University Hospitals of Derby and Burton NHS Foundation Trust

Tetanus-Prone Wounds in Adults; Prevention of Infection - Microbiology Summary Hospital Guideline

Reference number: CG-EMD/2024/004

Clinical concerns re tetanus-prone wound

Tetanus-prone wounds [note 1] include:

I. Puncture-type injuries acquired in a contaminated environment and likely therefore to contain tetanus spores [note 1], for example gardening injuries
II. Wounds containing foreign bodies such as wound splinters [note 1]
III. Compound fractures
IV. Wounds or burns with systemic sepsis
V. Certain animal bites and scratches [note 2]

Note 1: Individual risk assessment is required and this list is not exhaustive, for example a puncture-wound from discarded needle found in a park may be a tetanus-prone injury but a needlestick injury in a medical environment is not
Note 2: Similarly, although smaller bites from domestic pets are generally puncture injuries, animal saliva should not contain tetanus spores unless the animal has been rooting in soil or lives in an agricultural setting

High-risk includes any of the tetanus-prone wounds with either:

1. Heavy contamination with material likely to contain tetanus spores, for example soil, manure
2. Wounds or burns that show extensive devitalised tissue
3. Wounds or burns that require surgical intervention that is delayed for more than 6 hours are high risk even if the contamination was not initially heavy

Review the past medical and vaccination histories:

- Re immunocompromise; and
- Re tetanus immunisation status (from the patient ± from the patient's summary care record)
  - Adequate priming course of tetanus vaccine = at least 3 doses of tetanus vaccine at appropriate intervals*. This definition of 'adequate course' is for the risk assessment of tetanus-prone wounds only. The full UK schedule is 5 doses of tetanus containing vaccine at appropriate intervals. * Note page 2

Tetanus-prone wound and known adequate priming course of tetanus vaccine (and no immunocompromise)

Tetanus immune

- Wound management
- No dose of vaccine
- No dose of immunoglobulin
- ± Course of antibiotics, please note the microbiology full guideline page 4

Tetanus-prone wound and no/unknown adequate priming course of tetanus vaccine

If available*:

- Blood (ProTetanus):
  - Anti-tetanus antibodies

Positive

Negative

Tetanus non-immune (or immunocompromise)

- Wound management
- Dose of vaccine, please note page 2
- Dose of immunoglobulin, note page 2
- ± Course of antibiotics, please note the microbiology full guideline page 4

* If blood (ProTetanus) is unavailable:

- Wound management • Please note page 2 with regard to ± dose of vaccine, ± dose of immunoglobulin • ± Course of antibiotics

Vaccination

Immunisation status	Immediate treatment			Later treatment
	Clean wound	Tetanus-prone	High-risk tetanus-prone	
Those aged 11 years and over, who have received an adequate priming course of tetanus vaccine with the last dose within 10 years	None required	None required	None required	Further doses as required to complete the recommended schedule (to ensure future immunity)
Received adequate priming course of tetanus vaccine but last dose more than 10 years ago Includes UK born after 1961 with history of accepting vaccinations	None required	Immediate reinforcing dose of vaccine	Immediate reinforcing dose of vaccine One dose of human tetanus immunoglobulin (TIG)* in a different site	Further doses as required to complete the recommended schedule (to ensure future immunity)
Not received adequate priming course of tetanus vaccine Includes uncertain immunisation status and/or born before 1961	Immediate reinforcing dose of vaccine	Immediate reinforcing dose of vaccine One dose of human TIG* in a different site	Immediate reinforcing dose of vaccine One dose of human TIG* in a different site	Further doses as required to complete the recommended schedule (to ensure future immunity)
* If TIG is not available, human normal immunoglobulin (HNIG) may be used as an alternative				

Immunoglobulin

- First line: human TIG intramuscularly
- Second line: HNIG intramuscularly or subcutaneously

Indications	IM-TIG	Subgam 16%	Cuvitru 20%	Gammanorm 16.5%
For most uses	250 IU	6.4 mL	4.5 mL	5 mL
If more than 24 hours have elapsed or there is risk of heavy contamination or following burns	500 IU	12.8 mL	9 mL	10 mL