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WOMEN'S HEALTH CARE PHYSICIANS

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Committee on Obstetric Practice and Immunization Expert Work Group

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Influenza Vaccination During Pregnancy

ABSTRACT: The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices and the American College of Obstetricians and Gynecologists recommend that all adults receive an annual influenza vaccine. Influenza vaccination is an essential element of preconception, prenatal, and postpartum care because pregnant women are at an increased risk of serious illness due to seasonal and pandemic influenza. Since 2010, influenza vaccination rates among pregnant women have increased but still need significant improvement. It is particularly important that women who are or will be pregnant during influenza season receive an inactivated influenza vaccine as soon as it is available. It is critically important that all obstetrician–gynecologists and all providers of obstetric care advocate for influenza vaccination, provide the influenza vaccine to their pregnant patients, and receive the influenza vaccine themselves every season. It is imperative that obstetrician–gynecologists, other health care providers, health care organizations, and public health officials continue efforts to improve the rate of influenza vaccination among pregnant women.

New data show the continued critical need for influenza vaccination during pregnancy, and the importance of health care provider recommendation and provision of vaccination in the office. Since the previous version of this Committee Opinion (published in October 2010), influenza vaccination rates among pregnant women have increased but still need significant improvement. Recently published safety data regarding influenza vaccination during pregnancy continue to be reassuring, and newer quadrivalent vaccines are available and are appropriate for use in pregnant women.

Influenza vaccination is an essential element of preconception, prenatal, and postpartum care because pregnant women are at an increased risk of serious illness due to seasonal and pandemic influenza. Most reports of increased incidence of seasonal influenza-related morbidity have focused on increased hospital admissions for respiratory illness during influenza season. For example, a retrospective cohort study in Nova Scotia compared hospital admissions and respiratory illness among pregnant women during influenza season with hospital admissions during influenza season for the same women in the year before their pregnancies. If hospitalized for respiratory illness during pregnancy (especially during the third

trimester), women were more likely to have an increased number of medical visits or increased lengths of stay than when they were not pregnant (1). The association between pregnancy status and hospital admission was particularly striking for women with comorbidities (1). In addition to the risks associated with seasonal influenza, morbidity and mortality increased among pregnant women during the influenza pandemics of 1918–1919 and 1957–1958, and the 2009 H1N1 influenza pandemic (2–10). The increased incidence of morbidity and mortality among pregnant women in the 2009 H1N1 influenza pandemic was a stark reminder of these increased risks. Moreover, cumulative experience since 2009 has continued to demonstrate that pregnant women are severely affected by H1N1, with numerous preventable deaths noted across all domestic regions. Taken together, these data clearly emphasize the importance of influenza vaccination for disease prevention during pregnancy and the postpartum period, which makes this a vital intervention for all obstetric providers to recommend and administer.

The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) and the American College of Obstetricians and Gynecologists recommend that all adults receive an annual

influenza vaccine. It is particularly important that women who are or will be pregnant during influenza season receive an inactivated influenza vaccine as soon as it is available. The inactivated influenza vaccine can be given to pregnant women at any point during gestation (11). Live, attenuated influenza vaccine is available as an intranasal spray and is not recommended for pregnant women, but is safe for use in women in the postpartum period (11). In the United States, the influenza season typically occurs from October through May. The preponderance of data overwhelmingly demonstrate the safety of influenza vaccination during pregnancy (11–15).

Thimerosal is a mercury-containing preservative used in multidose vials of the influenza vaccine. Although thimerosal-free formulations of the influenza vaccine are available, there is no scientific evidence that thimerosal-containing vaccines cause adverse effects in children born to women who received vaccines with thimerosal. Hence, ACIP does not indicate a preference for thimerosal-containing or thimerosal-free vaccines for any group, including pregnant women (11). Newer quadrivalent influenza vaccines (containing two A and two B influenza strains) have been manufactured and are beginning to be used nationally among all patient populations. Currently, trivalent or quadrivalent vaccines may be used during pregnancy. The Advisory Committee on Immunization Practices does not preferentially recommend a specific formulation—trivalent or quadrivalent—of the influenza vaccine (11).

Influenza immunization is similarly effective among pregnant women and the general adult population (16). In addition to the benefits of immunization for pregnant women, a prospective, controlled, blinded randomized trial demonstrated fewer cases of laboratory-confirmed influenza among infants whose mothers had been immunized compared with women in the control group, as well as fewer cases of respiratory illness with fever (17). Additionally, numerous observational studies also have demonstrated neonatal protection from influenza illness among newborns of women who were vaccinated in the index season (18–20). Passively acquired antibodies from maternal circulation by way of transplacental transmission is currently the best prevention strategy for newborns because the vaccine is not approved for use in infants younger than 6 months (17). Thus, maternal influenza immunization offers demonstrated disease prevention benefits for women and their newborns and is a critically important component of prenatal care. Pregnant women should be counseled about the benefits of the single immunization for themselves and their unborn children.

The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice has long supported ACIP's recommendation that all women who are pregnant during influenza season receive an inactivated influenza vaccine. Before the 2009 H1N1 influenza pandemic, and despite the safety of the vaccine, many

obstetrician–gynecologists did not participate in the influenza vaccination program. This was demonstrated by the low national rates (before 2009) of influenza vaccination during pregnancy (15–30%) (11, 21). Beginning in 2009, likely partially attributable to the documented severity of the pandemic among pregnant women, the national yearly estimates of vaccination rates have continued to increase. Estimates suggest that anywhere from 38% to 52% of women who were pregnant, women who were in the immediate postpartum period, or both have received the seasonal influenza vaccine each year from 2009 to 2013 (22, 23). Although these numbers reflect significant progress, much room remains for improvement to meet the Healthy People 2020 goal of vaccinating 80% of pregnant women (24).

Studies consistently suggest that when the recommendation and availability of influenza vaccination during pregnancy comes directly from a woman's obstetrician or other obstetric provider, the odds of vaccine acceptance and receipt are 5-fold to 50-fold higher (25, 26). Additionally, health care provider education tools with simple chart prompts have been shown to increase the frequency of discussion between physicians and pregnant women regarding influenza and vaccination (27). Discussion with patients is particularly important because it has been shown that the lack of knowledge about the benefits of the influenza vaccine is a barrier to vaccine acceptance (28, 29). It is critically important that all obstetrician–gynecologists and all providers of obstetric care advocate for influenza vaccination, provide the influenza vaccine to their pregnant patients, and receive the influenza vaccine themselves every season. This will send a powerful message to all pregnant women that vaccination is very important for the protection of themselves and their unborn children.

Pregnant women are particularly vulnerable to influenza, and influenza vaccination is an integral element of preconception, prenatal, and postpartum care. It is imperative that obstetrician–gynecologists, other health care providers, health care organizations, and public health officials continue efforts to improve the rate of influenza vaccination among pregnant women. Doing so will benefit women and their newborns.

Resources

American College of Obstetricians and Gynecologists

American College of Obstetricians and Gynecologists. Immunization for Women. Available at: www.ImmunizationforWomen.org.

American College of Obstetricians and Gynecologists. Flu shot for pregnant patients: frequently asked questions. Washington, DC: American College of Obstetricians and Gynecologists; 2013. Available at: [http://www.immunizationforwomen.org/site/assets/docs/Tear%20pad%20FAQ%20PregPat\(1\).pdf](http://www.immunizationforwomen.org/site/assets/docs/Tear%20pad%20FAQ%20PregPat(1).pdf). Retrieved April 21, 2014.

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Other Resources

The following resources are for information purposes only. Referral to these sources and web sites does not imply the endorsement of the American College of Obstetricians and Gynecologists. These resources are not meant to be comprehensive. The exclusion of a source or web site does not reflect the quality of that source or web site. Please note that web sites are subject to change without notice.

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