

Immunizations for pregnant persons: Current recommendations for clinical practice

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Immunizations are an essential aspect of prenatal care that have been shown to be effective in protecting the pregnant person during a time of increased vulnerability, as well as the infant during the first 6 months of life. Recommendations from the Centers for Disease Control and Prevention and the American College of Obstetricians and Gynecologists regarding vaccinations in pregnancy have been updated to include Covid-19, and most recently, respiratory syncytial virus (RSV) vaccinations.^{1,2} The Covid-19 vaccine can be administered at any point in the pregnancy, and inactivated influenza vaccine can be administered at any point in the pregnancy as soon as it is made available seasonally.^{1,3} The RSV vaccine should be administered between 32 0/7 and 36 6/7 weeks' gestation from September to January. Tetanus, diphtheria, and pertussis (Tdap) should be administered during each pregnancy between 27 0/7 and 36 6/7 weeks' gestation.⁴ The benefits and safety of these vaccinations in pregnancy



are well documented, but the rates of uptake remain inadequate with notable racial and socioeconomic disparities.⁵ Optimistically, uptake is improved when healthcare providers recommend and offer vaccination.^{5,6} This article provides an overview of the recommended vaccines in pregnancy. When healthcare providers are knowledgeable about these vaccines, they can have increased confidence to have the conversations that will improve acceptance among pregnant persons.

Covid-19

Covid-19 infection in pregnant persons is associated with more severe disease than in the nonpregnant population, with increased risk for admission to the intensive care unit, mechanical ventilation, and death.⁶ Even with mild symptoms, Covid-19 infection has been associated with an increased risk of obstetric complications including preterm birth, stillbirth, and preeclampsia.¹

Individuals who are immunized against Covid-19 are at lower risk for these complications when compared to unvaccinated individuals.¹ Additionally, data are beginning to show that antibodies are passed to the fetus when a pregnant person is vaccinated in the third trimester. A case control study found that Covid-19 vaccination during pregnancy reduced the risk of infant hospitalization with Covid-19 by 61%.⁷

Administration is recommended at any point in the pregnancy for those who enter the pregnancy unvaccinated and as soon as they are eligible for their booster for those who were vaccinated to reduce morbidity and mortality of the pregnant individual. Currently, it is not recommended to defer vaccination until the third trimester in order to confer immunity to the infant. It can be administered concurrently with other vaccines recommended during pregnancy such as RSV, Tdap, and influenza.¹

Respiratory syncytial virus

The primary goal of administration of the RSV vaccine to pregnant individuals is to offer protection against RSV to the infant during the first 6 months of life. RSV infections in most adults are usually associated with mild-to-moderate cold symptoms, but in infants and other vulnerable populations it can be more serious. Tens of thousands of children younger than age 5 years, with infants younger than 6 months making up the majority, are admitted for inpatient management and up to 300 die each year.⁸

In August 2023, the US Food and Drug Administration approved Pfizer's RSV vaccine unanimously for adminis-

tration to pregnant individuals. More than 7,000 pregnant individuals were included in the safety and efficacy trial. Administration of the vaccine during pregnancy reduced the risk of severe RSV infection in infants by 81% in the first 90 days after birth and by 69% in the first 180 days after birth.⁹

This RSV vaccine should be administered between 32 0/7 weeks and 36 6/7 weeks' gestation seasonally from September through January. It can be administered concurrently with other recommended vaccines during pregnancy. The full benefit of the vaccine is conferred after 14 days. Therefore infants who are born less than 14 days after administration, including all infants born at less than 34 0/7 weeks, should receive the monoclonal antibody nirsevimab. Administration of the monoclonal antibody nirsevimab to infants younger than age 8 months during RSV season is a safe and effective alternative to vaccination of the pregnant individual. Most infants will not need both.⁹

Tdap

Similar to RSV, the primary goal of administration of the Tdap vaccine during pregnancy is to confer protection from pertussis to infants during the first 6 months of life. Infants younger than age 3 months experience more serious illness related to pertussis infection than other age groups. When administered during pregnancy, the Tdap vaccine reduced hospitalization by 94% and death due to pertussis by 95%.¹⁰

Tdap should be administered between 27 0/7 weeks and 36 6/7 weeks' gestation to maximize benefit to the infant, although it is safe to administer throughout pregnancy and should not be delayed if clinically indicated sooner, such as routine administration related to wound care. It should be administered during each pregnancy regardless of prior administration.⁴

Similar to the RSV vaccine, the full benefit of the Tdap vaccine is conferred after 14 days, hence the recommendation for administration in the third trimester, ideally prior to 36 6/7 weeks. For pregnant persons at risk for preterm birth, such as those with a prior history of preterm birth or current cervical shortening, consideration might be given to providing the vaccine in the early part of the recommended window. Protection from Tdap is particularly critical for vulnerable preterm neonates. It can be administered concurrently with other recommended vaccines during pregnancy.

Influenza

Unlike the Tdap and RSV vaccines, the primary purpose of administering the influenza vaccine to pregnant individu-

als is to reduce the risk for severe disease in the pregnant person and reduce the risk for associated complications including preterm birth, stillbirth, and even congenital defects. Administration of the influenza vaccine during pregnancy is 40% effective in preventing hospitalization due to influenza among pregnant individuals and also offers protection via transplacental antibody transfer to infants in the first 6 months of life.¹¹ Administration has been associated with a decreased risk of preterm birth and low birth weight and a 34% reduction in influenza infection in infants.^{12,13}

Therefore, considering the primary goal of reduction in severe disease among pregnant individuals, administration should not be delayed until the third trimester but should be administered as soon as it becomes available seasonally. The influenza vaccine can be administered concurrently with other recommended vaccines during pregnancy.

Vaccine hesitancy

Considering the benefits to the pregnant individual and the infant during the first 6 months of life, improvement in rates of vaccination is critical to improve pregnancy outcomes and reduce hospitalizations. As the RSV vaccine was first offered in the latter part of 2023, data are not yet available on vaccine hesitancy rates, but considering the hesitancy documented against the Covid-19, influenza, and Tdap vaccines, it is likely that patients will be similarly hesitant.

Pregnant persons who are hesitant to receive the vaccines during pregnancy report lack of information on safety during pregnancy, as well as concerns about the effect it may have on fetal development and long-term effects later in childhood. There also are concerns about the false claim that autism is related to vaccine administration and, particularly with the Covid-19 and influenza vaccines, a belief that these vaccines make the recipient sick with the illness from which it is supposed to protect them.

Racial, socioeconomic, and geographical disparities remain problematic. One facet of this problem has historical roots due to medical injustices and lack of trust in healthcare providers, particularly among Black individuals. There also are issues related to access including low health literacy, lack of transportation, and lack of prenatal care. In particular, patients in rural areas are noted to have lower vaccination rates due to insurance barriers and transportation challenges.^{14,15}

Regardless of the reason behind the hesitancy, healthcare provider recommendation is the strongest predictor of vaccination, with the most robust data available about

influenza and Tdap vaccines.¹⁴ This can likely be extrapolated to the Covid-19 and RSV vaccines. Considering that the safety of the Covid-19 vaccine is often cited as the primary reason for hesitancy, an unequivocal message from a healthcare provider about safety and efficacy as well as anticipatory guidance on possible side effects (eg, soreness at the injection site) may be effective. Other interventions that have been shown to increase acceptance include group prenatal care, stocking the vaccine on site, standing orders for the vaccines, and importantly, offering the vaccine again despite prior refusal.¹⁴

Healthcare providers should become familiar with motivational interviewing techniques that emphasize empathy and collaboration between patients and themselves. Showing curiosity and interest in their specific concerns is the first step. After establishing this trust, which may take more than one appointment, it is possible to “move toward the yes” with a patient by helping the patient see the benefits of vaccination instead of focusing on the perceived risks. Healthcare providers can feel more confident in initiating this conversation when they are prepared with information on the safety and efficacy of each vaccine, as well as the administration schedule. More information about motivational interviewing in regard to vaccine acceptance can be found in the NPWH Maternal Health Immunization Toolkit free CE webinar “How to use motivational interviewing to address vaccine hesitancy in pregnant patients” as well as the CDC’s “Talking with patients about COVID-19 vaccination.”¹⁶⁻¹⁸

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