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Reduced-Antigen Combined Diphtheria-Tetanus-Acellular Pertussis Vaccine (Boostrix™)

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Despite widespread infant vaccination against diphtheria, tetanus and pertussis, there is increasing evidence to suggest that adolescents and adults lose immunity to these diseases. Of major concern is the transmission of pertussis from an adult or adolescent source to unvaccinated or incompletely vaccinated infants. For these reasons, a new reduced-antigen combined diphtheria-tetanus-acellular pertussis vaccine (dTpa; Boostrix™) has been developed. It is indicated for use as a booster dose in children (>4 years of age), adolescents and adults.

The dTpa vaccine has been launched in a number of European countries, Australia, and some South-American and Asian countries. In most of these countries dTpa is recommended as a booster vaccination against diphtheria, tetanus and pertussis in adolescents, some categories of healthcare workers and close contacts of children and infants.

This vaccine has a good tolerability profile, comparable to that of combined tetanus-diphtheria vaccines (Td). The most frequently reported local adverse events include pain, redness and swelling. The serological response is satisfactory and similar to that after administration of an acellular pertussis vaccine or Td in adults and adolescents.

Further research should be conducted to better document the impact dTpa may have on temporary carriage of pertussis in exposed adolescents and adults. Currently, trials are ongoing in Europe to evaluate the use of this combined vaccine as part of a primary immunisation programme against tetanus and diphtheria in adults.

In many countries, vaccination against diphtheria and tetanus is the most widely recommended vaccination programme in adults and adolescents. The availability of this combined vaccine is an attractive option to replace Td and offer vulnerable individuals immunoprotection against multiple infectious diseases in a single visit. Such vaccines are not only economically attractive (by reducing the number of visits required to achieve immunity) but may also increase compliance and extend vaccination coverage. In summary, dTpa is a welcome advance to maintain immunity to diphtheria, tetanus and pertussis in vaccinees and in the targeted cohorts at large, and to control further transmission to susceptible infants. ▲