



# Tetanus Prophylaxis in the Emergency Department



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## Introduction

Tetanus is a potentially fatal disease. (1)

Vaccination and advances in medical treatment have reduced the incidence of tetanus and from 1981 to 2009, there were 9 cases of tetanus in Ireland. (2) The majority of these cases were in adults over 65 due to the lack of routine vaccinations.

Soft tissue injuries are a common ED presentation, and it is important to consider:

1. Tetanus status of the patient
2. Risk status of the wound and patient

Tetanus prone wounds are described below. High risk patients include the elderly (>60, intravenous drug users and immunocompromised patients). There are current HSE guidelines detailing recommendations for tetanus prophylaxis.

## Aims

1. To assess the documentation rate of tetanus status
2. To determine rate of administration of tetanus prophylaxis
3. To assess adherence to HSE guidelines for tetanus prophylaxis

## Methods

Using the Maxims© patient information system in the ED, 100 patients were identified by searching for the keywords; "wounds", "laceration" and "tetanus". Notes were reviewed retrospectively and current tetanus practices reviewed.

## Tetanus Prone Wounds

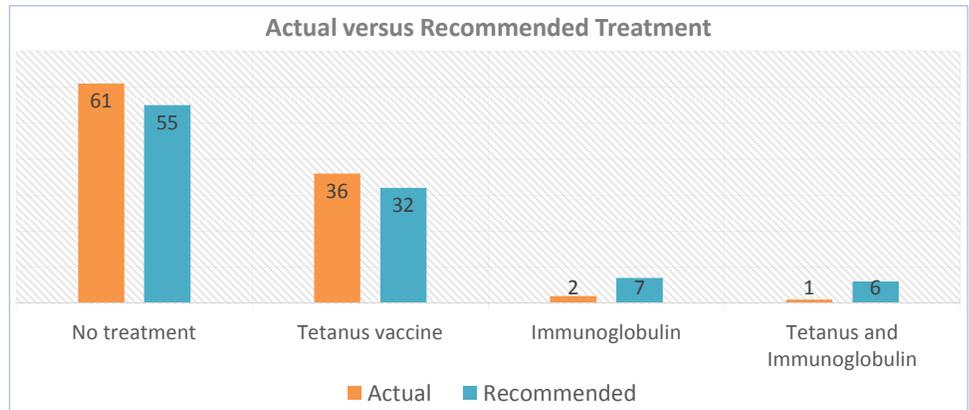
1. Wounds showing a devitalised tissue or contaminated with soil, faeces or saliva
2. Wounds contaminated with foreign bodies
3. Puncture wounds, avulsions, burns or crush injuries
4. Wounds or burns requiring surgical treatment delayed for more than 6 hours
5. Compound fractures
6. Wounds or burns in patients with systemic sepsis

## References:

1. Chalya PL et al. Ten year experience with tetanus at a tertiary hospital in Northwestern Tanzania: a retrospective review of 102 cases. World J Emerg Surg. 2011; 6(20)
2. HSE Immunisation Guidelines – Tetanus (2013)

## Results

Of the 100 charts reviewed, there were 6 wounds regarded as tetanus prone. 15 patients were regarded as high risk, 14 of whom (93%) were due to the patient being >60yo. The documentation of tetanus immunisation status was 46% and documentation of risk status of patient or wound was 50%. The total number of patients managed correctly as per the HSE guidelines was 80/100.



## Discussion

This audit demonstrates that there is poor adherence to guidelines regarding the administration of tetanus in the ED. Documentation is sub-optimal and in some cases it is not clear whether the patient or wound met the criteria for tetanus prophylaxis. Tetanus immunoglobulin should be used for high risk wounds. In this cohort 2 of 7 patients indicated for immunoglobulin received it.

Elderly (>60) patients should be considered as high risk and receive the vaccine, unless the patient has had a vaccine in the last 10 years. In this audit, 57% (n=8) of elderly patients did not receive a vaccine, with no documented explanation.

Despite a national guideline, 4 patients received prophylaxis when it was not indicated. This shows a lack of adherence to the guidelines and potentially could cause harm to patients due to side effects of the vaccine from inappropriate prescribing.

## Conclusions

- The documentation rate of tetanus status is poor (46%). The medical notes should have tetanus status, wound status and patient status documented at all times.
- A local tetanus prophylaxis guideline will be developed to provide education and ensure best practice. The HSE guideline is not clear regarding tetanus administration in the elderly and the administration of immunoglobulin where the primary schedule is complete, therefore use will be made of other resources such as the UK Green Book for development of this guideline.
- This audit should be repeated after this intervention to assess improvement in standards.

Table 21.1 Risk assessment of wounds for use of vaccination and tetanus immunoglobulin (TIG)

Tetanus 2013	Vaccination status	Clean wound	Tetanus prone wound	
	Fully immunised (5 doses of tetanus vaccine at appropriate intervals)	Nil	Nil	Nil
Primary immunisation and age appropriate boosters complete	Nil	Nil	Nil	Consider TIG*
Primary immunisation or age appropriate boosters incomplete	Age appropriate tetanus vaccine and complete vaccine schedule	Age appropriate tetanus vaccine and complete vaccine schedule	Age appropriate tetanus vaccine and complete vaccine schedule	TIG
Unimmunised or unknown vaccine status	Age appropriate tetanus vaccine and complete vaccine schedule	Age appropriate tetanus vaccine and complete vaccine schedule	Age appropriate tetanus vaccine and complete vaccine schedule	TIG

\* Consider TIG for fully vaccinated patients who are immunocompromised