

Tetanus Vaccines Which Vaccine and for Who?

August 2006

International production of two tetanus-containing vaccines that had long been available in New Zealand has recently stopped. They are: the funded CDT (child dose diphtheria tetanus vaccine) and the for-purchase Tet-tox (tetanus toxoid vaccine).

This supply change issue, along with the recent introduction of Boostrix-IPV (adult dose diphtheria-tetanus-acellular pertussis-polio vaccine) requires health professionals to review which tetanus vaccine they are using under which circumstances.

Tetanus vaccines are indicated in two main situations:

1. For primary tetanus immunisation course and regular boosting of protection.
Given as per the National Immunisation Schedule as part of the combinations vaccines at ages:
6 wks, 3mths, 5 mths, 4 yrs, 11yrs, 45 & 65 years
2. For boosting tetanus protection as part of the clinical management of the tetanus prone wound.

Key Points

Infanrix™-IPV (DTaP-IPV) is the recommended and funded vaccine for

- Tetanus protection for those age <7 years
i.e. for both the National Immunisation Schedule and management of tetanus prone wounds.

There is no alternative tetanus vaccine in New Zealand for those < 7 years old

ADT® (Td) is the recommended and funded vaccine for

- Adult tetanus boosters (age 45 and 65) and
- Management of adult tetanus prone wounds and
- Primary tetanus series for previously unimmunised adults (from age 7 years)

ADT is available for-purchase commercially for adult travel boosters

Boostrix®-IPV (dTAp-IPV) is the recommended and funded vaccine for

- The national schedule tetanus booster given at age 11 years
- Where it is clinically recommended and supply allows, Boostrix-IPV can be given in immunisation catch-up and the management of tetanus prone wounds for those aged from 7 to <16 years

Tet-tox (TT) is now only available and funded for

- Those < 7 years old with a medical contraindication to pertussis &/or diphtheria containing vaccines (i.e. anaphylactic reaction, or encephalopathy within 7 days of previous dose – see *Handbook 2006*)

Further details:

1. **CDT** - (child dose diphtheria tetanus vaccine - DT) There is no longer any supply of CDT in the country. This vaccine has recently gone out of manufacture and there is an extremely limited production pool of similar vaccines internationally as lack of demand makes it commercially un-viable

2. **Tet-tox** – (tetanus toxoid vaccine - TT) This has not been supplied as a funded vaccine since 1994 although it was available for purchase until early 2006. Some DHBs and individuals purchased it as a matter of personal choice for tetanus protection rather than in combination with diphtheria vaccine.

Tet-tox is no longer being manufactured and there is no likely replacement vaccine in the market. As a result there is no longer any available "for purchase" supply of Tet-tox in the country.

ESR advised in February 2006 that a limited supply had been acquired. It has been agreed with the Ministry of Health that this vaccine is now reserved for those few individuals who have a medical contraindication to a pertussis containing vaccine. (i.e. anaphylactic reaction, or encephalopathy within 7 days of previous dose – see Immunisation Handbook 2006 for details). This limited supply is accessible via the Propharma stores.

There is insufficient supply to make Tet-tox available as a matter of personal choice.

3. **ADT** – (adult dose tetanus diphtheria vaccine - Td) continues to be the recommended vaccine for those from age 7* years onward for management of tetanus prone wounds (i.e. more than 5 years since they completed the tetanus primary course, or last tetanus booster dose).

It is important to note that the majority of children have a tetanus booster at 4 years of age before starting school and would not need further tetanus immunisation, regardless of the contaminated wound, before age 9 years. However, for those aged 7 to <16 years who are not up-to-date with scheduled immunisations Boostrix-IPV should be considered by primary care providers for tetanus prone wounds (see later for details).

ADT is the recommended and funded vaccine for previously unimmunised adult tetanus primary course and adult boosters (age 45 and 65). There is no immunisation benefit payable to the administrator for adult boosters.

ADT is available commercially for use in travel immunisations.

* see *Immunisation Handbook 2006* regarding conflict with data sheet which states "from 8 years" - the handbook recommendation "from age 7 years" overrides the data sheet in this instance.

4. **Infanrix-IPV** – (child diphtheria-tetanus-acellular pertussis-polio vaccine - DTaP-IPV) is the funded and recommended vaccine for tetanus immunisation for all children <7 years old. It is also the recommended vaccine for management of tetanus prone wounds of children <7 years old who are unvaccinated or have an incomplete or unknown immunisation history.

It is important to consider that if the child <7 years is up-to-date with their scheduled vaccines they will have had a tetanus dose within the past 5 years which covers them for any tetanus

prone wound. If they are not up-to-date then they need the catch-up immunisation, which also covers the tetanus prone wound management event.

5. **Boostrix-IPV** – (adolescent-adult dose diphtheria-tetanus-acellular pertussis-polio vaccine - dTap-IPV) is funded for the National Immunisation Schedule 11 year old event (which is offered as the Year 7 School Immunisation Programme in the North Island and Nelson Marlborough District health Boards, and by primary care in the rest of the South Island). It is also recommended and funded in catch-up immunisation for those aged 7 to <16 years of age years.

Boostrix-IPV can also be given as a tetanus booster in management of tetanus prone wounds for those aged 7 to <16 years (remember - only if more than 5 years since the primary course/last booster).

Currently in NZ there is no upper age limit for the use of Boostrix-IPV, nor limit on multiple doses. However Boostrix-IPV is only funded for those aged between 7 & <16 years. Boostrix-IPV is not currently commercially available in NZ, although Boostrix (dTap) is available for purchase from GSK. There is limited data on the use of Boostrix-IPV or Boostrix in multiple doses and in adults, nonetheless first principles indicate there are not likely to be any concerns.

Boostrix-IPV is not usually supplied to accident and medical facilities. This is a practical measure as the number of eligible children seen in most centres would be too few to justify holding a stock of Boostrix-IPV.

Where Boostrix-IPV is given between ages 9 & <16 years as either a catch-up immunisation, or for management of tetanus prone wounds then it *replaces* the scheduled 11-year-old dose and primary care providers can claim the immunisation benefit.

Boostrix-IPV is not recommended to be given in the 2 years following ADT as there is some evidence of increased risk of mild - moderate adverse reactions, however the urgency of protection from pertussis should be taken into consideration.

Example – A child aged 7 or 8 years, who missed their 4-year-old immunisation, presenting at primary care with a tetanus prone wound can be offered Boostrix-IPV and the immunisation event claimed as a 4-year-old catch-up. In this situation the 11-year-old Boostrix-IPV vaccine would also be clinically recommended.

The same child presenting at an A&M clinic would be offered ADT and the 11-year-old Boostrix-IPV vaccine would also be clinically recommended.

Tetanus is a devastating disease that rarely occurs in NZ as it is entirely preventable. The last two cases in 2004 and 2006 were both in unimmunised children following minor injuries.

Accident and Medical facilities and Emergency centres that administer tetanus vaccination will now need to stock Infanrix-IPV for those under 7 years of age and ADT for those 7 years of age and over.

Ministry of Health guidelines on the management of tetanus prone wounds can be found in the Immunisation Handbook 2006 p158 at www.moh.govt.nz