Central Derby NHS Primary Care Trust

Greater Derby NHS Primary Care Trust

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INFECTION CONTROL MANUAL

This document or any part of it is only valid on the day of printing or copying

Revised May 2006

Central and Greater Derby Primary Care NHS Trust gratefully acknowledges the Derby Hospitals NHS Foundation Trust for providing the original information for this manual. The content of this document is adapted for use in Primary Care services.

SIGNING SHEET

The Following Sections Must be Read and then Signed by All Staff Working with Patients

1. Standard Infection Control Precautions Policy and Procedures
   Pages:
2. Hand Hygiene Policy and Procedures
   Pages:

SECTION READ	STAFF MEMBER'S NAME	SIGNATURE AND DATE

Please print this page, use it to gather signatures and keep it for your records.

CONTENTS PAGE

SECTION 2: INFECTION CONTROL POLICY – OVERVIEW

PURPOSE

The purpose of the infection control policy is to support the infection control strategy, and to ensure that the Trust manages an environment that minimises the risk of infection to patients, staff and visitors.

AIM AND SCOPE

This policy aims to:

- Prevent infection arising in patients under the care of the Trust.
- Protect the employees of the Trust from acquiring infection at work.
- Minimise the risk of infection arising from the environment, equipment, food, medicaments, waste materials, linen etc.
- Provide guidance on the safe management of patients suffering from infection so that infection does not spread to other patients or visitors or the employees of the Trust.

The policy will apply to all areas of the Trust and to all individuals employed by the Trust.

DEFINITIONS

Infection control team (ICT)	Consists of the director of infection prevention and control (DIPC), consultant microbiologists and the infection control nurse (ICN)
Infection control programme	Identified annual planned programme of work for the infection control team agreed by the Trust Board
Surveillance	The systematic observation of the occurrence of infection in the population with analysis and dissemination of the result.

IMPLEMENTATION

The infection control committee will endorse all infection control policies, procedures, and guidance and is directly accountable to the Chief Executive and Trust Board.

All staff will adhere to the policies, procedures and guidance outlined in the Trust's infection control manual.

Infection control advice will be available over a twenty four-hour period from the infection control team.

All staff involved in patient care will receive update training in the prevention and control of infection.

The infection control team will develop and produce an organisation wide annual infection control programme with clearly defined objectives. This will support the developments required within the infection control strategy.

The Trust Board will receive an annual report outlining the progress of the infection control programme, a review of reported adverse incidents, and results of surveillance and audit undertaken.

The Trust infection control committee and Governance Committee will receive quarterly reports detailing surveillance and audit results.

Antibiotic guidance is available for the treatment of infection and as prophylaxis against infection. This is provided by consultant microbiologists.

Surveillance using defined methods with agreed local objectives and priorities will be undertaken and the Trust will participate in national programmes as required.

The regular undertaking of audit as defined in the Infection Control Programme will monitor adherence to infection control policies and procedures.

SECTION 3: MAJOR OUTBREAK PLAN

AIM

To allow optimal management of any major outbreak of infectious disease occurring within any premise of Central and Greater Derby NHS Primary Care Trust, or within the local health community.

DEFINITIONS

A **Major Outbreak** is defined as any infectious disease that presents a serious threat to the health of the community (either because of the number of patients affected or the nature of the infection), and or disruption to the service, and or public concern/media interest.

PERSONNEL

Consultant Microbiologist Dr SN Hoque, extension 4543 or bleep 3115 or out of hours through the DRI switchboard.

Director of Infection Prevention and Control
Derwent Court, Stuart Street, Derby 01332 203102

Director of Public Health
Derwent Court, Stuart Street, Derby 01332 203102

Infection Control Nurse
Specialist Nurses Office, Pentagon House, Sir Frank Whittle Way, Derby DE21 4XA
01332 525857 Mobile 07717538768

Consultant in Communicable Disease Control (CCDC) works within the Health Protection Agency (HPA). Can be contacted via the East Midlands Ambulance Service telephone number.

PLAN

Notification of a suspected outbreak of infection within any premises of the Trust will be made initially to the infection control nurse (ICN) or consultant microbiologist (CM). Any member of staff may make such notification. Risk management will inform the ICN or infection control doctor (ICD)/CM of any catastrophic, major or moderate risk reported to them that they consider has an infective component.

Notification of a single case of a highly infectious disease with no effective cure such as viral haemorrhagic fever (VHF), SARS or smallpox within any premise of any of the Trusts will be made initially to the ICN or CM. Any member of staff may make such notification. The ICN or CM will instruct the member of staff to isolate the patient with immediate effect whilst an assessment is made.

The CM and ICN will assess the situation in consultation with nursing and medical staff caring for the patients involved and the CM will decide whether to institute the major outbreak plan. It will be scheduled within 24 hours of the decision being made. In the case of a suspected outbreak of a statutorily notifiable disease, Legionnaires Disease, VHF, SARS or smallpox the consultant in communicable disease control (CCDC) will be involved in making this decision.

The following will be notified at this point, by the CM, of the impending implementation of the major outbreak plan:

Trust Chief Executive
Trust Medical Director
Chief nurse
Consultant in communicable disease control
Clinical Directors and General Manager of the clinical services affected by the outbreak.
If any of the above are not available, their deputy will be informed.
To implement the major outbreak plan the ICD will organise a meeting of the Major Outbreak Committee (MOC). The following and/or their deputies will attend:-

- Consultant(s) caring for the affected patients.
- Senior nurse from each directorate affected.
- Consultant in communicable disease control.
- Senior nurse manager
- Infection control nurse(s).
- Infection control doctor.
- The Trust Communications and Public Relations Manager.
- The ICD or CM or an Executive Director will chair the MOC and the infection control nurse will record the minutes.

The first task of the MOC will be to confirm the instigation of the major outbreak plan and to record the reasons for its implementation.

The MOC will decide on the immediate action to be taken to control the outbreak and manage affected patients and will assign and record duties and responsibilities to members.

The Chairman will assign responsibilities to committee members for notifying other affected services (e.g. senior pharmacist, director of human resources, occupational health doctor, head of facilities management, switchboard manager, head of health records).

The MOC will decide if any aspects of the MAJAX plan will need to be utilised and the Chairman will discuss this with the senior nurse manager and Accident and Emergency consultant.

The MOC will decide what other expertise may need to be invited to the next meeting (e.g. senior pharmacist, director of human resources, occupational health doctor, head of facilities management, switchboard manager, head of health records). It will also decide on whether contact tracing of patients and staff needs to be implemented.

At subsequent meetings the minutes will be confirmed as a true record and endorsed by the Chairman.

The Chairman will receive daily reports on progress from members as requested.

The CCDC will notify the Health Protection Agency (HPA) and the Director of Nursing will notify the Strategic Health Authority (SHA) of the implementation of the major outbreak plan.

The clinicians in charge of the affected patients will be responsible for the release of information to patients and relatives in the usual way. The Trust Communication and Public Relations Manager will act as press officer.

At the conclusion of the outbreak the MOC will hold a debriefing meeting and the ICD will write a report for the next meeting of the control of infection committee, the Risk Management Committee and the Quality Assurance Committee.

PLANS FOR SPECIFIC INCIDENTS

Single Cases of a Serious Infectious Disease

This would be an infectious disease spread primarily via coughing and sneezing, e.g. SARS, a new strain of epidemic influenza, pneumonic plague, smallpox or viral haemorrhagic fever.

Wherever possible these patients should be told to remain at home.

The ICD/CM should be notified immediately and if appropriate the ICD/CM will arrange an ambulance to transfer the patient to the nearest appropriate Isolation Unit (Nottingham City Hospital or Leicester Royal Infirmary). The ICD/CM must inform the CCDC immediately.

The CCDC will confirm the suspected diagnosis and, if appropriate, arrange an ambulance to transfer the patient to the nearest appropriate Isolation Unit (Nottingham City Hospital or Leicester Royal Infirmary).

If the patient attends any PCT premises or GP surgery then the patient must be isolated immediately and the door kept shut. All staff must wash their hands or use alcohol hand rub immediately after touching the patient or their belongings. Any staff required to care for the patient should wear gloves, gowns, masks and eye-protection.

The ICD/CM should be notified immediately and will advise on further infection control procedures. Arrangements will be made to transfer the patient to the nearest Isolation Unit as soon as possible.

If the patient has been in an open area or waiting room for more than 10 minutes, place them in a side-room and close the door. Then close the doors of the premises and do not allow anyone (staff, patients and relatives) to leave the premises without recording their name and address first. Stop all premises transfers. All staff must wash their hands or use alcohol hand rub immediately after touching the affected patient or their belongings. Any staff required to care for the patient should wear gloves, gowns, masks and eye protection.

The ICD/CM will liaise with the Service Manager or GP to decide on where to divert the service. (Outline in the MAJAX).

Multiple Cases Of A Serious Infectious Disease

These would be patients with a possible diagnosis of an infectious disease spread primarily via coughing and sneezing or via the feaco-oral route e.g. a new strain of epidemic influenza, SARS or many with acute gastroenteritis.

The ICD/CM must be notified immediately and will decide on an area to place these patients together but away from other patients.

All staff must wash their hands or use alcohol hand rub immediately after touching the patient or their belongings. Any staff required to care for the patient should wear gloves, gowns, masks and eye protection.

It may be necessary to cohort patients within a designated area to be determined jointly by the ICD/CM, ICNs and Director of Nursing.

SECTION 4: GUIDELINES FOR MANAGING A LOCAL OUTBREAK OF INFECTION (NOT CLASSED AS A MAJOR OUTBREAK)

This guidance is intended to help staff who identify several cases of an infection, which may be suspected of being an outbreak, but on seeking advice from the infection control team or consultant microbiologist, is not classed as a major outbreak. An example of this may be a facility where several patients and staff report diarrhoea and vomiting.

- The nurse in charge should ensure that they have a clear, up to date assessment of the situation. Documentation should be kept, detailing patients and staff involved, and any advice given by infection control/microbiology

- Ensure that supplies of personal protective equipment (aprons, gloves) and other supplies which may be required are organised (e.g. pads, wipes, alcohol hand rubs, clinical waste bags, increased linen supply). Be aware of weekends and bank holidays.

- Advice should be sought from the infection control nurse, or in their absence, the consultant microbiologist. They will advise on treatments, samples which may be required, and managing admissions and discharges/transfers.

- The following people must be informed –

  Manager of the facility/service
  Operational Manager
  Infection control nurse
  Hotel services

The infection control nurse will assume day-to-day liaison with the clinical area and key individuals.

- Non-essential staff should not visit the facility – clinical judgement will be required here, such as for review meetings, MDMs, therapy.

- **GOOD HAND HYGIENE IS PARAMOUNT FOR <u>ALL STAFF</u> AND SERVICE USERS/VISITORS – PLEASE ENCOURAGE THIS AS THEY ENTER AND LEAVE THE CLINICAL AREA, AS FAR AS IS POSSIBLE.**

SECTION 5: STANDARD INFECTION CONTROL PRECAUTIONS POLICY

PURPOSE

The purpose of this policy and the supporting standard infection control precautions is to reduce the risk of cross infection and healthcare associated infection. The standard infection control precautions represent the care that should be used routinely with all patients to minimise the spread of pathogens between patients and staff.

AIM AND SCOPE

This policy applies to all staff in all areas of the Trust who undertake activities relating to patient care. Standard infection control precautions involve the maintenance of a safe clean environment for staff and patients, the appropriate use of PPE and actions to be taken following an inoculation incident.

DEFINITIONS USED

Personal Protective Equipment (PPE) – items of clothing or equipment worn to protect the wearer from contamination by body fluids.

Inoculation incident – an event whereby exposure to body fluids have the potential to result in personal harm.

Pathogens – a micro-organism capable of causing disease.

IMPLEMENTATION

Standard infection control precautions shall be applied in all circumstances when undertaking patient care. Only in exceptional circumstances or in situations of extreme emergency will non-compliance with these standard infection control precautions be acceptable. As soon as the situation becomes under control then these precautions must be implemented.

RESPONSIBILITIES:

The Trust will ensure that appropriate resources are available to implement standard infection control precautions.

Managers/Heads of Departments will ensure that appropriate personal protective equipment, inoculation incident advice and stocks of approved chemicals to deal with body fluid spills are available in their clinical areas of responsibility.

Infection control nurse will advise staff on all issues surrounding compliance with standard infection control precautions. The infection control team will advise the Trust on the appropriate purchase of items such as gloves, masks and chemicals required in order to support this policy. Monitoring and regular review of products available and their use will be undertaken.

Employees will adhere with the precautions outlined.

5.1 PERSONAL PROTECTIVE EQUIPMENT

This should be worn for any direct contact with body fluids, to protect staff from contamination and to reduce the risk of transmission of micro-organisms between patients and staff. The personal protective equipment selected depends on the anticipated risk of exposure to body fluids during any particular activity.

Single use items must be changed after each procedure or activity to prevent the transmission of infection to other patients.

Personal protective equipment should not be worn in public areas, unless specifically required, for example when transporting a patient as directed by infection control. Community staff should ensure that they have appropriate and easy access to the PPE that they may require when undertaking visits, clinics or other direct patient contact.

PPE must be stored in dry and clean conditions that will ensure it is not contaminated prior to use

5.1.1 Gloves

Gloves must be worn when in direct contact with blood or body fluids and for direct contact with non-intact skin or mucous membranes. In addition to these instances, gloves may be required to be worn when in contact with other biological and chemical agents.

If no contact is likely to be made with blood, body fluids, sterile equipment or hazardous substances gloves are not worn.

It is important for all healthcare staff to be made aware of the hazards posed by the prolonged use of latex gloves, which can lead to latex sensitisation. Any sensitivity (e.g. redness, itching etc.) should be reported to the occupational health department. An alternative to latex gloves, e.g. powder free nitrile, must be available.

Infection control will regularly review the gloves available and will lead in advising the Trust on the selection of gloves to be purchased. All gloves should be low in extractable proteins, low in residual chemicals and powder free.

Disposable gloves are **single-use items** and must be changed after contact with each patient and at the end of each procedure. Gloves contaminated with blood or other body fluids must be disposed of as clinical waste. Disposable gloves are single use items and therefore must not be washed or decontaminated.

In general, gloves have an average shelf life of 3-5 years. They should be stored where the temperature does not exceed 40°c or 50% humidity.

Following a risk assessment, an appropriate glove choice can be made for the specific task/procedure to be undertaken. The following factors should be considered:

- The nature of the task
- The risk of contamination
- Barrier efficacy of gloves
- Sterile or non-sterile gloves required
- Patient/user latex sensitisation status

USE STERILE GLOVES FOR:	USE NON-STERILE GLOVES FOR:
surgical procedures	non invasive procedures
undertaking invasive procedures	socially clean techniques
undertaking aseptic techniques	contact with body fluids
I.V. drug administration to neutropaenic patients	contact with chemicals (appropriate type as identified in COSHH data sheet)

Choosing the correct glove type:

TYPE OF GLOVE	TASK/PROCEDURE UNDERTAKEN
Sterile powder free latex surgeons	Surgery
Sterile powder free latex examination/procedure	All aseptic procedures with potential exposure to blood/blood stained body fluids – e.g. dressings, urinary catheterisation, invasive treatments Sterile pharmaceutical preparations
Non sterile powder free latex	Non-aseptic procedures with potential exposure to blood/blood stained body fluids Handling disinfectants
Powder free nitrile	When in the proximity of latex sensitised patient Staff with a latex sensitisation
Polythene/vinyl	Not recommended for clinical use

5.1.2 Masks and Eye Protection

It is strongly advised that eye protection and a mask should be worn for any activity where there is a risk of body fluid splashing into the face. Staff are vulnerable to infection by blood borne viruses and other pathogens if infected body fluid is splashed onto the mucous membranes of the eyes and mouth and nose. Staff at greatest risk are those involved in surgical or obstetric procedures and respiratory suction if excessive secretions are present.

Masks and eye protection must be readily available in any clinical area where such procedures are performed. (In certain situations close-fitting masks of the standard particulate filtration rate (PFR 95) may be required to be worn when caring for a patient with open pulmonary tuberculosis (TB). Refer to the section on TB in the manual, and discuss with the consultant microbiologist).

Guidance on the type of masks and eye protection to be used may be obtained from the infection control team.

5.1.3 Aprons

Fluid-repellent protection should be worn for procedures anticipated to cause significant contamination of skin or clothing with blood or body fluid. The front of the body is the part most frequently contaminated, therefore plastic disposable aprons provide adequate protection in most circumstances e.g. dealing with body fluid spills, handling bedpans, dressing wounds.

Plastic aprons should be readily available in all clinical areas and must be changed after each procedure to prevent the transfer of micro-organisms to other patients. The location of these will depend on the clinical area and must be subject to risk assessment.

Yellow aprons are to be used for food preparation and food handling only.

5.2 PACKAGING AND LABELLING SPECIMENS

- All specimens must be handled with care.
- Gloves should be worn whilst handling all specimens.
- 'Minigrip Bag' - Place specimen container into bag and seal. Place the request form in the external pocket of the bag.
- OR- Combined bag/request form – Insert specimen into plastic bag and seal.

Specimens from patients who have, or are suspected of having, the following diseases constitute a risk of infection to persons handling the specimens:

- Acquired immune deficiency syndrome (AIDS) or Human immunodeficiency virus (HIV) infection
- Avian flu
- Dysentery
- Tuberculosis (TB)
- Brucellosis
- Typhoid/paratyphoid fever
- Creutzfeldt-Jakob disease (and any Transmissible Spongiform Encephalopathy (TSE))
- Viral hepatitis (B and C)
- Psittacosis
- Severe Acute Respiratory Syndrome (SARS)

A 'Danger of infection' label should be carefully attached to the container.

Attach a 'Danger of infection' label to the request form and write on the form the nature of the risk e.g. Blood borne infection etc.

Refer to the Pathology handbook for further information on the safe storage and transportation of specimens.

5.3 SAFE HANDLING AND DISPOSAL OF SHARP INSTRUMENTS

All staff have a responsibility to ensure the safe use and disposal of sharps. The prevention of contaminated sharps injuries, through safe handling is the single most important safety measure. Should an injury occur with a contaminated sharp ALWAYS follow the Trusts' inoculation incident procedure.

'Sharps' may include (this list is not exhaustive):

hypodermic needles	trocar cannulae	lancets
contaminated glass	suturing needles	probes
razors	surgical scissors	stitch cutters
air inlets/IV cannulae	butterfly needles	scalpels and scalpel blades
sharp pieces of bone	surgical clips/staples	vacutainer needles
single use surgical instruments which are sharp	surgical wire	

Safety measures:

1. Ask for assistance before dealing with an uncooperative patient.
2. **The person using the sharp(s) is responsible for their safe disposal.**
3. Never re-sheath used needles by hand. If there is any safety device present on the syringe (e.g. pre-filled syringe, retractable needle) use it according to manufacturers instructions.
4. Use the device on the sharps container to disconnect the needle from the vacutainer sleeve. Wherever possible dispose as one complete unit.
5. Always take the sharps container to the point of use. Do not carry used sharps in hands/pockets. They must be placed in the sharps bin immediately after use.
6. Dispose of needle and syringe as one unit into the sharps container.
7. Dispose of any used sharps immediately.
8. Employ a 'no touch technique' e.g. using forceps when suturing rather than using fingers to hold needle.

Sharps containers

1. Only sharps containers meeting the standard UN 3291 are to be used.
2. Ensure container is correctly assembled and labelled with date started and ward/department and the initials of the person assembling.
3. Dispose of container when ¾ full (or to indicator line) or at maximum intervals not exceeding three months, whichever is earlier.

4. Sharps containers must be placed in convenient but safe locations. They should be stored in a locked area when not in use.

5. After ensuring containers are correctly sealed, place directly in lockable clinical waste container, not in yellow bag. They should not be sealed with tape, but sealed according to manufacturers' instructions.

6. When awaiting collection, sealed sharps bins must be stored in a locked area.

5.4 INOCULATION INCIDENT PROCEDURE

A 'flow chart' detailing the actions below is available and should be displayed in clinics, treatment rooms and team bases. Contact the infection control nurse for supplies.

Procedure to be followed by staff sustaining an injury such as:

- "Needle stick" or contaminated sharps injury.
- Contamination of open cuts, abrasions or damaged skin (e.g. eczema or psoriasis) with blood/body fluids.
- Splashing of blood or body fluids into the eyes, mouth or nose.
- Human bites and scratches that pierce the skin.

Injuries must always be followed up properly due to the risk of infection from blood borne viruses. The following actions must be followed whether or not the source is known to pose a risk of infection.

1. **Immediately wash the site of exposure (e.g. wound or broken skin) liberally with soap and water without scrubbing. Do not use antiseptics or skin washes. Encourage free bleeding of puncture wounds, then dry and cover with a waterproof dressing. Exposed mucous membranes, including conjunctivae, should be irrigated with water, before and after removal of any contact lenses.**

2. **Report the incident to a senior member of staff (e.g. nurse in charge or manager) who will :-**

- **Inform a consultant microbiologist on DRI extension 4543 or 2216 during the working day. At night or weekends contact the consultant microbiologist through the DRI switchboard.**

N.B. If the source of the inoculated material is known or suspected to be HIV positive, contact the consultant microbiologist immediately as post exposure prophylaxis (PEP) is most likely to be effective if administered within one hour of the inoculation incident.

- **Also** inform occupational health department (01332 868851) during working hours.

- **Arrange** for the collection of 10 mls clotted blood from the patient and member of staff (after informed verbal consent for hepatitis B and hepatitis C testing has been given). These **samples should be taken as soon as possible after the incident.**

NB: Even if the member of staff has been immunised against hepatitis B the manager must discuss the incident with the consultant microbiologist to discover what action is necessary.

3. Send blood samples to microbiology in normal working hours. Out of hours store samples in a specimen fridge until they can be sent to the laboratory.

4. Complete an Incident Report Form detailing the incident, name of patient (if known) and confirming that the action in (2) has been taken.

5. Occupational health will provide a follow-up counselling service.

WHEN THE SOURCE OF THE INOCULATED MATERIAL IS KNOWN OR SUSPECTED TO BE HIV POSITIVE

The consultant microbiologist or the consultant in Genito-Urinary Medicine (GUM) (if the patient is referred to attend GUM) will make a risk assessment which includes the type of injury (it usually requires a deep injection of fresh blood to transmit the HIV virus) and the risks from the donor.

The staff recipient will be asked about other medication, pregnancy and the side effects of PEP discussed. These are usually mild as the medication is stopped once a negative HIV test is available on the donor.

If the transmission of HIV is a possibility, and the counselled staff recipient agrees to take PEP the consultant microbiologist or consultant in GUM will inform main pharmacy, either at the DRI or DCGH depending on the staff recipient's location. If out of hours the on-call pharmacist will be contacted. An initial three-day supply (to allow for week-ends or bank holidays) will be made at the request of the microbiologist, ***which should be supplied within one hour of exposure***. The staff recipient will be instructed on where to pick up the PEP emergency starter pack from the pharmacist.

A pre-printed prescription for HIV post-exposure prophylaxis is available, and should be completed upon notification of the requirement for PEP by the microbiologist or consultant in GUM.

The Trust and Department of Health recommends the following drugs as first line PEP:

1. Lamivudine 150mg every 12 hours
And
2. Zidovudine 250mg or 300mg every 12 hours

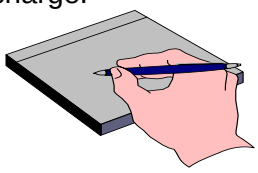
} Combivir 1 tab bd.

3. Nelfinavir 1250mg every 12 hours (or 750mg t.d.s).

All three drugs must be taken at regular intervals with plenty of water at the same time as food for a period of four weeks. If a negative HIV test on the donor is not available within 72 hours the staff recipient will be instructed to attend GUM clinic for follow-up and further prescriptions of PEP.

If the staff recipient declines to take PEP after being advised by the consultant microbiologist or consultant in GUM, they will inform occupational health. This will be recorded in the staff members occupational health records.

Inoculation Accident Procedure
For further information refer to the Infection Control Policy

Inoculation Accidents Can be:	First Aid	The injured person or person in charge must:
• Contaminated needle stick/sharps injury • Splash of blood or body fluid to eye or inside nose/mouth • Blood or body fluid on an open wound • Human bite that breaks the skin • Human scratch that breaks the skin	• Wash the affected skin under a running tap and encourage bleeding. Dry and apply waterproof dressing. • Irrigate the eye or wash nose/mouth with water or eye wash. • Consult the inoculation accident policy in the infection control policy. • Complete an accident/incident form and notify the person in charge. 	• Inform consultant microbiologist, Mon - Fri, 9am to 6pm at D.R.I **01332 347141** ext **4543** or **2216** (or bleep **3115** or **1394**). At weekends 9am - 6pm through DRI switchboard. If blood borne virus e.g. HIV, hepatitis infection is likely then immediately through switchboard. • Inform your occupational health if you have one, otherwise inform/discuss with your GP. Advice can be sought from Accident and Emergency Dept DRI out of hours. • Arrange 10mls of clotted blood to be taken from the recipient and from the patient/client as per inoculation policy. Send this blood to microbiology at DRI. • Obtain the consent of the patient/client for a hepatitis B and C test. TH 2005

5.5 BLOOD AND BODY FLUID SPILLAGE PROCEDURE

Body fluid spillages are divided into two categories -

- Those which are visibly contaminated with blood.
- Those which are not.

All spillages must be dealt with as soon as possible.

The area must be made safe as appropriate for the type of spillage; e.g. use wet floor signs for floor areas.

Method – spillage containing blood

- Put on an apron and gloves and face protection.
- Soak up excess spillage with paper towels and discard into clinical waste.
- If there is broken glass in the spillage DO NOT pick it up with your fingers – use a scoop of cardboard and dispose of into sharps container.
- Pour undiluted sodium hypochlorite (10,000ppm) onto spillage, or alternatively use spillage crystals/spill kit, following manufacturer's instructions.
- Wipe over the area, then wash off with hot water and detergent, dispose of the towels into clinical waste along with personal protective equipment used.
- Leave the spill area clean and dry.

General spillages – no apparent blood

For spillages of urine, vomit and faeces, which do not appear to have blood present, use detergent and water to clean the area. Ensure health and safety – e.g. wet floor signs.

Infection control nurse will give specific advice during outbreaks of diarrhoea and vomiting.

SECTION 6: HAND HYGIENE POLICY AND PROCEDURES

PURPOSE

The socio-economic costs of healthcare associated infections are continually rising. Hand hygiene/hand decontamination is recognised as the single most important measure in reducing and preventing healthcare associated infection. It is therefore essential that it is undertaken appropriately and effectively.

Healthcare workers have a high risk of occupational dermatitis because of the nature of their work, for example, frequent hand washing, use of gloves and possible exposure to hazardous substances. Occupational dermatitis has serious implications for spreading infection as dry cracked skin may harbour harmful organisms. Healthcare workers with this condition are at risk of acquiring infections from patients.

AIM AND SCOPE

This policy and the supporting procedures outline the guiding principles required in order to ensure that all healthcare workers employed within the Trust are aware of, and adhere to, effective hand hygiene and skincare practices. Such practices are also essential in maintaining the integrity of the skin, thus reducing the risk of contracting occupational dermatitis and spread of infection through skin contact.

DEFINITIONS USED

Transient micro-organisms – micro-organisms which are located on the surface of the skin which can be easily transferred to and from hands.

Resident micro-organisms – micro-organisms which are deeply seated within skin crevices, hair follicles, sweat glands and beneath finger nails which are difficult to remove.

Pathogenicity – the ability to cause disease.

IMPLEMENTATION

All healthcare workers involved in direct patient care will ensure as far as is reasonably practicable that hand hygiene is undertaken as effectively and as appropriately as required.

These staff should regularly attend training on hand hygiene techniques and only use the products approved for use within the Trust.

RESPONSIBILITIES

The Trust will ensure that hand hygiene facilities are available within PCT premises which enable the effective decontamination of hands. These facilities include appropriate numbers of hand wash basins with water dispensed at the correct temperature. Paper towels, liquid soap and alcohol hand rubs will be available as deemed necessary. The placement of alcohol hand rubs will be subject to risk assessment.

Managers/Team Leaders will ensure staff attend training as required relating to hand hygiene. They will also ensure that any staff members are referred to the occupational health service if they show signs of occupational dermatitis.

The infection control nurse will advise the Trust on which hand hygiene products should be made available for staff use. Training will be undertaken and regular audit of compliance with the policy and procedures.

Employees will adhere to the hand hygiene and decontamination procedures outlined and will report any adverse skin problems to their manager.

HAND HYGIENE PROCEDURES

Introduction

The hands of staff are the most common vehicle by which micro-organisms are transmitted between patients, and hands are frequently implicated as the route of transmission in outbreaks of infection. The hands play host to both transient and resident organisms. These micro-organisms display different characteristics.

Resident micro-organisms

- These are part of the body's natural defence mechanism, protecting against invasion from more harmful micro-organisms.
- They are found deeply seated within skin crevices, hair follicles, sweat glands, and beneath fingernails and are difficult to remove using social hand washing methods.
- These organisms are rarely responsible for causing infections and are difficult to transmit from one person to another. However, they may do so in susceptible patients and can be associated with infection following surgery, invasive procedures or invasive devices.
- Infections caused by resident micro-organisms are often those which are associated with the patients own skin flora.

Transient micro-organisms

- These are located on the surface of the skin and beneath the superficial cells. Damaged skin, moisture or ring wearing increases the possibility of colonisation.
- Transient organisms pose the biggest risk of infection to patients as they are easily transferred on healthcare workers hands, and therefore are an important cause of cross infection.
- They are easily removed with good hand hygiene practices.

The following principles must be adhered to by all staff undertaking clinical care-

- Maintain intact skin - bacterial counts increase when the skin is damaged. Always cover cuts and abrasions on hands and forearms with impermeable waterproof dressings. Report any skin problems to occupational health.
- Keep nails short and clean – pay special attention to nails when decontaminating hands, microbial counts are very high beneath the fingernails.
- Do not wear false nails/nail technology, nail art etc. and remove all nail polish. There have been a number of outbreaks of infections that have implicated nail art or nail technology.
- Stoned rings/rings with ridges should not be worn. Rings interfere with thorough hand decontamination and glove use.
- Wristwatches or bracelets should not be worn in the clinical area, as wrists should be included when undertaking hand decontamination.
- Protect skin by frequently applying hand cream. Pump action or 'one-shot' dispensers are preferable to communal pots, which may become contaminated.
- Use only Trust approved products – by introducing other products, such as liquid soaps, the chance of skin reactions may increase if products are not compatible.

Frequency of hand decontamination

The decision to wash hands should be based on the assessment of the risk that microbes may have been acquired or may be transmitted. There is no set frequency, but should be determined by actions, those completed and those about to be done. Hand decontamination is essential in the following situations:

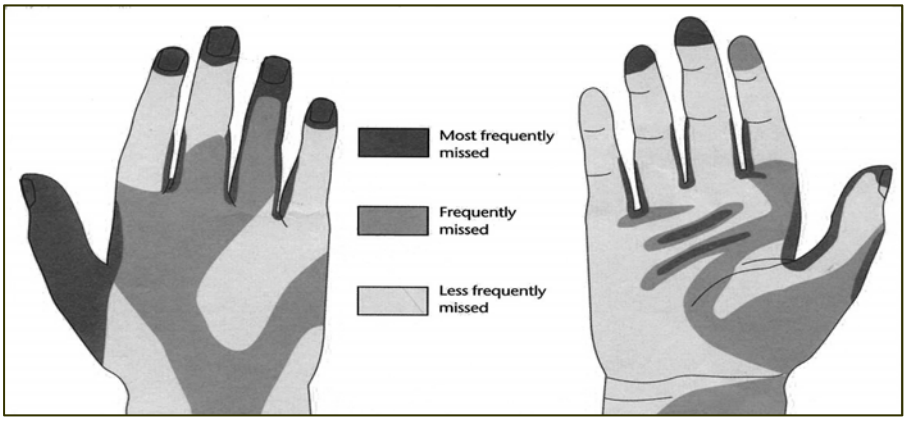
Before	After
Contact with susceptible sites eg intravenous cannulae, burns, wounds	Any possible microbial contamination, eg contact with body substances, or handling equipment of an infectious nature
Putting on gloves	Glove removal
Performing invasive procedures i.e. where natural defences against infection are breached	
Contact with particularly susceptible patients eg immunocompromised, neonates	Contact with an infectious patient
Preparing, handling or eating food	Any situation involving direct patient contact
Handling medication	Handling medication or chemicals
Visiting the toilet	Visiting the toilet

Alcohol Hand Rub Use

- Provided that the hands are not physically contaminated, alcohol hand rub provides a useful alternative to washing hands.
- If applied correctly alcohol hand rub is more effective than washing with soap and water, saves time and has been shown to improve skin condition.
- The hand rub must come into contact with all surfaces of the hands.
- Allow the alcohol to evaporate fully before commencing the next task (approximately 20 seconds).
- Safety is a prime concern, and the location of dispensers will be subject to risk assessment, involving infection control. Any staff carrying small individual bottles must be responsible for them at all times.

Most frequently missed areas during hand hygiene

Please pay particular attention to these areas when decontaminating hands.
(Taylor 1978)



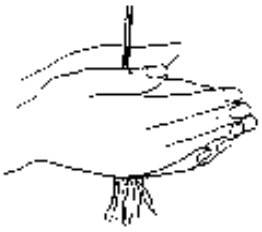
CORRECT TECHNIQUE – EIGHT STEP ROUTINE

Handwashing Technique

Wash hands using the following 8 steps.

Each step consists of five strokes rubbing backwards and forwards.

1. Wet hands under running water. Take a measure of soap.



2. Work into hands, palm to palm.

3. Right hand over back of left and vice versa.

4. Rub palm to palm, fingers interlaced.

5. Back of left fingers to right palms, fingers interlocked and vice versa.

6. Rotational rubbing of right thumb clasped in left hand and vice versa.

7. Rub left palm with clasped fingers of right hand and vice versa.

8. Left wrist with right hand and vice versa.

Rinse hands under running water and dry thoroughly

West Midlands Regional Group of the Infection Control Nurses Association

SECTION 7: ISOLATION POLICY

PURPOSE
Some patients will have infections, or be suspected of having infections that require extra precautions to prevent their spread. This policy outlines the precautions, which must be taken in order to achieve this.

AIM AND SCOPE
This policy applies to all staff in all areas of the Trust where patients are cared for and who have or are suspected of having an infectious disease or organism.

DEFINITIONS USED
Isolation room – a room designated to a patient with an infectious disease or organism.

Isolation code – the mode of care that must be adhered to in order to safely nurse the infected patient.

IMPLEMENTATION
Upon diagnosis or suspected diagnosis of an infectious disease or organism staff will refer to this policy and supporting isolation procedures, in order to gain the information required as to how to care for the patient in a way that will minimise harm to that patient, other patients, staff and members of the general public.

The isolation codes will dictate what is required in order to achieve this. If a requirement is made that the patient should be nursed in an isolation room the staff member should facilitate this. Advice can always be sought from the infection control team. Infection control must always be informed if isolation facilities are not available, or staff feel that the safety of the patient may be compromised by nursing them in a single room.

Guidance is provided on the cleaning of isolation rooms and equipment to be used.

The policy also advises on the precautions to be taken when transferring the patient around the hospital, Patients should not be transferred onto other wards or hospital facilities without first seeking advice from the infection control team.

The infection control team will regularly audit that the isolation codes and practices are being adhered to.

7.1 ISOLATION PROCEDURES

IN THE ABSENCE OF INPATIENT BEDS THIS SECTION IS INCLUDED FOR REFERENCE PURPOSES FOR CENTRAL AND GREATER DERBY PCT'S STAFF. IN THE EVENT OF PATIENTS BEING CARED FOR IN THE COMMUNITY WITH THE LISTED CONDITIONS THE ADVICE OF THE INFECTION CONTROL NURSE SHOULD BE SOUGHT.

General principles for nursing patients in isolation for infection control reasons.

It may be necessary for the infection control team to recommend nursing a patient in isolation. This will be subject to comprehensive risk assessment by the multidisciplinary team in conjunction with infection control, and patient safety will be central to this decision, which will be under regular review. A plan of care will be formulated and regularly reviewed.

Careful explanation must be given to both the patient and, with consent, relatives on the reason for isolation, the precautions required and the likely duration.

It is important to remember that the patient will not only be physically isolated but may also feel psychologically isolated and therefore must not be neglected. Access to telephones, newspapers and televisions must be provided.

As with any other diagnosis confidentiality must be maintained for the infected patient. Whilst nursing and medical staff on the ward will be aware of the patient's diagnosis, other healthcare workers only need to know the risk of infection and precautions to be taken. This does not breach confidentiality**.**

Documentation

- The date a patient is placed in isolation, and the reason must be clearly recorded in the nursing records.
- The psychological and physical well being of the patient should be evaluated daily.
- Ensure the patient has any relevant infection control information leaflets.
- It is a requirement that an isolation door card is used and that the correct code is clearly displayed.
- The date the patient is removed from isolation must be clearly recorded in the nursing records.
- There may be occasions where isolation is not possible. In these instances the reasons must be clearly documented and advice gained from the infection control team.

Contact the infection control team

- When placing a patient in isolation.
- If requiring further advice or clarification.

Room preparation/equipment

- Any equipment that is not needed must be removed prior to admission of the patient. Any equipment remaining in the room must be washable e.g. vinyl covered chairs, not fabric.
- A supply of personal protective equipment should be close at hand, subject to risk assessment. Ensure that there is adequate access to hand hygiene facilities.
- Place the completed Isolation Door Card on the outside of the door (see alphabetical list of diseases or organisms).
- Ensure that a foot operated bin for clinical waste is inside the room, and facilities for disposing of used linen.
- Equipment such as sphygmomanometers, stethoscopes and thermometers should remain in the room with the patient and be cleaned on discharge, or cleaned and removed after use.
- Any equipment moved out of the isolation room (e.g. hoists) must be decontaminated appropriately prior to storage or use by another patient. The hoist sling should remain with the patient for the duration of their stay whilst in isolation, or until it needs laundering.
- A "Decontamination form" must accompany any equipment, which requires repair or maintenance.
- Any instruments used must be either single use or returned to sterile services for reprocessing in a soluble bag and then placed in the appropriate container.
- Ensure mattresses and pillows are intact and encased completely in waterproof covers. These must be cleaned regularly.
- In addition to routine cleaning, specialist pressure relieving mattresses e.g. Nimbus may require decontamination by the supplier. Seek advice from infection control or liaise directly with the manufacturers.

Procedure to be followed prior to entering the room

- Acquire any equipment that may be required (e.g. dressing pack, waste bags, linen bags etc) to prevent unnecessary movement in and out of the room.
- Wash hands or use alcohol hand rub.
- Put on apron and gloves or other personal protective equipment as required.

Procedure to be followed prior to exiting the room

- Dispose of any aprons and gloves into the clinical waste bin inside the room.
- If hands are visibly dirty, and following 'dirty' procedures, wash with soap and water at the sink, dry hands thoroughly. On exiting the room, always use alcohol hand rub.
- PPE is worn until task is complete, dispose of immediately into clinical waste. Wash hands thoroughly.

Crockery, cutlery, water jugs and glasses

- Must be washed using a dishwasher.
- No item of crockery or cutlery used by a patient with an infectious disease is to be washed by hand.
- There is no requirement for any disposable crockery or cutlery to be used, unless specifically advised by the infection control team.

Patient Hygiene

- Bathing and showering are preferable to bed baths to prevent the redistribution of micro-organisms on the skin, and should be encouraged.
- Baths and showers must be cleaned thoroughly after use, as they would with all patients.
- Clean towels and flannels should be used daily.

Charts

- Must be kept outside the room.

Linen and waste

- All linen should be classed as infected.
- Place in a soluble bag and then into red outer plastic bag as policy.
- Leave closed bag at the usual linen collection point.
- All waste should be placed into yellow clinical waste bag and taken directly to the areas designated waste collection point.
- Wash hands after dealing with any waste or contaminated linen.

Visitors

- Under certain circumstances some restrictions may be placed on visitors so as to prevent the spread of infection.
- Children (<12 years), pregnant women and immunocompromised people may be at particular risk from some infections, always take advice from the infection control team.
- The nurse in charge should discuss with the patient what visitors must do to protect themselves from infection and whether there are any visitors who may be at particular risk of infection.
- Visitors rarely need to wear aprons or gloves, hand washing/using hand rub on leaving an isolation room is usually adequate.

Transfer of Patients to other Departments

- Only in exceptional circumstances would the patient's infectious status prevent investigations or procedures being undertaken in other departments.

- The nurse in charge is responsible for advising the receiving department e.g. X-Ray, ECG of any necessary precautions to be taken.
- If the patient requires surgery, the receiving operating theatre must be informed of the patient's infection, preferably 24 hours notice should be given.
- Any staff transporting patients must be advised of any precautions to be taken.
- Porters are not required to wear gloves or aprons unless they are physically moving a patient and contact with blood or body fluid is likely.
- Wash hands or use alcohol hand rub following a task involving any patient in isolation.
- Following transport of an isolated patient, trolleys/chairs should be wiped down with detergent or alcohol based wipes, paying particular attention to armrests.
- Spillages of blood or body fluids should be cleaned as per policy.

Ambulance Transport of Patients

- It is the responsibility of the nurse in charge to notify the ambulance service in advance of any precautions they need to take.
- Requiring ambulance transport will not be a barrier to a patients' discharge. The ambulance service have their own guidelines of how to manage infected patients.

7.1.1 How To Use The Isolation Codes

The following pages contain an alphabetical list of diseases and organisms and their appropriate isolation code. The codes reflect the risk of spread to both patients and staff of certain infections, code 4 reflecting the highest risk.

To determine the appropriate way to manage your patient with an infection, please see the isolation code number and accompanying notes. If any problems are encountered, please seek advice from infection control or microbiology.

Hotel services must be informed if a patient has an infection and is being cared for using these isolation principles and procedures. They may instigate altered cleaning routines, and need to be informed.

If any patient in the Central and Greater Derby Primary Care Trust is being cared for using isolation code 3 or 4, please speak to the consultant microbiologist.

7.1.2 Alphabetical List Of Diseases Or Organisms

Disease or Organism	Code	Notes
Acanthamoeba	1 -	
Actinomycosis	1 -	
Acquired immune deficiency syndrome (AIDS)*	2 -	
Amoebic dysentery	1 d	
Anthrax (cutaneous)	3 a	Contact consultant microbiologist
Anthrax (pulmonary/systemic)	3 -	Contact consultant microbiologist
Antibiotic multi-resistant organisms	3 a	Infection control team will advise
Ascariasis	1 -	
Aspergillus	1 -	
Avian flu	4 -	
Bacterial septicaemia	1 b	
Bilharzia	1 -	
Body lice*	3 c	Isolate until treated
Bordetella pertussis	3 -	Isolate for 5 days from start of treatment
Borrelia burgdorferi	1 -	

Botulism	1 -	Contact consultant microbiologist
Branhamella catarrhalis	1 -	
Bronchiolitis	3 -	Isolate until recovered
Brucellosis	1	Contact infection control
Burkholderia cepacia	3 -	Must be isolated from other cases of cystic fibrosis. Others are **not** at risk
Campylobacter	1 d	Notifiable if a food-poisoning
Candida	1 -	
Cat scratch fever	1 -	
Chickenpox*	3 bd	Isolate until 5 days after onset/or vesicles are dry
Chlamydia pneumoniae	1 -	
Chlamydia psittaci	1 -	
Chlamydial conjunctivitis	1 -	Notifiable if patient is a neonate
Cholera	3 a	Isolate until 48hrs symptom free. Contact infection control
Clostridium botulinum	1 -	Contact consultant microbiologist
Clostridium difficile*	3 -	Isolate until 48hr symptom free
Clostridium perfringens	1 -	Notifiable if a food-poisoning
Clostridium tetani	1 -	Contact consultant microbiologist
Cold sore	1 e	
Common cold	3 -	Isolate until recovered
Conjunctivitis	1 -	Notifiable if in the neonate
Corynebacterium diphtheriae	3 bd	Contact consultant microbiologist
Coxsackie virus	3	Isolate until recovered
Creutzfeldt-Jakob Disease*	2 a	
Cryptococcal infections	1 -	Notifiable if meningitis
Cryptosporidium diarrhoea	3 -	Isolate until 48 hours symptom free
Cytomegalovirus infections	1 b	
Delta hepatitis (hepatitis D)*	2 -	Notifiable if an acute case of hepatitis, code 2 applies whilst patient is infectious
Dermatophyte infections	1 -	
Diarrhoea of unknown cause	3 -	Notifiable if food-poisoning, isolate until 48 hours symptom free
Diphtheria	3 bd	Contact consultant microbiologist
Dysentery	3 -	Isolate until 48 hours symptom free
Ebola virus disease	4	
Echinococcus	1 -	
Echovirus	3 -	Notifiable if meningitis, isolate for 7days after onset
Eczema herpeticum	3 -	Isolate until recovered
Encephalitis	3 -	Contact infection control
Enteric fever	3 -	Must have own toilet facilities until discharge
Enterobius vermicularis	1 a	
Erysipelas	3 a	Isolate until 48hrs after treatment started
Erythema infectiosum	3 -	Pregnant women should avoid contact
Escherichia coli 0157	3 -	Isolate until symptom free for 48 hours
ESBL (extended spectrum beta lactamase producers)	3 -	These are antibiotic resistant. Infection control will advise
Fifth Disease	3 -	Pregnant women should avoid contact

Fleas	1 -	Contact infection control
Flu (Avian)	4 -	
Flu (normal)	3 -	Isolate until recovered from acute infection
Food poisoning	3 -	Isolate until symptom free for 48 hours
Gas gangrene	1 b	
Genital herpes	1 -	Contact infection control
Giardiasis	3 -	Isolate until symptom free for 48 hours
Glandular fever	1 -	
Gonorrhoea	1 b	
Group A streptococci	3 -	Isolate until 48 hours after treatment started
Hand, foot and mouth (Coxsackie virus)	3 -	Isolate until recovered
Head lice*	1 -	
Helicobacter pylori	1 -	
Hepatitis A*	3 -	Isolate until 5days after the onset of jaundice
Hepatitis B*	2 -	Notifiable if an acute case of hepatitis
Hepatitis C*	2 -	Notifiable if an acute case of hepatitis
Hepatitis acute, infectious, cause unknown	3 -	Once cause is known manage under the appropriate code
Hepatitis E	3 -	Isolate until 5 days after onset of jaundice
Herpes simplex encephalitis	1 -	
Herpes genitalis	1 -	Contact infection control
Herpes simplex	1 e	
Herpes zoster (chicken pox/ shingles)*	3 bd	Isolate until 5 days after onset of rash and vesicles are dry
HIV antibody positive*	2 -	
Hydatid disease	1 -	
Impetigo	3 a	Isolate until lesions are healed
Infectious mononucleosis	1 -	
Influenza	3 -	Isolate until recovered
Japanese B encephalitis	1 -	
Kawasaki syndrome	1 -	
Lassa fever	4	
Legionnaires Disease	1 -	
Leprosy	3 a	Isolate until treated
Leptospirosis	1 d	
Listeria	1 b	
Lyme Disease	1 -	
Malaria	1 -	Inoculation incidents may pose a risk of transmission
Marburg Virus	4	
Measles	3 bd	Isolate until 4days after onset of the rash
Meningitis *(haemophilus / meningococcal / viral or other)	3 e	Isolate for 48 hrs after start of treatment
Meningitis (tuberculous)	1 -	Discuss chest x-ray findings with infection control

Meningococcal septicaemia*/ septic arthritis / conjunctivitis	3 e	Isolate for 48 hrs after start of treatment
Moniliasis (Glandular fever)	1 b	
MRSA*	3- or 1b	
Mumps	3 bd	Isolate for 9 days from the onset of the swelling
Non A non B hepatitis, (hepatitis C)	2 -	
Non-specific urethritis (NSU)	1 b	
4057Norovirus enteritis	3 -	Isolate for 48 hours after recovery
Ophthalmia neonatorum	3 -	Isolate for 24hrs after onset of treatment
Orf	1 b	
Paratyphoid fever	3 a	Isolate until symptom free for 48 hours
Parvo virus	3 -	Pregnant women should avoid contact
Pertussis	3 -	Isolate for 5 days after the start of treatment
Pinworm	1 a	
Plague	4	
Pneumocystis carinii	1 -	
Poliovirus infections	3 b	Contact consultant microbiologist
Pseudo-membranous colitis	3 -	isolate until asymptomatic 48hrs
Psittacosis	1 b	
Pubic lice*	1 c	
PUO (non-traveller)	1 -	
PUO (foreign travel)	3	Contact consultant microbiologist
Q fever	1 b	
Rabies	4	Contact consultant microbiologist
Rheumatic fever	1 -	
Rhinovirus	3 -	Isolate until recovered
Ringworm	1 b	
Rotavirus enteritis	3 -	Isolate until symptom free for 48hrs
RSV	3 -	Isolate until recovered
Rubella	3 bd	Isolate for 5 days after onset of the rash
Salmonella food posioning	3 -	Isolate until symptom free for 48 hours
SARS	4 -	Contact consultant microbiologist
Scabies*	1 c	
Scarlet fever	3 a	Isolate for 48 hrs after treatment started
Schistosomiasis	1 -	
Septicaemia (bacterial)		Contact consultant microbiologist
Shigella infections	3 -	Isolate until symptom free for 48 hours
Shingles*	3 bd	Isolate for 5 days after onset of the rash
Slapped cheek infection	3	Pregnant women should avoid contact
Small Round Structured Virus (SRSV)	3 -	Isolate for 48 hours after recovery
Smallpox	4	
Staphylococcus aureus (not MRSA)	1 b	
Streptococcus - haemolytic group A	3 a	Isolate until 48hrs antibiotic therapy
Streptococcus - haemolytic group B	1 b	Neonatal infection may need isolation
Syphilis	1 b	
Taenia	1 -	
Tapeworm	1 -	
Tonsillitis (Group A streptococcus)	3 -	Isolate until 48 hours of antibiotic therapy
Tetanus	1 -	Contact consultant microbiologist

Threadworms	1 a	
Toxoplasmosis	1 -	
Trichomonas vaginalis	1 -	
Tuberculoss (abscess)	1 b	
Tuberculosis (bowel)	1 b	
Tuberculosis (genito-urinary)	1 b	
Tuberculosis(lymphadenopathy)	1 b	
Tuberculosis (meningitis)	1 -	
Tuberculosis(orthopaedic)	1 b	
Tuberculosis (peritonitis)	1 b	
Tuberculosis (pulmonary closed)	1 b	
Tuberculosis (pulmonary open)*	3 bd	Isolate until 2 weeks after therapy started. For mask use refer to the TB guidelines. Multi drug resistant TB will be nursed elsewhere
Typhoid fever	3 a	Must have own toilet facilities until discharge
Vancomycin Resistant Enterococci (VRE)	3	
Varicella Zoster (chicken pox / shingles)*	3 bd	Isolate until 5 days after onset of rash and vesicles are dry
Viral conjunctivitis	3 -	Isolate until recovered
Viral haemorrhagic fevers	4	
Viral infections (general systemic)	3 -	Isolate until recovered
Viral rashes	3 -	Contact infection control
Weils Disease	1 a	
Whooping cough	3 -	Isolate for 5 days after starting treatment
Wound infected, cause unknown	1 b	
Yellow fever	1 -	Contact consultant microbiologist
*See additional information in this Manual		
Infections in ***Bold Italics*** are notifiable infections.		

FOR ADVICE OUT OF HOURS:
Health Protection Agency Contact Number: 0115 9296477

7.1.3 How To Notify A Notifiable Disease

It is a legal requirement under the Public Health (Control of Disease) Act 1984 to notify those diseases listed above in bold italics. On the clinical or microbiological diagnosis of a notifiable disease the attending doctor must:

1. Telephone the consultant in communicable disease control (CCDC) stating the patient's name, date of birth, home address, present location, name of general practitioner and the disease under notification.
2. Obtain within 48 hours of diagnosis a Notification Certificate, available from the infection control team or microbiology dept. Send the completed certificate to:

   Health Protection Agency
   Pleasley Vale Business Park
   Pleasley
   Mansfield NG19 8RL Tel: 01623 819000
   This may also be faxed to the office: Fax: 01623 819001

7.1.4 Isolation Codes Procedure

ISOLATION CODE NUMBER ONE

1. Isolation in a single room is not necessary.
2. Toilet facilities may be shared.
3. Patient may mix freely and dine with other patients.
4. There is no need for special crockery or cutlery.
5. Gloves and apron to be worn when dealing with lesions, exudates or excreta.

Notes **N**umber **O**ne

No additional control of infection precautions required.

a) The management of threadworm infestation requires meticulous care and the synchronous treatment of all household contacts. Particular care is needed in institutions such as long-stay hospitals. The infection control team will advise.
b) There may be a need to isolate these cases when present in certain clinical areas. The infection control team will advise.
c) For infestations, gloves must be worn for direct patient contact until the first treatment has been completed. Long sleeve gowns may be needed for dependant patients.
d) Separate toilet facilities advised.
e) Care should be taken to prevent neonates coming into contact with these lesions.

ISOLATION CODE NUMBER TWO

1. Isolation in a single room is not necessary unless actively bleeding from any site.
2. Gloves and aprons must be worn for handling blood, serum and other body fluids and for dealing with excreta.
3. Eye protection must be worn where there is the possibility of body fluids splashing in the eye.
4. Particular care must be taken when handling sharps.
5. Inoculation incidences must always be reported.
6. Label all specimens with a “Danger of infection sticker”.
7. Treat all used instruments as infected.
8. Separate toilet facilities should be made available for patients post delivery or after gynaecological surgery.
9. There is no requirement for special crockery or cutlery unless there is bleeding from the mouth.
10. The patient may mix freely with and dine with other patients.
11. All soiled linen to be treated as infected linen.
12. Confidentiality is of considerable importance for this group of patients.

Notes **N**umber **T**wo

No additional control of infection precautions required.

a) If any reusable surgical instrument is used on these patients it is imperative that the infection control doctor/consultant microbiologist is contacted.

ISOLATION CODE NUMBER THREE

1. Isolate in a single room, close door during dust generating procedures such as cleaning and bed making (unless otherwise stated in additional notes).
2. Wear gloves and aprons when dealing with exudates, excreta and for direct patient contact during bathing, dressing, wound and catheter care and other like procedures. Wash hands when gloves are removed.
3. Separate toilet facilities are required.
4. Instruments must be disposable or returned to sterile services as infected.
5. All crockery and cutlery must be returned to central dishwashing.
6. The patient must remain in the room and not mix or dine with other patients.
7. It may be advisable to restrict certain visitors. Infection control can advise.
8. All linen to be treated as infected linen.

NOTES NUMBER THREE

No additional control of infection precautions required.

a) Gloves and apron to be worn for all direct patient contact.
b) Only staff known to be immune should contact these patients. Pregnant staff should be excluded. Gloves and apron to be worn for all direct patient contact. Immunoglobulin is available from the consultant microbiologists to treat at-risk contacts of varicella-zoster, rubella and measles (Contact the infection control team for information). ***Keep the door closed.****
c) For infestations, gloves must be worn for direct patient contact until the first treatment has been completed. Long sleeve protective gowns may be needed.
d) Diagnosis, on suspicion, must be reported to the infection control doctor. KEEP THE DOOR CLOSED.
e) Antibiotic prophylaxis required for household and kissing contacts of patient.

ISOLATION CODE NUMBER FOUR

1. Contact consultant microbiologist IMMEDIATELY. Out of hours through switchboard.
2. Isolate in a side room IMMEDIATELY and keep the door closed.
3. All staff who have touched the patient or any belongings must wash their hands and apply alcohol hand rub IMMEDIATELY.
4. All staff required to care for the patient MUST wear gloves, gowns, masks and eye protection.
5. All specimens must be labelled with “Danger of infection stickers” and the consultant of the appropriate department informed e.g. consultant haematologist, consultant biochemist, consultant histopathologist.

NOTES NUMBER FOUR

a) The diseases included in this code are those, which are primarily spread via coughing and sneezing, cause severe disease and are difficult to treat. For example SARS, a new strain of epidemic influenza, pneumonic plague, smallpox or viral haemorrhagic fever.
b) The code applies to all patients who have or are suspected of having such an infectious disease. The prevention of spread is of the utmost importance.
c) The consultant microbiologist will inform the consultant in communicable disease control immediately of their admission (out of hours via the East Midlands Ambulance Service).
d) The major outbreak plan will be followed.
e) National guidance will dictate how the patient is managed.

7.1.5 Cleaning Procedures For Patient Isolation Areas

General Principles:

Code 1 - There are no special procedures or equipment required with these patients.
Code 2 - As above but particular care should be taken with regard to avoiding accidents with sharps and reporting them if they do occur.
Code 3 - See the instructions set out below.
Code 4 - Cleaning will be organised and supervised by the infection control team.

Daily Cleaning of an Isolation Room (Code 3)
The domestic services supervisor will ensure that all shifts of domestic staff are aware of the isolation room and the agreed procedure:-

1. All domestic staff must report to the nursing station before entering the isolation room.
2. Wash hands before entering and on leaving the isolation room.
3. Wear the PPE advised by the nurse in charge.
4. Use the cleaning equipment specially designated for use only in the isolation room.
5. The equipment will comprise: floor mop (string with detachable head), mop bucket, wash bowl, dry floor mop (with disposable head), disposable cleaning cloths, neutral detergent and yellow clinical waste bags. For patients suffering from gastro-intestinal infections, a solution of sodium hypochlorite (1 in 10,000ppm) should be used to clean sanitary areas at least twice daily.
6. The methods of cleaning will be the same as those used in non-isolation areas. Commence cleaning at the door and work in towards the patient, clean sanitary areas last. Damp wipe surfaces, ledges, furniture and fittings. Discard cloth after use into a clinical waste bag. Clean floor with dust control mop with disposable head. Throw the cloth part away. Damp mop floor area daily and remove the mop heads for disposal or washing. Return the mops and buckets to the cleaners' room.
7. Thoroughly clean the cleaning equipment after use in the isolation room.
8. Mechanical cleaning equipment should not be used in isolation areas, scrubbing machines with tanks are a particular problem. If use is unavoidable, a separate machine brush or head should be reserved for the isolation area. Decontaminate the brush or head by autoclaving and wipe the outside of the machine with neutral detergent before use in other areas.

Terminal Cleaning of Isolation Rooms (Code 3)

1. Consult nurse in charge as to whether there are any changes to the schedule below e.g. sodium hypochlorite solution to be used for sanitary areas when patients have had gastro-intestinal infections.
2. Gather together all materials needed for cleaning as before.
3. Wear the PPE advised by the nurse in charge.
4. Wash hands or use alcohol hand rub before entering and on leaving the isolation room.
5. Send bed linen to laundry as infected linen and clean the bed, mattress and room furniture in its entirety. They will also have ensured that all medical equipment used on or by the patient has been decontaminated as recommended in the Cleaning, Disinfection and Sterilisation policy.
6. Place all refuse (magazines, unused tissues, toilet paper, hand towels etc.) into a yellow clinical waste bag.
7. Unused disposable, medical sundries should be discarded into clinical waste bag.
8. Curtains should be changed.

9. Using detergent and water or detergent wipes, damp wipe fittings including the bed frame rest and any horizontal surfaces on the bed, the refuse sack holder, pedal bin, door handles and light switches. Do not rinse cloths in cleaning solution - dispose of each used cloth. Thoroughly clean all sanitary areas, toilet, wash basin, bidet, soap dispenser, toilet brush and holder.
10. Use dry dust control mop to remove debris from floor area and dispose of the mop head. Damp mop floor. Remove all mop heads for washing or disposal.
11. Leave all surfaces as dry as possible. Open windows to facilitate drying. Replenish supplies of toilet roll, soap and paper towels.
12. Seal, label and remove all clinical waste bags and laundry bags, remove and dispose of PPE. Wash hands. Take all clinical waste bags and laundry bags to the collection point. ***The room should not be used for another patient until completely dry.***

7.1.6 Protective Isolation Guidelines

Introduction

Infection is a major cause of death in patients, whose host defences are compromised by bone marrow failure, immunodeficiency, severe burns or malignancy. Hospitalisation of these patients is often necessary for the treatment of their underlying disorders as well as for the management of complications, and this poses a continued risk for the acquisition of new (and potentially more antibiotic-resistant) micro organisms which may cause infection.

It is unlikely that any such action would be required in primary health services, however this is a key aspect of infection control and this guidance is included for staff awareness. Infection control should be contacted with any queries/should any such action be required.

Implementation

The **decision** to manage a patient in protective isolation is made by the consultant haematologist/oncologist (or nursing staff on haematology/oncology), the clinician caring for the patient or the infection control team.

Patients requiring protective isolation should be placed in a side room and confined there unless movement is absolutely necessary. This side room and the furniture in it should be scrupulously clean. The door should be kept closed and the patient's charts kept outside the room. Separate toilet and washing facilities are ideal.

Staff or visitors with signs or symptoms of infection, e.g. sore throat, flu-like symptoms, skin infections or incubating an infection like chickenpox, must not enter the room.

Staff or visitors wishing to bring flowers or fresh fruit should firstly discuss this with the nurse in charge.

White coats should be removed and left outside the room.
Routine infection control techniques such as hand washing must be reinforced. All personnel must frequently and appropriately wash their hands or use alcohol hand rub before, during and after patient care.

Gloves and aprons should be used.

References

Nauseef, W.M and Maki, D.G (1981) A study of the value of simple protective isolation in patients with granulocytopenia NEJM Vol 304, p448-453.

SECTION 8: CLEANING, DISINFECTION AND STERILISATION POLICY

PURPOSE

All staff have an important part to play in the control of infection by ensuring the equipment they use will not pose any infection risk to patients and other staff members.

AIM AND SCOPE

The aim of this policy is to provide recommended methods of decontamination to enable a safe environment in which to care for our patients. It applies to all staff employed within the Trust.

DEFINITIONS

Low risk	Items in contact with healthy skin or mucous membranes or not in contact with the patient. Cleaning methods are adequate.
Medium risk	Items in contact with intact skin, mucous membranes or body fluids, particularly after use on infected patients or prior to use on immuno-compromised patients. Sterilisation or disinfection required. Cleaning may be acceptable in some agreed situations.
High risk	Items in close contact with a break in the skin or introduced into a sterile body area. Sterilisation methods are required.

Cleaning	A process which physically removes contamination but does not necessarily destroy micro-organisms. Cleaning is an essential pre-requisite of equipment decontamination to ensure effective disinfection or sterilisation.
Disinfection	A process used to reduce the number of viable micro-organisms, which may not necessarily inactivate some viruses and bacterial spores. This may be achieved by heat or chemical means. Chemical disinfection should only be used if heat treatment is impractical or undesirable e.g. skin or endoscopes.
Sterilisation	A process used to render the object free from viable micro-organisms including bacterial spores and viruses.
Contamination	The soiling or pollution of inanimate objects or living material with harmful, potentially infectious or other unwanted material.
Decontamination	A process which removes or destroys contamination and thereby prevents microorganisms or other contaminants reaching a susceptible site in sufficient quantities to initiate infection or any other harmful response.

IMPLEMENTATION

No variation from the policy should take place without consulting the infection control team or, for brand of disinfectant, the pharmacy department.

The guidance provided in the infection control manual on cleaning frequencies and use of disinfectants must be adhered to in order to minimise this risk. For items in use which are not listed the manufacturer's instructions on decontamination methods must be adhered to.

Advice must be sought from the infection control team prior to purchasing new equipment if there is any doubt regarding adequate decontamination methods or when queries arise regarding cleaning frequencies/disinfectant use.

The choice of decontamination method will be related to the infection risk associated with the intended use of the equipment i.e. low, medium or high. In addition the nature of the contamination, time required for processing, and the heat, pressure, moisture and chemical tolerance of the item is taken into consideration.

Conventional methods of sterilisation or disinfection are ineffective in deactivating certain unconventional prions, such as the causative agents of Creutzfeldt Jakob Disease (CJD), Scrapie or Bovine Spongiform Encephalopathy (BSE). Advice on decontamination of equipment/instruments in contact with these prions must always be sought from the consultant microbiologist in line with the Trust CJD policy.

REFERENCES

Derby Hospitals NHS Foundation Trust (2004) Decontamination Policy

Medical Devices Agency (1996) Sterilisation, disinfection and cleaning of medical equipment Department of Health, London.

8.1 DECONTAMINATION PROCEDURES FOR IN PATIENT, OUT PATIENT, CLINIC AREAS AND OTHER HEALTHCARE SETTINGS

Alphabetical order of equipment and how to clean and disinfect:

Detergent and water may be substituted for an approved detergent wipe.

Article	Procedure	Comments
Baby baths	After use clean with detergent and water and dry	Store inverted above floor level
Baby changing mats	After use clean with detergent and water and dry	If soiled follow body fluid spillage policy
Baby dummies	Single patient use	Discard after patient discharge. For infants under the age of 1 year store in Milton/hypochlorite, in individual labelled container
Baby feeding	Prepacked milk bottles are single use items Reusable bottles, should be thoroughly cleaned with detergent and water after use, rinsed and immersed in hypochlorite solution for 30 minutes	Discard after use into glass bin Ensure all surfaces are immersed in solution. Failure to remove milk debris will render solution ineffective

Breast pump equipment	Lactoset and tubing is single patient use	Wash Lactoset in detergent and water then immerse in Milton between uses Replace tubing between patients or if soiled
	Piston	Wash in detergent and water then immerse in Milton for 30 minutes between patients. Individual containers must be used for each mother. Name, unit number and nature of the solution and date it was made up to be clearly identified All feeding equipment must be stored dry when not in use
	Breast pump motor	Wipe external surfaces with detergent wipe between patients. If soiled with breast milk disinfect with solution of 1% Milton
Baby weighing scales	Clean with detergent and hot water before each clinic session	Protect with paper towelling, change after each use
Bath mats	After use cover bottom of bath with hot water and detergent. Immerse bath mat upside down and agitate	Hang mat to dry over bath side
Baths and showers	Clean after each use with cream cleanser and disposable cloths	
Bed cradles and rails	Wash with hot water and detergent weekly, or sooner if become sticky. Wash on patient discharge/no longer required	If soiled follow body fluid spillage policy Store above floor level
Bed frames	Weekly clean with hot water and detergent and following patient discharge	If soiled follow body fluid spillage policy
Bedpans and urinals (disposable preferable)	Place in macerator (If macerator is not working, empty contents into sluice or toilet, avoiding splashing, and dispose of bedpan/urinal into yellow clinical waste bag)	Keep lid closed for 1 minute after cycle is finished to prevent aerosol dispersal
Bedpans and urinals (re-usable)	Empty contents, as above, rinse with cold water followed by a wash in hot water and detergent then rinse with sodium hypochlorite. Rinse again and ensure item is properly dry before reuse	Store dry inverted or on designated rack
Bedpan/slipper pan holder	Clean with detergent and water and dry after each use	If soiled follow body fluid spillage policy
Bradford slings	Single patient use	

Chest drains	Closed system single use	Secure and dispose into clinical waste bag
Cleaning cloths	Disposable	Dispose after 24hrs. Cloths must be colour coded
Commodes	Clean seat, underneath and arms with detergent and water after each use	If soiled or used in isolation room wipe with hypochlorite
Crockery and cutlery	Use dishwasher	Dishwashing is preferable to hand washing where facilities available. Dispose of any chipped or cracked crockery
Curtains (privacy, bedside)	Launder every 6 months or when visibly soiled	Consult infection control team regarding curtains in isolation rooms
Denture pots	Use disposable	
Dishwashers	Full clean weekly, following manufacturers instructions	
Dispensers (soap, alcohol hand rub and hand cream, paper towels, toilet tissue)	Wipe daily (and if visibly soiled) with detergent and water	Particular attention to underside
Dressing trolleys	Clean all surfaces with detergent and water prior to and following use	
Drip stands	Fully extend and clean with detergent and water between patient use	If splashed with blood or body fluids follow body fluid spillage policy
Drinking glasses and jugs	Use dishwasher	
Ear pieces for auroscope	Single use items	
Earphones (patient entertainment)	Clean with detergent and water on patient discharge	Foam covers should be single patient use
ECG leads	Clean daily/after use with detergent and water and dry	
Examination couches	Protect with paper towel and change between patients. Full clean before and after each clinic session with detergent and water	Covering should be washable and intact. Body fluid splashes – follow body fluid spillage policy
Eye protection	Single use or if reusable clean with detergent and water after use	If splashed with blood or body fluids follow body fluid spillage policy
Fans	Unplug and clean outer casing daily with detergent wipes regularly	If cannot be dismantled, please contact Estates
Flower vases	After use wash with detergent and water. Store dry in non-kitchen/non-clinical area e.g. sluice	Change water daily. Pouring water into sluice/toilet. Do not discard into hand wash basins
Fluid warmers	Unplug and wipe out with detergent and water weekly	Please ensure this is in line with manufacturers guidance

Glucose monitoring equipment	Wipe outer case with detergent water. Blood splashes – follow body fluid spillage procedure	Discard into sharps container after use
Hair brush/combs		Communal brushes and combs should not be used
Hoists	Clean contact points after each use. Clean with detergent and water weekly	If splashed with blood or body fluids follow body fluid policy
Hoist slings	Single patient use – dispose on patient discharge or when visibly soiled. Re-usable linen – send to laundry on patient discharge or when visibly soiled	
Ice making machines	Follow manufacturers instructions	Maintain record of cleaning
Infusion pumps	Clean daily and between patients with detergent wipes	If splashed with blood or body fluids follow body fluid spillage policy
Instruments	Return to sterile services for autoclaving after use	Use an appropriately labelled, sealed bag or box
Laryngoscopes	Disposable single use	
Mattresses (hospital)	Wash with detergent and water and dry on patient discharge or weekly whichever is the soonest	Hand soap is not an acceptable alternative to detergent. Phenolic solutions must not be used
Mattresses (specialist)	Contact infection control for advice	May require specialist decontamination by manufacturers
Medicine pots	Single use items	
Microwave	Clean after use. Wipe with detergent and water daily	
Mops	High-risk areas change after use Wards areas change daily	Send to laundry for decontamination. Separate mop heads used in isolation rooms, either disposed of after use or sent to laundry as infected linen
Mouthpieces (entonox and peak flow)	Single patient use items	Discard after procedure completed
Nail brushes	Sterile single use	Not for use in clinical areas
Nebulisers	Single patient use. Follow manufacturer's instructions for cleaning and drying between use	Ensure mask identified for individual patient
Oxygen mask and tubing	Single patient use	Discard after use
Patient lockers	Wash with detergent and hot water and dry on patient discharge or weekly whichever is the soonest	
Patient nurse call alarm	Clean contact points after each use and full clean weekly with detergent wipes	

Patient transfer aids	Clean contact points after each use and full clean weekly with detergent and water	Follow body fluid spillage policy if visibly soiled Store above floor level
Patient transfer trolleys	Wipe mattress and sides with detergent and hot water between patients and dry. Thoroughly clean weekly including wheels	Any visible contamination, remove immediately using the body fluid spillage policy. Avoid excess equipment e.g. vomit bowls, suction catheters etc stored underneath
Pillows	Wipe with detergent and water and dry between patients. Soiled pillows must be sent to the laundry	Sealed fluid repellent covers are advised. Pillow protectors must be used if no alternative
Razors	Disposable, single use	Discard into sharps container
Shaving brush	Single patient use	Communal brushes must not be used
Sphygmomanometer cuffs	Launder when soiled if possible	Follow manufacturers guidance
Sputum pots	Disposable, change at least daily	Seal and discard into clinical waste bag
Stethoscopes	Clean earpieces and diaphragm with 70% alcohol (mediswab) between users and patients. Remove earpieces and clean with detergent and water weekly	
Suction jars	Use liner and dispose into identified box, where appropriate, or use solidifying gel, seal, and discard into clinical waste bag. Glass/plastic bottles - drain fluid into sluice, wearing eye protection and gloves. Wash with detergent and water, store dry	Change each patient or at least every 24hrs when in use Wipe outside and lid of jars daily with detergent and water
Suction tubing	Single patient use	Discard after use
Suction catheters/Yankauer	Single patient use	Discard after use. Catheters should be stored in their wrapping and only attached to tubing immediately prior to use
Thermometers	Tympanic – use disposable cover for each patient. Other - use disposable sheath	
Toileting aids (raised toilet seats)	Clean after each use with detergent and water	Follow body fluid spillage policy if visibly soiled. Store above floor level
Tourniquets	Discard when soiled. Plastic tourniquets should be wiped with a detergent wipe between patients	Single patient use in isolation rooms

Toys	SOFT TOYS: Launder weekly or when dirty. Discard if body fluid present PLASTIC, WOOD or METAL: Wipe over with a detergent wipe. If body fluid present wash in water and detergent and allow to dry	Toys, which cannot be decontaminated, should not be purchased. Patients own are fine
Trolleys (instrument) and bowl stands	Alcohol wipe before and after use	Detergent and water can be used as an alternative
Urine measuring jugs	Disposable Re-usable wash in hot water and detergent and store inverted after use, discard after seven days	Patients name must be clearly recorded on each jug
Vomit bowls	Single use. Dispose or empty contents into sluice	Dispose of into clinical waste
Walking aids (Zimmer frames, walking sticks)	Clean between patients with detergent and water	If splashed with blood or body fluids follow body fluid spillage policy
Walls	High-risk areas - these should be washed every 3 - 6 months. Otherwise walls will be washed if evidence of visible soiling or on instruction from infection control	Maintain records of cleaning undertaken
Wash bowls	Clean after each use and between patients with detergent and water	Store dry and inverted
Weighing scales	Clean contact points after each use and full clean weekly with detergent and water	
Wheelchairs	Clean weekly with detergent and water	
Wound drains	Single use. Seal and dispose into clinical waste bags	

8.2 DECONTAMINATION PROCEDURES FOR THEATRE AND ANAESTHETIC/ RESPIRATORY EQUIPMENT

Alphabetical order of equipment and how to clean and disinfect

Item	Procedure	Comments
Airway	Single use	Discard after use
Ambu- and Laerdral resuscitation bag	Single use Re-usable: use with single use patient end filter	Discard after use Discard end filter after use, if bag contaminated, seek advice from infection control
Anaesthetic machines	Exterior: clean with detergent and water after each session Interior: internal circuitry must be protected by filters	Visible contamination should be dealt with as in body fluid spillage policy If interior circuitry becomes contaminated seek advice from the infection control team

Angle connectors	Single use	Discard after use
Bandages/stockinet etc	Single patient use	Discard after use
Blood pressure cuffs	Protect with 'Softban'. If visibly soiled wash with detergent and water	
Bougies	Single use item	
Breathing circuits	Must be protected by patient end filter. Change filter after each patient Change circuit weekly	Change disposable scavenger tubing weekly When soda lime is exhausted, empty into clinical waste bag, clean canister with neutral detergent and refill
Brushes (nail)	Sterile, single use Discard or return to sterile services for autoclave Cleaning: immerse in soapy water? autoclave	Do not leave on sink after use Ensure cleaning brushes are clearly identified and stored dry when not in use
Brushes (cleaning)	Single use item	
Curtains	Change if visibly soiled, otherwise every 6 months	
DVT boots	Wash with detergent and water and dry weekly or if visibly soiled	Stockinet must be used as a barrier between patients skin and boot, discard after use
Endotracheal tubes	Single patient use	Discard after use
Endoscopes	Refer to separate guidance	
Entonox (mouthpiece/face mask)	Single Patient use	Discard after procedure completed
Face mask (anaesthetic)	Clean with detergent and water and dry between patients	If used on infectious patient consult infection control team
Humidifiers	Fisher Paykell drip feed canister is single patient use	Discard after use
Instruments (surgical)	See Decontamination Policy	Instruments and trays used on infected or 'dirty' cases must be returned in the appropriate bag
Insufflators	Change in accordance with the manufacturers instructions	Filters must be fitted to protect the machine and the patient
Laryngeal masks	Autoclave between patients	Monitor and record 40 times then discard
Laryngoscopes	Autoclave between patients	
Magill forceps	Autoclave between patients	
Oxygen mask and tubing	Single patient use	Discard after use
Nebulisers	Theatre - single patient use	Discard after use If patients own portaneb used ensure mask identified for individual patient

Patient lifting/transfer aids	Clean between patients with detergent and water. Dry well, follow body fluid spillage policy if visibly soiled	Store above floor level Launder weekly
Pharyngeal sprays	Change nozzle between patients and discard	
Refrigerators in anaesthetic/recovery areas	Defrost and clean weekly	No swabs, specimens or food must be stored in these refrigerators
Space/warm air blankets	Single patient use	Discard after use
Stylets	Single use items	Discard after use
Suction jars	Single use: after use seal and dispose in clinical waste Re-usable: drain fluid into sluice, wearing eye protection and gloves, rinse with detergent and water store dry	Surgery: change following each patient Anaesthetic: change at end of each session
Suction tubing	Single patient use	Discard after use
Suction catheters/Yankauer	Single use	Discard after use. Catheters should be stored in their wrapping and only attached to tubing immediately prior to use
Theatre operating tables	Clean with detergent and hot water at the end of each session. If visibly contaminated follow body fluid spillage policy between patients	Dismantle all tables and thoroughly clean weekly
Table mattress and accessories	As above	Inspect daily for wear and tear. Small tears may be repaired with identified tape or bonded. Large tears should be risk assessed with a view to disposal All table accessories must be stored clean, dry and above floor level
Tourniquets	Protect with 'Softban'. If visibly soiled wash with detergent and water	
Trolleys (instrument/bowl stands etc)	Wipe with detergent and water between patients and dry	
Ventilators short term	Bacterial filters are used on inspiratory and expiratory ports to protect ventilator when in use	In the unlikely event it is suspected equipment has become contaminated send for autoclaving - refer to manufacturers manual and consult the microbiologist
Visors/goggles	Refer to infection control policy (theatres)	Store away from contamination
Walls	Within theatre these should be washed every 3 months and external areas 6 monthly	Maintain records of cleaning undertaken

8.3 QUICK REFERENCE GUIDE TO WASTE MANAGEMENT

Clinical waste management is under review at the time of writing and this guidance may be up-dated if the new guidance differs from present policy.

General Rules

- Ensure waste is segregated and placed in the correct waste receptacle.
- Ensure bags are not overfilled. Waste bags should be changed when ¾ full and at least daily.
- A label, detailing the ward/department must be attached to the waste bag before disposal.
- Waste bags should be disposed of into the appropriate wheeled container, which should always be locked.
- Waste should never be left at the side of or on top of waste containers.
- All waste from isolation rooms must be disposed of as clinical waste.

Domestic Waste

Domestic waste is any waste not defined as clinical e.g.flowers, newspapers, packaging, office waste, kitchen waste, hand towels.

Clinical Waste

Clinical waste is human tissue and any items that are soiled by blood or body fluids, such as

- Wound dressings
- Swabs
- Disposable gloves and aprons
- Materials used to clean up spillages (excluding cytotoxic spillages)
- Colostomy and urine bags
- Incontinence pads/soiled nappies
- Vomit bowls and sputum pots

Glass, Crockery and Aerosols

- Glass, crockery and aerosols must be disposed of into the appropriate rigid receptacles.
- If a liner is used it must only be a clear liner.
- Broken glass, crockery etc must be disposed of into a sharps container.

8.4 QUICK REFERENCE GUIDE TO FOOD HYGIENE

General Principles

- Always wash hands in hand wash basin, not kitchen sink and put on a clean, disposable apron before handling food.
- Leave kitchen and all equipment clean, dry and tidy after each use.
- Disposable paper towels must be used for drying equipment and surfaces.
- Waste food must be discarded into domestic waste and the crockery rinsed and dried.
- All used crockery and cutlery must be washed using a dishwasher. This includes specialist items.
- Kitchens must not be used for storing inappropriate items e.g. bags, plants, outdoor clothing.
- The use of the kitchen should be restricted so only those activities relating to the storage, preparation and service of food takes place.

- Patients and visitors should not have access to the kitchen, except where designated therapeutic kitchen, under supervision of clinician or therapy staff.

Food Storage

- Fridge temperatures must be checked and recorded daily.
- Fridges must operate below 5ºc.
- The Estates department must be contacted for advice if the fridge temperature exceeds 5ºc.
- All food placed in the fridge must be labelled with name, date and time.
- Food must be discarded after 24 hours unless within manufacturers expiry.
- No raw foods may be stored in the fridge.
- No drugs, specimens or ice packs to be stored in the fridge.
- All opened, dry foods must be stored in sealable pest proof containers. These must be labelled and dated.
- Microwaves should be thoroughly cleaned with detergent and water on a daily basis or when soiled.

8.5 DECONTAMINATION

Purpose

The inadequate decontamination of re-usable medical devices may result in the transfer of infection to patients or staff. The purpose is to ensure effective decontamination processes are in place and legal requirements relating to equipment used in those processes are met.

It supports the requirements for the Trust to meet the Healthcare Standards.

Aim and Scope

This policy aims to ensure as far as reasonably practicable that all re-usable medical devices are properly decontaminated prior to use and that the risks associated with decontamination facilities and processes are adequately managed. It applies to all medical devices whether owned by the Trust, rented, on loan or acquired by any other means.

All decontamination equipment that does not meet the requirements of current standard and test methods will be upgraded or replaced as soon as practicable in accordance with a planned replacement programme. An annual report shall be submitted to the Board on the quality and efficacy of the Trust's decontamination processes.

Education and training in relevant aspects of decontamination practice will be provided to relevant healthcare staff.

This policy covers aspects of purchase, installation, validation, operation and management of re-usable medical devices and decontamination equipment.

The Trust will ensure that when decontamination processes are contracted out to a third party, the contractor meets the required standards and current best practice in equipment, department design, management and documentation. The Trust reserves the right to audit and monitor such departments to assess compliance.

Definitions Used

Disinfection	The destruction of micro-organisms but not usually of bacterial spores; the process does not necessarily kill all micro-organisms, but reduces them to a level which is not harmful to

	health.
Sterilisation	A process intended to destroy or remove all living organisms.
Decontamination	A process, or combination of processes, which removes or destroys contamination and thereby prevents micro-organisms or other contaminants reaching a susceptible site in sufficient numbers to initiate infection or any other harmful response.
Decontamination Area	An area specifically designed to reprocess re-usable medical devices.
Decontamination Equipment	All washer disinfectors and sterilisers including endoscope reprocessors, transportables and media preparators.
User	The person designated by the Trust to be responsible for the management and operation of the equipment defined above. The user should possess documentary evidence of having received the appropriate approved training required in order to correctly operate the equipment.
Sterile Service Department (SSD)	An area specifically designed to reprocess re-usable medical devices.
Medical Device	Any instrument, apparatus, appliance, material or health care product, excluding drugs, used for the diagnosis, prevention, monitoring, treatment or alleviation of disease or handicap. The focus of this policy is on those items deemed high or medium risk such as surgical instruments and endoscopes.
Test person	The person designated by the Trust to be responsible for all equipment testing including validation and routine testing. The test person should possess documentary evidence of having received training to carry out the tasks as detailed in HTM 2010 and HTM 2030.
Maintenance person	The person designated by the Trust to carry out maintenance tasks and duties on the equipment. The maintenance person should possess documentary evidence of having received training to carry out the tasks as detailed in HTM 2010 and HTM 2030. If accredited training has been received then he may carry out daily, weekly or quarterly test as delegated by the Test Person.
Authorised person (AP)	The person designated by the Trust to act as an independent and impartial advisor on all decontamination matters and to perform, and present annual audits as requested.

Implementation

This policy applies throughout the Trust in all areas where re-usable medical devices are used or decontaminated. It should be read in conjunction with the Cleaning, Disinfection and Sterilisation Policy in the infection control manual and the Medical Devices Policy.

8.6 PURCHASE OF RE-USABLE MEDICAL DEVICES AND DECONTAMINATION EQUIPMENT

Decontamination issues must be considered prior to the purchase of re-usable medical devices and decontamination equipment. Purchasers must ensure that medical device decontamination instructions are compatible with the decontamination equipment available and policies in place.

Advice on individual cases may be sought from the MDC (Decontamination) lead, infection control and/or consultant microbiologist. The MDC (Decontamination) will act as a resource/referral point for decontamination issues.

Decontamination equipment shall be purchased in compliance with current relevant British or European standards. Purchase of such equipment shall not proceed until advice has been sought from the 'Approved Person'.

All installations shall be validated in accordance HTM 2010/2030/2031. The person responsible for validation shall be identified in the specification. The validation report shall be accepted and signed off by the Authorised Person to ensure that all test procedures and results are acceptable.

Reprocessing of Re-Usable Medical Devices
All re-usable medical devices must be decontaminated using processes, which have been validated for process effectiveness.

Decontamination shall only be performed in designated decontamination areas.

Manufacturer guidelines on the reprocessing and maintenance of a device must be followed and not altered in any way.

Manufacturers reprocessing instructions must be forwarded to the sterile service department prior to any new devices being reprocessed.

Every location in which the decontamination of re-usable medical devices is carried out should be properly designed, maintained and controlled.

All staff involved in decontamination processes must have access to up to date legislation and guidance. Staff using decontamination equipment must be suitably trained to do so in line with the Trust's Medical Devices Policy.

All contaminated re-usable medical devices must be handled, collected and transported to the decontamination area in a manner that avoids the risk of contamination to patients, staff and any area of the health care facility.

The Trust will ensure that systems are in place, which facilitate the tracing of surgical instrument sets and endoscopes through the decontamination process and to the individual patients on which they have been used.

Documentation
The following documentation shall be available at all times and be kept adjacent to the decontamination equipment to which it refers:

- Operating instructions/operators manual
- Logbook
- Daily Bowie Dick Test results (where applicable)
- Process log as required

The following documentation may be kept elsewhere but made available upon request:

- Maintenance manual
- Service and connection drawings

- Works test records, if performed
- List of spare parts including identification numbers
- Certificate of compliance written scheme of examination
- Annual audit reports
- Certificates of insurance inspection
- Plant history other than that contained in the previous logbook inserts
- Test equipment calibration certificates
- Chart recorder calibration certificates
- Training records of personnel
- Schedules of testing
- Steam/water quality results
- List of nominated User/Test Person/Maintenance Person/Authorised Person

Testing of Decontamination Equipment
The Trust will ensure that validation, calibration, monitoring and maintenance is undertaken by suitably competent persons.

Testing shall be carried out at the frequency defined in HTM 2010 or 2030. Users are responsible for making equipment available and for ensuring that tests are carried out. The results of all tests shall be recorded in the standard logbook. Tests with unacceptable results shall be repeated until all tests are completed satisfactorily. Either the Test Person or User may seek advice regarding the acceptability of results from the Authorised Person. If test results continue to be unacceptable advice on required action shall be sought from the Authorised Person.

THE USER HAS THE ULTIMATE RESPONSIBILITY FOR THE OPERATION AND RUNNING OF THE MACHINE.

Daily tests	Users are responsible for carrying out daily tests as defined in HTM 2010 or 2030.
Weekly tests	Maintenance/test persons are responsible for carrying out weekly tests as defined in HTM 2010 or 2030. Logbooks shall be countersigned by the user to show acceptance of the results to certify that the equipment is fit for use.
Quarterly tests	Maintenance and/or test persons are responsible for carrying out quarterly tests as defined in HTM 2030 and HTM 2010. Logbooks shall be countersigned by the user to show acceptance of the results to certify that the equipment is fit for use.
Yearly tests	Test persons are responsible for carrying out yearly tests as defined in HTM 2010 or 2030. The user shall countersign logbooks to show acceptance of the results to certify that the equipment is fit for use. The test person and user shall prepare an annual report for examination by the authorised person

Following extensive repair or component replacement revalidation shall be determined by the user/authorised person/test person.

Annual audit	The authorised person shall be responsible for carrying out the annual audit and will produce a report within three weeks of the audit date. The

audit will be made of the whole of the decontamination system and the authorised person may consult any, or all, of the individuals designated by management.

Monitoring — Routine monitoring of results will be undertaken by the test/maintenance person. Advice on all decontamination matters may be sought from the authorised person who may request to monitor portions of the decontamination systems.

Time constrain — Users will be safeguarded if the following extensions from the agreed testing date are included. Once these extensions have been passed then the user may seek the performance of tests by others:

Daily tests	no extension allowed
Weekly tests	three days from agreed date
Quarterly test	one week from agreed date
Annual test	three weeks from agreed date
Annual audit	three weeks from agreed date.

Decontamination Prior to Inspection, Service, Repair or Investigation

Equipment must wherever possible be decontaminated by following the manufacturer's guidelines, prior to being inspected, serviced or repaired. A "Declaration of Contamination Status" form must accompany any medical device which may have been contaminated by contact with blood or other body fluids, pathological specimens, or exposed to infection. This form must be completed and signed by the person in charge of the ward/department or a nominated staff member. No equipment will be accepted if visibly soiled or is presented without a completed "Declaration of Contamination Status" form.

If the device is the subject of an investigation or complaint it may be inappropriate for it to undergo decontamination. The procedure to be followed in such instances is detailed in the Medical Devices Policy located in section 16 of the Clinical Policies, Standards and Guidelines Folders.

Further advice on decontamination may be sought from infection control.

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References

Sterilisation, Disinfection and Cleaning of Medical Equipment: Guidance on Decontamination from Microbiology Advisory Committee to Department of Health, Medical Devices Agency.

HSC 1999/178 Variant Creutzfeldt Jakob Disease (VCJD): Minimising the risk of transmission.

HSC 1999/179 Controls Assurance in Infection Control: Decontamination of Medical Devices

HSC 2000/032 Decontamination of Medical Devices

Medical Devices Directive 93/42/EEC Annex 1 ER 13.6,h

MDA Safety Notice SN 9619 Compatibility of Medical Devices and their Accessories and Reprocessing Units with Cleaning, Disinfecting and Sterilising Agents.

Consumer Protection Act 1987(6)

HTM 2010 Sterilisers

HTM 2030 Washer-disinfectors.

HTM 2031 Clean steam for sterilization

SECTION 9: MRSA (METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS) POLICY

PURPOSE

The purpose of this policy is to provide instruction on the management of patients with, or suspected of having, MRSA in order to prevent cross infection within the organisation. Sections referring to policy within acute services are included for reference purposes.

NB: New National guidelines are due for release in 2006, and were not available for the development of this policy. Therefore, this policy may be reviewed early to encompass this.

AIM AND SCOPE

Staphylococcus aureus is a Gram-positive bacteria commonly found in the nose and perineum of healthy people. It normally does not cause any problems but may be responsible for boils and abscesses and is a common cause of post-operative wound infections.

It can be carried, transiently on the hands of staff, by contaminated equipment or through the air in dust from shed skin scales. The organism may remain viable in the environment for a long period of time.

MRSA is a strain of the bacteria, which has developed a resistance to the most commonly prescribed antibiotics. It is therefore important that the prevalence of this organism is reduced and chances of an out break minimised. By following standard infection control principles, the risk of transmitting MRSA and other pathogens is greatly reduced.

This policy applies to all clinical areas of the Trust where patients with MRSA may be cared for.

DEFINITIONS

Colonised	bacteria present on the body, without causing an infection, for longer than seven days.
Pathogenic	ability to cause disease.
Methicillin	group of antibiotics used in microbiology laboratories to ascertain sensitivity.
Resistance	organism demonstrating properties, which stop the actions of antibiotics.
Transient carriage	MRSA is present on the skin less than twenty-four hours.
Low risk areas	medical wards, out patient areas, endoscopy units, maternity wards, paediatric medical wards.
High risk areas	orthopaedic, general surgery, gynaecology and vascular surgery wards. ITU, step down and CCU, renal wards and dialysis unit, neonatal intensive care unit, paediatric intensive care unit, and paediatric surgical wards. For isolation purposes only, acute oncology and haematology wards are deemed high risk.

IMPLEMENTATION

Admission Screening

This is required to determine which patients are colonised or infected with MRSA who may either be due to undergo an invasive procedure, which could result in a serious infection, or to facilitate appropriate measures required to prevent spread of the organism.

Admission screening will only be carried out on identified patients in high-risk areas, these at the present time are deemed to be:

DRI Orthopaedic, general and vascular surgical wards, ITU and CCU

DCGH General surgical, gynaecology and renal wards, dialysis unit (new dialysis patients only), ITU, neonatal and paediatric ICU.

Primary health services are deemed to be low risk at the present time, and therefore admission screening is not routinely recommended, unless advised by infection control or a consultant microbiologist.

The following screening information is provided in the event that staff are requested to perform screening for MRSA.

Screening method
Moisten the swab in a little of the black transport medium before swabbing

- Both anterior nares (one swab for both nostrils)
- Any wound, ulcer or other area of broken skin
- Intra-vascular access sites, drain sites
- PEG sites
- Urine specimen if patient has a urinary catheter

Ensure all swabs are correctly labelled and sent to the laboratory with a completed microbiology request form. One request form is sufficient for all swabs taken, providing they are all in the same specimen bag, otherwise a form will be needed for each bag. Label the form with 'MRSA Screen'. There is no requirement to label any laboratory specimens with a "risk of infection" sticker.

A provisional result will be available at 48 hours, with confirmation 24 hours later.

Surgical patients – some patients will require antibiotic prophylaxis so all cases must be discussed with the consultant microbiologist prior to surgery. Theatres must be informed in advance.

Low Risk Areas
As the risk of transmission in these areas is reduced, patients with MRSA generally do not require isolation unless specifically advised by the infection control team.

Guidance for all patients with MRSA or other resistant organisms

- Ensure all patients receive the information leaflet on MRSA, and contact the infection control team should the patient or relatives have any concerns/questions.
- Follow general precautions for patients nursed in isolation as described in the isolation protocol.
- In low risk areas where the patient is not isolated ensure that other healthcare workers e.g. physiotherapists, phlebotomists, ECG technicians are aware so that appropriate measures can be taken.
- All open wounds should be covered with an occlusive dressing.

- Ensure all staff decontaminate their hands using alcohol gel or soap and water after direct contact with the patient.
- The infection control team will advise if re-screening is necessary and when it is appropriate to discontinue isolation precautions.
- Patients can attend other departments for investigations or treatment providing the departmental manager has been informed.
- Portering staff are not required to wear protective equipment when transporting patients within hospital or other healthcare settings. Hands should be decontaminated after each patient episode.
- MRSA should not prevent or delay discharge, but any receiving hospitals/healthcare facility must be informed prior to transfer.

Eradication
Infection control will advise whether MRSA eradication with topical Triclosan and Mupirocin is indicated.

MRSA eradication cannot be done whilst patients have any invasive devices in place. The bacterial bio-films that form on these provide a protective layer that covers the bacteria.

MRSA eradication cannot be done in patients with large wounds or ulcers. This is because bacterial colonisation of a wound surface within which antibiotic concentrations will be too low. Eradication can be considered when the wound has healed or is less than 5cm in diameter.

Eradication therapy:

- Mupirocin 2%, applied to each nostril three times daily.
- Daily bathing with Trisclosan 2%.
- Twice weekly hair washing with Triclosan 2%.
- Eradication therapy is given for five days, stopped for two days, after which the patient should be screened for MRSA. Eradication therapy should then be restarted.
- The infection control team will advise when eradication therapy can be discontinued and whether further screening is necessary.

Staff
MRSA rarely causes infection in healthy people. Healthcare workers may acquire MRSA through close contact, but tend only to have transient carriage, which normally disappears within twenty-four hours.

The infection control team initiates staff screening for MRSA or other resistant organisms when there is an outbreak on a high-risk area or infections continue to spread despite control measures.

Healthcare workers found to be MRSA, or other resistant organism, positive are re-screened to exclude transient carriage. The infection control team will liaise with occupational health as to whether the staff member is allowed to stay at work. Eradication therapy may be considered if repeat screens are positive, as per eradication protocol. Occupational health will liaise with the staff member and the infection control team if further treatment is required. Staff who work in high-risk areas may be removed until clear. Three negative swabs, taken a week apart, indicate clearance. Failure of eradication may require relocation of the affected staff member. Occupational health will oversee this.

References

Rampling, A et al (2001) Evidence that hospital hygiene is important in the control of MRSA Journal of Hospital Infection Vol 49, p109-116

MacDonald, A et al (2004) Performance feedback of hand hygiene, using alcohol gel as the skin decontaminant, reduces the number of inpatients newly affected by MRSA and antibiotic costs Journal of Hospital Infection Vol 56, p56-63

Revised guidelines for the control of Methicillin-resistant *Staphylococcus aureus* infection in hospitals Journal of Hospital Infection 1998, Vol 39, p253-290

Lessing, M.P.A: Jordens, J.Z and Bowler, I.C.J (1996) When should healthcare workers be screened for Methicillin-resistant Staphylococcus aureus Journal of Hospital Infection Vol 34, p205-10.

SECTION 10: CREUTZFELDT-JAKOB DISEASE (CJD) / TRANSMISSIBLE SPONGIOFORM ENCEPHALOPATHIES (TSE) POLICY

PURPOSE

Transmission of TSE's to humans has occurred from both human and bovine sources, resulting in iatrogenic CJD and variant CJD. The abnormal protein associated with TSE's and CJD is resistant to all usual known methods of decontamination including autoclave sterilisation. Therefore there is a risk that transmission may occur via contaminated surgical instruments/endoscopes. The purpose of this policy is to enable the identification of patients who may be infected with CJD and ensure that appropriate procedures are in place to prevent its spread.

AIM AND SCOPE

The aim of this policy and supporting procedure is to ensure that transmission of CJD does not occur between patients and that healthcare staff who may come into contact with a potential TSE agent are protected.

It applies to all areas of the Trust where patients may undergo surgical/endoscopic procedures. The CJD identification questionnaire must be used by all staff when admitting, or pre clerking patients who are to undergo surgical intervention or medical procedure. Medical staff should contact the consultant microbiologist with any queries.

DEFINITIONS

CJD	A rare and invariably fatal disease that affects the central nervous system. It belongs to a group of diseases known as prion diseases or Transmissible Spongiform Encephalopathies (TSE's), These diseases can have a long incubation period (10-30 years) and once clinical signs appear there is currently no known effective treatment or prophylaxis.
TSE	Collective name for a group of degenerative diseases affecting the central nervous system.
Iatrogenic	Brought about by medical or surgical treatment.
Ataxia	Failure of muscle co-ordination.
Myoclonus	A spasmodic contraction of the muscles.

BACKGROUND/IMPLEMENTATION

TSE's are thought to be caused by an infectious protein, which is unlike normal protein in its structure. These types of proteins are referred to as prions. Prions do not share the same characteristics of viruses or bacteria.

These prion proteins are not uniformly distributed in the tissues of affected individuals and infectivity levels vary at different stages of incubation. In general during clinical disease, CNS tissues (including the retina) pose the highest risk, lymphoid tissues, cornea and dura mater are lower risk and most body fluids and other tissues negligible risk.

Different diseases belonging to the TSE group include CJD, Kuru, Fatal Familial Insomnia (FFI) and Gerstmann-Straussler-Scheinker Syndrome (GSS). In animals; scrapie in sheep and BSE in cattle are TSE's.

CJD can be one of four types. They do not show the same disease characteristics and are not necessarily transferred in the same way. In addition, their infectivity varies at different phases of the disease and the risk of transmission is dependant on the type of procedure undertaken and the type of tissue involved.

- Classic or sporadic CJD – this is the most common type and the cause is unknown. There are about 60 cases per year in the UK.
- Familial CJD – this is inherited.
- Iatrogenic CJD – can be caused by medical procedures or treatments. It has been shown to be transmitted between patients by procedures such as injections with human pituitary hormones, dura mater grafts, neurosurgical instruments and blood/blood products. It is most important to identify patients who have undergone any of these procedures prior to any surgical intervention, including endoscopy, as they may be incubating the disease and therefore contaminate the instruments or devices used.
- Variant CJD (vCJD) - this was first recognised in 1996, and is associated with the same transmissible agent that causes Bovine Spongiform Encephalopathy (BSE) in cattle. Infection is thought to be caused by consuming BSE contaminated food products and there is a theoretical risk that it may be transmitted via surgical instruments/endoscopes which have been previously used on a patient with, or incubating vCJD. Over 140 cases of vCJD have been identified; over 90% have been in the UK. Considerable uncertainty exists over the likely future numbers of vCJD cases in the UK.

CLINICAL FEATURES

Sporadic CJD – the usual age of onset is late middle age (average age 65 years). Most patients present with rapidly progressive dementia with focal neurological signs including ataxia, myoclonus, visual disturbances and rigidity. Death usually occurs within 4- 6 months of clinical onset.

Variant CJD – generally affects young adults (mean age at onset 28 years) with a clinical illness that lasts on average 14 months. The initial features include psychiatric and sensory abnormalities, which are usually followed by ataxia, myoclonus and other movement disorders and accompanied by dementia.

IMPLEMENTATION

Confirmed cases

- The consultant microbiologist or lead infection control nurse must be informed immediately of any patients with a confirmed or suspected diagnosis of any form of CJD.
- Only single use instruments may be used on a patient with confirmed CJD, all other instruments will be destroyed. Endoscopic procedures must not be undertaken using any of the endoscopes within the Trust. If the patient requires an endoscopic procedure then a loan scope from the CJD surveillance unit may be made available. If any surgery is required, early communication with the surgical team is vital.

Suspected cases

- If a patient is displaying signs of CJD but a diagnosis has not been confirmed, or a possible diagnosis from a neurologist has been made, preferably only single use instruments should be used. Re-usable instruments will be quarantined in sterile service department until a diagnosis is made. Following diagnosis these instruments will either be destroyed or reprocessed as usual.

At risk cases

- In order to reprocess instruments/endoscopes safely and prevent any possible transmission of CJD or other TSE's there is a requirement to identify patients who may pose a risk of transmitting the disease who are not symptomatic, i.e. in the incubation period. These are patients who have undergone procedures or treatments, which are now known to be associated with CJD transmission in some cases. These are the injection of human pituitary hormone, dura mater grafting, haemophiliacs who have been the recipient of certain blood, plasma derivatives, people who have a family history of CJD and those who have been informed by the Health Protection Agency that they are specifically at risk. In order to identify these patients all patients admitted for a surgical procedure or endoscopy must be asked the following questions:

1. Have you ever received injections of Human Pituitary Hormones around or before 1970's?

2. Have you had surgery to your spinal cord or brain before 1992?

3. Do you have a family history of CJD?

4. Are you a haemophiliac?

5. Have you been told by a doctor from the Health Protection Agency that you are at risk of CJD?

If a patient answers yes to any of the above questions the consultant microbiologist or lead infection control nurse must be informed straight away who will advise on precautions to be taken. These will depend on

- How likely the patient is to be carrying the infectious agent (risk status); and
- How likely it is that infection could be transmitted by the procedure being carried out and the tissues involved.

Instrument decontamination/disposal will depend on the level of infectivity. The consultant microbiologist or lead infection control nurse will advise accordingly, contact the relevant surgical team and theatre, and document this advice in the patient's notes.

No risk

If a patient has not answered yes to any of the above questions and is not displaying any signs of CJD instruments/endoscopes pose no risk to other patients and therefore will be reprocessed as normal.

Theatre practice

When informed by the consultant microbiologist or lead infection control nurse that instruments require quarantine the nurse in charge must request the identified instrument container from the sterile services manager or deputy. Instruments will be returned to sterile services for quarantine. A record of this action must be made and retained in theatre.

Care on the ward

- Isolation of patients is not necessary.
- Disposable gloves and aprons must be worn by staff when dealing with blood, other body fluids and excreta and the standard infection control procedures followed.
- Ensure thorough hand decontamination is undertaken after contact with the patient.

- Advice must be gained from the infection control team prior to invasive procedures being carried out.
- "Risk of infection" labels must be attached to all samples and request forms.
- Spillages of blood or body fluid should be cleaned following the blood and body fluid spillage procedure.
- Linen and waste should be segregated in the usual manner as outlined in the quick reference guides contained within the manual.
- There is no restriction on visiting. Visitors do not need to wear PPE unless handling body fluids.
- The use of a cadaver bag is necessary for deceased patients. Mortuary staff must be informed of any possible/suspected diagnosis prior to sending the patient to the mortuary. Refer also to the section, care of the deceased.

References

Advisory Committee on Dangerous pathogens and the Spongiform Encephalopathy Advisory committee (2004) Transmissible Spongiform Encephalopathy Agents: Safe working and the prevention of infection

SECTION 11: GENERAL PRINCIPLES FOR REDUCING THE INFECTION RISK FROM USE OF CATHETERS, TUBES, CANNULAE, INSTRUMENTS AND OTHER DEVICES

Many patients become infected because their body's natural defences are breached when catheters, tubes, drains and feeding lines are inserted as part of the process of care. The following guidance must be followed and incorporated into individual policies pertaining to these items.

11.1 URINARY CATHETERS:

- Urinary catheters will only be used when there is no suitable alternative, and then kept in place as short a time as possible.
- Where long term indwelling use is unavoidable, a catheter of low allergenicity will be used.
- Urinary catheter insertion, manipulation, washing out, urine sampling and removal must be undertaken by trained, competent staff using aseptic techniques.
- Patients and carers must be educated in catheter maintenance with an emphasis on the techniques for reducing risk of infection.
- The date of insertion and date of removal of the device will be documented in the clinical record as a matter of routine.

11.2 PERIPHERAL INTRAVENOUS CANNULAE:

- Trained and competent staff will carry out intravenous cannulae insertion using strictly aseptic techniques.
- The number of lines, lumens and stopcocks will be kept to the absolute minimum consistent with clinical need.
- Peripheral intravenous cannulae insertion sites will be regularly inspected for signs of infection and the cannulae removed if infection is suspected.
- Peripheral intravenous cannulae will be kept in place for the minimum time necessary and changed every 72 hours irrespective of the presence of infection.
- Administration sets will be changed immediately following a blood transfusion, intravenous feed or at 24 hours (whichever is sooner). For clear fluids change will occur at 72 hours.
- The date of insertion and the date of removal of the device will be documented in the clinical record as a matter of routine.
- An occlusive, transparent sterile cannulae dressing will be used to secure the cannulae, which will facilitate inspection of the insertion site. Tapes must not be used to secure cannulae.

11.3 CENTRAL VENOUS LINES:

- Trained and competent staff will undertake central venous line insertion, manipulation and removal using strictly aseptic techniques.
- Central venous line catheters will not be replaced over a guide wire if infection is present.
- A dedicated occlusive transparent dressing will be used to allow continuous inspection of the exit site and will be changed at no later than seven days.
- The date of insertion and the date of removal of the device will be documented in the clinical record as a matter of routine.

11.4 INTRAVENOUS FEEDING LINES:

- Intravenous feeding lines (parenteral nutrition) will only be used when there is no suitable alternative, and even then kept in place for as short a time as possible.
- Trained and competent staff will undertake insertion, manipulation and removal of intravenous feeding lines using strictly aseptic techniques.
- A dedicated line or lumen of multi-channel line will be used; no other infusion of injection will go via this route. Three way taps will not be used.
- Any additives to intravenous fluid containers will be introduced aseptically in a unit or safety cabinet designed for the purpose, by trained staff using strictly aseptic techniques.
- Intravenous feeding cannulae insertion sites will be regularly inspected for signs of infection and the cannulae removed if infection is suspected.
- The date of insertion and the date of removal of the device will be documented in the clinical record as a matter of routine.

11.5 RESPIRATORY SUPPORT:

- Ventilator tubing will only be changed when visibly soiled or malfunctioning.
- Gloves will be worn for handling respiratory secretions of contaminated objects.
- Gloves and appropriate personal protection will be used when aspirating respiratory secretions.
- Hands will be decontaminated after glove removal.
- The date of insertion and the date of removal of the device will be documented in the clinical record as a matter of routine.

11.6 ENTERAL FEEDING:

Please refer to P4 - Policy for Home Enteral Feeding, within section 6 of the Clinical Policies, Standards and Guidelines Folders.

11.7 DECONTAMINATION (see also Decontamination Policy and CJD Policy within this manual):

- Devices designated for single use will not be reprocessed.
- Reusable devices will be decontaminated in a sterile service department with requisite facilities and expertise.
- Endoscopes will be decontaminated according to national guidelines.
- Flexible endoscopes will be reprocessed in a designated area using automated machines which can be audited for process effectiveness.
- Staff involved in decontamination will be properly trained and wear PPE.
- All flexible endoscopes and sets of instruments will be able to be traced to individual patients.
- Guidance on the prevention of transmission of CJD through medical procedures will be followed.

REFERENCES:

Department of Health (2003) Winning Ways, Working together to reduce Healthcare Associated Infection in England

National Institution for Clinical Excellence (2003) Infection Control: Prevention of healthcare associated infection in primary and community care

Pratt, R.J: Pellowe, C: Loveday, H.P et al (2001) The epic project: developing national evidence-based guidelines for preventing healthcare associated infections. Phase 1: guidelines for preventing hospital-acquired infections Journal of Hospital Infection Vol 47

NHS Estates (2003) Decontamination Programme: strategy for modernising the provision of decontamination services Leeds NHS Estates

SECTION 12: GUIDANCE ON COMMON INFECTIONS

12.1 CHICKEN POX AND SHINGLES

INTRODUCTION

Chickenpox is the clinical manifestation of the primary infection with the Varicella zoster virus (VZV). After this primary infection the virus becomes dormant on the dorsal root ganglion or cranial nerve. Shingles is when this virus becomes reactivated, no one knows why this occurs, but a trigger such as ill health may be responsible. Shingles therefore cannot be caught from somebody else. However, chicken pox may be caught from someone with chickenpox or shingles.

CLINICAL FEATURES

The first signs of chickenpox are often a runny nose, sneezing and feeling shivery. After a few days spots appear, first on the back and abdomen, then on the face, arms and legs. Initially these spots are red with little blisters filled with yellow fluid and are itchy. They then become wet and crusty and eventually dry up to form scabs. This occurs over a period of 3-4 days with new crops continuing to appear. The crusts separate after about 1 week, leaving a shallow pit, which soon disappears.

In shingles the previously dormant virus travels down the sensory nerve to the area of skin supplied by the nerve and produces a painful rash, which then blisters. The blisters dry up to form scabs as in chickenpox.

TRANSMISSION

The virus can be shed from the nasopharynx 2 days before the rash appears, and then from the spots until they have become dry scabs. The incubation period between acquiring the virus and becoming symptomatic is 2 – 3 weeks.

CONTROL MEASURES

- Patients must be isolated under code 3, until no further crops appear and the rash is dry (minimum of 5 days from onset).
- Staff must wear disposable gloves and aprons when caring for infectious patients.
- Ensure that other departments e.g. x-ray are informed of measures to be taken e.g. infectious patient must not be left in waiting areas.
- Only staff who are known to be immune may care for these patients. Pregnant staff should not come into contact.
- The infection control team must be informed of any patients who are admitted with either chicken pox or shingles, or are diagnosed whilst in hospital.
- The infection control team will ascertain whether any other patients or staff members are at risk of contracting chickenpox and take the appropriate measures.
- No visitors with chicken pox or shingles may be allowed onto any ward.
- If visitors inform the ward that they have visited and later diagnosed with chicken pox the infection control team must be informed immediately.
- Staff who do not know whether they have had chickenpox or shingles in the past, will be referred to occupational health to check their records, and arrange a blood test if necessary.
- Staff who are VZV antibody negative will be advised to work away from patients from 8 days after the first day of contact to 21 days after the last day of contact.

- Advice on starting oral Acyclovir within 24 hours of a rash appearing in staff should be obtained from their GP.
- Patients who do not know whether they have had chickenpox or shingles in the past will have blood tested for VZV antibodies. Those who are VZV antibody positive are immune and will be reassured.
- Patients who are VZV antibody negative, will be told by the infection control team, that they may get chickenpox. If they remain in hospital 8 days after the first day of contact, they will be nursed in a side room up to 21 days after the last day of contact.
- Advice on starting oral Acyclovir within 24 hours of a rash appearing in adult patients should be obtained from the infection control doctor.
- The microbiologists will advise on the administration of VZV immune globulin to any member of staff or patient who is deemed to be at high risk of contracting chicken pox. These usually include neonates, pregnant women, those with leukaemia, lymphoma, transplant recipient, symptomatic HIV-positive, recent chemotherapy and recent systemic steroids (> 1mg/kg/day, within the last three months).

REFERENCES

Philpott-Howard, J and Casewell, M (1994) Hospital Infection Control 1st Ed. pp. 101-107. W.B. Saunders Co Ltd, London.

12.2 SCABIES

INTRODUCTION

Scabies is an allergic reaction to the presence of a small mite, Sarcoptes scabiei, which burrows into the top layer of skin. This mite is transparent and too small to see with the naked eye. Rarely, in elderly or immuno-suppressed patients the mites multiply rapidly and large numbers of the parasites are present. This form of scabies is often known as 'crusted' or 'Norwegian' scabies and is far more readily transmissible.

CLINICAL FEATURES

The itchy rash that occurs is due to an allergic reaction to the mite proteins. Symptoms can take several weeks to develop but the person is infectious whilst this allergy is developing. The itchy rash will often develop much sooner in those people who have had previous exposure to the scabie mite. Occasionally small burrows can be seen particularly in finger webs.

TRANSMISSION

The route of spread is by direct skin-to-skin contact of at least 5 minutes. The scabies mite cannot survive outside the body in clothes or bedding.

CONTROL MEASURES

- If a patient is diagnosed/suspected of having scabies long sleeve gowns and disposable gloves must be worn for all direct patient contact until the treatment is complete.
- A diagnosis must be sought from a dermatologist and infection control informed.
- There is no requirement to isolate these patients or treat the linen as infected unless specifically advised.
- Ensure that other departments e.g. X-ray, are informed of measures to be taken until treatment is complete.

TREATMENT

When a diagnosis of scabies is made it is important that the treatments are co-ordinated and close contacts are treated simultaneously whether they are symptomatic or not to prevent re-infestation.

Patients: only the index case normally requires treatment unless a case of Norwegian or crusted scabies is diagnosed or the index case has been in a care environment for a while and received direct care without precautions being taken. Other patients in a care environment will not require treatment unless there has been skin to skin contact with the individual with scabies. If it is thought that staff have been infected and could transmit scabies to other patients then, all patients in a care environment may need to be treated. Two treatments one week apart are required.

Staff contacts that have had prolonged skin to skin contact of at least 5 minutes will be treated via occupational health. Occasionally, when a non-self caring patient has been in a care environment for 14 days prior to diagnosis or has crusted (Norwegian scabies) all the staff and patients in a care environment will be treated, whether they have had contact with the patient or not. This will include medical staff, physiotherapists, occupational therapists, agency, bank staff and students.

After consultation with the infection control team, occupational health will liaise with pharmacy to arrange the staff treatments to be delivered to the ward. Staff receiving prophylactic treatment will attend work as usual but must re-apply treatment after hand washing. Any symptomatic staff must not work until the treatment is complete/advised by occupational health.

Patient's regular visitors and close family contacts (those who have frequent skin to skin contact) will be told by the clinical staff to request treatment for scabies, for themselves and their household contacts, from their general practitioner.

Staff close contacts: there is no requirement for any treatment of close contacts of staff who have been treated prophylactically. However, if the member of staff is symptomatic then treatment should be sought from the general practitioner.

Application of treatments

- Patients **must not** have a bath immediately prior to treatment as this can cause increased systemic absorption of the insecticide used.
- Ensure that a sufficient amount of lotion or cream is available to ensure full coverage of patients skin, especially where patients are obese, or where frequent reapplication is required e.g. incontinent patients.
- The member of staff applying the treatment should wear gloves and a long sleeved gown and wash the hands afterwards.
- Instructions on use will be issued by pharmacy but in general treatment should be applied to the whole body from the neck down paying particular attention to the webs of the fingers and brushing lotion under the ends of the nails.
- In the case of infants and young children (up to the age of 2 years), the elderly, the immunocompromised, and those who have experienced treatment failure, application should be extended to the scalp, neck, face, and ears.
- Remind patients not to wash their hands as this would require re-application.

- After the recommended treatment contact time (8 hours for Lyclear and 24 hours for Derbac M) the lotion should be washed off.
- The patients should be told that itching may persist for up to four weeks after the treatment has eradicated the scabies mites. Calamine lotion, Eurax cream or oral anti histamines can be used to relieve symptoms.

REFERENCES

British Medical Association, Royal Pharmaceutical Society of Great Britain (1998) Parasiticidal preparations. In: BNF p509-10.

12.3 LICE

HEAD LICE (Pediculus capitis)

These lice cling to hair and feed by sucking blood from the scalp. The lifecycle, from egg to egg, is about 17-21 days. Eggs hatch 7-10 days after they are laid and adults are fully developed 10 days later. Infections are usually asymptomatic with around 15-36% of people experiencing itching.

TRANSMISSION

Head lice cannot jump and can only move from one person to another if there is prolonged head to head contact with an infested person. Transmission is possible through infected clothes, combs, brushes or towels, but extremely unlikely. The lifespan is very short once detached from the hair so fumigation is not necessary. Isolation is not required.

DIAGNOSIS

This can only be made if a living moving louse is found, detection combing is the best method of diagnosis. Detection combing is performed by combing damp hair with a plastic detection comb (teeth 0.2-0.3 mm apart). The comb should be wiped on a white tissue after each combing and inspected for lice.

TREATMENT

The topical preparations used may vary and are prescribed according to current guidance. The treatment should be applied to the whole scalp and combed through the whole length of the hair. Plastic gloves should be worn where clinical staff are applying chemicals. A second application is required 7 days after the first application. Detection combing should take place every 2-3 days until 2-3 days after the second treatment to ensure there is no persistent infestation.

Patient's visitors and close contacts should be advised that, if they have had head to head contact to perform detection combing and if lice are found contact their general practitioner/pharmacy.

Staff who think they have had head to head contact, should perform detection combing and if lice are found seek immediate treatment.

BODY LICE (Pediculus humanus)

These lice live in clothing and bedding visiting the skin only to feed. They lay eggs in underclothes. The pubic or 'crab' louse (*Phthirus pubis*) is found in the pubic and beard hair areas and lives at the base of the hair. It is usually transmitted by sexual contact.

If lice are seen or suspected contact the infection control team and if unsure of the diagnosis obtain an opinion from the consultant dermatologist.

CONTROL MEASURES

Patients infested with body lice should be nursed in a side room using isolation code 3 for a period of 24 hours whilst the treatment is applied. Remove patient's clothing, wearing gloves and long sleeve gown, and place the clothes in a polythene bag and seal. The patient should then bathe thoroughly. The clothes should be left in the sealed bag for one week, to allow the lice to die, and they can then be laundered in a normal wash cycle at 55^{o}C. It is not necessary for the very ill patient to have a bath until their condition permits.

Patient's regular visitors and close family contacts should be told that, unless they have shared unwashed clothes or bed linen they should not be at risk.

Staff who think they have had skin contact with the affected patient's clothes and bed linen should contact occupational health.

TREATMENT is with either Malathion (Prioderm, Derbac M) or Carbaryl (Carylderm, Clinicide, Derbac C) topical preparations. Wearing gloves and a long sleeve gown, treatment should be applied to the whole body including eyebrows and eyelashes and not just the affected areas, left for 12 hours and then washed off. A second application 7 days after the first, is recommended to ensure success.

REFERENCES

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12.4 TUBERCULOSIS

INTRODUCTION

Tuberculosis (TB) results from infection with *Mycobacterium tuberculosis*, *Mycobacterium bovis, or Mycobacterium Africana*. Most infections are in the lungs (pulmonary TB) but they can occur in other organs of the body such as kidneys, bone, skin and brain (extra-pulmonary TB). Tuberculosis of the lung can be classified as 'open TB' if sputum is found to contain the characteristic acid-fast bacilli (AFB) on microscopy. 'Open pulmonary TB' is infectious and is spread by respiratory droplets and sputum when coughing. 'Closed pulmonary TB' is diagnosed when no AFB can be seen on sputum microscopy and is classified as non-infectious. Tuberculosis involving other organs is rarely, if ever, infectious. Anti-tuberculous therapy will render a patient with pulmonary TB non-infectious by 14 days, as long as they demonstrate a clinical response indicated by a resolution of fever, improved appetite, increase in weight, and reduction in cough.

DEFINITIONS

The **TB Team** includes the TB Chest Clinic staff (now based at DRI), on (01332) 347141 ext. 8408.

The **Respiratory Team** includes the consultant respiratory physicians and their junior staff based in the DRI and DCGH.

Presumptive 'open pulmonary TB' is diagnosed if pulmonary tuberculosis is suspected and the patient is coughing. It can be confirmed by seeing acid-fast bacilli (AFB) on sputum microscopy.

Presumptive 'closed pulmonary TB' is diagnosed if pulmonary tuberculosis is suspected. It can be confirmed by not finding acid-fast bacilli (AFB) on sputum microscopy on at least three sputum specimens sent on three separate days.

Multidrug resistant TB means that there is resistance present to both Rifampicin and Isoniazid.

IMPLEMENTATION

Patients suspected to be suffering from pulmonary tuberculosis should be placed in a side room (and the isolation room policy followed). A diagnosis of 'open' or 'closed' pulmonary TB should be established. If 'open TB' is diagnosed isolation should continue until 14 days of appropriate anti-tuberculous therapy has been administered and the patient has demonstrated a clinical response. If 'closed TB' is diagnosed then the patient may come out of the side room.

All TB patients do not need to stay in hospital if they are well enough to be managed at home. Patients cared for at home do not need to be isolated but visiting must be prohibited to all but previous household contacts, until two weeks treatment and clinical response is established. Seek advice from the TB specialist nurses if unsure of who constitutes 'close household contact'.

Patients with TB in other organs do not need to be isolated.

Patients with multi-drug resistant tuberculosis should be placed in a side room on a ward (follow Isolation Code 3). The ward must not contain any immuno-suppressed patients. If 'open TB' is diagnosed the respiratory consultant will liaise with the infection control doctor to arrange the transfer of the patient to a negative pressure room in another hospital (Nottingham, Leicester or Birmingham).

The number of staff entering the side room should be kept to a minimum. If patients with multi drug resistant TB are cared for in their own home advice must be sought from the TB specialist nurses/CCDC/ICN.

Patients with potentially infectious multi-drug resistant tuberculosis (sputum smear negative, but culture positive or culture result not yet known). The consultant chest physicians or consultant microbiologists will make the risk assessment. These patients should be placed in a side room on a ward (follow Isolation Code 3). The ward must not contain any immuno-suppressed patients. The number of staff entering the side room should be kept to a minimum.

For all newly diagnosed patients with TB both the infection control team and the respiratory team should be informed and the management can be discussed with the respiratory team. Tuberculosis is a statutory notifiable disease and once the patient has been referred to the respiratory team they will notify the consultant in communicable disease control at the Health Protection Agency and inform the TB team at the chest clinic to trace all contacts.

Coughing patients with a diagnosis or suspected of having pulmonary tuberculosis should be told to cough into disposable tissues and to place them in a small yellow clinical waste bag, given to the patient.

Masks

Patients with known or suspected <u>closed</u> pulmonary TB that is <u>neither</u> suspected, nor known, to be multi-drug resistant (consultant chest physicians or consultant microbiologists will make the risk assessment). *No masks for patient or staff.*

Patients with known or suspected <u>open</u> pulmonary TB that is <u>neither</u> suspected, nor known, to be multi-drug resistant (consultant chest physicians or consultant microbiologists will make the risk assessment). *PFR 95 Masks must be worn by the patient when leaving the*

isolation room. Staff need only wear masks entering the room if the patient is unable to cover the mouth with disposable tissues whilst coughing. Visitors do not require masks if they were in contact with the patient whilst at home. New visitors not in contact with the patient previously, need only wear masks entering the room if the patient is unable to cover the mouth with disposable tissues whilst coughing.

Patients with open or closed pulmonary TB that is suspected (consultant chest physicians or consultant microbiologists will make the risk assessment), or known, to be multi-drug resistant . *PFR 95 Masks must be worn by the patient when leaving the isolation room and must be worn by all staff/visitors entering the room.*

PFR95 masks are available from the infection control nurses. Please ensure they are fitted correctly and removed correctly. The instructions are on the side of the box, or the infection control nurse can be contacted. They should be disposed of in clinical waste bags.

Other **PPE** (gloves and aprons) are only required if there is likely to be contamination of the hands or clothing by respiratory secretions or as dictated by the practice of body substance precautions. When dressing wounds of incised TB abscesses use the standard infection control precautions outlined in **section 5** of this manual.

All **clinical staff** should have been screened for immunity to TB as part of their pre-employment screening and the unit manager must know the immune status and record it locally (COSHH control measure). If a member of staff is uncertain about their immune status since pre-employment screening (for example steroid medication) they should contact the occupational health service through switchboard.

REFERENCES

The Inter-department Working Group on Tuberculosis (1998) The Prevention and Control of Tuberculosis in the United Kingdom: UK Guidance on the Prevention and Control of Transmission of 1. HIV-related Tuberculosis, 2. Drug-resistant, including Multiple drug-resistant, Tuberculosis Department of Health

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12.5 CLOSTRIDIUM DIFFICILE

INTRODUCTION

Clostridium Difficile (C.Diff) is a spore forming bacteria, which is a cause of diarrhoea often acquired in hospital. In the majority of patients the illness is mild and full recovery is usual. However, occasionally and particularly in elderly patients, it may result in serious illness and even death. Almost all patients who develop C.Diff are taking, or have recently taken antibiotic therapy. The antibiotics disturb the balance of bacteria in the large bowel, which enables the C.Diff bacteria to proliferate. Once established the bacteria may produce toxins, which are responsible for the diarrhoea and which damage the cells lining the bowel.

CLINICAL FEATURES

Diarrhoea is the most common symptom but abdominal pain and fever may also occur. The stools are usually watery and may contain blood. Mucoid material is often present. Occasionally patients can develop a severe form of the disease, called 'pseudo-membranous colitis' or 'antibiotic associated colitis', which is characterised by significant damage to the large bowel. This may lead to a grossly dilated bowel possibly resulting in rupture or perforation. Unlike some other causes of diarrhoea, it is rare for C.Diff to spread to other parts of the body such as the bloodstream.

DIAGNOSIS

In the laboratory the most reliable way of confirming the diagnosis is by the detection of the toxin produced by C.Diff in the patient's faeces. It is only possible to test watery diarrhoea for the toxin so formed or semi formed stools should not be sent. Once the diagnosis has been made there is no requirement to repeat the samples unless specifically requested to do so by the microbiologists. The toxin may be present in the stool for a long while after recovery.

TRANSMISSION

The bacteria can form spores, which enable it to survive in the environment and protect the organism against heat and chemical disinfectants. It may be transmitted from patient to patient, via contaminated hands of healthcare workers, or equipment.

CONTROL MEASURES

- Discontinue causative antibiotic therapy following discussion with the microbiologist.
- Isolate patient using code 3 until symptom free for 24hours. Separate toilet/commode facilities are required until symptom free for 24 hours.
- Staff should wear disposable gloves and aprons when caring for infected patients.
- Ensure thorough hand washing is undertaken after contact with the patient. N.B. alcohol hand rub is not effective against this organism.
- Ensure that other departments e.g. X-ray are informed of measures to be taken until patient has formed stools.
- Sodium hypochlorite (1 in 10,000 ppm) must be used to daily/terminally clean isolation room to remove spores from the contaminated environment.

TREATMENT

The discontinuation of the causative antibiotics and fluid replacement may result in rapid improvement. Sometimes however it is necessary to give specific therapy against C.Diff such as IV or oral metronidazole and oral vancomycin following discussion with the microbiologist. There is a risk of relapse of symptoms in about 20 – 30% of patients and further courses of antibiotics may be required.

12.6 DIARRHOEA AND VOMITING VIRUS (NOROVIRUS)

INTRODUCTION

Occasionally, particularly in the winter months, patients or staff may become infected with a Norovirus causing diarrhoea and/or vomiting.

Noroviruses are a group of viruses that are the most common cause of gastroenteritis in England and Wales. In the past Noroviruses have also been called 'winter vomiting', 'small round structured' and 'Norwalk like' viruses.

Norovirus often causes outbreaks because it is easily spread from one person to another and the virus is able to survive in the environment for many days. Because there are many different strains of Norovirus and immunity is short-lived out breaks tend to affect more than 50% of susceptible people.

CLINICAL FEATURES

The symptoms of Norovirus infection begin around 12–48 hours after becoming infected. The illness is self-limiting and the symptoms last 12–60 hours. They start with the sudden onset of nausea followed by projectile vomiting and watery diarrhoea. Some people may have a raised temperature, headaches and aching limbs. Most people make a full recovery within 1-2 days, however some people (usually the very young or elderly) may become very dehydrated and require hospital treatment.

TRANSMISSION

The virus is easily transmitted from one person to another via aerosolised vomitus being ingested or virus in faeces being ingested due to contact with contaminated surfaces, hands or food.

TREATMENT

There is no specific treatment for Norovirus apart from letting the illness run its course. It is important to drink plenty of fluids to prevent dehydration.

CONTROL MEASURES

- Inform infection control as soon as an outbreak is suspected.
- Isolate or cohort symptomatic patients.
- Re-direct admissions away from the affected wards as far as possible. If admissions are unavoidable admit to a bay that has no affected patients. Any newly admitted patients would be at risk of acquiring the infection.
- Thorough hand decontamination is vital for all staff and patients.
- Visitors and visiting staff (OT's, phlebotomists, doctors etc.) must use alcohol hand rub on entering the care environment, after seeing each patient and prior to leaving the area.
- Domestic workers should be asked to increase the frequency of cleaning sanitary areas to several times a day.
- Patients in affected areas should not be transferred to other care environments or hospitals unless they have had the infection and recovered (symptom free for a full 24 hours).
- Patients may be discharged home if well enough.
- Patients may be discharged to nursing/residential homes from hospitals providing the home is willing and able to isolate the patient until 24 hours after symptoms cease, or for a full 48 hours if the patient has not yet been affected.

- Affected staff must stay away from work whilst they have symptoms and for a full 24 hours after the symptoms have ceased.
- Any vomit or diarrhoea in the environment must be cleaned as soon as possible using detergent and water and the environment disinfected using sodium hypochlorite. Cleaning of toilets, clinical sinks, commode chairs etc will need to be increased, using sodium hypochlorite 1 in 10,000ppm solution. Any physical soiling must be removed with detergent and water first as chlorine is inactivated by organic matter.
- On patient discharge the bed space, including locker, pillows, mattress, bed frame, table and nurse call button should all be cleaned and then disinfected using sodium hypochlorite 1 in 10,000ppm solution.
- Any fruit/open food that has been on surfaces in the same bay/room as patients who are vomiting must be thrown away.
- All crockery/jugs/glasses must be washed separately within a dishwasher and not hand washed or washed with uncontaminated crockery.

12.7 HEPATITIS A

INTRODUCTION

Hepatitis A is a liver disease caused by the hepatitis A virus. Following ingestion it infects the liver cells, passing into the biliary tract to reach the intestine and appear in the faeces.

It is common in areas where water supplies and sewage disposal are of a poor standard and where personal and food hygiene standards are poor. Southern and Eastern Europe, Africa and parts of the Middle and Far East are high risk areas. Visitors to these areas are advised to be vaccinated against it.

There is no chronic infection and once recovered it is not possible to get hepatitis A again.

CLINICAL FEATURES

After the virus enters the body there are no symptoms for two–six weeks. Some people, particularly children, may only have a mild illness and may not know they are infected, although they can pass on the virus to others.

There may be general symptoms such as tiredness, aches and pains, fever, nausea stomach ache and/or diarrhoea. These symptoms may last for a week or more, then jaundice may develop. Most people feel better within a few weeks, although may complain of tiredness and lack energy for months.

TRANSMISSION

Hepatitis A is passed from person to person by eating food or drinking water contaminated with the virus (and should not be confused with blood borne transmission of hepatitis B and C). It can spread easily within families and where people live closely together.

The virus is passed in the faeces of the infected person a week or so before jaundice develops, and for a week after jaundice develops.

CONTROL MEASURES

- Nurse in a single room using the Isolation Policy Code 3 for up to 1 week after the jaundice develops, after this they can be nursed on the open ward.
- Ensure patient has own toileting facilities for up to 1 week after the jaundice develops.
- Ensure particular attention is paid to good hand decontamination.

12.8 BLOOD BORNE VIRUS (HUMAN IMMUNODEFICIENCY VIRUS- HIV, HEPATITIS B AND C VIRUSES)

INTRODUCTION

The blood borne viruses circulate in the blood and can also be present in body fluids such as saliva, sputum, semen, vaginal fluids and blood stained urine. The viruses are transmitted when blood or body fluids come into contact with mucosal surfaces (conjunctiva, nasal mucosa, lips and mouth) or are directly inoculated through the skin during a sharps injury.

12.8.1 Basic rules for the prevention of transmission of blood borne viruses to healthcare workers

1. Wash hands or use alcohol hand rub before and after examining patients, handling body fluids or drips and catheters etc, and after removing gloves.
2. Cover existing wounds, sores, cuts or ulcers with a washable, waterproof dressing. Do not carry out exposure-prone procedures if suffering from chronic skin lesions on hands.
3. Ensure you attend occupational health appointments and make sure you are immunised against hepatitis B, have blood antibody tests to check that immunity, and attend for booster injections.
4. Use gloves and aprons to avoid contamination of your person or clothing with blood or other body fluids.
5. Protect mucous membranes of the eyes, mouth and nose from blood splashes.
6. Beware bites and scratches from agitated patients.
7. Be aware of the policy for the safe handling and disposal of sharps, throw away your own sharps, do not clear up sharps after others.
8. Clear up spillage of body fluids promptly and disinfect the contaminated area as described in the spillages section.
9. Be aware of the policy for the safe disposal of clinical waste, follow that policy and insist that others follow it also.
10. For all inoculation accidents follow the recommendations in the inoculation accident procedure. Wash the affected area, report to area manager, occupational health and consultant microbiologist.

12.8.2 Information on Hepatitis B virus, Hepatitis C Virus and Human Immunodeficiency Virus

This virus is transmitted by blood (and certain other body fluids) to blood contact (e.g. shared needles, blood-contaminated sharps, transfusion of infected blood, etc), sexual intercourse and from mother to baby at birth. Hepatitis B has a long incubation period: it takes between two and six months following entry of the virus into the body for symptoms of illness to appear. It can cause an infection so mild that the patient is unaware they have been infected, but more usually it causes hepatitis with abdominal pain, fever and jaundice, on very rare occasions (<1% of cases) there can be such severe liver damage that death occurs. In the majority of patients the virus disappears from the blood quite quickly after the acute illness subsides. In a minority of patients (10%) the virus is still detectable in blood a year after infection, in this case the patient remains infectious for hepatitis B and is likely to remain so for the rest of his/her life (the so-called hepatitis B "carrier"). The hepatitis B carrier may suffer chronic hepatic damage as a result of the infection and the hepatitis B virus is known to cause primary liver cancer.

Hepatitis B carriage is rare in people of Western European origin (1:1000). The incidence in the Eastern Mediterranean countries is higher (1:100), while in the Indian sub-continent it is higher still (1:15) and in some areas of the Far East, hepatitis B carriers are very common (1:5 of the population). All healthcare workers must be vaccinated against hepatitis B, have their antibody level checked and have a booster five years after the primary course. Effective, protective treatment is available for immediate use following an at-risk inoculation accident.

Hepatitis C virus
This virus is the commonest cause of post-transfusion hepatitis and was discovered in 1989. It is most usually spread by blood (e.g. transfusions or shared needles). Sexual intercourse is a less likely means of transmission as is peri-natal transmission. There is an incubation period of 15 to 150 days, most cases do not present as acute viral hepatitis, hepatitis C is often diagnosed when investigating abnormal liver function test results. Users of intra-venous drugs of abuse are at particular risk of infection and carriage rates are very high in that group. Infection with hepatitis C does appear to cause long-term liver disease in a significant proportion (~50%) of those it infects.

All healthcare workers who are performing exposure prone procedures in the UK for the first time, or returning to the UK, after working abroad will require a hepatitis C antibody test through occupational health.

Pegylated interferon and ribavarin are effective in about 50% of cases of hepatitis C infection. No vaccine effective against hepatitis C is yet available**.** Staff sustaining an at-risk inoculation accident must report to microbiology and occupational health.

Human immunodeficiency virus (HIV and AIDS)
HIV is the cause of the Acquired immune deficiency syndrome (AIDS). High-risk behaviour, including the sharing of needles/syringes and unsafe sexual behaviour (such as unprotected sexual intercourse (anal and vaginal) and oral sex) transmits infection. Mother to baby transmission can be greatly reduced by antiretroviral therapy given to the mother in the last trimester of pregnancy and given to the baby in the first few weeks of life.

The natural progress of HIV infection is for the virus to cause a glandular fever-like illness within a few weeks of infection, it may then remain dormant for a variable period, sometimes for years.
Eventually, the virus becomes active and begins to destroy lymphocytes which reduces the immune system's ability to fight respiratory infections initially, then meningitis, then viral infections and tuberculosis infections and eventually rare cancers such as Kaposi's' Sarcoma and lymphomas which may emerge and spread. This stage of infection with HIV is called AIDS.

There is at present no vaccine to protect against HIV infection. The use of combination therapy with antiviral drugs is successful in halting the progress of AIDS by about 10 years on average. Prophylactic therapy with anti-HIV antiviral drugs is available for immediate use following an at-risk inoculation accident by immediate notification to a consultant microbiologist. Ideally prophylaxis must be started within an hour of the accident and can be ~80% effective in preventing the transmission of HIV infection. It can be taken up to 2 weeks after the incident but is less effective.

Any healthcare worker who believes that he/she may already be infected with any of the blood-borne viruses must consult with the occupational health service for advice on preventing transmission of the infection to patients.

12.8.3 Laboratory Testing For Blood Borne Viruses

Send approximately 10 ml of blood collected in a specimen container without anti-coagulant, red top tube for adults (white top for paediatrics). Take great care to ensure the specimen is labelled with the patient 's name (unlabelled specimens will be rejected), complete a virology or microbiology request form, apply a "Risk of infection" sticker to both the specimen bottle and the form. Give some indication of the nature of the risk (in this instance) "blood borne virus infection". Please DO NOT write 'AIDS or HIV' infection on the form. Place the specimen and its form in a plastic minigrip bag and arrange for its delivery to the microbiology laboratory.

HIV test

Fully informed consent for HIV testing must be obtained by carrying out pre-test counselling of the patient and ensuring that post-test counselling is made available. Any clinical practitioner (doctor, midwife or nurse) can obtain consent and should ensure that the individual understands what information the test result will give him/her, the nature of the test and how it is done, the need for confirmation of a positive test, and the possible consequences of a positive result for their future. There is an opportunity to discuss with the individual HIV preventative measures and reduction of risky behaviour as appropriate.

For patients with a **significant risk** of a positive result, (homosexual, patients from sub-Saharan Africa, sex workers, patients presenting with PCP, cryprococcal meningitis and Kaposi's sarcoma), the Genito-Urinary Medicine department (GUM) should be contacted to discuss pre-test, counselling needs.

Patients having HIV testing for screening purposes do not need repeated counselling, an information sheet for pre-test counselling may be all that is required.

All **positive results** will be telephoned by the consultant microbiologist to the consultant or registrar caring for the patient and the GUM consultant. The consultant microbiologist will recommend that a member of the GUM team give the result to the patient.

A life-threatening situation, e.g. where the patient was unconscious, is one example where a doctor might justify not obtaining prior consent. On the other hand, failing to obtain consent for an HIV antibody test solely upon the grounds of the doctor's belief that this would cause undue alarm to the patient would not be justifiable.

The lab currently uses a **combined HIV antibody and P24 antigen** detection kit. There will still be a window period before seroconversion takes place, were testing will be negative.

HIV PCR tests determine the presence of viral RNA and are useful to confirm HIV infection, to test babies born to seropositive mothers, and RNA levels are measured to check responses to antiviral therapy, in those with HIV infection.

Hepatitis B virus tests

Hepatitis B surface antigen (HBsAg): this is the test done to diagnose acute cases of hepatitis, to check those involved in inoculation injuries and to screen for people infectious for hepatitis B. A positive test indicates that the person is infectious for hepatitis B.

Hepatitis B e antigen (HBeAg): this test, if positive, indicates that the patient is highly infectious for hepatitis B. Specimens are sent to a reference laboratory. Allow at least two weeks for the return of a result.

Hepatitis B e antibody (HBeAb): this test, if positive, indicates that the patient is of low infectivity for hepatitis B. Specimens are sent to a reference laboratory. Allow at least two weeks for the return of a result.

Hepatitis B core antibody (HBcAb): a positive result indicates previous infection with hepatitis B and natural immunity.

Hepatitis B surface antibody (HBsAb): this is the test done to check whether or not immunisation has worked, a titre > 100IU indicates successful vaccination against hepatitis B. If the level is lower than 100IU a further course of vaccination will be offered to staff. Those who do not have antibody have no protection against hepatitis B, it is very important that these members of staff report inoculation accidents immediately.

Hepatitis B DNA: this test will be requested by the hepatologists to establish whether replicating virus is present to help decide whether to treat an e antigen positive patient. It may also be requested, by occupational health, on hepatitis B surface antigen positive staff to check it is below 1,000IU, when working in certain clinical areas. Sent to reference lab.

Hepatitis C virus tests
Hepatitis C antibody test (HCV ab): a positive result indicates previous infection with hepatitis C; it is not of use in acute hepatitis C infection. This test is done locally in batches approximately twice weekly.

Hepatitis C PCR: this test if positive indicates actively replicating virus. It is used to monitor progress in treatment and to assess likely infectivity of patients involved in inoculation accidents. Sent to reference lab.

12.8.4 Care Of The Patient With Blood Borne Viruses

Confidentiality

As with all diagnoses, the strictest confidentiality must be maintained when a patient suspected of carrying a blood borne virus is identified. Where a person is tested for HIV infection or its complications, and it may have been sexually transmitted, health authorities have an obligation to maintain confidentiality of information under the terms of the National Health Service (Venereal Diseases) Regulations 1974. Personal health data relating to the patient must not be disclosed to anyone for any purposes other than the health care of that patient, except where the disclosure is necessary to prevent the spread of infection. Patient's consent is required to notify even their own general practitioner.

Blood tests, should have a "Risk of infection" sticker to both the specimen bottle and the form. Write "blood borne virus infection" on the form please DO NOT write 'AIDS or HIV' infection on the form.

Accommodation

For guidance see the Isolation Code 2. A patient infected with a blood borne virus may be admitted to an open ward and allowed the same activities as other patients. A single room with separate toilet facilities should be used if the patient:-

- is bleeding
- is incontinent
- has open wounds or wound drains
- has another infection that requires isolation.

Personal Protective Equipment
Staff should wear a disposable plastic apron and disposable gloves (non-sterile) when dealing with blood, other body fluids and excreta and when mopping up spillage of body fluids. Full face protection (visors or disposable spectacles and mask) will be required if there is a risk of blood or body fluids splashing into the mouth or the eyes.

Visits to other departments (x-ray, physiotherapy, etc)
In order for such visits to proceed smoothly without causing fear amongst staff and embarrassment and upset to the patient, good communication is essential. The nurse in charge is responsible for notifying senior staff in the department the patient will visit and of the fact that the patient is a carrier of a blood borne virus. The nurse should inform the departmental manager of the precautions required to deal safely with the patient. Do not forget to advise portering staff who must also be informed of any necessary PPE and precautions.

Collection of blood specimens and aspirates of body fluids
Gloves should be worn, a plastic apron is advised, and in circumstances where splashing of body fluids might occur, eye protection and the use of a face mask are strongly recommended. PPE must be discarded as clinical waste after use. Disposable units must be used for blood collection and should be disposed of as a single unit. If the needle must be removed from the syringe before blood is discharged into the specimen container, a needle disposal device must be used to discard it into a sharps container. Report all inoculation accidents to the consultant microbiologist immediately.

Labelling and transport of specimens
Ensure that the specimen container lid is properly closed. Label the container with the patient's name and date of birth. Affix a "Danger of infection" sticker to the outside of the specimen container and to the laboratory request form. Check that the outside of the specimen container is free from contamination; if there is visible contamination of the outside of the specimen container contact the laboratory for advice. Place the container in the sealable pocket of the plastic minigrip specimen bag. Write on the request form the nature of the risk: "blood borne virus infection", and place the form in the open part of the plastic, minigrip specimen bag. Do not use pins, staples or metal clips to seal the bags. Keep the specimen container upright.

Resuscitation
Staff may be concerned about administering mouth to mouth ventilation to a patient infected with a blood-borne virus due to the worry of transmission to themselves. The risk of infection is from blood and not from saliva, therefore, in the vast majority of instances, as there is no blood contamination around the patient's mouth, there is no significant risk. A face mask with one way valve is kept on the wards and should be readily available for use on patients infected with a blood borne virus if it is appropriate to resuscitate in the event of a cardio-respiratory arrest.

Open cuts, wounds and abrasions
Open cuts, fresh abrasions, wounds, vascular access sites and other lesions on the patient which may leak blood or serum should be covered with a waterproof or other suitable dressing such as "Opsite".

Maintenance work on medical equipment
Staff from the works department must be exposed to as little infectious hazard as possible. Before maintenance work is carried out on medical equipment the person in charge of the ward/department will take responsibility for ensuring that the equipment is properly

decontaminated and that a Declaration of Contamination Status or a Decontamination Certificate has been issued.

Care and removal of the deceased
When a person who is known or suspected of being infected with a blood borne virus dies, all persons handling the body (including the funeral directors) must be informed of the risk of infection from contact with blood or other body fluids.

Single use, non-sterile, disposable gloves must be worn where there is a risk of contact with blood or other body fluids. Drainage sites and wounds must be covered with waterproof dressings. The body may be laid out in a shroud and must then be placed in plastic body bag. Affix the 'Notification of Death form' on the outside of the bag and tick the box labelled infection. The mortuary must phone the ward to find out the nature of infection.
Embalming of bodies infected with blood borne viruses is not recommended because of the risk of infection to the embalmer, however if embalming is essential it should only be done by experienced staff wearing PPE and paying particular attention to the avoidance of contamination with blood or body fluids.

Mortuary
The post-mortem examination of patients infected or suspected of being infected with a blood borne virus must only be carried out by a consultant pathologist with the assistance of an experienced qualified anatomical pathology technician. It is likely that relatives will wish to view the body. It is important to explain to them that there is a minimal risk of infection from intimate contact with the body of the deceased. If the relatives still wish to view it is in order to expose the head and shoulders and arms (making the body bag unobtrusive). Every effort should be made to prevent relatives from coming into contact with the body fluids of the deceased. They should be offered the opportunity to wash their hands after viewing.

12.8.5 Care In The Community
Support services for care in the community

There are resources available able to offer advice and guidance on issues such as welfare rights, financial problems and access to support groups, volunteers, etc, for people who are HIV infected or have AIDS.

HIV clinical nurse specialists (07741015015) are the appropriate source of advice on clinical care and procedures in the community for HIV infected people and those infected with the other blood borne virus infections.

12.8.6 Hepatitis B Immunisation
Immunisation against hepatitis B is available through the occupational health service for doctors, dentists, nurses, midwives and others including students and trainees, who have direct contact with patients or their body fluids or are likely to experience frequent exposure to blood or blood contaminated secretions and excretions. The course of immunisation for hepatitis B consists of three injections, the first, one at one month and one at six months after the first dose. A blood test is then done at two months after the course. If a satisfactory antibody response is obtained a single booster dose is given in five years, this should confer protective immunity for the working life of the vaccinee.

Staff who do not respond to the vaccine may not do so because they already have natural immunity, because they are hepatitis B antigen positive (and therefore infectious) or because of their age. Testing for the presence of hepatitis B antigen and, if negative, testing for natural immunity as a result of previous infection will be carried out on the specimen submitted following immunisation.

It is very important that the course of vaccine is completed, that the antibody test is done after the course and that all necessary booster doses are given. Successful immunisation against hepatitis B does **NOT** confer immunity to other infections transmissible by sharps injury and therefore all sharps injuries must be reported, and the policy followed.

12.8.7 The Hepatitis B Infected Healthcare Worker

Healthcare workers who are hepatitis B surface antigen positive and have any of the following will be **prevented** from carrying out exposure prone invasive procedures on patients:

- Hepatitis B e antigen positive or
- Hepatitis B e antigen negative *with a viral load that exceeds 1,000 genome equivalents per ml* or
- Hepatitis B e antibody negative *with a viral load that exceeds 1,000 genome equivalents per ml* or
- Hepatitis B e antibody positive *with a viral load that exceeds 1,000 genome equivalents per ml.*

Exposure prone invasive procedures are defined in HSG (93) 40 'Protecting Health Care Workers and Patients from hepatitis B' and further guidance is given in HSC 2000/020 'Hepatitis B Infected Healthcare Workers'.

Occupational health and the consultant microbiologist will advise as needed.

12.8.8 The Hepatitis C Infected Healthcare Worker

Healthcare workers who know that they are carrying the hepatitis C virus, or who are found to do so following the testing recommended below, should not perform exposure prone procedures (defined in the paragraph above under HSG (93) 40). Hepatitis C positive healthcare workers who have a sustained virological response to antiviral therapy will be allowed to perform exposure prone procedures six months after cessation of treatment (HSC 2002/010 Hepatitis C infected healthcare workers).

Testing healthcare workers. Those who carry out exposure prone procedures and who know themselves to be infected with hepatitis C, or who believe that they may have been exposed to hepatitis C infection, will have hepatitis C serology and if positive will have the hepatitis C RNA measured. If the hepatitis C RNA is positive they will not be allowed to do exposure prone procedures and will be referred to a hepatologist.

12.8.9 HIV Infected Healthcare Worker

The government has issued guidance on the management of HIV infected healthcare workers in "AIDS - HIV Infected Health Care Workers: Guidance on the Management of Infected Health Care Workers" which was accompanied by HSG(94)16. The following are the principal points for all healthcare workers to take note of: -

All healthcare workers are under an overriding ethical as well as legal duty to protect the health and safety of their patients. Those who believe they may have been exposed to infection with HIV, in whatever circumstance, must seek medical advice and diagnostic HIV testing if appropriate.

Healthcare workers who are infected with HIV must seek appropriate medical and also occupational health advice. Those who perform, or may be expected to perform, exposure prone procedures must obtain further expert advice about the need for modification or

restriction of their work practices. If exposure prone measures are being performed, these activities must cease whilst expert advice is sought.

Exposure prone procedures are areas of clinical practice that potentially expose patients to higher risk of transmission of blood borne virus from clinician to patient. For example; obstetrics, operative surgery, dentistry etc.

If it is clear that exposure prone invasive procedures have been performed, the infected healthcare worker should inform the local Director of Public Health (DPH) on a strictly confidential basis. The healthcare worker may however request that a physician acting on his/her behalf should inform the DPH.

Physicians or occupational health practitioners who are aware that infected healthcare workers have not sought or followed advice to modify their practice, and/or are continuing to perform exposure prone invasive procedures, should inform the regulatory body as appropriate and also the DPH in confidence.

REFERENCES

Health Clearance for Serious Communicable Diseases: New Health Care Workers. www.doh.go.uk/healthclear

Department of Health (2002) Hepatitis C infected healthcare workers (HSC 2002/010)

NHS Executive (2000) Hepatitis B infected healthcare workers (HSC 2000/020)

HIV Infected Healthcare workers A consultation paper on management and patient notification (2002) http://www.dh.gov.uk/assetRoot/04/01/85/96/04018596.pdf

Protecting Health Care Workers and Patients from Hepatitis B Recommendations of the Advisory Group on Hepatitis UK Health Departments August 1993

AIDS / HIV - Infected Health Care Workers: Guidance on the Management of Infected Health Care Workers Recommendations of the Expert Advisory Group on AIDS UK Health Departments March 1994

12.9 GUIDELINES FOR THE CARE OF THE DECEASED (ADULTS)

Patients who were suffering from an infectious disease prior to death may pose an infection risk to any persons handling the body.

Preparation of the Deceased

The deceased patient should be washed and placed in a shroud. Gloves and aprons should be worn when handling the body.

The deceased should be placed in a non-zipped bag, closed with tape. The shrouds and the non-zipped bags are available from:

Kingsway Hospital	Pharmacy
Hartington Unit	
Ilkeston Community Hospital	
Derbyshire Royal Infirmary	Linen services
Derby City General Hospital	Sewing Room

If relatives/carers request the patient be dressed in their own clothing these should be sent to the mortuary with the patient in a labelled patient property bag and they will be stored with the patient in the mortuary.

Wound Dressings and Invasive Devices

Wound dressings should be left in place. All leaking wounds/line insertion points should be covered with an occlusive dressing.

All invasive devices should be left in place and documented on the Notice of Death Form.

Identification

The patient must be identified with two identification bracelets, one to a wrist and one to an ankle.

Infected Patients

Patients who pose an infection risk, or are leaking body fluids, should be placed in a zipped body bag. These are available from:

Derbyshire Royal Infirmary	Portering services
Derby City General Hospital	Office hours – Sewing room
	Out of hours – Portering services.

The following infections require the use of a cadaver bag:

- Anthrax
- Brucellosis
- Creutzfeldt-Jakob Disease and New Variant CJD
- Hepatitis B virus, including carriers
- Hepatitis C infection
- HIV infection and AIDS
- Meningococcal septicaemia (with or without meningitis) that have received less than 24 hours of antibiotic therapy
- Open pulmonary tuberculosis that has received less than 24 hours of antibiotic therapy
- Multi-drug resistant pulmonary tuberculosis (resistant to isoniazid and rifampicin)
- Rabies

- SARS
- Typhoid/paratyphoid fever
- Typhus
- Viral haemorrhagic fever
- Yellow fever

Transport to the Mortuary
The mortuary/undertakers' staff must be informed of all infected patients and the risk of infection indicated on the Notice of Death Form. If infection is indicated the mortuary staff will contact the ward staff for further details.

It is not necessary for portering staff to wear PPE. All staff must wash their hands after handling the deceased.

Viewing
Relatives should be given the opportunity to see, lightly touch and spend time with the deceased. The bereaved should be offered the opportunity to wash their hands after a viewing. Viewing is acceptable in most circumstances, unless the deceased was suffering from typhus, anthrax, rabies, viral haemorrhagic fever and yellow fever.

Embalming
- This can be performed on most infectious bodies with exceptions such as:
- Creutzfeldt-Jakob Disease and New Variant CJD
- Hepatitis B virus infection, including carriers
- Hepatitis C infection
- HIV infection and AIDS
- Typhus
- Typhoid/paratyphoid
- Viral haemorrhagic fever
- Yellow fever

Reference
Derby Hospitals NHS Foundation Trust – Guidelines for the Care of the Deceased (Adults)

12.10 INVASIVE MENINGOCOCCAL AND HAEMOPHILUS INFLUENZAE TYPE B DISEASE

INTRODUCTION
The bacteria Nisei meningitidis can present as meningitis with septicaemia or as septicaemia alone causing Meningococcal infection. About 10% of the normal healthy population carry *N. meningitidis* in their throats, the reason why it causes disease in some people and not others is not known. *N. meningitidis* exists as several distinct groups including B and C which account for approximately 60% and 40% of infections respectively.

Haemophilus influenzae type b (Hib) is an organism responsible for causing meningitis and other invasive diseases including bacteraemia, epiglottitis, cellulitis and arthritis. It has become much less common since the introduction of the Hib vaccine in 1992. The disease is more common in young children but can occur at any age. Hib can be carried in the nose and throat of healthy people.

CLINICAL FEATURES
Meningococcal disease includes septicaemia, bacteraemia, meningitis, septic arthritis, conjunctivitis or infection of any part of the eye, and infections of the heart (endocarditis, myocarditis and pericarditis) caused by *Neisseria meningitidis*.

TRANSMISSION

Infection is spread from person to person through droplets or intimate direct contact (mouth to mouth). The source of an infection is an individual who is either ill with meningitis or septicaemia, or a healthy carrier.

Meningococcal infection is not acquired from casual social contact, water supplies or buildings. The incubation period between acquiring the organism and becoming ill is 2–10 days. For this reason contacts are sought for the last 7 days before the patient became ill.

CONTROL MEASURES

- Patients suspected to be suffering from invasive meningococcal or haemophilus influenzae type b disease should be placed in a side room and the Isolation Policy Code 3 followed.
- The infection control team should be informed immediately and the management discussed with the microbiologist.
- The consultant in communicable disease control (CCDC), employed by the Health Protection Agency, to monitor and control diseases in the community, should be notified by telephone as soon as possible even before the diagnosis is confirmed bacteriologically. Out of hours contact switchboard and ask for East Midlands Ambulance Service and then the on-call CCDC.
- Isolation should continue until 48 hours of appropriate antibiotics have been administered.

CHEMOPROPHYLAXIS FOR MENINGOCOCCAL DISEASE:

The drug of choice is rifampicin, which, in the absence of contraindications, may be used in all age groups.

Adults/children over 12 years should be prescribed 600mg twice daily for two days.
A child 1–12 years 10mg/kg twice daily for two days (maximum 600mg twice daily).
A child 3–12 months 5mg/kg twice daily for two days.

Rifampicin is contraindicated in the presence of jaundice or known hypersensitivity to rifampicin. Interactions with other drugs, such as anticoagulants, should be considered. Side effects should be explained including reduction in the efficacy of hormonal contraceptives and staining of contact lenses. Pregnant women should be discussed with the consultant microbiologist. Vaccination as part of the meningococcal prophylaxis will take place if the strain is confirmed as Group C, A, W135, or Y.

The CCDC may suggest, in some cases, prophylaxis with a single dose of ciprofloxacin 500mg, in adults only.

The index case should receive meningococcal prophylaxis before discharge (unless ceftriaxone has been prescribed) in order to eradicate nasopharyngeal carriage of *Neisseria meningitidis*, as soon as they can tolerate oral medication.

Friends and family contacts that are eligible for meningococcal prophylaxis (after discussion with the CCDC) and hospital staff contacts that have performed mouth to mouth resuscitation, will be advised by the consultant microbiologist, and if prophylaxis is required it will be issued by pharmacy.

CHEMOPROPHYLAXIS FOR HIB DISEASE:

The index case should be given Hib vaccine irrespective of age, if it has not already been given in the past.

The CCDC or consultant microbiologist will advise non-hospital staff contacts and hospital staff contacts individually. This is because prophylaxis is only required by contacts that are unvaccinated and less than 4 years of age or in contact with unvaccinated children under 4 years of age.

REFERENCES

www.meningitis.org The Meningitis Research Foundation's website, for all management algorithms and updates

PHLS Meningococcal Infections Working Group and Public Health Medicine Environmental Group (1995) Control of meningococcal disease: guidance for consultants in communicable disease control Communicable Dis Report Rev **5**: R189- 199

12.11 EXTENDED SPECTRUM BETA-LACTAMASE PRODUCERS AND AMP C BETA-LACTAMASE PRODUCERS (MULTI-RESISTANT GRAM-NEGATIVE BACTERIA) AND VANCOMYCIN RESISTANT ENTEROCOCCI (VRE)

INTRODUCTION

Extended spectrum beta-lacatamase producers (ESBL) and Amp C beta-lacatamase producers (Amp C) are also known as multi-resistant Gram-negative bacteria. Vancomycin Resistant Enterococci (VRE) are Gram-positive bacteria. These bacteria are resistant to the antibiotics used to treat infections on a day-to-day basis. Patients who have infections with these bacteria may not respond to the routine antibiotics given to them in the first 48 hours. For this reason it is important that these antibiotic resistant bacteria are not allowed to spread from patient to patient.

Most antibiotic resistant bacteria arise from hospitals and are spread into the community. VRE are an interesting exception to this and can arise in the community as well as hospitals, possibly from colonised farm animals via contaminated meat.

These bacteria can live in the bowels and be excreted in the faeces. Patients can carry these bacteria for many months. These patients may not be ill but are colonised with these antibiotic resistant bacteria, and can potentially spread them to susceptible patients. Other sites that can be colonised include urinary catheters, chronic wounds and ulcers as well as the throat and mouth.

TRANSMISSION

The bacteria can survive on the hands and in the environment, e.g. door handles, telephones, etc for between 4-8 hours, so can be readily spread around the patients' and healthcare workers' environment by touching. For this reason killing the bacteria, with the alcohol hand rub placed at the end of every patient's bed, is vitally important.

DEFINITIONS

Extended spectrum beta-lacatamase producers (ESBL) or Amp C beta-lacatamase producers (Amp C) or multi-resistant Gram-negative bacteria are resistant to several commonly used antibiotics such as cefuroxime, gentamicin and ciprofloxacin. The resistances vary between each isolate.

Vancomycin Resistant Enterococci (VRE) are resistant to both vancomycin and teicoplanin to varying degrees. They may also be resistant to ampicillin and gentamicin.

CONTROL MEASURES

- Patients who are infected or colonised with ESBL, Amp C or VRE should be placed in a side room, with their own toilet facilities, if possible.

- Toilets should be cleaned, after patients use, with a detergent cleaner followed by a chlorine releasing agent, or combined cleaner, for example Actichlor. Cleaning should include surfaces touched by patients and/or carers.
- Baths and showers should be cleaned after use, as above. If possible, infected patient should be showered after non-infected patients.
- If a side room is not available please discuss with the community infection control nurse.
- Special attention should be placed on using gloves, aprons and strict hand hygiene.
- Routine screening is not recommended as a general rule.
- Patients can attend for all investigations/treatments but the department manager must be informed.
- Last offices: no special precautions are required.

Further Advice:
For further guidance contact the community infection control nurse.

REFERENCES
Ridwan, B et al (2002) What action should be taken to prevent the spread of vancomycin resistant enterococci in European hospitals British Medical Journal Vol 324, p666-668

Humphreys, H et al (2004) Implications of colonisation of vancomycin resistant enterococci in renal dialysis patients Journal of Hospital Infection Vol 58, p28-33

Talon, D et al (2004) Emergence of *Enterobacter cloacae* as a common pathogen in neonatal units Journal of Hospital Infection Vol 57, p119-125

12.12 MULTI-RESISTANT PSEUDOMONAS AND ACINETOBACTER

INTRODUCTION
Pseudomonas spp. and acinetobacter spp. are Gram-negative bacteria that can cause septicaemia (blood stream infection) and pneumonia. They are found in the environment, especially where there is water e.g. sinks, moist central venous catheter and urinary catheters. They can be especially problematic in ICUs and cause pneumonias in ventilated patients.

These organisms have the ability to mutate and become resistant to many antibiotics. This occurs mostly in patients with invasive devices, those immuno-suppressed and those who have had multiple courses of antibiotics. In some cases they can become resistant to all but the most toxic antibiotics. Outbreaks may occur in individual ICUs and occasionally can spread across to all ICUs within a particular region.

TRANSMISSION
The bacteria can survive on the hands and in the environment, e.g. door handles, telephones, etc for between 4-8 hours. So can be readily spread around the patients' and healthcare workers' environment by touching.

CONTROL MEASURES
- Patients who are infected or colonised with multi-resistant pseudomonas spp and multi-resistant acinetobacter spp should be placed in a side room, and the Isolation Policy Code 3 followed. They should stay in isolation for the duration of the hospital admission.
- Infection control will advise on individual cases, as precautions will be based on the individual's infection and location in the hospital.

- Special attention should be placed on using gloves, aprons and decontaminating hands with alcohol hand rub.
- Patients can attend for all investigations/treatments but the department manager must be informed.
- Last offices: no special precautions are required.
- Enhanced environmental cleaning and curtain changes, etc, will be required and the infection control team will advise.

REFERENCES

Coelho, J et al (2004) Multi-resistant acinetobacter in the UK: how big a threat? Journal of Hospital Infection Vol 58, p167-169

SECTION 13: QUICK REFERENCE GUIDE TO ANTIBIOTIC PRESCRIBING

Please refer to the Trust Medicines Code/Prescribing Guide/Infections Section available under AHP/GP- Prescribing on the Intranet.

GENERAL RULES

- Ensure that all patients on intravenous antibiotics have the antibiotics reviewed at 48 hours.
- All patients that do not have an improvement in infective condition after 48 hours of antibiotics should be discussed with the consultant microbiologist.
- Prophylactic antibiotics must only be given when there is an indication. These are listed on the Trust website (as above). All intravenous prophylactic antibiotics should be given on induction, very rarely are post-operative antibiotics required for elective surgery (these indications are listed on the Trust website).

TRAVEL FROM ABROAD

- Any patients who have travelled from abroad in the last 4 weeks and present with sepsis or rash or chest infection should always be discussed with the consultant microbiologist.

TAKING BLOOD CULTURES

- Take a set of blood cultures prior to addition or change in antibiotic therapy in patients with a fever and/or on ionotropes.
- In adults, put at least 10mls of blood in each blood culture bottle of the set.
- In patients with suspected endocarditis take 3 sets of blood cultures from 3 separate sites before starting antibiotic therapy.

ANTIBIOTIC APPROVAL

- If antibiotics or antiviral agents are prescribed outside the indications of the Trust antibiotic prescribing guide then approval must be obtained from the consultant microbiologist.
- In all cases the consultant microbiologist will recommend the narrowest spectrum antibiotic, taking into consideration the local information about trends in antibiotic resistance or a known sensitivity of the organism.