University Hospital of South Manchester NHS
NHS Foundation Trust

The Management of Inoculation Injuries in Health care workers

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Target audience:	Organisation wide

Equality Impact

The Trust strives to ensure equality of opportunity for all as a major employer and as a provider of health care. This policy document has therefore been equality impact assessed by the Clinical Governance Development Committee to ensure fairness and consistency for all those covered by it regardless of their individual differences, and the results are shown in Appendix K .

University Hospital of South Manchester NHS Foundation Trust

VERSION CONTROL SCHEDULE

Version number	Issue Date	Revisions from previous issue	Date of approval by Committee
1	July 2009	THE POLICY REPLACES 2 DOCUMENTS 1.Preventing Infections from Sharp injuries and other blood borne contaminations (OH3) 2. Dealing with inoculation injury and other contaminations with blood and body fluids.	20th May 2009

Contents

1.0 Introduction

1.1 This policy sets out the procedures in place for the management of all employees of the University Hospital of South Manchester NHS Foundation Trust, contractors, students and voluntary workers who may have been exposed to a blood borne virus from a work related inoculation or contamination injury.

1.2 The University Hospital of South Manchester NHS Foundation Trust acknowledges its responsibilities under the Health and Safety at work etc act 1974 and the Control of Substances Hazardous to Health 2002 (COSHH). The Trust recognises the importance of providing a working environment that is safe and healthy for all employees, contractors, students and voluntary workers. The Trust will ensure that the exposure to hazardous substances is prevented or adequately controlled as far is reasonably practicable.

1.3 All Staff must comply with Foundation Trust policies. Failure to comply with or act in accordance with a Foundation Trust policy may result in disciplinary action.

1.4 This policy replaces the policy and procedures entitled Preventing Infections from Sharps Injuries and other Blood Borne Contaminations (OH3) and Dealing with Inoculation Injury and other Contaminations with Blood and Body Fluids.

2.0 Purpose

2.1 This policy sets out the procedure for the management of staff who may have been exposed to a blood borne virus during the course of their work. Occupational exposure can occur when skin is broken by a contaminated sharps injury from a needle or other sharp object including human bite or scratch, mucocutaneous exposure, where mucous membranes (mouth, nose or eyes) or non- intact skin have been contaminated with blood or body fluids containing blood. A significant exposure is exposure to blood or body fluids from a source that is known to be, or as a result of the incident is found to be positive to Hepatitis B surface antigen, Hepatitis C virus or Human immunodeficiency virus (HIV).

2.2 Blood borne viruses of major concern are HIV, Hepatitis B and Hepatitis C as these viruses are known to persist in the blood of infected individuals and are endemic in the U.K. population. For the purpose this policy blood borne virus refers to these three viruses. Unless otherwise stated in the policy inoculation injury refers to both sharps injury and mucocutaneous incidents.

2.3 Where a risk of exposure to the Hepatitis B virus has been identified in the course of their work staff should be routinely offered Hepatitis B vaccination. There is no current routine vaccination for HIV or Hepatitis C.

2.4 This policy outlines the immediate management following all inoculation injuries and the appropriate treatment and follow up testing for significant exposures and those incidents where the source patient status is unknown. Early detection of transmission of blood borne virus is likely to improve the outcome of treatment.

3.0 Duties

3.1 Duties within the Organisation

3.1.1 Chief Executive

The Chief Executive has overall responsibility for co-ordinating Health & Safety activity within the Trust and ensuring safe practices for service users and staff. The Chief Executive devolves responsibility for implementation, maintenance and monitoring of compliance to this policy to the Chief Nurse.

3.1.2 Chief Nurse

The Chief Nurse is the Executive with overall responsibility for the policy and will delegate responsibility for implementation and monitoring of the policy document to General Managers, Corporate Directors and Occupational Health.

3.1.2 Occupational Health

Occupational Health will be responsible for the overall management of inoculation injuries involving employees within the Trust irrespective of where the initial assessment took place

3.1.3 Occupational Health will respond to all inoculation incidents notified to them during normal working hours. They will be responsible for undertaking of appropriate risk assessment of the injury and source patient. Specialist advice and treatment will be given to the member of staff (recipient) as necessary. Occupational Health will seek appropriate advice from other specialists as necessary e.g Consultant in Sexual Health, Virologist. Appropriate blood sampling and onward referral will be made dependant on the outcome of the risk assessment.

3.1.4 All inoculation injuries seen in the Accident & Emergency department should contact Occupational Health on the next working day. Occupational Health will take over responsibility of the management

of the incident from the Accident & Emergency department.

3.1.5 Occupational Health will report high risk inoculations as required legally and for national statistical purposes

3.1.6 Accident & Emergency

Accident & Emergency will be responsible for the assessment of inoculation injuries outside of normal working hours. A risk assessment will be undertaken by an appropriately trained person of the injury and source patient. Accident & Emergency will seek appropriate advice from other specialists as necessary e.g Consultant in Sexual Health, Virologist. Any immediate treatment required by the recipient will be commenced by the Accident & Emergency department. The recipient will be advised to contact Occupational Health the next working day.

3.1.7 Risk Management

Risk Management will be responsible for management of the HIRS and will inform Occupational Health of inoculation injuries reported under the system. When advised by Occupational Health Risk Management will undertake appropriate reporting of high risk inoculation incidents as required by RIDDOR.

3.1.8 General Managers / Corporate Directors

Medical & Nursing Directors / Heads of Nursing are responsible for the implementation and communication of policies throughout the Trust and development of appropriate local procedures to ensure compliance with those policies.

3.1.9 All Managers

Ward and/or departmental managers are responsible for the communication and implementation of this policy to staff in their area and must ensure the policy is followed in the case of an inoculation injury. They are also responsible for the completion of local risk assessments and incident investigation in the event of an inoculation injury.

3.1.10 All staff

It is the responsibility of all staff to ensure they are aware of the Trusts policy for the Management of Inoculations Injuries. All staff must report any inoculation injuries in line with the policy. Following first aid treatment staff should inform their manager and attend Occupational Health (or A&E out of normal working hours) within 1 hour of the incident occurring. Following assessment in Occupational Health or A&E a HIRS form should be completed.

4.0 Immediate action if you have an Inoculation injury

4.1 Percutaneous injuries

- Encourage the wound to **BLEED** (do not suck)
- Wash the wound with clean water (do not scrub area)
- Cover the wound with a waterproof dressing

4.2 Mucocutaneous incident

- Wash the area thoroughly with clean running tap water (inc eyes)

4.3 All incidents

- Report the incident to your manager or supervisor
- Report to Occupational Health immediately (A&E if out of normal working hours)
- Complete a HIRS form
- If attended A&E contact Occupational Heath on the next working day.

5.0 Body fluids that may contain Blood Borne Virus

5.1 All blood and body fluids including unfixed human tissue and organs may contain blood borne virus (see Appendix F for list of body fluids). However, urine, faeces, sputum, tears, sweat and vomit present a minimal risk unless they are visible contaminated with blood. Active surveillance of high risk occupational exposure to blood borne virus have been collected since 1997 by the Health Protection Agency.

6.0 Risk of acquiring Blood borne virus and post exposure management

Hepatitis B risk

6.1 Although Hepatitis B is endemic in the UK it is more common in developing countries and the UK is a low prevalence area, with a carriage rate of 0.1 – 0.5% of the population. However in individual communities rates may be higher. It has been estimated that the risk of occupational transmission of Hepatitis B is 1:3 (approx 30%) where the source patient is known to be Hepatitis B surface antigen positive and the recipient is not protected against Hepatitis B.

Hepatitis B immunisation

6.2 Health care workers should routinely be vaccinated against Hepatitis B virus. Commencement of the course of vaccination is preferable at pre employment assessment or as soon as possible after

commencement of employment. Routine testing of levels of Hepatitis B surface antibody should be undertaken 8 weeks after the 3rd vaccination to assess the level of individual response to immunisation. Those employees who have demonstrated sufficient levels of antibody production are not at risk of acquiring Hepatitis B following an inoculation injury even if the source patient is positive. A booster dose of vaccination may be recommended in certain circumstances (Appendix G). Cases of Hepatitis B have declined in recent years, which is thought at least in part due to widespread vaccination.

6.3 Hepatitis B – post exposure treatment

Those recipients not known to be immune to Hepatitis B or who have received one or no vaccination against Hepatitis B and are exposed to the blood of a Hepatitis B surface antigen positive source may require passive protection from Hepatitis B, with Hepatitis B immunoglobulin, dependant on the type of injury. These cases should be discussed with the Consultant Virologist. An accelerated course of Hepatitis B vaccination should be commenced at the same time. Follow up blood testing of the recipient for Hepatitis B surface antigen at 3 and 6 months post incident is recommended.

HIV risk

6.4 There are two main types of HIV (HIV-1 & HIV-2). Both types are tested for routinely during HIV testing at this Trust. In 2005 the prevalence of HIV in the UK was 0.1%, although London has higher infection rates than the rest of the U.K. The estimated risk of occupational transmission of HIV to a health care worker from a HIV positive source patient is 1:300 (approx 0.3%). There is no vaccination available against HIV infection.

HIV post exposure treatment.

6.5 In the event of a Health Care Worker being exposed to the blood of a HIV positive source patient or source patient assessed as a significant risk for HIV, HIV post exposure prophylaxis (PEP) is available and may be prescribed depending upon the type of injury (Appendix C). Individual cases are discussed with either the Consultant in Sexual Health or Consultant Virologist. If an employee commences post exposure prophylaxis a referral is made to the Sexual Health clinic where regular monitoring is given throughout the treatment period. Continued support will be given by Occupational Health during this time. Follow up blood testing of the recipient for HIV antibody is recommended at 3 and 6 months post incident.

Hepatitis C risk

6.6 Hepatitis C is emerging as a significant occupational risk following inoculation injury. Over the period of 2006-2007 four health care workers were reported to have acquired Hepatitis C following an

occupational exposure. In the general population the prevalence is around 0.5 – 1% with higher numbers in London compared to the rest of the country. The estimated risk for occupational exposure to Hepatitis C is 1:30 (approx 3%). Currently there is no vaccination or post exposure prophylaxis against Hepatitis C.

Hepatitis C post exposure action

6.7 Following the exposure of a health care worker to the blood of a Hepatitis C positive source patient assessment of the source patients Hepatitis C RNA may be useful in advising the recipient of the degree of risk of transmission. In all cases the recipient should be seen at 6, 12 and 24 weeks post incident for follow up blood testing. Testing is recommended as early diagnosis and treatment increases the likelihood of a successful treatment outcome.

Incidents involving unknown source patient status

6.8 In the event of an incident occurring involving the blood of an unknown source, a source patient refusing consent for testing or the source patient is unable to be tested, an assessment of the incident should be carried out using the known information. This would include the location of the incident, what the nature of the injury was and the likelihood of fresh blood/body fluids being involved or not as well as the source patients risk factors if known.

6.9 Treatment and follow up testing for incidents involving unknown source patient status

6.9.1 If the source patient is known but has refused to be tested or is unable to be tested, assessment of the source patients known risk factors should be made. If the source patient is assessed as a significant risk for Blood Borne Virus the recipient should be offered treatment for significant exposures in line with this policy.

6.9.2 If the source patient is unknown the incident is unlikely to be assessed as a significant risk for Blood Borne virus except if it has occurred in an Infectious Diseases department or Sexual Health clinic. For Incidents occurring in these areas advice should be sought from Consultants in Sexual Health or Virologists. Assessment of the recipients Hepatitis B status should be made and booster dose of vaccine given as necessary (Appendix G).

6.9.3 Recipients of incidents involving unknown source patient status should be offered following up blood testing for HIV and Hepatitis C. Hepatitis B follow up testing may be offered dependant upon the recipients Hepatitis B immunity (Appendix E). The risk of Hepatitis C exposure will be determined by the risk assessment. Incidents involving fresh blood should be classed as a significant risk for Hepatitis C. Those not involving fresh blood are not likely to be significant and testing at 12 and 24 weeks should be sufficient.

6.10 **Recipients found to be positive to blood borne virus on follow up blood testing**

6.10.1 If a positive result for Hepatitis B or C is received during follow up blood testing the recipient should be urgently referred to the Occupational Health Consultant for assessment and onward referral to specialist advice.

6.10.2 If a positive result for HIV antibody is received during follow up blood testing an urgent referral should be made to the Sexual Health Consultant at Withington Hospital.

7.0 Incident Reporting

Internal Reporting

7.1 All inoculations incidents must be reported to the manager of the area where the incident occurred and the manager of the recipient if different. Following assessment by Occupational health or A&E an electronic HIRS should be completed for every incident.

External Reporting

7.2 It is a requirement of the Health & Safety Executive that all occupational exposure to blood borne viruses are reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)(1995) . The responsibility for reporting under RIDDOR lies with Risk Management following advice from Occupational Health regarding the infectious status of the source patient, evidence of transmission of an infectious disease to an employee or the need for an employee to take three or more days off work directly due to an incident.

7.2.1 Occupational Health provides anonymous data of high risk inoculation injuries to a national surveillance program administered by the Health Protection Agency.

8.0 Process for monitoring the effectiveness of the Policy for The Management of Inoculation injuries in Healthcare workers

8.1 OPAS

All inoculation injuries are entered onto the Occupational Health database OPAS. The pre loaded form used is completed with the recipients' details, details of the incident (date, time, nature), source patient information and risk assessment and follow up arrangements and outcome.

8.1.1 The OPAS information is updated by the Occupational Health duty advisor on a daily basis or as information becomes available. All follow up testing and results are recorded. The incident remains active on OPAS until the management of the incident and any follow up testing of the recipient is completed and finish date is then

entered.

8.1.2 All inoculation incidents are recorded on the HIRS record sheet (Appendix J1) by Occupational Health. The recipients Occupational Health notes remain with the record sheet until all relevant information and blood test results have been received. An incident record (Appendix J2) is attached to the recipient's notes and is used to record all information and action taken during the initial management of the incident.

8.1.3 Once the incident management is complete this is indicated on the HIRS record sheet. The incident record is filed in the Occupational health notes. All high risk incidents are entered on the high risk inoculation list (Appendix J3) and follow up appointment dates entered. The list is monitored to ensure that follow up appointments are attended and in the event of non attendance the recipient will be contacted by telephone or in writing. When all follow up appointments are completed a completion date is entered on the high risk inoculation list by the Occupational Health Nurse Advisor.

8.1.4 The HIRS record sheet, ongoing incident management and high risk incident list is reviewed on a weekly basis by the Occupational Health Nurse Manager or the deputy.

8.2 HIRS

Completion of a HIRS form is required following all inoculation injuries. Occupational Health liaise with Risk management to ensure that all inoculations are reported both to Occupational Health and through the HIRS system (Appendix B).

8.3 Incidents reported to A&E

All inoculation injuries that occur out of Occupational Health normal working hours should be reported to A&E. Following assessment of the incident and any necessary treatment the A&E staff will inform the recipient to contact Occupational Health on the next working day. It is the recipient's responsibility to ensure that they contact Occupational health as outlined in the UHSM Infection Control manual section 3.

8.4 Health Protection Agency

Occupational Health provides anonymous data on high risk inoculation injuries to the Health protection agency. This involves provision of details of the incident and treatment at the time of the incident. The Health Protection Agency then request further information at 6, 12 and 24 weeks on follow up testing and outcome. This information is collated on a national basis and analysis of the data is reported on bi-annually in the report entitled Eye of the Needle.

8.5 RIDDOR

The Health Safety Executive requires all high risk inoculation injuries to be reported under RIDDOR. Occupational Health will inform risk management by email of all incidents where the source patient is known to be positive, or is found to be positive due the incident, to a blood borne virus.

9.0 Standards/key performance indicators and process for monitoring effectiveness

9.1 HIRS completed but not reported to Occupational Health

Risk Management will provide Occupational Health with an electronic copy of all inoculation injuries reported through the HIRS. Occupational Health will use this information to ensure that the affected member of staff has complied with the policy and reported the incident to Occupational Health. Occupational Health will contact the employee if they have not complied with the policy and if non – compliance continues the individual's manager will be informed via email.

9.1.1 All employees attending Occupational Health following an inoculation injury are advised to complete a HIRS. If Occupational Health does not receive a HIRS within one week of an incident being reported the recipient's manager is informed by HIRS alert email that the policy has not been followed correctly. If after a further week a HIRS is not received the Risk Manager and the appropriate clinical governance lead is informed with a HIRS alert email.

9.2 Occupational Health will record information relating to each incident on OPAS from which data can be analysed identifying trends, causes and possible prevention of inoculation injuries. The information will be submitted to Safety committee and Clinical Governance leads for information and appropriate action on a 6 monthly basis.

10.0 Monitoring compliance of the policy

10.1 The Occupational Health Nurse Manager will prepare a report on a 6 monthly basis to be presented to the Safety committee (with a copy submitted to the Chief Nurse). The report will provide a summary of the outcome of audit carried out to ensure compliance with the policy. The audit will address appropriate reporting of inoculation incidents by employees and managers, Occupational Health documentation, management of high risk inoculation and compliance with recommended follow up blood testing. In response to the outcome of the audit the Occupational Health Nurse Manager will produce an action plan where changes are indicated.

10.2 The Occupational Health Nurse Manager or Deputy on a 3 monthly basis will audit compliance of completion of policy documentation by Occupational Health staff. This will look at individual written records, OPAS computer records and proforma identified in this policy (Appendix J1, J2, J3).

10.3 The Occupational Health Nurse Manager or Deputy on a 3 monthly basis will audit compliance of follow up process of high risk inoculation incidents. This will include appropriate follow up advice from Occupational Health staff, timely attendance for blood testing and completion of documentation as identified in the policy (Appendix J1, J2, J3) and individual written records and OPAS computer records.

10.4 A system will be in place that will use statistics extrapolated from OPAS to identify the number of reported injuries, high risk injuries and follow up attendance, HIRS alerts sent to managers and the number of incidents reported to Risk Management/Clinical Governance lead for further action.

10.4.1 Occupational Health documentation will be randomly audited for completion, appropriate follow up and closure of the incident in the written format and OPAS computer records. Any significant non compliance identified in the audit will be addressed in the action plan.

10.5 Where significant non compliance occurs and/or deficiencies are identified through the audit process a review of the policy will be undertaken and highlighted in the action plan to the Safety committee.

11.0 Dissemination, Implementation and Access to this Document

11.1

- Following approval of the policy it will be made available on the Trusts register of policies and procedures by the policy administrator. Previous polices will be archived.
- The policy will be effective from the date of approval for a period of 2 years when review of the policy with be made
- Occupational Health will inform all employees that the policy is available on the intranet site via the email system
- Departmental managers will be asked to remove previous paper policies from their areas
- A summary of the policy will be covered at Trust Induction days for new staff
- A summary of the policy will be covered during infection control updates for existing staff

12.0 Review, Updating and Archiving of this Document

12.1 This Policy will be formally reviewed every two years by the Occupational Health department.

12.2 The policy will be reviewed earlier if significant changes in practice are required due to changes in legislation, national guidance, local operational policy or as identified through audit.

12.3 The process for archiving will be in line with the procedure as described in the Policy for the Arrangements for the Development and Approval of Foundation Trust-wide Policies or Procedural Documents.

13.0 References

Health & Safety executive, Health & safety at work act etc HSC 1974

Health & Safety executive, The management of Health & Safety at work regulations HSC 1999

Health & Safety executive, Control of Substances Hazardous to Health regulations HSC 2002

Health & Safety executive, Reporting of Injuries, Diseases and Dangerous occurrences regulations, HSC 1995

Advisory Committee on Dangerous Pathogens, Protection against blood borne infections in the work place: HIV and Hepatitis,HSE, 2008

Health Protection Agency, Eye of the Needle**.** Surveillance if Significant Occupational Exposure to Blood Borne Viruses in Health care workers, HPA 2008

14.0 Associated Documentation

UHSM Preventing infections from sharps injuries and other blood borne contaminations 2007

UHSM Dealing with inoculation injury and other contaminations with blood and body fluids 2007

SMUHT HIV Post Exposure Prophylaxis (PEP) policy 2006

15.0 Appendices

The following appendices are attached to support this policy

Appendix A - Post exposure procedure flowchart

Appendix B - Guidance for the management of inoculation incidents in the Occupational Health department (normal working hours)

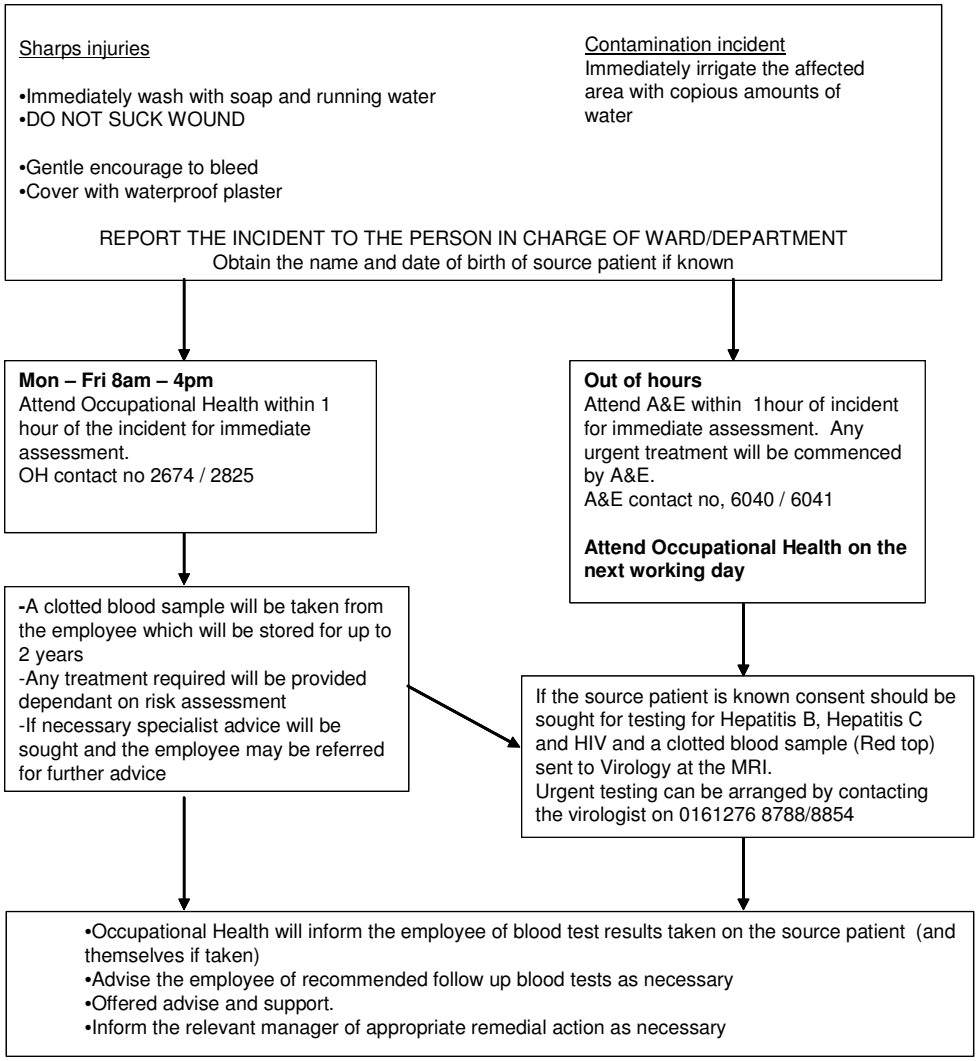
Appendix C - Risk assessment of exposure and source patient

Appendix D - Guidance for high risk exposures to blood borne virus

Appendix E - Follow up blood test schedule

Appendix A

Immediate action in the event of a sharps injury or contamination to eyes, mouth or broken skin



FOLLOWING ALL INCIDENTS A HIRS FORM MUST BE COMPLETED

Appendix B

Guidance for the management of inoculation incidents in the Occupational Health department (normal working hours)

For all inoculation injuries

All staff who have sustained an inoculation injury should attend the Occupational Health department immediately. Inoculation injuries attending the department will be prioritised as urgent by Occupational Health staff.

Inoculation injuries reported to Occupational Health reception by telephone will be triaged by the duty advisor and a decision will be made about appropriate attendance in the Occupational Health department.

Occupational Health notes will be required for all those attending with inoculation injuries. Retrieval of notes will be the responsibility of the Occupational Health receptionist.

The duty advisor will see the member of staff (recipient) as soon as possible after their arrival in the department. If a duty advisor is not available the receptionist will inform the Occupational Health Nurse Manager or Senior Advisor on duty who will advise of the appropriate action to ensure assessment takes place as soon as possible.

Where the recipient is unable to attend the Occupational Health department immediately, for instance if they are unable to leave an operating theatre, details of the incident should be taken by telephone by the duty advisor. A risk assessment of the injury and source patient should be carried out in line with this procedure where possible and appropriate action commenced. The recipient should arrange to attend Occupational health as soon as they are able to leave their department.

When a recipient of an inoculation injury attends Occupational Health the details of the incident should be documented on the OPAS system using the pre loaded form. As much details as possible should be completed. An incident record (Appendix J2) should be completed and attached to the recipients Occupational Health notes. This record will be used to record all actions taken by Occupational Health until the incident management is completed

A clotted blood sample (red top) should be taken from the recipient and sent to virology. The recipient should be informed that the sample will be stored for 2 years and would only be used for testing with their consent. Further blood samples may be required dependant upon the outcome of the source patient assessment.

The recipient's Hepatitis B antibody status should be assessed. If the recipient is known to be immune to Hepatitis B no further blood

testing is required but a Hepatitis B booster may be advised (see appendix G). If the recipient has been vaccinated but antibody status is unknown consent for testing for Hepatitis B antibody should be obtained and tested on storage sample detailed above. Those not vaccinated should be commenced on a standard hepatitis B vaccination course if there has not been a significant exposure to Hepatitis B i.e. the source patient is negative for Hepatitis B surface antigen.

The source patient

The source patient and type of injury should be assessed for risk factors to HIV, Hepatitis B and Hepatitis C (appendix C). The source patient's medical history should be discussed with the patient's medical team or a senior nurse in the area where the patient is known. If insufficient information is available it may be necessary to contact the source patient's GP for further information.

The source patient's medical team should be asked to obtain a clotted blood sample (red top) from the patient with consent for testing for HIV, Hepatitis B surface antigen and Hepatitis C antibody. Testing should be carried out as soon as the source patient is able to consent. If the source patient's status is known it may not be necessary for further testing. If the source patient is known to be Hepatitis C antibody positive but their PCR is unknown a blood sample for PCR testing should be obtained in an EDTA (purple top).

Where a source patient is unable to consent for or refuses consent for blood testing or a delay with obtaining consent occurs such as the patient is still under the influence of anaesthetic, management of the incident should be based on the known risk factors to blood borne viruses and appropriate action taken e.g. commencement of post exposure prophylaxis if exposure is assessed as high risk for HIV

If the inoculation injury was sustained from a sharp/blood of an unknown source attempts should made to identify whether any patients have been treated, in the area the incident occurred, who are known to be positive to blood borne viruses and the likelihood of their blood being involved in the incident. It is unlikely that an exposure would be assessed as high risk in these circumstances.

Following assessment the risk of transmission of blood borne viruses should be discussed with the recipient and treatment commenced as necessary. Those commenced on PEP for a significant HIV exposure should be referred to Sexual Health clinic at Withington Hospital for specialist management and follow up appointments with Occupational Health should be arranged (Appendix E) .

Where blood testing of the source patient has been taken the duty Occupational Health Advisor will contact the Virology lab on a daily basis to obtain verbal results as soon as possible. These results will

be communicated to the recipient in the agreed manner as discussed at the assessment and which should be recorded on the incident record on the patient's notes.

HIRS reports

The incident should be entered in the HIRS/Inoculation record in the Occupational Heath department. Recipients should be advised to complete a HIRS if they have not already done so. HIRS reports completed following inoculation injuries are forwarded to Occupational Health by Risk Management. The Occupational Health advisor will record on the HIRS form the recipient's attendance in Occupational Health and where necessary if a significant exposure has occurred. Significant exposures will be reported to the Health & Safety Executive by Risk Management as required by RIDDOR. The electronic HIRS form will be updated by the Occupational Health Advisor with any relevant information.

If Occupational Health has not received a HIRS within one week of an incident the recipient's manager will be informed by email with a request to ensure a HIRS is completed. If one week later a HIRS has still not been received Risk management and the Clinical Governance lead will be informed and appropriate action will be taken at directorate level.

If a HIRS is received regarding a inoculation incident that has not been reported to Occupational Health, the Occupational Health duty advisor will attempt to contact the employee involved. If they are unable to contact the employee the appropriate manager will be contact and informed that the incident has not been reported correctly.

Significant exposures

Recipients who have a significant exposure to the blood of a high risk source will be followed up by Occupational Health (Appendix E - follow up recommendations). When a source is identified as high risk the recipient will be put on the high risk inoculation list (Appendix J3) held by Occupational Health and all follow up testing appointments will be give to the recipient and entered on the list.

If a recipient does not attend for follow up testing they will be contacted by the Occupational Health Advisor and offered a further appointment. If the recipient is no longer employed by UHSM Trust they may still have follow up testing carried out by the Occupational Health department. Alternatively testing may be carried out with their current Occupational Health department or GP. The importance of attending for follow up testing will be advised.

Appendix C

Risk assessment of incident

There are two factors to be considered which are type of exposure and source risk of infection.

Type of exposure

All blood and body fluids including unfixed human tissue and organs may contain blood borne virus (see Appendix F for full list). However, urine, faeces, sputum, tears, sweat and vomit present a minimal risk unless they are visible contaminated with blood.

Three types of exposure pose a significant risk

- Percutaneous exposure e.g sharps injury, bite
- Blood/body fluid exposure to non intact skin
- Mucocutaneous e.g exposure to eyes, nose, mouth

Risk of transmission is increased with

- Deep injuries
- Hollow bore needles
- Needles/sharps that are visible blood stained
- Needles that have been in an artery or vein
- Source patient has active Hepatitis B or C or high viral load for HIV

Infection risk factors of source patient

A source Patient is consider high risk if

- The source patient is known to be

  HIV antibody positive

  Hepatitis C antibody positive

  Hepatitis B surface antigen positive

(Hepatitis B & C themselves are risk factors for somebody being HIV positive)

- Current or past intravenous drug user
- Sex worker
- Homosexual/bisexual male
- Admits to unprotected sex (recent or distant) with somebody known to have HIV, Hepatitis B or Hepatitis C
- Originates from a country with a high HIV prevalence in particular sub Saharan Africa

Appendix D

Guidance for high risk exposures to blood borne virus

Source patient is high risk for Hepatitis B

If the source patient is known to be Hepatitis B surface antigen positive or high risk for Hepatitis B an assessment of the recipients hepatitis B status should be carried out

If the recipient is known to be immune to Hepatitis B no further action is required (although a Hepatitis B booster may be recommended Appendix G)

If the recipient has received a course of 3 Hepatitis B vaccines but their antibody response is not known a blood sample should be sent to Virology for urgent testing of antibody levels. If antibody response is negative the recipient should be consider for Hepatitis B immunoglobulin following discussion with a Consultant Virologist. Immunoglobulin should be given within 48 hours, although it should be still be considered up to a week after exposure.

If the recipient is known to be a non responder to the Hepatitis B vaccine or has received one or no vaccines the incident should be discussed with a Consultant Virologist who may recommend Hepatitis B immunoglobulin. Immunoglobulin is provided by the Virologist and they will arrange transport to Occupational Health. Arrangements for administration of Immunoglobulin will be made by Occupational Health. Immunoglobulin should be given within 48 hours, although it should be still be considered up to a week after exposure.

The recipient may also require a Hepatitis B booster or to start / complete a course of vaccination.

The recipient should be entered on high risk inoculation list (Appendix J3) by Occupational Health and follow up appointments for blood testing for Hepatitis B surface antigen at 12 and 24 weeks post exposure arranged. This will be carried out by the Occupational Health department. Pre test counselling will be given prior to testing and consent for testing gained from the recipient (using consent form for blood testing following high risk incident with blood/body fluids). Following high risk exposure follow up testing is recommended whether Immunoglobulin was given or not.

Source patient is high risk for Hepatitis C

If the source patient is found to be Hepatitis C antibody positive. A further blood sample should be requested for Hepatitis C PCR/RNA testing. A high PCR/RNA result increases the risk of transmission.

In addition to the blood sample taken for storage a further sample should be taken from the recipient for baseline liver function testing.

The recipient should be entered on high risk inoculation list (Appendix J3 by Occupational Health. Follow up appointments for blood testing will be made for 6, 12 and 24 weeks post exposure. Pre test counselling will be given prior to testing and consent for testing gained from the recipient (using consent form for blood testing following high risk incident with blood/body fluids).

Source patient is high risk for HIV

Urgent specialist advice is available from the Virology consultants at Manchester Royal Infirmary (0161 276 8788) or Consultant in Sexual Health at Withington Hospital (0161 217 4939 / 4446)

If the source patient is known to be HIV positive following discussion with the recipient PEP should be commenced and urgent referral made to the Sexual Health clinic at Withington Hospital (Tel:702 4939) . Where possible PEP should be commenced within 1 hour of exposure or as soon as possible. It is not generally recommended more than 72 hours post exposure, however this should be discussed with the recipient and may still be given upto 2 weeks post exposure. The recipient should be advised that PEP will be required for 28 continuous days. Occupational Health will supply enough PEP until the recipient is seen by Sexual Health where further supplies will be prescribed. Prior to commencement assessment of the recipient's medical history and medication should be made as PEP has many contraindications and further advice is available in the HIV post exposure prophylaxis clinical guidelines available on the UHSM intranet. The recipient should be informed of PEP side effects (Appendix I)

If the source patient is not known to be HIV but is considered high risk due to participation of activities outline in appendix C commencement of PEP should not be delayed whilst waiting for source patient testing. The risk of transmission should be discussed with the recipient and PEP recommended. Where possible PEP should be commenced within 1 hour of exposure or as soon as possible. It is not generally recommended more than 72 hours post exposure, however this should be discussed with the recipient and may still be given up to 2 weeks post exposure. Prior to commencement assessment of the recipient's medical history and medication should be made as PEP has many contraindications and further advice may be necessary. The recipient should be informed of PEP side effects (appendix I)

Urgent testing of the source patient should be arranged. The source patient's medical team are responsible for gaining consent and a blood sample (red top) from the patient. The sample should be sent

to Virology Laboratory at the Manchester Royal Infirmary if necessary by taxi. Occupational Health will liaise with the Virologist of the need for urgent HIV testing and will obtain a verbal result from virology as soon as possible.

If the source patient's HIV test is negative the recipient will be informed and advised not to take any more PEP (remaining medication should be returned to Occupational Health for return to pharmacy). No further action is required unless assessed necessary due to additional exposure e.g. Hepatitis B or C

If the source patient's test is positive the recipient should be informed and advised that they will need to continue on PEP for 28 continuous days. Urgent referral should be made to the Sexual Health clinic at Withington Hospital. Occupational Health will supply sufficient supplies of PEP until the recipient is seen by the Sexual Health clinic where further supplies will be prescribed.

Prior to commencement of PEP baseline bloods should be taken from the recipient for FBC, U& E's, Liver function and enzymes and serum amylase.

For those recipients commenced on PEP follow up by Sexual Health will be arranged for the duration that they are taking PEP. This will usually be on a weekly basis. During this time Occupational Health will keep in contact with the recipient to monitor their progress and provide additional support. This may be in person or by telephone dependant upon the recipients need.

Follow up blood testing should be undertaken for HIV antibody at 12 and 24 weeks post exposure or post PEP if PEP is taken. Testing must be carried out following appropriate counselling and consent for testing should be gained form the recipient Follow up testing can be carried out be Occupational Health or the Sexual Health clinic. If the recipient chooses to attend the Sexual Health clinic for testing arrangements should be made for Occupational health to be informed of the results either by the recipient or directly from the Sexual Health clinic.

Appendix E - Follow up blood testing schedule

Hepatitis C

Blood required from recipient at time of injury

- Baseline clotted specimen (red top) for virology for storage
- Baseline Liver function test (following high risk exposure only)

Follow up blood tests required from recipient – high risk exposures

6weeks – Hepatitis C RNA, Liver function test

12 weeks - Hepatitis C RNA, Hepatitis C antibody, Liver function test

24 weeks - Hepatitis C antibody, Liver function test

Low risk exposures and unknown source status

12 weeks - Hepatitis C RNA, Hepatitis C antibody

24 weeks - Hepatitis C antibody

HIV

Blood required from recipient at time of injury

- Baseline clotted specimen (red top) for virology for storage
- Baseline FBC, Liver function , U&E's and serum amylase (only if commenced on PEP)

Follow up blood tests required from recipient - High and low risk and unknown source status

- 12 weeks HIV antibody
- 24 weeks HIV antibody

Hepatitis B (high risk incident where the recipient is not immune to Hepatitis B and whether Hepatitis immunoglobulin was given or not. May also be used if unknown source status)

Blood required from recipient at time of injury

- Baseline clotted specimen (red top) for virology for storage

Follow up bloods required from recipient

- 12 weeks Hepatitis B surface antigen
- 24 weeks Hepatitis B surface antigen

Appendix F

Bodily fluids that may contain BBVs

- Blood
- Cerebrospinal fluid
- Pleural fluid
- Breast milk
- Amniotic fluid
- Vaginal secretions
- Peritoneal fluid
- Pericardial fluid
- Synovial fluid
- Semen
- Other bodily fluids containing blood

Urine, faeces, saliva, sputum, tears, sweat and vomit, present a minimal risk of blood-borne virus infection unless they are contaminated with blood. However, they may be hazardous for other reasons

Taken from Protection against blood borne virus in the workplace: HIV and Hepatitis by

Advisory committee on Dangerous Pathogens, HSE 2008

Appendix G

Hepatitis B booster recommendations

HBV Prophylaxis for reported exposure incidents

Significant exposure | Non-significant exposure

HBV status of person exposed	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.)

Appendix H

HIV prophylaxis drug regime taken from UHSM clinical guidelines HIV post exposure prophylaxis V3.00 section 3

3.0 DRUG REGIME

3.1 Since a combination of anti-retroviral drugs will be more effective in suppressing viral replication and reduce the risk of the development of resistance, a four-week course of quadruple anti-retroviral post-exposure prophylaxis (PEP) is now recommended in certain circumstances.

3.2 The following drug regime is recommended:

Truvada (tenofivir and emtricitabine) one tablet od
Kaletra® (lopinavir 200mg & ritonavir 50mg) two tablets bd
Domperidone 10mg tds prn for nausea/vomiting

3.3 The prescriber should note:

1. These drugs are prescribed on an unlicensed basis.
2. The recipient should be advised about possible short-term side effects including malaise, nausea, vomiting and diarrhoea.
3. Kaletra® has significant interactions with other medicines. Kaletra® should not be taken without checking suitability. This may be checked with Medicines Information (Mon-Fri 9.00am – 5.30pm) or the on-call pharmacist (via switchboard).

3.4 The immediate PEP will be dispensed in treatment packs each containing a supply of one day of the medication. The remaining course will be prescribed at the follow-up assessment, which should be arranged in the Occupational Health Department or Sexual Health Clinic.

3.5 The initial PEP treatment packs together with information sheets on PEP and Trust consent forms are held with the PEP packs and are available in:

Occupational Health Department
Emergency Department
Pharmacy Emergency Cupboard
Pharmacy departments
Delivery Suite
Sexual Health Clinic (Withington Hospital)

3.6 If the HIV status of an identified high-risk source is unknown, it may be necessary to commence PEP pending further risk assessment, discussion and testing. Source patients should be tested for HIV antibodies provided informed consent has been obtained.

3.7 With an unidentified source e.g. a discarded syringe and needle, PEP would not normally be indicated.

3.8 If the source patient is or has been on anti-retroviral treatment, alternative drug regimens may need to be considered (contact Sexual Health physician).

3.9 It is Trust Policy that needlestick accidents should be reported and investigated urgently and that PEP should be given **within one hour** of exposure. However, if there is a delay in reporting a high-risk exposure, it may be worth considering PEP up to two weeks following exposure.

Appendix I

Medicines supplied for HIV prevention drug interactions and side effects taken from UHSM HIV prevention leaflet (instruction for exposure) 2008

At present a combination of four medicines is advised for most situations;

Tenofivir

Emtricitabine

Ritonavir

Lopinavir

Tenofivir and Emtricitabine are supplied in a combined tablet called "*Truvada*"

One Truvada tablet is to be taken once daily.

Lopinavir and ritonavir are supplied in a combined tablet called

"*Kaletra*".

Two Kaletra tablets are to be taken twice a day,swallowed whole not chewed.

One Truvada tablet is to be taken once daily, swallowed whole and not chewed.

The combination should be taken for 4 weeks.

Taking *Kaletra*

Because of the high incidence of gastro-intestinal side effects from these agents an anti-emetic domperidone is supplied.

This above regimen may not be appropriate in the pregnant health care worker. Contact the Doctor on call for Microbiology, if you are pregnant or think you may be pregnant.

In addition this regimen may not be appropriate where;

- there is known allergy to one or more medicines;
- there is likelihood of interactions with other medicines.

In these circumstances advice should be sough from an expert adviser, as above.

Drug Interactions

Truvada

There are few clinically significant drug interactions with tenofivir and emtricitabine. However if you are currently taking other medications and are concerned please speak to the on-call pharmacist.

Kaletra (*lopinavir and ritonavir*)

Kaletra like other medicines in the HIV protease inhibitor group, significantly alter the metabolism of other medicines. Lopinavir and ritonavir should not be taken by a health care worker taking the medications listed below without first consulting the On-call Pharmacist, however, do not delay in taking the Truvada.

Antiarrhythmics	Anticonvulsants	Trazodone	Digoxin
Rifabutin	Felodipine	Nifedipine	Nicardipine
Phenytoin	Sildenafil	Statins	Ciclosporin
St.Johns Wort	Carbamazepine	Warfarin	Methadone
Primidone	Tacrolimus	Rifampicin	Fluticasone prop
Tolteridine	Antifungals e.g. fluconazole		
Progestogens/Oestrogens e.g. the pil		Clarithromycin	

Side-Effects

There is little information available on the side effects of the medicines in people using them for relatively short periods for HIV prophylaxis, as the medicines have generally been used for HIV treatment.

Recognised side effects of Truvada include;

Common: Headache, muscle pain, dizziness, trouble sleeping, nausea and vomiting, skin rash.

Uncommon: anaemia, hepatitis, muscle inflammation, pancreatitis.

Recognised side effects of Kaletra (lopinavir and ritonavir) include:

Common: diarrhoea, increased cholesterol, trouble sleeping, headaches, nausea, vomiting, abdominal pain, abnormal stools, flatulence rash and acne

Uncommon: anaemia, oedema, increased appetite, abnormal dreams, agitation, anxiety, taste disturbances, dizziness, abnormal vision, palpitations, altered liver tests and myalgia

A full list of side effects can be found in the Patient Information Leaflets

DO NOT DRIVE IF DIZZINESS OR BLURRED VISION IS EXPERIENCED

IF YOU ARE PARTICULALRY WORRIED ABOUT ANY OF THE SIDE EFFECTS YOU EXPERIENCE WHILST TAKING THE MEDICINES PLEASE CONTACT THE DOCTOR ON CALL FOR MICROBIOLOGY OR ON CALL PHARMACIST.

Appendix J - Sheet 1

HIRS Record Sheet – Inoculations

Date of incident	HIRS no.	Employee Name	Dept	Type of Injury	Donor Name	Dealt with by	HIRS Alert sent - date	Risk Management informed - date

Appendix J – Sheet 2

ACCIDENTAL INOCULATION INCIDENT REPORT

Staff details Date of incident: …….. Time of incident: …….hrs

Surname: …… Forename/s: …… D.O.B: ……Designation: ……..……..

Hepatitis B status: …… Attended A/E ……

Reported to Occupational Health on…… at ……hrs Guidance/advice given: Yes / No

Contact telephone number: WORK: ……HOME: ……. Date staff informed of pts results: ……

MOBILE: ……BLEEP:…… Consent to leave message: Yes / No

Patients details

Surname……. Forename/s…….. D.O.B…… Ward/Other……..

Diagnosis…… History of blood-borne infection – Yes / No Information given by ……

Blood test	Date requested	Result	Date	Staff Fu	Staff Fu Date (if applicable)
Hep Bs Ag	……	……	……	Yes / No	…….
Hep C Ab	……	……	……	Yes / No	…….
Hep C PCR	……	……	……	Yes / No	…….
HIV Ab	……	……	……	Yes / No	…….

Circle as appropriate: **Risk of Incident High/Low HIV PEP given Yes / No Referred to: GUM Yes / No Counsellor Yes / No**

High risk HPA completed YES/NO Risk management informed YES / NO date……. Sign……

Baseline blood taken (virology) Yes / No / N/A …… ……..

Baseline U&E, LFT, Amylase, FBC & Creatinine taken Yes / No N/A ……. ……..

:

Progress Report……PTO

Appendix J – Sheet 3

HIGH RISK INCIDENT FOLLOW UP

Date of incident	Employee Name	Job title	Dept	PEP given	Date Risk /HSE informed	Date HPA informed	Follow up appt 6/52	Follow up appt 12/52	Follow up appt 24/52	Date complete	Initial

Appendix K -Equality Impact Assessment Tool

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the policy/guidance affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the policy/guidance likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the policy/guidance without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to [*insert name of appropriate person*], together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact [*insert name of appropriate person and contact details*].

Appendix L

Plan for Dissemination of Policy or procedural documents

To be completed and attached to any document which guides practice when submitted to the appropriate committee for consideration and approval.

Title of document:	The Management of Inoculation Injuries in Health Care workers		
Date finalised:		**Dissemination lead: Print name and contact details**	Colette Hornsby, Occupational Health Nurse Manager Ext 2815
Previous document already being used?	**Yes**		
If yes, in what format and where?	This policy replaces Preventing Infections from Sharps injuries and other Blood Borne Contaminations (OH3) & Dealing with Inoculation Injury and other Contaminations with Blood and Body Fluids. Both are available electronically in policies section of the Trust intranet.		
Proposed action to retrieve out-of-date copies of the document:	The above policies will be archived. Managers will be advised of this through the dissemination routes		

To be disseminated to:	**How will it be disseminated, who will do it and when?**	**Paper or Electronic**	**Comments**
Divisional Medical Directors	Email to individual, Jude Allen / Colette Hornsby When policy put onto Trust intranet policy site by policy administrator	Electronic	
Heads of Nursing	As above	Electronic	
Clinical Governance Managers	As above	Electronic	
General Managers	As above	Electronic	
Infection Control Leads	As above	Electronic	

Dissemination Record - to be used once document is approved.

Date put on register / library of policy or procedural documents		**Date due to be reviewed**	

Disseminated to: (either directly or via meetings, etc)	**Format (i.e. paper or electronic)**	**Date Disseminated**	**No. of Copies Sent**	**Contact Details / Comments**