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## *Immunization Dialogue*

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### Immunization Against Tetanus

The Nelson Textbook of Pediatrics recommends immunization against Tetanus as follows "Active immunization should begin in early infancy with combined diphtheria toxoid-tetanus toxoid-pertussis (DTP) vaccine at 2,4, and 6 months of age, with a booster at 4-6 yr of age and at 10 yr intervals thereafter throughout adult life with tetanus-diphtheria (Td) toxoids(1) Harrison's Principles of Internal Medicine states "A booster dose is required every 10 years and may be given at mid decade ages, 35, 45, and so on Combined tetanus and diphtheria Toxoid adsorbed (for adult use) (Td) rather than single-antigen tetanus toxoid is preferred for persons over 7 years of age"(2)

The IAP recommendation for TT immu-

nization is at 10 yr and 16 yr of age, stating that it provides life long immunity against tetanus Why are we using different vaccine and different immunization schedule<sup>7</sup> Do we not require Td for our population<sup>7</sup>

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#### REFERENCES

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- 2 Abrutyn E Tetanus *In Harrison's Principles of Internal Medicine, 13th edn Eds Isselbacher KJ, Braunwald E, Wilson ID, Martin JB, Fauci AS, Kasper DL New York, Me Graw Hill Inc Health Professions Division, 1994, pp 633-635.*

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### Reply

Dr. Yash Paul rightly points out that there are some differences between the recommendations in the USA and in India regarding adolescent and adult immunization against diphtheria and tetanus What are the differences and why<sup>7</sup>

In USA, 5 doses of DPT are given during the pre-school age In India, the IAP also recommends 5 doses, on the other hand, the National Universal Immunization Program (UIP) recommends 4 doses of

DPT and one dose of DT Thus, the IAP schedule is similar to the schedule in USA, upto school entry Thereafter there are differences In USA the next booster is at 14-16 years of age, using 'Td' containing the standard dose of tetanus toxoid (T) and reduced dose of diphtheria toxoid (d instead of D) IAP recommends tetanus toxoid (TT) at 10 years and 16 years of age Beyond the age of school leaving (*i.e.* 16 years), the US recommendation is for Td every 10 years, as pointed out by Dr. Yash Paul IAP has not made recommendations for adult immunization, but that does not mean that IAP is against continued booster

doses The Immunization Committee assumes that 'adult physicians' are aware of the need for TT boosters every 10 years We also know that most adults, including doctors and nurses do not take this very seriously Since tetanus is an important problem in adults in our country, what IAP has done is to give one additional dose of TT at 10 years to ensure high antibody levels during school-years and then to reinforce it further by another dose at 16 years This may appear like over-immunization, but it is an insurance against later neglect to give TT.

If anyone has information on any person developing tetanus inspite of 7 doses of tetanus toxoid, please document it, as it is important to know if our assumption that 7 doses give very long period of protection is correct Needless to reiterate that a booster dose must be given to such persons after injuries prone to *C. tetani* infection.

Do adults in India need periodic boosters of diphtheria toxoid beyond 5 years of age<sup>7</sup> IAP has used the vast experiences of 'adult physicians' telling us that diphtheria is virtually unheard of, among adolescents and adults, to make no recommendation on continued immunization If this picture

changes and if in future the epidemiological need to give boosters arises, then IAP will introduce appropriate recommendations Until then, there is no need to give diphtheria toxoid to adolescents and adults We assume that *C diphtheriae* is still prevalent in our communities and that subclinical infections might be boosting the vaccine-induced immunity The DT formulation should not be given to older persons since it is likely to induce severe local reaction on account of such high immunity resulting in antigen-antibody immune complex formation and consequent Arthus phenomenon It is for this reason that Td, with reduced dose of diphtheria toxoid, is recommended and used in the USA

If anyone has even anecdotal information about tetanus or diphtheria in previously immunized individuals, the IAP Immunization Committee will like to hear it, with the details of immunization history and clinical features

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