

TETANUS PREVENTION

Tetanus is an acute disease characterised by muscle rigidity and agonising contractions induced by the toxin tetanus bacilli the spores of which are present in soil.

Between 1984 and 2002 there were 186 cases of tetanus in England and Wales. 74% occurred in individuals over 45 years old.

A TETANUS PRONE WOUND IS:

- Any wound or burn sustained more than six hours before surgical treatment of the wound or burn.
- Any wound or burn at any interval after injury that shows one or more of the following characteristics:
 - A significant degree of devitalised tissue
 - Puncture-type wound
 - Contact with soil or manure likely to harbour tetanus organisms
 - Clinical evidence of sepsis
- Compound fractures
- Any wound containing foreign bodies

TETANUS IMMUNISATION FOLLOWING INJURIES

Immunisation status	Clean Wound	Tetanus Prone Wound	
	Vaccine	Vaccine	Human tetanus immunoglobulin #
Fully immunised (see table overleaf)	None required	None required	Only if especially high risk ⁺
Primary immunisation complete, boosters incomplete but up-to-date	None required (unless next dose due soon and convenient to give now)	None required (unless next dose due soon and convenient to give now)	Only if especially high risk ⁺
Primary immunisation incomplete or boosters not up-to-date	A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)	A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)	Yes. One dose of human tetanus immunoglobulin in a different site
Not immunised or immunisation status unknown or uncertain	An immediate dose of vaccine followed, if records confirm this is needed, by completion of a full 5 dose course vaccine to ensure future immunity	An immediate dose of vaccine followed, if records confirm this is needed, by completion of a full 5 dose course vaccine to ensure future immunity	Yes. One dose of human tetanus immunoglobulin in a different site

For prevention the dose of human tetanus immunoglobulin is:

- For most uses: 250iu by IM injection
- If more than 24 hours have elapsed since injury or there is a risk of heavy contamination or following burns: 500iu by IM injection

⁺ High risk tetanus prone wound:

- Heavy contamination with material likely to contain tetanus spores eg. Stable manure
- Extensive devitalised tissue

ROUTINE TETANUS and DIPHTHERIA IMMUNISATION SCHEDULES

A full course consists of 5 doses. Once complete these are considered to give lifelong immunity. Routine tetanus immunisation was introduced to the UK in 1961. Older adults may not be immunised and at particular risk.

SCHEDULE	CHILDREN	ADULTS
Primary course	3 doses of vaccine (usually as DTaP/IPV/Hib) at 2, 3, and 4 months	3 doses of vaccine (as Td/IPV) each one month apart
4th dose	At least 3 years after the primary course, usually pre-school entry (as DTaP/IPV)	At least 5 years after primary course (as Td/IPV). Often given after 10 years.
5th dose	Aged 13-18 years before leaving school (as Td/IPV)	10 years after 4 th dose (as Td/IPV)

DTaP/IPV/Hib – diphtheria, tetanus, acellular pertussis, inactivated polio vaccine, *haemophilus influenzae* type b

DTaP/IPV - diphtheria, tetanus, acellular pertussis, inactivated polio vaccine

Td/IPV - diphtheria, tetanus, inactivated polio vaccine

Tetanus and diphtheria (Td) vaccine

Following advice from the Department of Health all patients now receive a combined tetanus, diphtheria and polio vaccine. Existing stocks of Td can be used for administration following tetanus-prone wound.

Circumstances where a patient should have more than 5 doses:

- Following a tetanus prone wound if the tetanus status is unknown.
- For travellers to areas where medical attention may not be accessible should a tetanus prone injury occur, and the last dose was more than 10 years previously. This is a precautionary measure in case the immunoglobulin is not available to the individual should a tetanus prone injury occur.

CONTRAINDICATIONS to Td

- The vaccine should not be given to an individual suffering an acute febrile illness except in the presence of a tetanus prone wound.
- Immunisation should not proceed in individuals who have had a confirmed anaphylactic reaction to a previous dose of a tetanus-containing vaccine

Individuals with immunosuppression and HIV infection should be given tetanus containing vaccines in accordance with the recommendations above. These individuals may not make a full antibody response. Specialist advice may be required.

REFERENCES

Tetanus update August 2004 from D Salisbury and N Begg (Eds) 1996 Immunisation against infectious disease. HMSO. 1996. Downloaded from www.dh.gov.uk (accessed on 14th February 2005)

Gail Foreshew, Emergency Department Pharmacist
December 2003.
Reviewed February 2005 by Gail Foreshew
Checked by Tim Hills, Microbiology Pharmacist