

Position paper

## Tetanus, Diphtheria, and Acellular Pertussis Vaccine: A Position Statement of the Society for Adolescent Medicine

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Pertussis rates in the United States have been rising slowly since a nadir in 1976, and case rates have increased sharply in recent years. Although the Centers for Disease Control and Prevention reported over 25,000 cases in 2005, experts estimate that because of missed diagnoses, the actual burden of pertussis may be as high as 1 to 3 million cases per year [1]. In 2004, 38% of reported cases were among the 10- to-19-year-old age group [2].

Pertussis is a respiratory infection caused by *Bordetella pertussis*. The illness has three stages: the catarrhal stage (~1 to 14 days), which often looks like a common cold; the paroxysmal stage (~1 to 6 weeks), which includes spasmodic cough, posttussive vomiting, and inspiratory whoop; and the convalescent stage, which can last months and includes waxing and waning cough. Pertussis is most contagious before most patients know they have the disease: during the late catarrhal or early paroxysmal stage. Severe complications are more common among infants younger than 12 months and can include pneumonia, broken ribs, hypoxemia, seizures, encephalopathy, and death. Adolescents are particularly vulnerable to pertussis because immunity from either vaccination or natural infection wanes after 5 to 7 years. Adolescents with pertussis not only suffer disruption and morbidity from the illness, they also often unknowingly transmit disease to others, including vulnerable infants.

In 2006, the Advisory Committee on Immunization Practices recommended the routine use of the tetanus, diphtheria, and acellular pertussis vaccine (Tdap) for all 11- to-12-year-olds (replacing the tetanus–diphtheria, or Td, booster), and recommended Tdap for all 13- to-18-year-olds who have not previously received it. For those adolescents who have previously received a Td booster, a 5-year interval is encouraged prior to receiving Tdap, although a shorter interval can be used, especially when the risk of disease outweighs the risk of local reactions after vaccination [3]. One-time use of Tdap is also recommended for those aged 19 to 64 years in place of a Td booster. Among 19- to-64-year-olds, a 2-year interval between a prior Td and Tdap is encouraged, although a shorter interval may be used. Adolescents and adults who anticipate close contact with infants under the age of

12 months, and all healthcare workers with direct patient contact, should receive the Tdap vaccine [4]. Routine postpartum administration of Tdap is recommended if  $\geq 2$  years has elapsed since the last Td. If a booster is indicated during pregnancy and can not wait until delivery, the Advisory Committee on Immunization Practices currently recommends Td because of insufficient data on Tdap safety in pregnancy; however, pregnancy is not a contraindication for the use of Tdap, and Tdap may be used especially if the risk of pertussis is high [5].

The Society for Adolescent Medicine (SAM) supports the use of Tdap among all adolescents and young adults ages 10 to 25 years. The only way to effectively eliminate the risk of disease transmission to vulnerable infants is to prevent disease among adolescent and young adults: those who are most likely to acquire pertussis. SAM urges providers to be cognizant of the risk of disease in their communities to make informed choices regarding intervals between tetanus- and diphtheria-containing vaccines. To protect newborn infants, it is critical to screen and immunize females who are considering pregnancy and have not previously received Tdap. This vaccine should also be given simultaneously with other needed vaccinations to increase vaccination compliance and reduce missed opportunities for immunization. For further information regarding the implementation of adolescent vaccinations, please see, “Adolescent Immunizations: A Position Paper of the Society for Adolescent Medicine” [http://www.adolescenthealth.org/PositionPaper\\_Immunization.pdf](http://www.adolescenthealth.org/PositionPaper_Immunization.pdf).

### Author Disclosures

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## References

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