NEEDLESTICK INJURIES

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Guidelines for management of needlestick injuries in healthcare workers are available via the Auckland District Health Board intranet, occupational health. This document pertains to needlestick injuries from discarded needles in the community, from an unknown source: the risks of blood-borne pathogen transmission are very much lower.

Consider potential for infection with: HIV, Hepatitis B, Hepatitis C, Tetanus

Wound Care

Thoroughly clean with soap and water.
Administer tetanus toxoid or tetanus immune globulin (TIG) according to usual guidelines.

Hepatitis B virus (HBV)

HBV is the hardest pathogen, surviving several days on surfaces, maybe over a week. Follow table below.
Administration of hepatitis immune globulin (HBIG) is not indicated if the child has completed a standard three-dose regimen of hepatitis B vaccination.

**TABLE 1 : Hepatitis B Prophylaxis after Percutaneous Exposure to Blood (modified from 3)**

<table>
<thead>
<tr>
<th>Exposed person</th>
<th>Treatment when source is:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HbsAg-Positive</td>
</tr>
<tr>
<td>Unvaccinated or only one dose of vaccine</td>
<td>Administer HBIG, 1 dose, and commence/continue vaccine schedule</td>
</tr>
<tr>
<td>Previously fully vaccinated:</td>
<td></td>
</tr>
<tr>
<td>Known responder</td>
<td>No treatment</td>
</tr>
<tr>
<td>Known nonresponder</td>
<td>Test exposed person for anti-HBs</td>
</tr>
<tr>
<td>Response unknown</td>
<td>Test exposed person for anti-HBs</td>
</tr>
<tr>
<td></td>
<td>If &lt;10mIU/ml, give 1 dose HBIG and initiate revaccination</td>
</tr>
<tr>
<td></td>
<td>If &gt;10mIU/ml, no treatment</td>
</tr>
</tbody>
</table>

References:

1. Administration of hepatitis immune globulin (HBIG) is not indicated if the child has completed a standard three-dose regimen of hepatitis B vaccination.

2. Unless otherwise directed by the child’s immunisation schedule.

3. Adapted from the Auckland District Health Board's occupational health guidelines.

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Hepatitis C virus (HCV)

HCV viability on fomites is poor, so risk of transmission from discarded needles is low. No post-exposure prophylaxis known to be effective.

Human Immunodeficiency Virus

The risk of HIV transmission from a needlestick injury from a person with known HIV infection to a healthcare worker is 0.3%: the risk from a discarded needle in the community is many fold lower than this because

1) HIV does not survive well outside the body: drying HIV reduces concentrations by 90-99% within several hours.
2) the prevalence of HIV in intravenous drug users in NZ is very low

Therefore the use of post-exposure HIV prophylaxis is not routinely recommended in this situation.

NB If features of the incident suggest substantially increased risk (e.g. deep injury, large bore needle, fresh blood) please discuss with on-call paediatric infectious diseases consultant regarding need for post-exposure prophylaxis. If required, this should be started within hours of the injury. HIV testing of the syringe blood (if available) is not practical or reliable and is not recommended.

Summary of Procedure

1) Local wound care
2) Take blood for HIV, HBV and HCV at baseline and arrange follow-up bloods at 6 weeks, 3 months and 6 months.
   N.B. Seroconversion would be grounds for ACC claim
3) Assess need for tetanus and HBV prophylaxis, and initiate
4) Assess risk level for HIV: this will be extremely low but if in doubt discuss with paediatric ID consultant.
5) Counsel family regarding need for these measures.

References

1. CDC.MMWR Recommendations and Reports.2001;50 (RR-11):1-52
5. Havens PL and Committee on pediatric AIDS: Pediatrics 2003;111;1475-1489