisory-COVID-19 Vaccination Considerations for Obstetric-Gynecology Care. American College of Obstetricians and Gynecologists' Immunization, Infectious Disease, and Public Health Preparedness Expert Work Group in collaboration with Laura E. Riley, MD; Richard Beigi, MD; Denise J. Jamieson, MD, MPH; Brenna L. Hughes, MD, MSc; Geeta Swamy, MD; Linda O'Neal Eckert, MD; Mark Turrentine, MD; and Sarah Carroll, MPH. Last updated August 5, 2022
4) American Academy of Pediatrics, American College of Obstetricians and Gynecologists. *Guidelines for Perinatal Care. 8th ed*. Elk Grove Village (IL): AAP; Washington, DC: American College of Obstetricians and Gynecologists; 2017. 693 pages. ISBN 9781934984967 (ACOG); ISBN 9781610020879 (AAP)
5) CDC-Syphilis During Pregnancy
6) Immunization recommendations are from CDC guidelines; CDC-Guidelines for Vaccinating Pregnant Persons and CDC-Vaccine Recommendations Before, During, and After Pregnancy.
7) ACOG Committee Opinion Number 736: Optimizing Postpartum Care, May 2018
8) Thyroiditis https://www.liebertpub.com/doi/pdf/10.1089/thy.2016.0457
9) ACOG Clinical Practice Update: Screening for Gestational and Pregestational Diabetes in Pregnancy and Postpartum. Obstetrics & Gynecology 144(1): p e20-e23, July 2024. | DOI: 10.1097/ACOG.0000000000005612)
10) CDC Health E-stats Maternal Mortality Rates in the United States, 2022

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