At the sharp end: protecting pre-registration healthcare students from needlestick injuries and their consequences.

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Learning outcomes.

• To recognise the complexity of root causes of sharps injuries sustained by pre-registration healthcare students.

• To understand the importance of inter-professional and cross organisational working when attempting to reduce the incidence of inoculation injuries sustained by pre-registration healthcare students.

• To understand the importance of pastoral support provided to students who sustain sharps injuries
Impact of inoculation injuries.

- Risk of transmission of blood borne viruses
- Financial cost
- Psychological impact.
Published and observed risk of bloodborne virus transmission among healthcare workers following a percutaneous injury*

<table>
<thead>
<tr>
<th>Virus</th>
<th>Published risk of transmission</th>
<th>Healthcare workers exposed, 2004-2013</th>
<th>Seroconversions, 2004-2013</th>
<th>Observed risk of transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBV</td>
<td>One in 3</td>
<td>590</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>HCV</td>
<td>One in 30</td>
<td>2566</td>
<td>9</td>
<td>1 in 285</td>
</tr>
<tr>
<td>HIV</td>
<td>One in 300</td>
<td>1478</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

* This figure includes data from England, Wales and Northern Ireland only

Eye of the Needle 2014.
Financial cost

• Estimated annual cost to UK of needlestick injuries is up to £300 million
• But this does not include:
  Cost of treating BBV
  Absenteeism
  Compensation
  Emotional impact.

(Saia et al 2010).
Psychological impact
Psychological impact.

• Health care professionals can suffer from high levels of anxiety following a sharps injury. Wicker et al (2014)

• 12% of junior doctors with experience of a sharps injury had post traumatic stress reactions. Naghavi (2013)

• “Enduring psychiatric illness” can result from sharps injuries. Green et al (2013).
## Current literature

<table>
<thead>
<tr>
<th>Author and Date</th>
<th>Cohort</th>
<th>Country</th>
<th>Method</th>
<th>Incidence</th>
<th>% Not reported.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salzer et al 2011</td>
<td>Final year medical students</td>
<td>Germany, Austria and UK (Data from UK)</td>
<td>Open online survey</td>
<td>16%</td>
<td>34%</td>
</tr>
<tr>
<td>Varsou et al (2009)</td>
<td>4th &amp; 5th year medical students</td>
<td>UK</td>
<td>Online survey (by invitation)</td>
<td>11% (over 1 year)</td>
<td>60%</td>
</tr>
<tr>
<td>Stewardson et al (2002)</td>
<td>Year 3,4&amp;5 Dental students</td>
<td>UK</td>
<td>Structured questionnaire</td>
<td>39% had at least one exposure during course.</td>
<td>31.5%</td>
</tr>
<tr>
<td>Petrucci et al (2009)</td>
<td>Nursing students (Years 1,2&amp;3)</td>
<td>Italy</td>
<td>Structured questionnaire</td>
<td>10% (over 1 year)</td>
<td>39.5%</td>
</tr>
</tbody>
</table>
Root causes of inoculation injuries

- Patient
- Environment
- Staff training and competency
- Equipment used
- Policies and procedures
- Individual
- Employer
1st year student nurse accompanied an RN to administer s/c analgesia to a patient who had been confused overnight. Upon explaining to the patient what they were going to do the patient became agitated so the RN held her hand to calm her.

The RN asked the student if she would like to give the injection as she had done one before. The student accepted. After successfully administering the injection the student withdrew the needle and the patient hit out causing the needle to puncture the student’s finger.
Root cause considerations for student incidents.

**Equipment**
- SED was not used
- Student didn’t know to ask for them.

**Training and competency**
- No classroom teaching prior to placement.
- Only given one injection before.

**Individual**
- Eager to learn
- Don’t recognise risk.
- “Take every opportunity”
- Power dynamic.

**Policies and procedures.**
- Often do not consider students
- Lack of clarity regarding achieving competency.

**Supervision**
- RN did not assess knowledge and competency to undertake procedure.
Drivers for action.

<table>
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<th>2 significant incidents</th>
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</thead>
<tbody>
<tr>
<td>Sharps safety in healthcare regulations 2013</td>
</tr>
<tr>
<td>NHS skills for life curriculum mapping</td>
</tr>
<tr>
<td>Internal report safe use of insulin pens and other sharps.</td>
</tr>
<tr>
<td>Strong history of inter-professional working.</td>
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</table>
Key areas for consideration

- Student knowledge and utilisation of safe use of medical sharps
- Identification and quality assurance of sharps relevant teaching within curriculum
- Pastoral support and effective follow up.
- Supervision in practice.

Inter and cross boundary working
Working Group

- School of Medicine and Life Sciences
- Practice Partners
- Faculty of Nursing and Midwifery
- Occupational Health Services
- Dental Institute
- College Health and Safety
Aims of working group.

• Agree standards for:
  students, faculties and College, practice partners, occupational health services.
• Ensure we are able to demonstrate compliance with legislative obligations.
• Ensure all inoculation injuries are investigated and learning is disseminated.
• Production of learning resources.
• Focus on effective follow up and pastoral support of students.
Challenges

Time
- It always takes longer!

Different perspectives
- Different professional groups have different ways of working.
- Squaring the policy circle.
- Tension between risk management and learning opportunities.
<table>
<thead>
<tr>
<th><strong>What has been achieved?</strong></th>
</tr>
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<tr>
<td>Agreed standards for students, faculties, occupational health and practice partners.</td>
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<tr>
<td>Mapping of sharps relevant teaching in curriculum.</td>
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<tr>
<td>By Sept 2015 provision of e-learning mandatory update utilising (anonymised) real case scenarios for students to review.</td>
</tr>
<tr>
<td>Provision of pocket sized sharps safety booklet for all healthcare students and credit card with “what to do if you have an inoculation injury” advice.</td>
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<tr>
<td>State of compliance with legislative obligations of practice partner to be considered in educational audits/ review.</td>
</tr>
<tr>
<td>All students who sustain an inoculation injury will be seen by a member of faculty to investigate and provide pastoral support.</td>
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</table>
Pastoral support.

I thought it was my fault.

I felt stupid.

I haven’t told anyone else.

I’m scared of giving another injection.

Low risk is NOT the same as no risk.

I haven’t had sex with my partner since.

I’m so angry, at myself and the nurse for asking me to do it.

They told me not to worry. How can I not worry?!
Rapid follow up and pastoral support.

- Navigate the system
- Identify learning for dissemination.
- Reinforces positive approach to incident reporting.
- Reduces psychological distress
Any questions?
Recommended reading


References


