

## **Simply Teeth Clinical Guidelines**

**Accidental Inoculation Injury - Guidance for healthcare professionals on dealing with 'needle-stick' injuries to members**

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## **1 Local Contacts**

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## **2 Aims of the Guidance**

This guidance has been produced to assist staff when dealing with enquiries relating to needle-stick injuries affecting members of the public.

Though these incidents are unusual, when they do occur they can promote a lot of anxiety in those who have sustained the injury or, in the case of young children, their parents.

As each incident must be subject to an individual risk assessment, standard guidance cannot be produced on how to handle individual incidents.

The aim of this guidance is to provide healthcare professionals with a framework to assist them in undertaking risk assessments.

## **3 Introduction**

There is currently no UK evidence on risk of transmission of blood-borne viruses (BBVs) from discarded needles, but it is believed to be very low.

There have been no documented cases in the UK or the USA of HIV having been transmitted in this way.

Many of the horror stories about discarded needles e.g. in coin return slots, taped to handrails or petrol pump handles, wedged in theatre seats, etc. are urban myths.

## **4 Definitions**

Community inoculation injuries are accidents that have happened to members of the public, these are different to inoculation injuries sustained by community healthcare staff that need to be managed by their own occupational health department.

Community inoculation / 'needle stick' injuries will include:

Percutaneous inoculation injuries via needles, blades or 'sharps'

Splashing of blood/body fluids onto mucous membranes eg eye or mouth or damaged skin eg weeping eczema

A human bite, which breaks the skin/causes bleeding.

## **5 What are the Hazards from these Types of Injuries?**

Localised infections e.g. wound infection

Tetanus spores (e.g. if the needle had been contaminated by earth/dirt)

Blood-borne viruses – especially Hepatitis B, Hepatitis C and HIV.

## **6 Advice on the Initial Management of the Injury**

Healthcare professional sometimes receive requests from members of the public about management of an inoculation injury. The following advice should be given about managing an acute injury.

Encourage bleeding by gently 'milking' the wound but do not suck the wound.

Wash the wound with soap under warm running water and dry with disposable towel/paper.

Cover the skin wound with an impermeable waterproof dressing.

Wash skin, eyes or mouth with plenty of water if a splash injury has occurred.

Seek immediate advice from their local A & E Department.

## 7 Advice to Healthcare Professionals on Assessing the Risk

The risk assessment should be based on the circumstances and nature of injury and should consider the following factors:

Location where injury occurred - Was it at home, school, park, etc?

The Injury – Did the needle/sharp actually puncture/pierce the skin?

The type of needle/sharp implement – There is a greater risk from injuries with a hollow bore needle such as a hypodermic needle rather than a solid needle such as a tattoo or sewing needle.

The 'sharp' – Was it visibly contaminated with blood prior to the injury?

The 'user' – Is there any information about the 'user' of the needle/sharp e.g. is the carriage of a BBV known or can it be found out (by asking/requesting to test the 'user') or is the 'user' a member of a probable/recognised risk group e.g. Injecting Drug User (IDU).

Prevalence of BBVs – what is the prevalence of BBVs in the local Population?

Exposure - What is the type of exposure – percutaneous > splashing?

Immunisation Status – What is the immunisation history of the injured person?  
– Relevant for tetanus and Hepatitis B risk.

## 8 Information to Assist in Undertaking the Risk Assessment

### 8.1 Prevalence of BBVs in the North West

<u>Type of BBV</u>	<u>General Public</u>	<u>IDUs</u>
HBV	1.2/1000	40/1000
HCV	4/1000	400/1000
HIV	0.5 – 1/1000	2/1000

### 8.2 Risk of Transmission in Occupational Setting

(Percutaneous injury from known infected source and fresh blood)

HBV	30 in 100
HCV	3 in 100
HIV	0.3 in 100

(DoH, 2000)

### **8.3 Risk from Discarded Hypodermic Needle**

The risk of BBVs will reduce with drying

The risk of BBVs will reduce with time

The risk of BBVs will reduce with exposure to sunlight

Neither the Health Protection Agency nor the Communicable Disease Centre (Atlanta, USA) recommends routine testing of needles or 'sharps' for presence of BBVs in this type of injury.

## **9 Options for Action**

### **9.1 The most frequent scenario involves:**

A curious child or a worker such as a cleaner, refuse collector, toilet/cloakroom attendant who receives an injury from a discarded hypodermic needle from an unknown source. The injured person is unimmunised against HBV.

### **9.2 Action for this type of scenario would then involve giving advice on:**

Cleaning of the wound

Seek advice from local A & E department

Checking the need for a tetanus booster

Checking the need to protect against any potential exposure to a BBV

### **9.3 Action and Advice on BBVs :**

Hepatitis B: post exposure prophylaxis (PEP)

Hepatitis C: no PEP regime currently available

HIV: unless the source is a known HIV carrier, the risk is too low for PEP

*(DoH 2003)*

Human bites that break the skin may require a standard course of antibiotics.

## **10 Hepatitis B Prophylaxis**

If unimmunised the first dose of an accelerated course of vaccine can be given following advice from A & E department

Ideally this should be administered within 24 hours of the incident but some benefit may be obtained from later vaccination

If the piercing implement is visibly contaminated with blood from a known/suspected high risk source and the patient has presented within 48 hours of injury, then discuss with consultant virologist as injured person may

require Hepatitis B immunoglobulin (HBIG). In most circumstances there is no indication for HBIG.

## 10.1 Hepatitis B Immunisation

### Accelerated Course

0 month

1 month

2 months

Booster at 12 months

Blood test approx 2 months after completion of the course to test for adequate levels of protection and for evidence of HBV infection.

HBV Prophylaxis for reported exposure incidents

HBV status of person exposed	Significant exposure			Non-significant exposure	
	HBsAg positive source	Unknown source	HBsAg negative source	Continued risk	No further risk
≤ 1 dose HB vaccine pre-exposure	Accelerated course of HB vaccine* HBIG x 1	Accelerated course of HB vaccine*	Initiate course of HB vaccine	Initiate course of HB vaccine	No HBV prophylaxis. Reassure
≥ 2 doses HB vaccine pre-exposure (anti-HBs not known)	One dose of HB vaccine followed by second dose one month later	One dose of HB vaccine	Finish course of HB vaccine	Finish course of HB vaccine	No HBV prophylaxis. Reassure
Known responder to HB vaccine (anti-HBs > 10 miU/ml)	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	No HBV prophylaxis. Reassure
Known non-responder to HB vaccine (anti-HBs < 10 miU/ml 2-4 months post-immunisation)	HBIG x 1 Consider booster dose of HB vaccine	HBIG x 1 Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No prophylaxis. Reassure

\* An accelerated course of vaccine consists of doses spaced at 0, 1 and 2 months.

A booster dose may be given at 12 months to those at continuing risk of exposure to HBV.

Source: PHLS Hepatitis Subcommittee. CDR Review 1992:2;R97-R101. (Further details and explanation of definitions are contained in this article.)

## 11 Blood Samples to be taken

Initial baseline blood sample on first attendance (for storage by Virology Department)

At six months the client may wish to be tested for one or more of the 3 BBVs.

If the source is known or highly suspected to be a BBV carrier then testing can be offered at 6 weeks, 3 and 6 months.

If there is evidence of acute infection, refer for specialist management.

## **12 References and Sources of Information**

Inoculation Injury in the Community Setting: Guidance for the Healthcare Professional (Health Protection Agency North West, June 2005)

HIV post-exposure prophylaxis: Guidance from the Chief Medical Officers Expert Advisory Group on AIDS (DoH, 2<sup>nd</sup> ed, February 2004)

HIV post-exposure prophylaxis: Guidance from the Chief Medical Officers Expert Advisory Group on AIDS (DoH, July 2000)