1. Introduction and Scope

This guideline details the assessment and management of needlestick injuries in children.

The overall risk of viral transmission from community-acquired needlestick injuries in children is low.

The risk of transmission is highest for Hepatitis B, then Hepatitis C and then HIV.

The risk of HIV from a community acquired needlestick injury can be assessed as about 1:10,000 in London to less than 1:50,000 elsewhere².

This guideline is relevant to all staff working within the Children’s ED and Children’s Hospital that may come into contact with a child presenting with a needlestick injury.

Related Documents:

UHL Infection Prevention Policy B4/2005
UHL Policy for Consent to Examination or Treatment A16/2002
UHL Aseptic non-touch technique policy B20/2013

*Please see main body for detail*

Key:
HBV=Hepatitis B virus
HCV=Hepatitis C virus
HIV=Human Immunodeficiency Virus
PEP=post exposure prophylaxis

Encourage bleeding
Wash site with soap and water

Detailed History (see 3.1)

Assess Exposure Significance (see 3.2)

LOW

PEP (post exposure prophylaxis) not recommended

Obtain 2ml clotted blood sample (stored)*See investigations*

MODERATE

Counsel family;
*Risks of HBV, HCV and HIV transmission
*Risks of HIV PEP

Consider PEP (d/w Paediatric ID Consultant or on call GU Med Reg, out of hours)**

HIGH**

Counsel family;
*Risks of HBV, HCV and HIV transmission
*Risks of HIV PEP

Recommend PEP (see HIV text box)

*Baseline HBV, HCV, HIV antibody status If PEP being started also take: FBC, U&E, LFT
(see investigations 3.3)

Administer Hepatitis B Vaccine:
0-15 Yrs or renal insufficiency: 0.5ml Engerix B
16 Yrs or more: 1ml Engerix B into THIGH ONLY¹

Assess if Tetanus vaccine needed (see text) *If yes – give*

Provided: *Needlestick Injury Leaflet
*Unimmunised patients with written information on further catch-up doses of Hep B and Tetanus

Notify, for follow up and further immunisations:
Complete & fax attached referral form

¹If user known Hep B +ve give Hep B Immunoglobulin, IM THIGH ONLY
0-5 yrs: 200 iu
5-10 yrs: 300 iu
≥10 yrs: 500 iu
3. Management of Needlestick Injuries

3.1 Detailed History

- Include time, date and location of Incident
- Appearance of Needle
- Immunisation history

3.2 Assess Exposure Significance

**LOW RISK**
- No visible blood or body fluid on needle/ instrument
- Superficial injury that does not draw blood

**MODERATE RISK**
- Fresh blood on needle and penetrating Injury drawing blood

**HIGH RISK**
- Exposure to blood or body fluids from known HIV, HBV, HCV source.

3.3 Investigations
3.4 Post Exposure Prophylaxis

Hepatitis B

Hepatitis B Vaccine Schedule (accelerated):
- 1st vaccine at time of presentation
- 2nd vaccine at 1 month
- 3rd vaccine at 2 months

*Note: The Paediatric Hep B vaccine is stocked in the Childrens Emergency Department (ED) and the immunoglobulin is supplied via virology*

Hepatitis C

- No post-exposure prophylaxis is available for hepatitis C. Families may be counselled that, in the event of HCV seroconversion, therapy is increasingly successful.2

Human Immunodeficiency Virus (HIV)

Risks of Post Exposure Prophylaxis (PEP)
- Counsel family about possible side effects; nausea, diarrhoea, headache, granulocytopenia /anaemia, myopathy. See specific medications for further detail.
- Compliance is generally poor because of these adverse effects.
3.5 Key notes on PEP:

- **Most effective when** started asap (within 1 hour and certainly within 48-72 hours) and continued for 28 days.

- **Prescribe 5 days of PEP** (consider addition of anti-emetic such as Domperidone and anti-diarrhoeal such as Loperamide for PRN use).

- A further prescription (total 4 weeks of PEP) will be given at paediatric consultant review if PEP is to be continued.

- **See table 1 for detail on drug regimens**: They are based on age bandings; however **accurate weight and height measurements** should be used to calculate individual drug doses.

- **For up to date dosing**, please see the Childrens HIV Association (CHIVA) antiretroviral dosing table 4 (on pg. 7 & 8) at:

- ***Main Pharmacy stock 1 bottle of each of the recommended drugs so treatment can be initiated. Packs containing Raltegravir + Truvada tablets (for use in ≥ 10 year olds who can swallow tablets) are also available***

- ***Please contact main pharmacy via switchboard; or on call pharmacist out of hours***
<table>
<thead>
<tr>
<th>Age (years)</th>
<th>PEP – preferred</th>
<th>PEP – alternative</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 +</td>
<td>Raltegravir + Truvada® (emtricitabine 200mg/tenofovir disoproxil fumarate TDF 300mg)</td>
<td>1. Raltegravir + lamivudine 150mg/zidovudine 300mg combined Tablet 2. Kaletra®(lopinavir/ritonavir)+ lamivudine 150mg/zidovudine 300mg combined tablet</td>
<td>Tenofovir should be avoided in all those with renal insufficiency.</td>
</tr>
<tr>
<td>6 - 9</td>
<td>Raltegravir + lamivudine + zidovudine</td>
<td>1. Kaletra® + lamivudine + zidovudine 2. Raltegravir or Kaletra® + paediatric tenofovir + lamivudine</td>
<td></td>
</tr>
<tr>
<td>2 - &lt;6</td>
<td>Kaletra® + lamivudine + zidovudine</td>
<td>1. Raltegravir+ lamivudine + zidovudine 2. Raltegravir or Kaletra® + paediatric tenofovir + lamivudine</td>
<td>Raltegravir suitable where chewable formulations are available.</td>
</tr>
<tr>
<td>&lt;2</td>
<td>Kaletra® + lamivudine + Zidovudine</td>
<td></td>
<td>Liquid formulations</td>
</tr>
</tbody>
</table>
Key notes on PEP medication:

*Further information on drug interactions with antiretrovirals can be obtained at http://www.hiv-druginteractions.org/ or discuss with a pharmacist*

3.6 Follow up when starting HIV PEP

- Email Orange Childrens admin Orange OrangeChildrensAdmin@uhl-tr.nhs.uk (Please mention ‘The time of injury’ and document ‘Urgent’): clinic follow up within 72 hours of Injury

- Give contact phone number (Childrens HIV Specialist Nurse on 07921545457) in case of concerns during or after the treatment period.

- Please complete a letter for the GP
4. Education and Training

No new skills are required in order to implement this guideline.

5. Monitoring and Audit Criteria

<table>
<thead>
<tr>
<th>Key Performance Indicator</th>
<th>Method of Assessment</th>
<th>Frequency</th>
<th>Lead</th>
<th>Reporting arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>All children who meet the criteria should receive hep B vaccines and / or PEP</td>
<td>Audit</td>
<td>Three yearly</td>
<td>Paed ID Cons</td>
<td>Departmental audit meeting</td>
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6. Equality Statement

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

As part of its development, this policy/guideline and its impact on equality have been reviewed and no detriment was identified.

7. Supporting Documents and Key References


4. Ortigoza E J D, Fernanadez D V, Fernanades S Y et al. Pediatric...
emergencies for accidental needlestick injuries from discarded syringes.


8. **Key Words**

Needlestick, Injury, Hepatitis B, Hepatitis C, HIV, Anti-retroviral therapy, Post Exposure Prophylaxis

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### DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT

<table>
<thead>
<tr>
<th>Author / Lead Officer:</th>
<th>Job Title:</th>
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<tbody>
<tr>
<td>Refat Parveen</td>
<td>Paediatric SHO</td>
</tr>
<tr>
<td>Srinivasa Bandi</td>
<td>Paediatric Consultant</td>
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<tr>
<th>Executive Lead</th>
<th>Approved by:</th>
<th>Date Approved:</th>
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<tbody>
<tr>
<td>Dr A Furlong, Medical Director</td>
<td>Children’s Services Clinical Practice Group</td>
<td>March 2017</td>
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### REVIEW RECORD

<table>
<thead>
<tr>
<th>Date</th>
<th>Issue Number</th>
<th>Reviewed By</th>
<th>Description Of Changes (If Any)</th>
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<tr>
<td>May 2016</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 2017</td>
<td>2</td>
<td>S Bandi</td>
<td>No changes</td>
</tr>
<tr>
<td>Feb 2019</td>
<td>3</td>
<td>S Bandi</td>
<td>No changes</td>
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Appendix 1
Needlestick Injury: Paediatric Referral Form to Dr Bandi, CDCU

Dear Dr Bandi

I would like to inform you about a patient who has been exposed to a needlestick injury:

Personal Details

<table>
<thead>
<tr>
<th>Patient Details:</th>
<th>Parents Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Mother’s</td>
</tr>
<tr>
<td>D.O.B</td>
<td>Father’s</td>
</tr>
<tr>
<td>Address</td>
<td>Telephone:</td>
</tr>
<tr>
<td></td>
<td>Home</td>
</tr>
<tr>
<td></td>
<td>Mobile</td>
</tr>
<tr>
<td>Postcode</td>
<td></td>
</tr>
</tbody>
</table>

Details of Needlestick Injury

<table>
<thead>
<tr>
<th>Date &amp; time of Needlestick Injury:</th>
<th>Date of presentation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief description of events:</td>
<td></td>
</tr>
</tbody>
</table>

Risk of virus transmission:  Low  Moderate  High

Clotted blood sample taken (white top) for HIV, Hep B, Hep C antibodies?  Yes  No  N/A

If starting PEP, bloods also sent for FBC, U&E and LFT?  Yes  No  N/A

HBV

Existing status of Hep B vaccination:  Vaccinated  Unvaccinated  Unknown

If unvaccinated or unknown, was first dose of Hep B vaccine administered in ED?  Yes  No

(If no, please explain why)

Batch No.

Thigh:  Left/Right

Date:

If unvaccinated and High Risk, was Hep B Immunoglobulin given in ED?  Yes  No

(If no, please explain why)
If Primary Immunisation incomplete / boosters not up to date / Unvaccinated / Unknown vaccination status;

Tetanus vaccine given? Yes No N/A (If no, please explain why)
Batch No.
Site: Left /Right Date:

Further doses arranged, as per schedule? Yes No NA

Tetanus Immunoglobulin given? Yes No N/A (If no, please explain why)
Batch No.
Site: Left /Right Date:

HIV

If Moderate or High risk, PEP started? Yes No N/A

If Yes, within 72 hours? Yes No
(If no, please explain why)

If PEP started, discussed with: Dr Bandi GU med reg

Follow up:

Dr Bandi informed re: follow up within 72 hours? Yes No

Contact telephone numbers given in case of concerns about any aspect of HIV PEP? Yes No

5 days of antiretroviral therapy prescribed (with PRN anti-emetic and anti-diarrhoeal)? Yes No

A discharge letter completed for their GP? Yes No

Needlestick Injury leaflet provided to parents? Yes No

I have left a message/emailed Deputy Sister Debbie Wilson (x6922/6317) deborah.wilson@uhl-tr.nhs.uk on Children’s Day Care: Yes No
(If no, please explain why)

- Please fax copies of referral form to:

  Orange Children’s Admincentre;(Tel:5778,Fax:7637).
  Deputy Sister on Children’s Day Care, Debbie Wilson;(Tel: 6317,Fax: 5471) Specialist Nurse for HIV(Fax 5778; only if starting HIV PEP)

Yours Sincerely

Management of Needlestick Injuries in Children Guideline
V3 approved by Policy and Guideline Committee on 12 April 2019 Trust Ref: B28/2017
Next Review: April 2022
NB: Paper copies of this document may not be most recent version. The definitive version is in the UHL Policies and Guidelines Library.