UNIVERSITY OF CAMBRIDGE

Follow-up after needle stick and sharps injuries

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As discussed - initial action following potential exposure incidents - very important

		First aid
Muco-cutaneous	Skin	Wash affected area with soap and water
	Eyes	Wash out immediately with cold water or saline from wash bottle
	Mouth	Rinse with cold water
	Bites and scratches	Encourage the wound to bleed gently, ideally under running water. Don’t scrub the wound as this may cause tissue damage. Don't suck the wound. Wash with soap and water. Dry and cover with a waterproof plaster
Per-cutaneous	Inoculation/ needle stick injury	As above

Report Early

Encourage individual to discuss with supervisor/manager (ward manager/duty doctor in hospital setting), Department Safety Officer and/or Biological Safety Officer

Report to Occupational Health (OH) if it is believed there is risk of infection to individual – short or long term

16 Mill Lane
Cambridge, CB2 1SB
Monday to Friday - 08:30-16.30
01223 336594
OccHealth@admin.cam.ac.uk

Report Early

Encourage individuals not to delay, or fail to report the accident, even if they feel they were not following correct procedures or if do not feel there is a risk

OH need to assess early as effective treatment / prophylaxis (to help fight infection) may be available if needed e.g., HIV post exposure prophylaxis (HIV PEP) to commence within 48 hours

Better to report to Department contacts and OH if unsure, rather than worry

Out of Hours

OH has no out of hours service

If OH closed report to Department contact and accident and emergency (A&E) if concerns, they:

- follow the hospitals out of hours procedure for sharps accidents for health care workers (medical students)
- facilitate the management of exposures that have happened external to the hospital site

Contact OH the next working day for advice / follow-up

Information for staff

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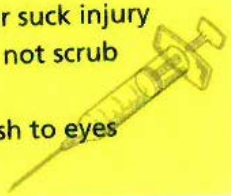
OCCUPATIONAL HEALTH SERVICE

Sharps/Splash Injury – be safe

If you are injured by a used or dirty sharp or splash of blood or body fluid to eyes or mouth **immediately:**

- make the wound bleed under water - never suck injury
- wash the wound with soap and water - do not scrub
- dry and apply a waterproof dressing
- thoroughly wash away any body fluid splash to eyes or mouth



Reporting:

During office hours report the incident to:

- your supervisor and Departmental Safety Officer (DSO) who will assist with an initial risk assessment to ascertain the level of risk, and
- the University Occupational Health Service (OHS) tel: 01223 336594, for further assessment, follow up advice and treatment.

Out of hours:

- report the incident to your supervisor and DSO immediately or at the first available opportunity
- attend Addenbrooke's Hospital Emergency Department for assessment and advice
- contact the OHS on the next working day for further assessment, follow up advice and treatment.

Always complete a University accident/incident form.

OH Incident Management - Initial OH Assessment

By telephone with an OH Adviser to review risk. Information discussed (similar to first aid secondary survey):

- When / where incident occurred
- Description of procedure / incident
- Site and type of injury (percutaneous / mucocutaneous)
- Substance exposed to (source details if patient)

- Who incident reported to / involved to date
- Ask for Risk Assessment to be sent in

OH Incident management – Initial OH Assessment

- Check whether first aid undertaken
- Discuss use of / failure of personal protective equipment – ? using gloves / eye protection. Were gloves punctured?
- Individual worker risk factors include:
    - Pregnant worker
    - Immunosuppressed
    - Non-responders to vaccine / no vaccine
    - Allergies
- Gain consent to discuss with relevant specialists

OH Incident Management – follow-up

OH Adviser then gives initial advice and plans follow-up. This may include:

- Face to face assessment
  - o Baseline blood test (serum store) – for review later if needed
  - o Hepatitis B booster / vaccination courses
- Consider need for post exposure prophylaxis and follow-up
- Discussion regards prevention of transmission (BBVs)
- Onward referral for additional advice / support
- Documentation
- Booking follow up appointments as required

Exposures with risk of bloodborne viruses (BBVs)

Exposure to blood - most common exposure reported to OH

Need to consider the risks of hepatitis B, hepatitis C and HIV

The risk of acquiring BBV infection through occupational exposure is generally low. However, the incident may be stressful and could be serious – support required

The greatest risk of transmission is from deep inoculation / needle stick and sharps injuries, but transmission is also known to have occurred following splash injuries onto mucous membranes or damaged skin

OH Incident Management – increased risk of transmission

The material involved is blood, serum, cerebral spinal fluid, fresh tissue samples or genital secretions. Other body fluids if visibly blood-stained

The injury is deep, or caused by a hollow bore needle especially if placed in an artery or vein of the source person

Visible blood of the source person on the device that caused the injury

A splash of blood or body fluid onto visibly intact skin is NOT considered a significant risk unless extensive or prolonged.

OH Incident Management – increased risk of transmission

- Source (if known) risk factors:
  - Known BBV infection
  - IV drug user
  - Recipient of blood / blood products before 1985
  - From endemic areas (East / Central / sub-Saharan Africa)
  - Unprotected sex with an at risk partner
  - Prisoners
  - Haemodialysis patients

Exposures with other agents (not BBVs)

Department risk assessments needed - should detail what to do in event of an exposure, so appropriate treatment and advice is provided. Individuals may have been previously vaccinated if assessment indicated need – Containment Level 3 lab work.

Assess for potential infection risk, similar to BBV process – ask about injury type and look at potential mode of transmission.

Investigate and liaise with Consultant Occupational Health (OHP) Physician and Biological Safety Officer e.g., primary/established cell lines

OH seek advice from microbiology / virology if required

HIV – Risk of Transmission

- Following a needlestick injury from a known untreated HIV-infected source the risk is low, approximately 3 per 1000 needlestick injuries (0.3%)
- blood splash to the inside of the eye/nose/mouth is approximately 0.1%
- blood splash onto non-intact skin such as active eczema or a deep abrasion is 0.1%
- Unless visibly blood-stained, urine, saliva, sweat and tears are not thought to carry an infectious risk
- Risk increased if the source person has advanced HIV infection and is not receiving anti-HIV treatment, or with a high viral load

HIV – follow-up

If known HIV source:

- contact OHP and/or **Infectious Disease Specialist Registrar** (or ID Consultant if complex case) to assess for HIV PEP
- Baseline serum store (and baseline blood tests if PEP commenced FBC, U&E, LFT)
- (Repeat blood tests at 2 weeks if PEP commenced)
- 12 week HIV antibody blood test from time of exposure or completion of PEP (16 weeks)
- Support / advice as part of the follow up assessment

Hepatitis B (HBV) follow-up

HBV – risk of transmission up to 30% (if un-vaccinated)

But, most workers vaccinated / immune (primary course vaccines, blood test to confirm immunity)

Check immune status of injured person, if immune:

Hep B boost depending on risk / last dose vaccine (within 48 hours)

If not immune (non-responder to vaccine / no vaccines): The **duty virologist** is responsible for liaising with OH in the event of a confirmed hepatitis B positive exposure prescribing hepatitis B immunoglobulin (HBIG) for non-immune

HBIG would be given in A&E and HBV vaccine course commenced

HBV follow-up

- Baseline serum store
- 6 week, 12 week and 24 week blood tests to check for exposure to HBV
- HBV antibody blood test 4-8 weeks after vaccine course completed to check for immunity
- Previous partial courses or non-responders to vaccine – ‘Green Book’ and Addenbrooke’s table for follow-up guidelines
- Support / advice as part of the follow up assessment

Hepatitis C (HCV) – risk of transmission

- Following a needlestick injury from a source patient known to have HCV infection the risk is low, approximately 1-3 per 100 needlestick injuries (1-3%), **but** treatment is available
- There is no immediate prophylaxis / treatment, but early diagnosis and treatment helps the immune system to eliminate the infection
- If HCV transmission occurs and anti-HCV treatment is begun within three months, treatment with interferon-alpha for six months reduces the proportion of patients who developed chronic HCV infection (usually 50-80%) to less than 5% - early treatment very important

Hepatitis C – follow-up

If known HCV source:

- next working day assessment in OH, advised to avoid blood donation and unsafe sex while awaiting results of tests
- Baseline serum store
- 6 weeks, 12 weeks and 24 week blood tests to check for exposure to HCV
- A positive HCV would be confirmed by immediately taking a second blood sample for repeat testing
- If found to have HCV infection, OHP refer immediately to hepatology for consideration of early anti-HCV therapy
- Support / advice as part of the follow up assessment

Unknown Sources

- Discuss risk factors with individual
- Discussion with OHP / other specialists as required
- 24 weeks Hep C and HIV antibodies if low risk

To summarise

- Initial **first aid** measures most important
- **Report** incidents promptly
- **Assessment**, advice and follow-up for injured person (Department & OH)
- **Review** control measures (e.g., personal protective equipment (**PPE**))
- Review of incident and **risk assessment**, if required, so know what to do in future.
- **Preventative measures** (OH pre-placement assessments (OHF 29 forms), vaccination, CL 3 worker screening)
- **Documentation** - Check Accident / Incident form completed
- **Follow Department processes**

Questions