Cambridgeshire and Peterborough NHS
NHS Foundation Trust

INFECTION PREVENTION AND CONTROL MANUAL

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Signed on behalf of the Trust : …….
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ACKNOWLEDGEMENTS

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SECTION 1: GENERAL INFORMATION

1.1 INTRODUCTION

Preface

Infection prevention and control is the responsibility of all staff. At any one time approximately one in ten patients in acute hospitals has a Healthcare Associated Infection (HCAI). Patients who have a HCAI are likely to stay in hospital 2.5 times as long as an uninfected patient, an average of 11 days. Patients with a HCAI incur increased healthcare costs for the healthcare provider.

The death rate is higher for patients who have a HCAI during the in-patient period.

Although not all HCAIs are life threatening the symptoms may cause pain and discomfort and treatment may involve a long course of antibiotic treatment. Any of these can reduce quality of life.

This manual provides the basic information that staff need for effective infection control within the Trust and serves as a basis for best practice.

At all times the guidelines in the manual represent the core approach to infection prevention and control for the organisation. Additional clinical information can be found in the Royal Marsden Hospital Manual of Clinical Nursing Procedures.

The Infection Prevention and Control Team (IPCT) are responsible for the practical aspects of infection control. The IPCN team can be contacted by telephone or e mail during normal working hours. The microbiology service includes 24 hour advice and this can be accessed via the acute hospital switchboard.

Each department should have an Infection Control link staff with whom the ICT liaise. Link staff will provide advice on the infection control guidelines devised in specific areas and will assist the clinical team to use the policies in this manual.

Reference:

Plowman et al (1999) *Socio-economic Burden of Hospital Acquired Infection* London: Public Health Laboratory Service

1.2 NOTIFIABLE DISEASES

1.2.1 Statuary Notification

Infectious diseases, which are listed in tables A and B, whether confirmed or suspected, must be notified to the Consultant for Communicable Disease Control (CCDC) by the attending doctor.

Prompt notification and reporting of disease is essential.

The objectives of notification are:

1. To collect accurate and complete epidemiological information on the disease.
2. To ensure prompt and appropriate control measures to prevent the spread of infection.

Any doctor who considers that a patient is suffering from a notifiable disease (see Section 1.3) has a statutory duty to notify the Proper Officer (Consultant in Communicable Disease Control) of the local authority using the standard notification procedure.

Table A - Diseases Notifiable under the Public Health (Control of Disease) Act 1984:

Cholera	Relapsing Fever
Food Poisoning	Smallpox
Plague	Typhus

Table B - Diseases Notifiable under the Public Health (Infectious Diseases) Regulations 1988:

Acute Encephalitis	Ophthalmia Neonatorum
Acute Poliomyelitis	Paratyphoid Fever
Anthrax	Rabies
Diphtheria	Rubella
Dysentery (amoebic or bacillary)	Scarlet Fever
Leprosy	Tetanus
Leptospirosis	Tuberculosis
Malaria	Typhoid Fever
Measles	Viral Haemorrhagic Fever
Meningitis	Viral Hepatitis
Meningococcal Septicaemia (without meningitis)	Whooping Cough
Mumps	Yellow Fever

Table C - Non-Statutory Notifiable Diseases

It has been agreed that although the following diseases are not statutorily notifiable, the Consultant in Communicable Disease Control should be informed of their occurrence:

- AIDS
- Legionnaires' Disease
- Listeriosis
- Psittacosis
- CJD
- SARS

1.3 CONTACT INFORMATION

INFECTION PREVENTION AND CONTROL NURSES (Provider Organisations)

Aileen Wilson – Infection Control & Prevention Lead	01223 726789
Ann Hiles - Trust Nurse Lead	
Wendy Llaneza – Healthcare Governance Senior Manager	
Tim Bryson – Director of Infection Prevention & Control	
For out of hours Infection Control advice - please contact the on-call microbiologist via the acute hospital switchboard.	

HEALTH PROTECTION UNIT (NSE HP UNIT)

Cambridgeshire and Peterborough Health Protection Unit – Administration	01480 398500
Dr Bernadette Nazareth Consultant in Communicable Disease Control	
Dr Kate King Health Protection Medical Specialist	
Gillian Clark Health Protection Nurse Specialist	
Audrey Pepperman Health Protection Nurse Specialist	
Emergency contact out of hours via Medicom 01603 481221	

LABORATORIES (MICROBIOLOGY)

Addenbrookes Hospital	01223 257035 / 257057
Hinchingbrooke Hospital	01480 416416
Papworth Hospital	01480 364321
Peterborough and Stamford Hospital	01733 874657
Queen Elizabeth Hospital, Kings Lynn	01553 613772

ENVIRONMENTAL HEALTH DEPARTMENTS

Cambridge City Environmental Health Department	01223 457000
South Cambridgeshire Environmental Health Department	08450 450500
East Cambridgeshire Environmental Health Department	01353 665555
Fenland Environmental Health Department	01354 654321
Peterborough Unitary Authority Environmental Health Department	01733 747474

DEPARTMENTS OF GENITO-URINARY MEDICINE

Addenbrooke's Hospital	01223 217239/ 01223 217774
Peterborough Hospital	01733 314666/ 01733 874949
Hinchingbrooke Hospital	01480 416461
Out of hours service not available	

ACUTE INFECTION CONTROL TEAMS

Addenbrooke's Hospital, Cambridge	01223 217497
Peterborough District Hospital	01733 874164
Hinchingbrooke Hospital, Huntingdon	01480 416160
Queen Elizabeth Hospital, Kings Lynn	01553 613613

OCCUPATIONAL HEALTH DEPARTMENTS

Anglia Support Partnership, Swan House, Gloucester Centre, Peterborough	01733 316519
Hinchingbrooke Hospital, Huntingdon (Hunts area only)	01480 416263

1.4 PRECAUTIONS REQUIRED FOR INFECTIOUS DISEASES

This Section is to enable you to manage patients with an infectious disease. They are a guideline only and if you have any queries please contact the Infection Control Team.

These precautions are in addition to Standard Infection Control Precautions Section …….

DISEASE	CATEGORY OF ISOLATION	STATUTORY NOTIFICATION	COMMENTS
Agranulocytosis	Protective	NO	
Anthrax (Pulmonary)	High Security Isolation Hospital	Yes	DO NOT ADMIT to District General Hospital
Anthrax (Cutaneous)	Source	Yes	
Aspergillosis	None	NO	
Beta-haemolytic streptococcus: Group A (not throat) Group B (only SCBU and neonates)	Source Source	NO	Until testing negative or 24 hours of appropriate antibiotic treatment.
Bronchiolitis in infants	Source	NO	Until clinically well
Brucellosis	None	NO	
Burns-extensive non-infected	Protective	NO	
Campylobacter enteritis	Enteric	Yes	Until symptom free. Staff sufferers should contact Occupational Health.

Chickenpox (Varicella Zoster Virus)	Source	Yes	Until lesions are dry (normally 7 days from start of eruptions). Exclude staff and others who are not immune.
Cholera	Enteric	Yes	
Clostridium difficile	Enteric	NO	Please refer to policy
Cryptosporidiosis	Enteric	NO	Until symptom free.
Cytomegalovirus	None	NO	Risk to immuno-compromised and pregnant contacts.
Diarrhoea of unknown origin	Enteric	NO	Until symptom free and/or cause identified.
Diphtheria	Source with negative pressure ventilation	Yes	Until tested negative.
Dysentery: Bacillary Amoebic	 Enteric Enteric	 Yes Yes	
Erysipelas	Source	NO	24 hours from start of therapy.
Erythema infectiosum (Slapped Face Syndrome)	Source	NO	
E coli (Escherchi Coli)	Enteric	Yes	
Gastroenteritis, viral (Norwalk,SRSV,)	Enteric / respiratory	Yes	Contact Infection Control Team.
German Measles	Source	Yes	Exclude non-immune

(rubella)			pregnant staff.
Giardiasis	Source/Enteric	NO	
Glandular fever (Epstein Barr varius)	None	NO	
Gonorrhoea	None	NO	Please contact GUM
Hepatitis: HAV	Enteric	Yes	
Hepatitis: HBV HCV	None	No	
Herpes simplex (Cold sores)	Source (for infants)	NO	Staff affected to contact Occupational Health. Lesions to be covered.
Herpes zoster (Shingles)	Source	NO	Until lesions dry. Exclude staff who are not immune
HIV (AIDS)	None	Yes	
Impetigo	Source	NO	Until negative cultures Usually 24 hours
Influenza	Respiratory	NO	
Influenza other e.g. SARS, Avian flu	Respiratory	NO	Contact ICT
Legionnaires disease	Nil	NO	Contact Microbiologist
Leptospirosis	None	Yes	

Listeriosis	Enteric	Yes	
Malaria	None	NO	
Measles	Source	Yes	Normally 7 days from onset of rash. Contact ICT.
Meningococcal Meningitis	Source	Yes	Contact the ICT and HPA. Isolate for 24 hours. Close contacts may require antibiotic prophylaxis 48 hours after onset usually through GP.
Meningo-encephalitis (Acute)	Source	NO	
MRSA	Source	NO	Please refer to policy
Mumps (Infectious Parotitis)	Source	Yes	For 9 days after onset of parotid swelling. Notify ICT.
Ophthalmia Neonatorum	Source	NO	24 hours treatment
Parasalmonellatyphoid Fever and carriers (typhoid fever)	Source/Enteric	NO	3 negative stool cultures.
Plague	High Security Isolation Hospital	Yes	DO NOT ADMIT to District General Hospital
Pneumonia: Pneumococcal (lobar)	None	NO	

Staphylococcal Broncho-atypical Pneumocystis	None None None		
Poliomyelitis (Acute)	Source/Enteric	Yes	
Psittacosis	Source/Respiratory	NO	Until symptom free.
Puerperal Sepsis	Source	NO	
Pyrexia (of unknown origin)	Source	NO	Until symptom free and or cause known.
Rabies	Source	NO	Contact Consultant Microbiologist
Respiratory Syncytial Virus	Source/ Respiratory	NO	Until clinically well
Rotavirus	Enteric	NO	
Salmonella	Enteric	NO	
Scabies	Source	NO	Please refer to policy
Scarlet Fever	Source	NO	24 hours treatment
Shigella	Enteric	NO	
Tuberculosis: Suspected or Smear positive (*Acid fast bacilli* seen in sputum) Smear negative Multi Drug Resistant (known or suspected)	Source/Respiratory None Source/Respiratory	Yes	Contact TB Nurse Specialist.
Variant Creutzfeldt-	None	Yes	Consult ICT.

Jakob Disease (vCJD)			Please refer to Policy
Viral Haemorrhagic Fever E.g. Marburg Disease	High Security Isolation Hospital	Yes	DO NOT ADMIT to District General Hospital
Whooping Cough	Respiratory	Yes	

SECTION 2: MANAGEMENT ARRANGEMENTS FOR INFECTION PREVENTION AND CONTROL

2.1 INTRODUCTION

Cambridgeshire and Peterborough Foundation Trust are committed to improving a high standard of infection prevention and control throughout the Trust. Infection Prevention and Control is everybody's responsibility and the key principles should be embedded in everyday practice.

This section outlines the Trust's approach to the management of Infection Prevention and control including duties and responsibilities, assurance framework, training and monitoring compliance with Infection Prevention and Control policies.

2.2 DUTIES AND RESPONSIBILITIES

Chief Executive

The Chief Executive is the Trust responsible officer for quality and safety. The Chief Executive is responsible for ensuring that effective arrangements for Infection Prevention and Control are in place within the Trust.

Trust Board

The Trust board are responsible for providing resources necessary for the delivery of Infection Prevention and Control.

Director of Infection Prevention and Control (DIPC)

The DIPC is the overall executive lead for the management of Infection Prevention and Control within the Trust. The DIPC reports directly to the Chief Executive.

The Infection Control Committee (ICC)

The Infection control committee meets quarterly and reports to the Healthcare governance committee. The ICC are responsible for overseeing compliance with the Health Act 2006. They are also responsible for:

- Advising the Trust Board and the Trust Executive Management group, via the Healthcare Governance committee on all aspects of infection control and make recommendations on measures to ensure effective infection control.
- Endorsing the annual Infection Prevention and Control Programme
- Advising on the most effective use of resources available for the implementation of the programme and for contingency measures.
- Advising on and approve Infection Control policies and procedures, and review their implementation.
- Taking responsibility for major decisions regarding Infection Control, and discuss problems identified by the Infection Control team.
- Providing an annual report to the Healthcare Governance committee
- Making recommendations to other Trust committees or departments on Infection Control matters.
- Ensuring effective liaison over infection control matters with acute Trusts and PCTs, Learning Disability Partnerships and all other partner Agencies including relevant private and voluntary sector organisations.
- Provision of advice on equipment and facilities to ensure that infection risks are minimised.
- Planning and facilitating education, training and sharing of best practice for all grades of staff on Infection Control issues

Infection Prevention and Control Team
The Trust's Infection prevention Control team includes the Modern Matron – Infection Prevention and Control, the Trust Nurse Professional Leads, and the Director of Infection Prevention and Control. Infection Control Doctor Cover is provided by the Consultant Microbiologists in the acute Trusts. The Trust has an Infection Control Committee that reports to Quality and Healthcare Governance Committee. The team liaises with NHS Cambridgeshire Infection Control Committee and NHS Peterborough Infection Control Committee.

Modern Matron Infection Prevention and Control
The Modern Matron Infection Prevention and control is responsible for:

- Ensuring the Implementation of the Health Act 2006
- Implementing the Infection Prevention and Control Annual Programme
- Ensuring that infection control policies are evidence based and comply with national and professional guidance
- Reviewing and updating Infection Prevention and Control Policies regularly
- Ensuring the provision of Infection Prevention and Control mandatory and induction training.
- Implementing a programme of audit and surveillance.
- Providing support and training for Infection Control Link staff
- Providing Infection Prevention and Control advice to staff and service users

Professional Nurse Leads
The Professional Nurse Leads are responsible for ensuring the implementation of infection Prevention and Control Guidance, Including the Health Act 2006, within their areas of responsibility.

Senior Managers/Team managers/Ward Managers
Unit managers/Charge Nurses are responsible for:

- Ensuring that infection control policies are accessible to all staff
- Ensuing that the required facilities and equipment are available to enable compliance with the policies.
- Ensure that all staff within their area of responsibility have received training in Infection Prevention and Control
- Monitoring compliance with infection control policies and practices in their clinical area in accordance with Trust and National guidelines.
- Designating an Infection Control Link person for their clinical area/s

Each Member of the Health Care Team
Infection prevention and control is Everyone's responsibility. Each individual member of the Health care team is responsible for:

- Making themselves familiar with the Trust infection Prevention and Control Manual.
- Ensuring that they follow the Infection Prevention and Control guidelines competently and informing their line manager of any difficulties encountered in applying the policies and guidelines.
- Ensuring that they have received appropriate Infection Prevention and Control training.

Link Staff
Each clinical area should have an infection Control Link Person. Infection Control Link staff will work closely with The Modern Matron/Lead Nurse Infection Prevention and Control and will liaise with the ICT in relation to Infection Prevention Control issues in their clinical area . Link staff are responsible for:

- Ensuring that Infection Prevention and Control audits are carried out in accordance with the Trust Infection Prevention and Control audit programme.
- Implementing the 'clean**your**hands' programme in their clinical area.

Health Protection Agency Unit
The unit provides support to all the health Providers and Commissioning Trusts to ensure that they are able to cover their health protection responsibilities for communicable disease surveillance and control, chemical incidents and emergency planning. All notifiable diseases and outbreaks of infection must be reported to the HPA unit

2.3 ASSURANCE

The Infection Control Team report quarterly to the Infection Control Committee with regard to infections, audit programme and training. The Infection Control Committee reports annually to the Quality and Health Care Governance Committee. Exception reports also go to the Quality and Health Care Governance Committee. Minutes from the Quality and Health Care Governance Committee go to the Board of Directors. The Trust has an Infection Control Strategy which is available via the Trust website.

2.4 INFECTION PREVENTION AND CONTROL TRAINING

Induction Training
All new employees to the Trust must undertake Infection Prevention and Control training as part of the Induction Training Programme. This includes voluntary workers and contractors who will have face to face contact with service users. Induction training must include hand hygiene, Standard Infection Control Precautions and Sharps Safety. Attendance records are maintained on a training database by Anglia Support Partnership.

Mandatory Training
All clinical staff are required to undertake infection prevention and control update training on an annual basis. Clinical staff must attend a face to face training session at least every two years but may complete the NHS core learning unit 'National Infection Control Training Programme' online in alternate years. Non clinical staff are required to undertake Infection Prevention and Control update training every five years. Mandatory Training includes Hand Hygiene, Standard Precautions and Sharps Safety. Records of attendance at Mandatory Training sessions are maintained by Learning and Development and records of completion of the National Infection Control Training Programme are accessed by the Infection Prevention and Control trainer.

Reporting
A summary of Infection Prevention and Control Training will be included in quarterly reports to the Infection control Committee and the Annual Report to the Quality and Healthcare Governance Committee

2.5 MANADATORY REPORTING OF HEALTHCARE ASSOCIATED INFECTIONS

The Trust are required to report the following to the Health Protection Agency

- Methicillin Resistant *Staphylococcus aureus* (MRSA) bacteraemia.
- *Clostridium difficile* toxin (CDT) disease
- Serious Untoward Incidents (SUIs) relating to Infection Control

Notifiable diseases and outbreaks of infection must also be reported.

Mandatory HCAI surveillance results, outbreak summaries and SUIs will be included in the quarterly report to the Infection Control Committee and the annual report to the Quality and Healthcare Governance Committee.

2.6 DISSEMINATION OF INFORMATION

Policies and Guidance

- Infection Prevention and Control policies will be reviewed and updated on and annual basis or if national guidance alters.

- The Infection Prevention and Control policies and guidance will be disseminated throughout the Trust following ratification. Policies and guidelines will be published on the Trust public website.

- Awareness of Infection Prevention and Control policies and guidelines will be raised during Induction and Mandatory training sessions.

General Public Information

- Posters and leaflets in relation to hand hygiene are available in clinical areas as part of the 'clean**your**hands' campaign.

- Information on the 'clean**your**hands' campaign and patient information leaflet on infection control are available on the Trust public website.

- Leaflets relating to MRSA and CDT disease will be available from the infection control team on request.

- Information regarding environmental cleaning, including the cleaning schedule, is displayed on notice boards in clinical areas.

2.7 MONITORING AND COMPLIANCE

Compliance with infection prevention and control policies and the Health Act 2006 will be monitored by the following:

- Annual reassessment by the Infection Control Team using the 'essential steps' tool.

- A rolling programme of Infection Prevention and Control Audit.

- Quarterly reports by the Infection Prevention and Control Team to the Infection control Committee

- Annual report from the Infection Control Committee to the Quality and Healthcare Governance Committee

- Annual review and revision of Infection Prevention Policies and Guidance, also revision and review if national guidance alters.

SECTION 3: INFECTION CONTROL

3.1 STANDARD INFECTION CONTROL PRECAUTIONS

Standard precautions can be defined as a standard of care which should be used routinely to minimise the risk of spread of infection (Wilson, 2006). Standard precautions are applicable in all healthcare settings including hospitals clinics and service users' own homes. Many infections have an 'incubation' period before symptoms appear, during this time the individual may not be aware that they have an infection. It is not possible to identify all infected individuals therefore everybody should be considered as potentially infected. Standard precautions should be applied to everyone irrespective of individual diagnosis or lifestyle factors. The aim of standard precautions is to protect both staff and service users from transmission of infection.

The principles of standard precautions are underpinned by the health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health (COSHH) 1988 regulations. The Health and Safety at Work Act requires that safe systems of work are used at all times. COSHH regulations require that a risk assessment is made prior to contact with hazardous substances in order to decide the correct level of precautions to be taken. COSHH regulations apply to hazardous microorganisms present in body fluids and tissues as well as chemicals and carcinogens. Staff should assess the risk of contact with blood, body fluids, non intact skin or mucous membranes and apply the appropriate precautions.

Precautions include:

- Hand decontamination.
- Personal Protective Equipment.
- Management of sharps and needlestick injury
- Safe handling of specimens.
- Immunisation of staff.
- Management of spillage.
- Safe disposal of contaminated waste.
- Decontamination of reusable instruments and equipment
- Decontamination of the environment

Each of these principles are dealt with in more detail later in this section.

Body Fluids

Body fluids include:

Blood
Cerebrospinal fluid
Peritoneal fluid
Pleural fluid
Pericardial fluid
Synovial fluid
Amniotic fluid
Semen
Vaginal secretions
Breast milk
Urine
Faeces
Vomit
Respiratory secretions e.g. sputum
Saliva (in relation to dentistry or human bites)

Standard precautions should be used for contact with **all** body fluids, non intact skin and mucous membranes. Safe working practices must be followed at all times.

REFERENCES – Section 3.1

Control of Substances Hazardous to Health Regulations 1988 London: HMSO

Health and Safety at Work Act 1974 London: HMSO
Wilson J (2006) Infection Control in Clincial Practice, 3rd Edition, London: Balliere Tindall

3.2 HAND DECONTAMINATION

3.2.1 The Importance of Good Hand Cleaning Technique

Hand washing is THE SINGLE most important measure in reducing the spread of infection. Hands are the principle route of cross infection. The level of hand hygiene will be determined by the activity or area of practice.

Social handwash	Using liquid soap.
Aseptic/hygiene handwash	Using an antiseptic solution.
Surgical handwash	Using an antiseptic solution. More prolonged and thorough hand wash prior to gowning and gloving in ultra clean environments.

3.2.2 When to clean hands

This is determined by actions - those completed and those about to be performed. A non exhaustive list is given below. Hands should be cleaned at the point of care as part of the Cleanyourhands campaign (Appendix 1 and 2)

3.2.3 Routine washing of hands

- Before preparing, eating, drinking or handling food.
- Before and after smoking.
- Before and after visiting the toilet or assisting patients with this activity.
- Before starting work (remove jewellery, e.g. rings) and after leaving an occupational area.
- After handling contaminated items such as dressings, bedpans, urinals, urine drainage bags and nappies.
- Before putting on gloves and after removing them.
- Before and after removing any protective clothing.
- After blowing your nose, covering a sneeze.
- Whenever hands become visibly soiled.

3.2.4 Hand Care

- Staff must comply to Trust clothing policy
- Keep nails clean and short.
- Do not wear artificial or gel nails or nail polish.
- When washing hands, wrist watches should be removed.
- Sleeves should be rolled up to the elbow.
- Nail brushes should not be used for routine hand washing as they damage the skin and encourage shedding of cells.
- Nail brushes, in specialist units, must be single use disposable or single use autoclaveable after each use.

3.2.5 Sequence of Events Appendix 3

- Only use designated hand washing basin.
- Wet hands under running water.
- Dispense one dose of soap into cupped hand.
- Hand wash for 10-15 seconds vigorously and thoroughly, without adding more water.

- Rinse hands thoroughly under running water.
- Dry hands with a disposable paper towel or under hot air dryer.
- Dispose the paper towels in a foot operated bin. The lid should not be opened by hands.

3.2.6 Hand Sanitisers/Alcohol Rubs and Gels

These solutions are an effective decontamination agent, but should only be used on visibly clean hands. Build up may occur after consecutive uses in which case hands must be washed with soap and water.

- Dispense the required amount of solution onto the hands.
- Rub vigorously, using handwashing technique, ensure solution covers all hand surfaces until hands are dry.

When visiting service users in their home, it is important to do a risk assessment of hand washing facilities. If these are not adequate then alcohol gel may be used to impregnate visibly clean hands. Disposable wipes could be used on soiled hands followed by hand sanitisers/gel.

It is recommended (NICE 2003) that everyone involved in providing healthcare in the community must be trained in hand decontamination, This includes service users, carers and healthcare personnel.

Apply an emollient hand cream regularly to protect the skin from the drying effects of regular hand decontamination. If a particular hand hygiene product causes skin irritation seek occupational health advice.

3.2.7 Hand wipes – Use of

These are appropriate for use in a number of situations, e.g. for community staff, when hand washing is compromised by inadequate facilities available to them. This should be followed up by the use of alcohol hand gel.

Inpatients should be routinely offered hand wipes when unable to use the hand wash basin facilities. This is particularly important after using a commode, bedpan or urinal and before eating a meal or snack. Service users and their relatives should be encouraged to provide hand wipes whenever possible to ensure that this is carried out.

REFERENCES – SECTION 3.2

Coello R, Glenister H, Fereres J, (1993) The Cost of Infection in Surgical Patients : A case Control Study. Journal Hospital Infection 93, pp239-250.

Hand Decontamination Guidelines published by the Infection Control Nurses Association (ICNA) 2002.

McGinley K, Larson E, Leyden J. (1988) 'Composition and density of microflora in the subungual space of the hand.' Journal of Clinical Microbiology 26, pp 950 –3.

Teare L (1999), Handwashing, BMJ, 318, p686.

NICE Guidelines, Prevention and Control of Healthcare Associated Infection in Primary and Community Care. June 2003.

(NPSA) EOESHA Principles for inclusion in HHPS.

All hand hygiene products must be approved for use in the organisation by the I P & C team.

Please refer to NPSA Hand hygiene Posters as Appendix 1, 2 and 3.

3.3 PERSONAL PROTECTIVE EQUIPMENT (PPE)

3.3.1 Gloves

Disposable gloves must be worn for direct contact with blood, body fluids and non-intact skin or mucous membranes. Gloves must be discarded after each procedure and always between patients. The use of gloves is not an alternative to thorough hand-washing.

3.3.2 Risk Assessment

The risk assessment should take account of various factors that include:

- Nature of the task to be undertaken.
- Risk of contamination to either patient or user.
- Barrier efficacy of gloves, both surgical and examination gloves can fail.
- Whether there is a need to double glove
- Requirement for Sterile or non-sterile gloves.
- Allergy/sensitisation.
- Handling chemicals (including cleaning agents) or disinfectants, which could cause skin irritation or are COSHH regulated.

As a general rule, if the risk is to the patient then '**Sterile'** gloves are required. If the risk is to the user then '**Non-sterile'** gloves will probably be sufficient. When handling chemical disinfectants you may need to wear industrial or household gloves.

Following the risk assessment, the next issue is what type of glove should be used:

Figure 2 - Glove Usage

PROCEDURE TO BE PERFORMED	TYPE OF GLOVE
• All aseptic procedures	Sterile, non-powdered, examination gloves: *latex or synthetic alternative (nitrile or vinyl pigmentised powder free).*
• Sterile pharmaceutical preparations	Non-sterile, non powdered gloves: *latex or synthetic alternative (nitrile or polychloroprene).*
• Handling aldehydes	Use nitrile or polychloroprene for handling aldehydes.
• Cleaning with detergent.	Vinyl gloves – non powdered.
• Food handling, preparation and serving.	Vinyl gloves – non powdered.
If staff have an allergy to a particular type of glove they should be referred to their occupational health department	

Reference: Adapted from ICNA, 1999

3.3.3 Gowns and aprons

Disposable plastic aprons must be worn whenever contamination of clothing is possible.
As with handwashing this is determined by risk assessment of tasks to be undertaken.

Remember: Aprons are single use items.

Disposable gowns should be worn where there is a risk of contamination of the arms

3.3.4 Face Protection

Protective face wear should be worn where risk of blood or other bodily fluids splashing onto the face. This includes the preparation of some cytotoxic chemotherapy and during the manual decontamination or cleaning of instruments. The wearing of full face visors is recommended.

3.3.5 Single Use

Remember gloves and aprons are single use items. The use of disposable visors is recommended however, if reusable visors are used, they must be decontaminated between uses. Personal protective equipment should be changed between 'clean' and 'dirty' tasks and between service users. Hands must be washed following removal and disposal of personal protective equipment. If used correctly PPE can be very effective in preventing the transmission of infection however if used incorrectly it becomes a hazard.

3.3.6 Contamination of work wear

It is recommended that staff launder work clothing separately, this is of particular importance where clothing has been contaminated with blood or body fluid. Clothing should be laundered at 60ºC or as high a temperature as the fabric will withstand. Clothing should be ironed at as high a temperature as it will withstand.

REFERENCES – SECTION 3.3

Beck W, Belkim N, Meyer K, (1995) 'Divide and conquer – protection, comfort and cost of the surgeons gown'. American Journal of Surgery Vol. 169, pp 286-287, March.

Callaghan I, (1998) 'Bacterial contamination of nursing uniforms' Nursing Standard, Vol. 13, No 1, pp 37-42; September 23rd

Eason S (1995) 'Are cover gowns necessary in the NICU for parents and visitors?' Neonatal Network, Vol. 14, No 8, p50 December.

Granzow J, Smith J, Nicholas R, Waterman R, Muzik A, (1998) 'Evaluation of the protective value of hospital gowns against blood strike-through and Methicillin resistant staphylococcus aureus penetration'. American Journal of Infection Control Vol. 26, No 2, pp 85 -93 April 1998.

Infection Control Nurses Association (1999) 'Glove Usage Guidelines', September 1999.

Medical Devices Agency, June 1998 Latex Medical. Powdered. Latex Medical Gloves. MDA SN9825.

Health Service Circular. Latex Medical Gloves and Powdered Latex Medical Gloves. HSC 1999/186.

NICE Guidance, June 2003. Prevention and Control of Healthcare Associated Infections in Primary and Community Care.

3.4 ASEPTIC TECHNIQUE

3.4.1 Rationale

Aseptic technique refers to practice used to prevent the risk of infection. Some of these practices will also reduce the healthcare worker's risk of exposure to potentially infectious blood and tissue during clinical procedures.

Aseptic technique is vital in reducing the risk of healthcare associated infection, and associated morbidity and mortality, caused by invasive procedures. An aseptic technique should be used during any invasive procedure which breaches the body's natural defences, i.e. the skin or mucous membrane, or when handling equipment which will enter a normally sterile body cavity, such as urinary catheters.

3.4.2General recommendations

The principles of asepsis must be observed when undertaking any invasive clinical procedure.

Key principles of asepsis:-

- Keep the exposure of the susceptible site to a minimum
- Appropriate personal protective equipment to be worn
- Sterile packs should be checked for evidence of damage or moisture penetration and for expiry date
- Contaminated or non-sterile items must not be placed on the sterile field
- All disposable items must be disposed of in accordance with the waste policy
- Single use items must not be re-used
- Activity should be reduced in the immediate vicinity of the area in which the procedure is to be performed.

<u>Procedure for surgical hand decontamination using antiseptic solution</u>

- Wet the hands under tepid running water
- Wash all surfaces with an aqueous antiseptic solution for 3 minutes
- Rinse hands well and dry thoroughly

<u>Skin Preparation for a clinical procedure</u>

Good skin preparation helps to reduce the risk of infection by lowering the chances of bacteria from the patient's skin will enter the wound.

<u>Before giving an injection</u>

If the site appears clean no further cleaning is necessary. If there is visible dirt, wash the injection site with soap and water (DH 2006). Then use 2% Chlorhexidine gluconate in 70% Isopropyl alcohol e.g. ChloraPrep and allow to dry before proceeding to insert the needle.). Povidine iodine 10% alcoholic solution can be used where there is chlorhexidine sensitivity

<u>Before phlebotomy</u>

The site should be visibly clean and then disinfected and allowed to dry thoroughly. For disinfection ideally use 2% Chlorhexidine gluconate in 70% Isopropyl alcohol

<u>Before taking blood cultures</u>

Blood cultures should not normally need to be carried out in the Mental Health setting. If in exceptional circumstances this is done, strict aseptic technique must be followed according to the DH 2007 Saving Livings guidance on Taking Blood Cultures at:-

http://www.clean-safe-care.nhs.uk/toolfiles/80 blood%20cultures v2.pdf

3.4.3 Creating and maintaining a sterile field

A sterile field is an area created by placing sterile towels or sterile drapes around the procedure site and on the surface/trolley used for sterile instruments and other items needed during the procedure.

Sterile items are free of potentially harmful micro organisms, once a sterile object comes into contact with a non-sterile object or person or with dust or other airborne particles, it no longer sterile.

To maintain the sterile field

- Do not place sterile items near open windows or doors
- Place only sterile items within the sterile field
- Do not contaminate sterile items when opening, dispensing or transferring them
- Do not touch non-sterile items with sterile gloves
- Do not touch sterile items with non-sterile gloves
- Be conscious of where your body is at all times and move within or around the sterile field in a way that maintains sterility

Creating a safe environment

Specific rooms should be designated for performing clinical procedures and for processing instruments and other items. Limiting the traffic and activities in these areas will lower the risk of infection.

To maintain a safe environment:

- Limit the number of people who enter these areas
- Close doors and windows during procedures to minimise dust and eliminate insects
- Before a new patient is brought into the room, clean and disinfect all surfaces that may have been contaminated during the last procedure – including examination couches, dressing trolleys and examination/operating lamps

Prophylactic antibiotics are often inappropriately used, can contribute to the development of resistant micro-organisms and are no substitute for good infection control practice.

3.5 SHARPS MANAGEMENT

3.5.1 Important Points

Safe handling and disposal of sharps is a vital component of Standard Precautions. Injuries with contaminated sharps can transmit infections, particularly blood borne viruses.

Good practice involves:

- Correct assembly of the sharps bin, with particular attention to the lid.
- Completion of the details on the bin label following assembly, locking and disposal.
- Filling to no more than to the fill line.
- Being aware of the first aid treatment and action following a needle-stick injury.
- Being aware of the follow up treatment available after a used needle-stick injury.

Provision of training, sufficient numbers of sharps boxes and safe systems of work are a health and safety responsibility of the management of the Trust

3.5.2 Disposal of Sharps

Sharps containers must:

- conform to BS 7320 and UN 3291.
- when in use be sited so that they cannot be tampered with.
- be sealed and replaced when contents reach the fill line.
- be taken to the point of use for the subsequent disposal of each sharp item.
- be marked with the ward/department/unit name or number, the name of the person who assembles it, the name of the person who locks it and finally the name of the person who disposes of it.
- be stored securely and be accessible only to authorised handlers.

It is the **personal** responsibility of any person using a sharp item, to dispose of it correctly.

All used sharp items must be discarded into an approved sharps bin, immediately after use.

Syringes and needles should be discarded intact as one unit.

An adequate number and size of sharps bins, should be available in clinical areas.

Needles must not be re-sheathed, bent or broken.

No attempt is to be made to retrieve items from sharps containers.

Large pieces of broken glass and china should be placed into an approved container for disposal (other than sharps bin).

REFERENCES – Section 3.5

AYLIFFE GAJ, FRAISE AP, GEDDES AM, MITCHELL K (2000) Control of Hospital Infection A Practical Handbook London: Arnold

British Medical Association (1990) 'A Code of Practice for The Safe Use and Disposal of Sharps' reprinted 1993. BMA House, London.

British Standards Institute (1990) BS7320. 'Specification for Sharps Containers'. London BSI 1990.

Health Service Advisory Committee (1992). 'Safe Disposal of Clinical Waste'. London.

Perry C, (1999) 'Using the Audit Cycle to Monitor Sharps Disposal Practice'. British Journal of Infection Control, May 1999. pp 6-8.

The Environmental Protection Act (Duty of Care) Regulations 1991. London, HMSO.

United Nations - Standard 3291.

NICE Guidance June 2003. Prevention and Control of Healthcare Associated Infections in Primary and Community Care.

3.6 INNOCULATION INJURIES, BLOOD CANTAMINATION AND POST EXPOSURE PROPHYLAXIS (PEP)

This is to be read in conjunction with the Trust's Sharps Policy

3.6.1 Main Risks from Inoculation Injury and Blood Contamination

The main concern is the transmission of blood-borne viruses, i.e.:

- HEPATITIS B (HBV)
- HEPATITIS C (HCV)
- HUMAN IMMUNODEFICIENCY VIRUS (HIV)

3.6.2 Risk From Injuries

The risk of transmission is higher (particularly for HIV) when there is:

- A deep injury, i.e. when the injury is deeper than a superficial scratch drawing blood.
- Visible blood on the device that caused the injury (including teeth).
- Injury with a needle that had entered from the source patient's blood stream.

3.6.3 Following a inoculation Injury, from a needle contaminated with blood or Highly Suspected Person to another Recipient the Risks are:

Hepatitis B	1:3	HBV
Hepatitis C	1:30	HCV
Human Immunodeficiency Virus	1:300	HIV

It has been estimated that the risk of acquiring HIV through mucous membrane exposure (e.g. splashed with contaminated body fluids) is much less probably 1 per 1000 injuries (0.1%).

Remember if post exposure prophylaxis for HIV is to be given it should ideally be given as soon as possible, preferably within an hour of injury.

3.6.4 Action in the Event of any inoculation Injury, Bite or Contamination with Blood

- Encourage bleeding, squeeze the injury, do not suck.
- Wash the skin thoroughly with soap and water, do not scrub.
- Irrigate contaminated mucous membranes, e.g. mouth and eyes with large quantities of water or splash kits where provided.
- Cover the injury with waterproof dressing and Inform the nurse in charge or the line manager.
- Report to Occupational / Staff Health or, out of hours contact A & E who will discuss appropriate procedure and Post Exposure Prophylaxis.
- Complete incident/adverse event form.

REFERENCES – Section 3.6

Guidance for Clinical Health Care Workers: Protection against Infection with Blood Borne Viruses, UK Health Departments (1999).

Exposure To Hepatitis B Virus: Guidance On Post Exposure Prophylaxis Communicable Disease Report. Vol. 2, Review No 9, August 1992.

Guidance on the Investigation of Management of Occupation Exposure to Hepatitis C - Communicable Disease Public Health (1999), pp 2258-2262, Ramsey.

HSC 2002/011 Hepatitis C Infection. HCW 2002.

Post Exposure Prophylaxis: Eye of the Needle. Guidance from the UK Chief Medical Officer, DoH. February 2004.

3.7 MANAGEMENT OF LABORATORY SPECIMENS

A specimen is defined as any bodily substance taken from a person for the purpose of analysis, such as blood or urine. All specimens should be regarded as potentially infectious, and all members of staff involved in collecting, handling and transporting specimens must follow infection control precautions to prevent transmission of infection.

To reduce risks, the number of persons handling specimens should be kept to a minimum. Everyone handling specimens should be trained and should be aware of related infection control policies.

3.7.1 General recommendations

Everyone involved in collecting, handling and transporting specimens should be educated about standard infection control precautions and trained in:-

- Hand hygiene
- The use of personal protective clothing
- The safe use and disposal of sharps

Patients and their carers should be given advice on the collection, storage and transportation of specimens, where appropriate.

3.7.2 Principles of specimen collection

The clinician or person taking any specimens must ensure that the following principles are followed:

- Effective hand washing is performed before and after collection of the specimen in accordance with the Hand Hygiene Policy (ICC 02)
- Appropriate protection clothing is worn when collecting the specimen i.e. non-sterile gloves, aprons and, where splashing is possible or expected, goggles or visor
- Measures are taken to prevent contamination of the sample
- The specimen is taken at the correct time
- The correct specimen container is used
- The specimen container is tightly sealed to prevent leakage
- The outside of the container is free from contamination with body fluid
- The sample is appropriately labelled with patients name, date of birth, hospital number (if applicable) as well as the date and time that the specimen was obtained
- The appropriate request form is completed with details of the patient's relevant medical history, investigation required and dates of any antibiotic treatment received. Please ensure that the correct name is on the specimen container and the request slip
- The specimen container must be placed in an approved specimen bag and sealed, with the request form in the separate pouch which is attached
- The specimen is stored correctly and transported to the laboratory promptly
- The patient's confidentiality is maintained at all times
- All specimen containers should be checked for exterior contamination and disinfected

3.7.3 High risk specimens

All clinical specimens should be regarded as potentially infectious. Specimens known or suspected to contain high-risk pathogens such as Tuberculosis or blood-borne viruses should be marked using a biohazard sticker on both the specimen container and the request form.

3.7.4 Microbiological specimens

Microbiology results are crucial for identification of appropriate antibiotic therapy and application of infection control measures.

To ensure that accurate microscopy, culture and sensitivity results are obtained, steps must be taken to avoid contamination of the specimen with the service user's or clinician's own normal flora.

Antibiotic therapy may affect the specimen and inhibit bacterial growth in the laboratory cultures, and may produce misleading results. If possible the sample for microbiological investigation needs to be collected prior to commending antibiotic therapy. However, if collected during antibiotic therapy, the specimen should ideally be collected immediately before a dose is administered.

3.7.5 Faeces

Stool specimens should ideally be collected during the first 48 hours of illness. The chance of identifying pathogens diminishes as time after acute illness passes. A spatula must be used to collect a walnut-sized sample of solid stool or appropriate 15mls of liquid stool into a specimen bottle. This should be sufficient for microbiological investigation. If viral infection is suspect the specimen bottle should be ¾ full.

In an outbreak, stool specimens should be collected from all the affected persons for bacteriology and virology. The sample for bacteriology should be sent for culture and the sample for virology should be sent for electron microscopy. They should ideally reach the laboratory on the day of collection. If necessary, stool specimens can be stored in a designated specimen refrigerator for no longer than 24 hours. Do not freeze faeces.

3.7.6 Urine

A mid-stream specimen of urine is the best sample for culture and sensitivity. Bladder urine is sterile but it can easily be contaminated during collection by bacteria, which colonise the perineum. The perineum must therefore be cleaned with soap and water prior to specimen collection to help reduce bacterial contamination. Discarding the first several millilitres of urine and collecting 5-10 mls of midstream urine in a sterile container will reduce contamination. The infecting organism is more likely to be detected in concentrated or early morning urine.

A specimen of urine from a urinary catheter should be obtained by aspiration with a sterile 5ml syringe and a fine bore sterile needle from the self-sealing sampling port.

The port should be cleaned with a steret or alcowipe (70% Isopropyl alcohol) and the needle inserted through the port.

The catheter should never be disconnected to obtain a sample as this will break the closed system and serve as a portal of entry for micro-organisms.

Indiscriminate sampling should be avoided and sampling should only be carried out when strictly necessary.

Urine samples collected for culture should be examined within two hours of collection, or 24 hours if kept in a designated specimen refrigerator at 4-8°C.

3.7.7 Sputum

Sputum samples should ideally be collected in the morning before eating, drinking or cleaning teeth.

The service user should be asked to cough up material from deep in the lungs and expectorate without saliva into a specimen container. Saliva or mucous from the back of the nose should not be provided as sputum. The specimen should be delivered to the laboratory as soon as possible, or within 24 hours if refrigerated.

3.7.8 Wound swabs

Taking a wound swab is only recommended when clinical signs of infection are identified and the information gained will affect treatment. Routine swabbing should be avoided (Gould 2001; Parker 2000).

As with all investigations the findings must be reviewed alongside clinical information and treatment should not be based on swab results alone.

If pus is present, a sample obtained by aspiration with a syringe will be the most informative. Loose debris on the wound should be removed, as this is likely to contain high levels of bacteria, which are not representative of the infective organism.

If the wound is dry, moisturising the swab with sterile normal saline makes it more absorbent and increases the survival of bacteria prior to culture (Donovan 1998; Gilchrist 1996). The swab must touch all areas by wiping in a zigzag and rolling motion over the surface of the wound. The swab should then be placed directly into a tube and carefully labelled and sent to the laboratory as quickly as possible.

It is important that the specimen is supported with sound clinical information recorded on the microbiology request form. Details relating to the patient's symptoms of infection and treatment history will assist the microbiologist in making an accurate diagnosis and appropriate recommendations for management.

Sensitivities for antibiotic treatment are not always returned with culture results because many isolates reflect bacterial colonisation, rather than infection. It is worthwhile obtaining advice from the laboratory to discuss results and treatment of the case.

3.7.9 Storage of specimens

For accurate results to be obtained, specimens should be received by the laboratory as soon as possible.

If for microbiological investigation, urine and sputum specimens should ideally be examined in the laboratory within 2 hours of collection, and stool samples within 12 hours. However, where this is not possible, urine and sputum specimens must be stored within a designated fridge, but only for a maximum of 24 hours, at 4-8°C. This will help prevent bacteria and contaminants from multiplying and giving misleading results.

However, it must be noted that samples taken for blood culture must not be refrigerated, but must be transported to the laboratory as soon as possible for incubation at 37°C. Samples obtained for non-microbiological investigation also do not need to be refrigerated.

If any clinical specimens are to be sorted in a refrigerator, it is essential that:

- There is a refrigerator for the purpose of specimen storage only
- The temperature in the refrigerator is kept between 4-8°C (minimum and maximum temperature to be checked and recorded daily)
- The specimen refrigerator is not accessible to the public
- The specimen refrigerator is cleaned on a weekly basis, defrosted regularly, cleaned and disinfected after any spillage or leakage (see Spillage of Blood and Body Fluid Policy ICC 04)

3.7.10 Transportation of clinical specimens

Under the Health & Safety at Work Act (1974) all staff have an obligation to protect themselves and others .e.g. the public, from inadvertent contamination from hazardous substances.

All staff must therefore be aware of how to deal safely with clinical specimens and how to avoid any spillage or leakage of body fluids.

All specimens must be collected by portering/transport staff in a secure, robust, leakproof container with a biohazard label. These containers must be cleaned and disinfected weekly and after any visible spillage.

All clinical staff transporting specimens from a patient's home to a surgery, clinic or health centre must be provided with a rigid, robust, leak proof container with a tight fitting lid. This container must be identified with both a biohazard sticker and contact telephone number in case the box is lost. Clinical staff must not transport specimens unless such a container is used.

Appendix 2- Section 3.7

Daily temperature check – specimen fridge

The temperature of the specimen fridge must fall between 4-8°C. If the temperature falls outside of this range, the fridge thermostat must be adjusted accordingly and advice sought from the labs as to whether this will adversely affect analysis.

If the temperature remains outside of this range, the fault must be reported and the fridge repaired as soon as possible. If it cannot be reported, a new fridge should be purchased.

Date	**Temperature recorded in °C**			**Action taken if required**	**Signature**
	Actual	**Min**	**Max**		

3.8 STORAGE, DISTRIBUTION AND DISPOSAL OF VACCINES

Guidance is available in the UK Guidance on Best Practice in Vaccine Administration which has been distributed to each practice. The guidance can also be downloaded from the website: **http://www.vaccine-administration.org.uk/main_using.html**.

3.8.1 Storage of Vaccines Equipment Fact Sheet

This is the information obtained from the Department of Health identified in the 'Green Book'. The fact sheet contains information on some of the equipment currently available in connection with vaccine storage and distribution. It is intended as an aid for those in handling of vaccines and does not claim to be comprehensive.

3.8.2 World Health Organisation Product Information Sheets

Contain technical and purchasing information on selected equipment for the storage, transport and the administration of vaccines for the Expanded Programme on Immunisations (EPI). Most of the equipment included has been independently tested at the WHO authorised laboratories, but little of it is manufactured in the UK, therefore is not always readily available. Some items, nevertheless, may be of interest.

Please contact WHO at the address below or website address to obtain a copy:
http://www.who.int/vaccines-documents/DocsPDF00/www518.pdf

World Health Programme
Expanded Programme on Immunisation
Cold Chain
Switzerland
Fax: 00 41 22 788

REFERENCES – Section 3.8

Department of Health (1999). Current vaccine issues: action update. PL/CMO/99/5, PL/CNO/99/9, PL/CPHO/99/4.

Department of Health (1996). 'Immunisation against infectious Disease' Salisbury D M, Begg N T (Eds) London HMSO.

Kassianos G C (1998). Immunisation Childhood and Travel Health. Third Edition. Blackwell Science Ltd.

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Wakefield 'Child Immunisation Policy'. November 1996.

APPENDIX 1 – Section 3.8

SAFE IMMUNISATION – COLD CHAIN RESPONSIBILITY

☐ **NOMINATED PERSON** ☐ **DEPUTY**

NAME: _____

DESIGNATION:_____

LOCAL WRITTEN PROCEDURE ☐

TEMPERATURE CONTROL MIN/MAX ☐

TEMPERATURE RECORD ☐

STORAGE/POSITION IN REFRIGERATOR ☐

CLEANING/DEFROSTING ☐

ACTIONS:

COLD CHAIN FAILURE ☐

DISPOSAL VACCINES ☐

DISPOSAL CONTAMINATED WASTE ☐

DATE TRAINING COMPLETED:_____

3.9 DEALING WITH SPILLAGES

(To be read in conjunction with the Organisation's Waste Policy)
It is vital that any spillage is attended to as soon as possible. Under the Control of Substances Hazardous to Health Regulations 1994 (COSHH), assessment of hazards and associated risks to health must be undertaken to ensure the health and safety of employees, patients and other visitors to the healthcare premises.

3.9.1 Responsibilities

All staff involved in the clinical care of patients or the safe handling of waste must be aware of how to deal safely with any spillage which may occur.

3.9.2 Mercury Spillages

- Mercury should be avoided where possible. The aim is to minimise risks from mercury spillages and, the ideal would be to reduce the use of Mercury in the occupational area by using alternative equipment. Where equipment containing Mercury is used a mercury spillage kit should be available.

The hazards resulting from mercury exposure are inhalation of fumes, or skin absorption. It is recognised that mercury exposure is of a relatively low risk but it remains important for spillages to be dealt with quickly and effectively.

Spills fall into two categories:

3.9.3 Large spills

Large spills are usually dealt with by a specialist service. However, before specialist help arrives the following points will need to be remembered:

- The area will need to be evacuated and marked off to restrict entry of personnel.
- Ventilate by opening doors and windows.
- Remove all sources of heat, either by switching off or removing from the area.

3.9.4 Small spills

Members of staff using the following points will be able to deal with a small spill using a mercury spillage kit:

- Avoid direct skin contact with the mercury (ensure to wash any mercury from the skin should contamination occur).
- Protective clothing should be used, i.e. disposable plastic apron and non-powdered, non-sterile gloves.
- Use a Mercury Spill Collector, carefully soak up the mercury in the sponge and reseal the container.
- Place the container in a plastic bag, seal and mark 'Mercury Contamination'.
- Arrange for collection.
- Wash hands and arms carefully.
- After all procedures are actioned, complete an incident/accident form as per policy.

3.9.5 Body Fluid Spillage

Body fluid spills are divided in to two categories, those which are visibly contaminated with blood and those which are not:-

3.9.5a Blood Spillage

- Spillage of blood should be dealt with as soon as possible.
- Splashes of blood (or any body fluid) on the skin should be washed off immediately with soap and water.
- If there is broken glass do not touch even with gloved hands – use a paper or plastic scoop and dispose in the sharps box.

- Ensure staff use Personal Protective Equipment (wearing non-sterile, non-powdered latex gloves and plastic apron) and either sprinkle sodium hypochlorite releasing granules, e.g. Presept or Sanichlor tablets diluted to cover and soak up the blood.
- The sodium hypochlorite concentration used should be equivalent to 10,000 parts per million (ppm) of available chlorine. In general, this corresponds to a 1:100 (1%) dilution of household bleach, but it is emphasised that the strength of individual brands of bleach may vary. Please read the manufacturer's instructions before use.
- Chlorine granules can be used for spillages of up to 100mls.
- Leave for 2-5 minutes.
- Wipe up with paper towels (or use a disposable scoop for granules) and place in the appropriate waste disposal (see Section 2 – 2.9)
- Dispose of soiled gloves and apron and wash your hands.
- Domestic cleaning using detergent and water should follow.
- If the area is a carpet it is inappropriate to use bleach, clean by:
  - Using paper towels.
  - Then wash detergent and water.
  - Finish with a carpet cleaner or steam cleaner.

An Important COSHH Hazard notice has been attached to Chlorine Releasing Granules:

- Do not use in poorly ventilated areas
- Do not use if suffering from a known chest condition or asthma.

3.9.5b Urine Spills Visibly Contaminated with Blood

Chlorine releasing agents should **not** be used for urine spillages even if it contains visible blood. If a chlorine releasing agent is used, i.e. Domestos, Titan or Presept with urine the resulting fumes are considered a hazard. The recommended practice is:

- Wear non-sterile, non-powdered latex gloves (or other suitable glove – see figure 2, page 14 and plastic apron.
- Soak up with paper towels.
- Use detergent and water on area after soaking up the spill.
- A chlorine-releasing agent may now be used on the area if necessary.
- Discard gloves, waste materials and apron in a clinical waste bag for incineration.
- Wash hands thoroughly.

3.9.5c Spillages of Body Fluids not Visibly Contaminated with Blood

These spillages will include faeces, vomit, urine and sputum.

- Always wear protective clothing, i.e. plastic disposable apron, disposable powder-free, non-sterile latex or similar (see Section 2 – 2.3 'Protective Clothing').
- Use paper towels to soak up the spill.
- Discard paper towels and any other waste from the spillage into clinical waste bags.
- Clean the contaminated area with hot water and detergent.
- Discard gloves and apron in a clinical waste bag.
- Wash hands.

Please contact infection control for advice concerning the use of disinfectants where there is a known infection.

REFERENCES – SECTION 3.9

Bond W W, Favero M S, Petersen N J, et al. (1981) 'Survival of hepatitis B virus after drying and storage for one week' Lancet 1:550.

Control of Substances Hazardous to Health regulations 1994.

Health and Safety at Work Act (1974).

HSE Environmental Hygiene Guidance Note Number 17.

Substances Hazardous to Health Emergency Spillage Guide – Croner Publications.

Royal College of Pathologists (1995) HIV and the Practice of Pathology. Report of the HIV Working Party of the Royal College of Pathologists. London Royal College of Pathologists.

The Senate of Surgery of Great Britain and Ireland (1998) 'Blood borne viruses and their implications for surgical practice and training' Senate Paper 4 – September 1998, London: McKenzie Graham.

UK Health Departments (1993) Protecting Healthcare Workers and Patients from Hepatitis B. Recommendations of the Advisory Group on hepatitis. London: Department of Health.

3.10 WASTE SEGREGATION

The following guidance is to be read in conjunction with the Trust's Waste policy.

Waste generated is segregated into four principal streams for disposal.

Black bags

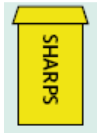
Use for all domestic-type wastes e.g. paper, food, dead flowers.
The waste must not provide an infection risk and will not derive from patient treatment.

Many of these wastes may be recycled, and should be wherever possible.

Yellow bags

Use for all non-sharp wastes arising from patient care. This will include dressings; gloves and other protective equipment; and used equipment.
The wastes will be treated as having an infection risk and will classified as "hazardous" for disposal.
None of these materials should be contaminated with any cytotoxic or cytostatic medicines.

Sharps bins (yellow lid*)*



Use for infectious and non-infectious sharps (needles, blades etc.), syringe bodies (including those containing partially discharged medicines); used ampoules and vials; dropped and refused medicines; and associated equipment.
None of these materials should be contaminated with any cytotoxic or cytostatic medicines.
Add an absorbent pad to each new bin to soak up any excess liquid

Sharps bins (purple lid)

Use for similar materials as described above (yellow-lidded sharps bin) but contaminated with cytotoxic or cytostatic materials.
This bin should also be used for any surplus or expired cytotoxic or cytostatic medicines (rather than return to pharmacy).

Add an absorbent pad to each new bin to soak up any excess liquid

Do not discharge part-filled syringes into the sharps box.

If any dressings etc normally placed in the yellow bag are contaminated with Cytotoxic or cytostatic materials, they must either be placed in a yellow bag with a purple stripe or the yellow bags must be clearly labelled to indicate cytotoxic contents

Cytotoxic and cytostatic wastes must be segregated, as they require destruction by incineration and under different conditions than infectious wastes.

The adoption of a simplified segregation system means that hazardous and non-hazardous materials are mixed in the same container. This is permitted only where no adverse reaction will occur or where the future treatment of the waste will not be compromised.

Other specialised containers may be in use for certain dedicated activities. For example, amalgams from dental units will be kept in white plastic pots.

3.10.1 Assessment of "Infectious"

Infectious waste is essentially a waste that poses a known or potential risk of infection, regardless of the level of infection posed. Even minor infections are included within the definition of infectious.

General assumptions

Healthcare waste generated from Healthcare practices, or produced by healthcare workers in the community, is considered to be infectious waste unless assessment to the contrary has taken place. A healthcare practitioner bases this assessment on item and patient-specific clinical assessment.

Municipal waste from domestic minor first aid and self-care that does not require staff involvement is assumed to be non-infectious unless indicated otherwise. Therefore, soiled waste such as nappies, sanitary products and plasters are not considered to be infectious unless a healthcare practitioner the producer gives advice to the contrary.

Municipal-type waste from industrial and commercial premises is assumed to be non-infectious providing that a risk assessment has been conducted. Therefore, soiled waste such as plasters and sanitary products are not considered to be infectious unless a healthcare practitioner the producer gives advice to the contrary.

2.10.2 Offensive / Hygiene Waste

The term "offensive" has been introduced to describe waste which is non-infectious and which does not require specialist treatment or disposal, but which may cause offence to those coming into contact with it.

Examples of offensive waste include:

- incontinence and other waste produced from human hygiene;
- sanitary waste;
- nappies.

Although non-infectious offensive wastes may be landfilled in suitably licensed facilities, this waste (at least that produced in quantity) should not be placed in the domestic refuse but should be collected separately.

The offensive waste stream should **not** include any of the following:

- sharps;
- body parts, organs or blood products;

- waste chemicals;
- medicinal waste that consists of pharmaceutically active substances;
- dental amalgam;
- wastes containing residual medicines excreted, secreted or otherwise present in any bodily fluid.

Although the waste stream must be assessed to determine whether the waste is likely to be infectious, the general assumption made is that such waste presents no risk of infection unless indicated by a healthcare practitioner e.g. If a person is undergoing treatment for a known or suspected Urinary Tract Infection, the waste is likely to be considered infectious and disposal via incineration or treatment arranged accordingly.

If it is decided that such wastes may be confidently isolated from infectious waste streams, they may be packaged in yellow bags with a black stripe ("tiger bags") and sent for landfill at an appropriate facility.

3.10.2 Spillage Procedures

Individual units should produce clear written procedures, specific to local situations and waste arisings, for dealing with spillages which:

- specify the reporting and investigation procedures;
- specify the use of a safe system of work for clearing up the waste;
- set out appropriate requirements for decontamination;
- specify the protective clothing to be worn.

The ready availability of appropriate spillage kits helps ensure the correct action in the event of a spillage. Such kits are particularly useful at storage, waste treatment and waste disposal sites, and should be carried on all vehicles carrying healthcare waste.

Spillage kits may contain, for example:

- disposable gloves;
- a disposable apron;
- an infectious waste sack/sharps bin;
- paper towels;
- disposable cloths;
- disinfectant recommended;
- a means of collecting sharps.

Appropriate equipment for collecting spilled waste and placing it in new containers should be provided. Sharps must not be picked up by hand.

Spilled waste and any absorbent materials need to be placed in an infectious waste container for disposal.

3.10.3 Container closure and labelling

Black bags	The bags should be sealed when ¾ full by either tying a knot in the neck or by securing with a tag or tape. Staples must not be used, as the bag will tear.
Yellow bags	The bags should be sealed when ¾ full by securing with a tag bearing a unique number. The tags are issued to each producer from a central source. The unique numbers are recorded and provide an audit trail back to the producer. Staples must not be used, as the bag will tear. The bags will likely be printed "For Incineration Only".

Sharps bins	The bins should be sealed either when ¾ full or after 3 months (whichever is sooner). The label shall be completed on the box indicating the name of the person sealing the bin and the date on which it was sealed.

Do not place sharps bins inside any bag for disposal.

3.10.4 Other wastes

There are a limited number of options available to community healthcare workers for the handling and disposal of the non-sharps waste that that is generated during treatment of the patients in their home.

Disposal via domestic waste bin

If patients are treated in their home by a community nurse or a member of the NHS profession, any waste produced as a result is considered to be the healthcare professional's waste.

National guidance states that wastes generated by a healthcare worker within a patient's home **must not** be disposed of within the domestic waste bin. This is because under the Environmental Protection Act 1990 it is unlawful to deposit, recover or dispose of controlled waste without a waste management licence, contrary to the conditions of a licence or the terms of an exemption, or in a way which causes pollution of the environment or harm to human health. Infectious healthcare waste is prohibited from landfill.

The Duty of Care placed upon the healthcare worker requires that the waste is managed properly, recovered or disposed of safely and is only transferred to someone who is authorised to keep it. Householders are exempt for their own household waste.

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There are two options available for the removal (in yellow bags) of wastes generated by a healthcare worker at a patient's home:

- **Removal by the healthcare worker to their work base; or**
- **Collection by a third-party contractor e.g. local authority.**

Mixed domestic waste does contain small amounts of plasters, small dressings and incontinence products. Where the healthcare worker produces the same or similar items, these – with the following considerations – can be placed in the domestic refuse (with the householder's permission).

The following should be considered:

• **the size of the dressing** – small dressings no larger than a dressing pad (that is, 130 mm × 220 mm) can be disposed of as domestic refuse;

• **the type of dressing** – specialised antimicrobial types of dressing should be disposed of as offensive/hygiene or medicinal waste as appropriate;

• **the quantity produced** – where a number of small dressings are produced regularly over a period of time, it may be appropriate to dispose of these as offensive/hygiene waste. If, however, the amount produced is relatively small and consistent with that likely to be found in the household waste stream, it may be discarded in the domestic refuse;

Where such waste is placed in the domestic refuse, the waste should be wrapped in a plastic sack. The wrapping should not be yellow but ideally white or opaque e.g. sandwich bags and bin liners.

If a patient treats themselves in their own home, any waste generated as a result is considered to be their own, it is not subject to the same restrictions, and may be placed in a domestic waste stream. Only where a particular risk has been identified (based on medical diagnosis) does such waste need to be treated as hazardous clinical waste. In these cases, local authorities are obliged to collect the waste separately when asked to do so by the waste holder, but may make a charge to cover the cost of collection.

3.10.5 Removal via community healthcare practitioner

Yellow bags

Use for all non-sharp wastes arising from patient care. This will include dressings; gloves and other protective equipment; and used equipment.

The wastes will be treated as having an infection risk and will classified as "hazardous" for disposal.

None of these materials should be contaminated with any cytotoxic or cytostatic medicines.

Note: If any dressings etc normally placed in the yellow bag are contaminated with cytotoxic or cytostatic materials, they must either be placed in a yellow bag with a purple stripe or the yellow bags must be clearly labelled to indicate cytotoxic contents.

3.10.6 Pharmacy Waste

No cytotoxic or cytostatic medicines should be returned to the supplying pharmacy. All such materials should be disposed off in a purple lidded sharps' container

The following range of medicines – all non-cytotoxic or non-cytostatic – may be returned to the supplying pharmacy (under agreement) for subsequent disposal:

- Expired or surplus medicines;
- Patients' own medicines;
- Inhalers and aerosols (full and part-used) – empty units into yellow bags;
- Potassium permanganate tablets (in container);
- Caustic sticks.

The medicines will normally be moved in a secure pharmacy box or bag.

The medicines must be kept secure pending collection from the nominated point by the waste carrier.

REFERENCES – Section 3.10

Health Technical Memorandum 07-01: Safe Management of Healthcare Waste
Environmental Protection Act (1990) Part 2.

APPENDIX 1 Section 3.10

LIST OF CYTOTOXIC AND CYTOSTATIC MEDICINES

Aldesleukin	Alemtuzumab	Alitretinoin
Altretamine	Amsacrine	Anastrozole
Arsenic trioxide	Asparaginase	Azacitidine
Azathioprine	Bacillus Calmette-GuerinBexarotene	Bicalutamide
Bleomycin	Busulfan	Capecitabine
Carboplatin	Carmustine	Cetrorelix acetate
Chlorambucil	Chloramphenicol	Choriogonadotropin alfa
Cidofovir	Cisplatin	Cladribine
Colchicine	Cyclophosphamide	Cytarabine
Cyclosporin	Dacarbazine	Dactinomycin
Daunorubicin HCl	Denileukin	Dienestrol
Diethylstilbestrol	Dinoprostone	Docetaxel
Doxorubicin	Dutasteride	Epirubicin
Ergonovine/methylergonovine Estradiol	Estramustine phosphate sodium	Estrogenprogestin combinations
Estrogens, conjugated	Estrogens, esterified	Estrone
Estropipate	Etoposide	Exemestane
Finasteride	Floxuridine	Fludarabine
Fluorouracil	Fluoxymesterone	Flutamide
Fulvestrant	Ganciclovir	Ganirelix acetate
Gemcitabine	Gemtuzumab ozogamicin	Gonadotropin chorionic
Goserelin	Hydroxyurea	Ibritumomab tiuxetanIdarubicin
Ifosfamide	Imatinib mesilate	Interferon alfa-2a
Interferon alfa-2b	Interferon alfa-n1	Interferon alfa-n3
Irinotecan HCl	Leflunomide	Letrozole
Leuprolide acetate	Lomustine	Mechlorethamine
Megestrol	Melphalan	Menotropins
Mercaptopurine	Methotrexate	Methyltestosterone
Mifepristone	Mitomycin	Mitotane
Mitoxantrone HCl	Mycophenolate mofetil	Nafarelin
Nilutamide	Oxaliplatin	Oxytocin
Paclitaxel	Pegaspargase	Pentamidine isethionate
Pentostatin	Perphosphamide	Pipobroman
Piritrexim isethionate	Plicamycin	Podoflilox
Podophyllum resin	Prednimustine	Procarbazine
Progesterone	Progestins	Raloxifene
Raltitrexed	Ribavirin	Streptozocin
Tacrolimus	Tamoxifen	Temozolomide
Teniposide	Testolactone	Testosterone
Thalidomide	Thioguanine	Thiotepa
Topotecan	Toremifene citrate	Tositumomab
Tretinoin	Trifluridine	Trimetrexate glucuronate
Triptorelin	Uracil mustard	Valganciclovir
Valrubicin	Vidarabine	Vinblastine sulfate
Vincristine sulfate	Vindesine	Vinorelbine tartrate
Zidovudine		

3.11 DECONTAMINATION (CLEANING, DISINFECTION AND STERILISATION OF EQUIPMENT)

3.11.1 Introduction

Cleaning, disinfection and sterilisation are processes, which remove or destroy microorganisms. The method of decontamination selected will depend on the infection risk associated with the medical device, the nature of the contamination, time available for processing, the heat, pressure, moisture and chemical tolerance of the item, the availability of processing equipment and risks associated with the decontamination method. Heat sterilization or disinfection is preferred, but if the item is heat sensitive, chemicals may have to be used.

All reprocessing of surgical instruments and other medical devices should be undertaken outside the clinical environment preferably in central reprocessing suites e.g. CSSD. Local reprocessing in individual departments should be avoided. Please refer to BDA guidance.

All health care workers involved in the processes of cleaning, disinfection and sterilisation **must** be aware of the guidance issued by the DoH on Decontamination. **HSC 2000/032.**

3.11.2 Cleaning

Physical cleaning removes micro organisms and the organic material on which they thrive. **It is always the essential prerequisite to disinfection or sterilisation.** Cleaning does not destroy the organisms, but removes them and other contaminants which will adversely affect the performance of further decontamination procedures. If thorough cleaning is not performed, blood or other matter may remain on the item during other processes.

3.11.3 Disinfection

This process aims to inactivate micro organisms reducing them to a level below that which is associated with infection. This process does not however kill spores. Disinfection is usually appropriate for those items which are not used for invasive procedures.

3.11.4 Sterilisation

This process kills **micro organisms** including spores. It renders reusable medical devices safe for the procedure to be undertaken. It is recommended that all items penetrating or in contact with mucous membranes or body cavities must be sterile at point of use.

APPENDIX 1 – Section 3.11
CLASSIFICATION OF INFECTION RISK ASSOCIATED WITH THE DECONTAMINATION OF MEDICAL DEVICES

Risk	Application	Recommendations
High	Items in close contact with a break in the skin or mucous membrane or introduced into a sterile body area.	Single Use disposable / Central Sterilisation
Intermediate	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.	Single Use disposable / Sterilisation or high level disinfection
Low	Items in contact with healthy skin or mucous membranes or not in contact with patient.	Single Use disposable / Cleaning to manufacturers recommendations

APPENDIX 2 – SECTION 3.11

DECONTAMINATION OF EQUIPMENT CHART (A-Z)

EQUIPMENT OR SITE	**A** **ROUTINE USE**	**B** **INFECTED PATIENT**
Auroscope Ear Pieces	Single use - disposable is the preferred option.	Single use - disposable is the preferred option.
Airways and endotracheal tubes.	Steam sterilisation (CSSD) or use disposable.	Steam sterilisation (CSSD) or use disposable.
Ambu –masks	Single use - disposable is the preferred option	Single use - disposable is the preferred option
Baby scales	Renew paper after each baby and clean the scales with a detergent wipe at the end of each session.	Renew paper after each baby or immediately after soiling and clean the scales with a detergent wipe at the end of each session.
Baths, wash basins and showers	Clean with detergent and water.	Clean with detergent and water.
Baby baths.	Wash with detergent and warm water/or use a detergent wipe.	Wash with detergent and warm water/or use a detergent wipe.
Babies changing mat	Change paper after each baby, clean mat after each session and if contaminated wash with detergent and water, or use a detergent wipe.	Clean mat after each baby. If contaminated with detergent and water, or detergent wipe. Change paper after each baby.
Bathing scoop	Clean with detergent and water or detergent wipe after use. Store dry.	Contact IPCN
Bed frames	Clean with water and detergent and dry, or use a detergent wipe.	Use 0.1% Hypochlorite solution.
Bed pans: Community hospitals Home patient	 Disposable. Disposable or wash with detergent and water and air dry	 Disposable. Disposable or wash with 0.1% Hypochlorite solution.
Bed pan frames	Clean with detergent and water and dry, or use detergent wipe.	Clean with 0.1% Hypochlorite solution and rinse.
Bottles and teats	Use disposable or return to CSSD, or in special circumstances contact ICPN.	Use disposable or return to CSSD.
Bowls (Surgical)	Return to CSSD	Return to CSSD
Bowls (Washing)	Wash with detergent and water, rinse and dry after each use. Store inverted and separated.	Wash with 0.1% Hypochlorite solution rinse and dry.

EQUIPMENT OR SITE	A ROUTINE USE	B INFECTED PATIENT
Brushes (lavatory)	Store dry. Rinse thoroughly in toilet, flush and hang to dry in open sided holder.	Store dry. Use o.1% Hypochlorite solution.
Bubble columns	Empty and clean monthly wearing PPE.	
Buckets	Wash with detergent and water, rinse and dry.	Use 1% Hypochlorite solution, rinse and store dry.
Carpets: Community hospitals Patient's home	 Vacuum daily in patient areas. Spillages should be cleaned immediately, removing any excess with paper towels before washing the area with detergent and water. Following this, larger spills may require steam cleaning. All carpets should be steam cleaned annually Offices should be vacuumed at least weekly. Detergent and water.	 Should not be nursed in carpeted rooms
Couches (examination)	Wash with detergent and water, rinse and dry or use detergent wipe. Cover with disposable paper between patients.	Contact IPCN
Curtains: Inpatients Vertical blinds Venetian blinds	 Send to central laundry every 6 months or sooner if soiled. Vacuum monthly as good practice or damp dust as per manufacturers instructions. Suggest wipe with detergent and water monthly.	 Disposable or alternatively change after an infection outbreak or sooner if soiled.
Damp dusting (all surfaces)	Detergent and water.	Wipe with 0.1% Hypochlorite solution.

EQUIPMENT OR SITE	A ROUTINE USE	B INFECTED PATIENT
Denture pots: Community hospitals	Single use - disposable is the preferred option. If own, clean daily with detergent and water. Store dry.	Single use - disposable is the preferred option.
Diaphragms (Trial) and IUCD instruments	Single use - disposable is the preferred option.	Single use - disposable is the preferred option.
Drainage and suction jars: 1. Disposable vacuum containers. 2. Suction jars. 3. Under-water seal bottles.	Use Vernagel gelling granules. Place in double yellow bag for incineration. Wash with detergent and water, rinse and store dry, or send to CSSD. Return to CSSD.	Use Vernagel gelling granules. Place in double yellow bag for incineration. Use disposable or send to CSSD. Return to CSSD
Drains	Use washing soda crystals	
Duvets Duvet covers: Community hospitals Patient's home	Plastic Type - Wash with detergent and water, rinse and dry. Send to central laundry as per policy. Cotton Cover - Wash as recommended by the manufacturer.	Plastic Type - Wash with detergent and water, rinse and dry. Send to central laundry as per policy. Cotton Cover - Wash as recommended by the manufacturer.
Earphones	Wipe with detergent and water or alcohol wipes.	Wipe with 0.1% Hypochlorite solution.
Ear pieces (Stethoscopes, hearing aids)	Wipe with detergent and water, then 70% alcohol wipe.	Wipe with detergent and water, then 70% alcohol wipe.
ECG leads and machines	Wipe with detergent and water, or detergent wipe.	Wipe with detergent and water or detergent wipe.
Endoscopes	Thoroughly clean and disinfect according to manufacturers instructions: a) Between patients. b) Before and after session (see Departmental Policy).	Thoroughly clean and disinfect according to manufacturers instructions: a) Between patients. b) Before and after sessions (see Departmental Policy).
Enuresis Mats	Single patient use - wash with detergent and water, or follow manufacturers instructions.	Single patient use - wash with detergent and water.
Floor Mops: Community hospitals GPs	Wash out thoroughly and hang to dry daily Weekly.	Use disposable.

EQUIPMENT OR SITE	A ROUTINE USE	B INFECTED PATIENT
Floors (dry)	Vacuum clean (disposable dust bag). Check bags and filters.	Vacuum clean (disposable dust bag. Ensure filter changed.
Floor (wet)	Clean with detergent and water, rinse and dry.	Clean with detergent and water, rinse and leave as dry as possible.
Furniture and fittings	Damp dust with detergent and water.	Damp dust with detergent and water.
Flower Vases	Wash the vases in water and detergent when changing flowers and after use. Store dry	Contact IPCN
Humidifiers	Drain once each day. Refill with sterile bottled water or follow manufacturer's instructions.	Drain once each day. Refill with sterile bottled water.
Instruments (Surgical)	Return to CSSD or if using autoclave ensure compliance with policy.	Return to CSSD.
Jugs and drinking glasses	Preferable to use a dishwasher for thermal disinfection or hot water and detergent.	Preferable to use a dishwasher for thermal disinfection or hot water and detergent.
Mattresses and pillows	Clean plastic covers with detergent and water, and dry. This should be after patient is discharged or monthly for longer term stay, or sooner if soiled.	Clean plastic covers with detergent and water, and dry. If contaminated with body fluids use 0.1% Hypochlorite solution.
Nebulisers - Disposable Non-Disposable	Single patient use. Between use wash the chamber and mask thoroughly with water and detergent, rinse and dry thoroughly. Replace weekly or if heavily soiled. Disinfect daily after cleaning, as above, by immersion in 0.1% Hypochlorite solution for 20 mins. rinse with sterile water and dry with disposable paper towel. Store dry.	Single patient use. Between uses wash the chamber and mask thoroughly with water and detergent, rinse and dry thoroughly. Replace weekly or if heavily soiled. Disinfect daily after cleaning, as above, by immersion in 0.1% Hypochlorite solution for 20 mins. rinse with sterile water and dry with disposable paper towel. Store dry.

EQUIPMENT OR SITE	A ROUTINE USE	B INFECTED PATIENT
Nebuliser Tubing	Single patient use ONLY.	Single patient use ONLY
Razors - safety or electric	Use disposable or patients own. **DO NOT ALLOW SHARING**	Use disposable or patients own. **DO NOT ALLOW SHARING**
Rehabilitation equipment	Please refer to manufacturers instructions. Need to identify a planned cleaning schedule in place. Items should be wiped over after each use with detergent and water, or a detergent wipe.	Please refer to manufacturers instructions. Need to identify a planned cleaning schedule in place. Items should be wiped over after each use with detergent and water, or a detergent wipe.
Scissors	Use single use disposable or autoclavable. Sterile scissors must be used for wound dressings.	Use single use disposable or autoclavable. Sterile scissors must be used for wound dressings.
Skin Disinfection: Handwashing in clinical areas (wards, sluice rooms and outpatients examination rooms) Handwashing pre-operative	 Liquid Soap. Hibiscrub (4% Chlorhexidine with detergent) or Povidone Iodine surgical scrub.	 Liquid soap / hand sanitizer, as advised by the IPCN. Hibiscrub (4% Chlorhexidine with detergent) or Povidone Iodine surgical scrub.
Venepuncture Diabetics - Glucose Monitoring	Clean skin with 70% Isopropyl alcohol and 2% chlorhexidine gluconate and allow to dry. Clean Digits with soap and water only.	Clean skin with 70% Isopropyl alcohol and 2% chlorhexidine gluconate and allow to dry.
Skin Disinfection prior to IV Cannulation	Clean skin with 70% Isopropyl alcohol and 2% chlorhexidine gluconate and allow to dry.	Clean skin with 70% Isopropyl alcohol and 2% chlorhexidine gluconate and allow to dry.
Slide sheets/hoist slings: Community hospitals Patient's home	 Designate as single patient use. Return to cental laundry for cleaning after use or sooner if soiled. Single person use. Return to joint loans for laundering.	
Space blankets	Disposable – single use.	Disposable – single use.
Sphygmomanometer cuffs	70% alcohol wipes.	70% alcohol wipes.
Staff cases Community	Wipe over with detergent and water, or use a	

	detergent wipe, weekly or sooner if soiled, or follow manufacturers' instructions.	
Telephone/telephone trolley	Clean weekly with detergent and water, or use a detergent wipe.	Clean after use with detergent and water, or use a detergent wipe. Wipe with 0.1% Hypochlorite Solution.
Thermometers: Electronic	 Single use. Use disposable sheath.	 Single use. Use disposable sheath.
Toothbrushes	Single patient use only	Single patient use only
Toothmugs	Single use - disposable is the preferred option. If own, clean daily with detergent and water. Store dry.	Single use - disposable is the preferred option.
Toys Soft toys are not recommended	Wash with detergent and water. If heavily contaminated - dispose of item.	Wash with detergent and water. If heavily contaminated - dispose of item.
Trolley Tops **-** Dressings	Wash with detergent and water, and dry. Wipe with alcohol wipe before use and between dressings. If visibly contaminated wash with detergent/water and dry.	Wash with detergent and water, and dry. Wipe with alcohol wipe before and after each use.
Tourniquets	Wipe between each patient with 70% alcohol wipe.	Disposable / Wipe between each patient with 70% alcohol wipe.
Urinals: Community hospitals Patients own – community	 Single use disposable. Wash out with detergent and water after each use.	 Single use disposable.
Vaginal Specula	Send to CSSD or single use disposable.	Send to CSSD or single use disposable.
Vaginal Cones - Disposable Non-disposable	Single patient use. Between uses clean with detergent and warm water, rinse and dry, then soak in 1% Hypochlorite for 20 minutes. Rinse thoroughly with water and dry. Patient should keep the cone and bring to session. Autoclave as per instructions with equipment.	Single patient use. Between uses clean with detergent and warm water, rinse and dry, then soak in 1% Hypochlorite solution for 20 minutes. Rinse thoroughly with water and dry. Patient should keep the cone and bring to session. Autoclave as per instructions with equipment.
Walking Aids: Community	 Clean periodically with dilute detergent and water.	 Wipe with 0.1% Hypochlorite solution if there is faecal contamination, if not use detergent and water.

Inpatients	Clean after each patient use (single patient use) or when grubby with detergent and water or use a detergent wipe.	
WC Lavatory seats Commode chairs Raised toilet seats	Wash with detergent and water, and dry after each patient use or use a detergent wipe.	Wipe with 0.1% Hypochlorite solution if there is faecal contamination, if not use detergent and water.
Wheelchairs	Clean periodically with water and detergent, and dry.	Clean with detergent and water, and dry.
X-Ray Equipment	Damp dust with detergent and water or use a detergent wipe.	Wipe with 0.1% Hypochlorite solution.

APPENDIX 3 – Section 3.11

DECLARATION OF CONTAMINATION STATUS

Prior to the Inspection Servicing. Repair or Return of Medical and Laboratory Equipment

To: **Make and description of Equipment**
Model/Serial/Batch No:

Trust's Ref: Recipient's Service or Returns
or Order No: Authorisation Reference or Contact Name:

Tick box A if applicable. Otherwise complete all parts of B, providing further information as requested or appropriate.

A ☐ This equipment/item has not been used in any invasive procedure or been in contact with blood, other body fluids, respired gases or pathological samples. It has been cleaned, in accordance with the Control of Infection Disinfecting Policy, in preparation for inspection, servicing, repair or transportation.

B (1) Has this equipment/item been exposed internally or externally to hazardous materials as indicated below?
Provide further details here:

YES/NO Blood, body fluids, respired gases, pathological samples:

YES/NO Other biohazards:

YES/NO Chemical or substances hazardous to health:

YES/NO Other substances hazardous to health:

YES/NO Other hazards:

(2) Has this equipment/item been cleaned and decontaminated?

YES Indicate the methods and materials used:

NO This equipment could not be decontaminated.

Indicate reason:

Advice should be obtained from your Head of Department or Control of Infection Manager before any dismantling, inspection, servicing or repair works carried out.

Such equipment must not be returned/presented without the prior agreement of the recipient whose reference or contact name must be given above.

(3) Has the equipment/item been suitably prepared to ensure safe handling /transportation?
YES/NO, Indicate Reason:

I declare that I have taken all reasonable steps to ensure the accuracy of the above information, in accordance with HSG(93)26.

Authorised signature: Unit:
Name (printed): Dept:
Position: Tel No:
Date:

Copies of Certificates to be sent to:

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SECTION 4 - DISEASE RELATED INFORMATION

4.1 BLOOD BORNE VIRUSES

In Great Britain, four main types of Hepatitis are recognised B, C, D and E. All hepatitis infections are notifiable to the Consultant in Communicable Disease Control (see Section 1).

Hepatitis B and C infections are major causes of chronic liver disease and liver cancer across much of the world. While the United Kingdom has been classified as a very low prevalence country for these infections, they still pose a significant challenge in terms of potentially preventable mortality and morbidity.

4.1.1 Hepatitis B

The severity of Hepatitis B (HBV) disease ranges from mild infections that can only be detected by liver function tests, and/or the presence of serological markers of infection (see Figure 4), to fulminating cases of acute hepatic necrosis. The incubation period is 40-160 days, average is 60-90 days, and, of those cases admitted to hospital, the fatality rate is 1%. The variation in incubation period is related to the inoculum and the mode of transmission as well as to host factors. The prognosis for hepatitis B carriers who develop progressive liver disease is uncertain; some develop cirrhosis and are at increased risk of developing hepatocellular carcinoma.

Understanding Serological Markers

MARKER	FULL NAME	INDICATES
HBsAg	Hepatitis B surface antigen	Carrier or current infection.
HBeAg	Hepatitis B ‘e’ antigen	Current infection/highly infectious/chronic carrier.
Anti-HBsAg	Antibody to HBsAg	Previous infection/immunisation/immunity.
Anti-HBeAg (anti-HBe)	Antibody to HBeAg	Hepatitis B surface antigen carrier with low risk of infectivity.
Anti-HBc	Antibody to Hepatitis B core antigen	Persons who have had hepatitis B infection in the past or have acute infection. It is not induced by immunisation.
IgM Anti-HBc	Igm antibody to Hepatitis B core antigen	Acute or recent Hepatitis B infection.

Hepatitis B virus DNA	Virus DNA	Viral replication and high infectivity.

Patients who exhibit persistent hepatitis B surface antigen (HBsAg) for more than 6 months are defined as chronic carriers, although a small proportion (I-2%) may clear the virus each year. Chronic carriers have traditionally been divided into those of high, intermediate and low infectivity, having in addition either the soluble 'e' antigen (HBeAg), no 'e' markers, or antibodies to the 'e' antigen (HBeAb) respectively. It is now recognised, however, that some chronic carriers may be 'e' antigen negative yet highly infectious due to the presence of mutant strains of HBV which are unable to express 'e' antigen.

Treatment with interferon may clear 'e' antigen in a proportion of cases.

In developed countries Hepatitis B infection is usually acquired during adulthood, predominant routes being sexual and parental. About 2-10% of those infected as adults become chronic carriers with hepatitis surface antigen (HBsAg) persisting longer than 6 months. Persistent HBsAg, and chronic infectious carriage of Hepatitis B, is more frequent in those infected as children and rises to 95% in neonates infected perinatally. Among carriers of the virus those in whom HB e-antigen (HBeAg) is detectable are most infectious. Those with antibody to HBeAg (anti-HBe) are, generally, of low infectivity.

The blood of those infected with Hepatitis B has been shown to be infective many weeks before the onset of first symptoms and remains infective through the acute clinical course of the disease and during the chronic carrier state, which may persist for years. Hepatitis B Virus Surface Antigen (HBsAg) may be found in blood and virtually all body fluids of patients with acute hepatitis B and carriers of the virus, but blood, semen and vaginal fluids are mainly implicated in the spread of HBV Infection (Figure 4).

4.1.2 Vaccination and Control

The Control of Substance Hazardous to Health (COSHH) (1994) Regulations require all employers to make their own risk assessments and bring into effect measures to protect their employees. Therefore, it is the employer that decides whether there is a risk of infection of hepatitis B within the work place, and what measures are required, e.g. vaccination education and protective clothing.

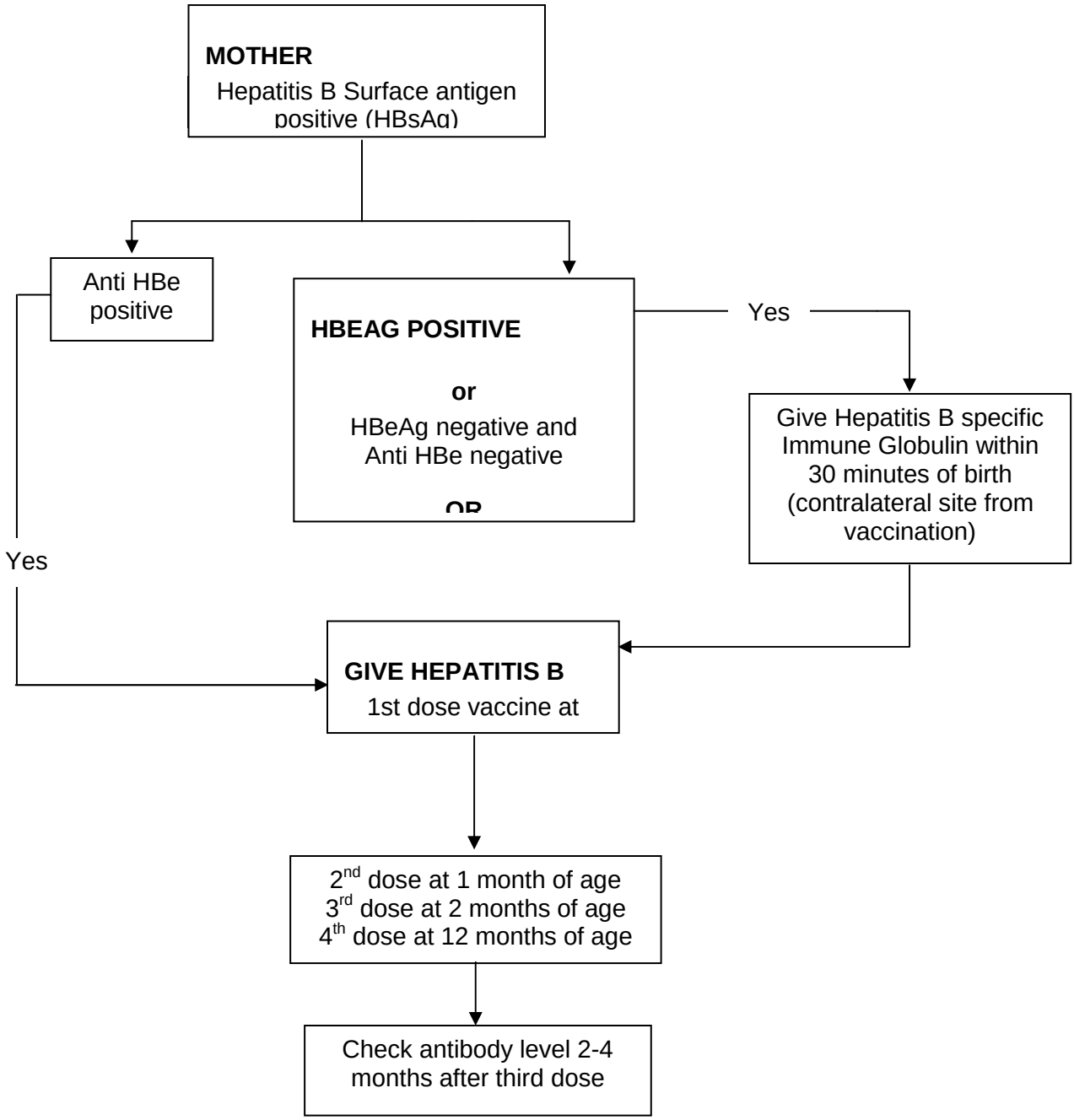
The primary course consists of three injections of the vaccine, the second following one month after the first, with the third administered at six months. More rapid courses are now available, which are useful, for example, when the traveller presents late for vaccination or as prophylaxis following exposure to the virus. Each course consists of three injections either given at monthly intervals with a booster at 12 months, or 0, 7, 21 days, also with a booster at 12 months. Antibodies can be checked 4 weeks after course completion to determine whether or not there has been a response.

Hepatitis B infection can be transmitted from infected mothers to their babies at, or around, the time of birth (perinatal transmission). Babies acquiring infection at this time have a high risk of becoming chronic carriers of the virus. The development of this carrier status can be prevented in around 90-95% of cases by appropriate immunisation of babies born to infected mothers. The recommended vaccination

schedule of infants born to Hepatitis B Surface Antigen (HBsAg) Positive women (identified through antenatal screening) is shown in Figure 5.

Breast Feeding: There is no contraindication to breast feeding when a baby born to a carrier mother begins immunisation at birth and proceeds with a complete course of immunisation.

Vaccination of infants born to hepatitis B surface antigen positive women (identified through antenatal screening)



Response rates to the vaccine are at around 95% in young adults (especially women), children and newborn babies, whereas the rate may fall in older men to around 80%, with the immuno-suppressed patient showing the lowest rates. However, immunity is known to decrease with age, especially in those over 40 years, but what is not known is whether or not boosters are necessary for babies and children to provide life-long immunity.

It is normally accepted that protective anti-HBs titre levels should be above 100 miu/ml, however vaccines whose anti-HBs titres are in excess of 500 miu/ml are likely to maintain adequate levels for at least 5 years. It should be noted that variations in virus challenge doses and infectivity of the source has resulted in the impossibility of defining a minimum protective level of anti-HBs. Low or non-responders need to be informed that they are not protected and should seek passive immunisation if they suffer accidental exposure (via needlestick injury, etc).

Health care workers who have been successfully immunised should be boosted following accidental exposure, unless they are definitely known to have adequate protective anti-HBs levels. (See Section 2 – 2.5.)

Healthcare workers who carry blood borne viruses will be advised regarding their involvement in exposure prone procedures (EPP) by their Occupational Health Department.

4.1.2a Index case contacts

Household and sexual contacts of the index case should be vaccinated with an, accelerated course. Although screening to exclude people with pre-existing anti-HBs is not required prior to immunisation, it may be desirable where there are high levels of pre-existing infection.

Passive immunisation with specific immunoglobulin can be administered if immediate protection is required. Hepatitis B Immunoglobulin (HBIG) is used and it is administered at the same time as the hepatitis B vaccination using a different site. HBIG must be given as soon as possible, preferably within 24 hours of the exposure (needle stick injury) or following sexual exposure, it is recommended that it be given within 14 days. If infection has already occurred, severe illness, and the development of carrier status, may be prevented.

4.1.3 Hepatitis C (HCV)

The incubation period is about six to eight weeks, but antibodies may not appear for a further four to six weeks. Although infection is usually asymptomatic, HCV results in the development of a chronic carrier state in at least 85% of cases. Chronic liver disease, including cirrhosis and hepatocellular carcinoma, develops in approximately 70% of all HCV infected persons.

Hepatitis C is the main cause of what was previously known as Non A - Non B hepatitis. HCV is most frequently acquired by direct blood to blood contact and the commonest mode of transmission in the UK is the sharing of blood contaminated injecting equipment by injecting drug users. Both sexual and perinatal transmission can occur but, in general, these are less efficient modes of transmission. The incidence of HCV amongst intravenous drug users is believed to be high.

Routine screening tests for HCV detect antibodies to the virus. If individuals are found to be anti-HCV positive, additional tests are carried out, looking for HCV RNA by polymerase chain reaction (PCR) in order to determine whether they are viraemic.

Treatment with Interferon plus Ribavirin may clear the infection, but a proportion will relapse when treatment is stopped. The involvement of a hepatologist should be considered.

There is no effective vaccine against HCV.

- It is recommended that individuals with HCV be vaccinated against hepatitis A virus. As the liver may already compromised, cirrhosis may be advanced by hepatitis A infection.
- Long-term follow up is recommended for HCV. As new information is becoming available, individual assessment for medical intervention is, ongoing.

4.1.4 Hepatitis D (HDV)

Hepatitis D causes infection only in those who have active hepatitis B infection. Hepatitis D infection can occur either as co-infection with HBV or as a superinfection of an HBV carrier. Since hepatitis D depends on an HBV infected host for replication, prevention of hepatitis B infection by immunisation will also prevent hepatitis D infection.

4.1.5 Human Immuno-deficiency Virus (HIV)

Human immuno-deficiency virus interferes with the body's immune response to infection. An individual infected with HIV may experience an initial acute illness followed by a period in which there are no signs or symptoms, although antibodies to the virus may be detected in the blood. People with HIV infection can remain well for several years.

Ultimately, if the virus continues to replicate, there is reduction of CD4 cells with a resultant immunodeficiency, infected persons becoming at increased risk of opportunistic infections and certain tumours.

Routine screening tests for HIV detect antibodies to HIV-1 or HIV-2. Such tests should only be carried out with informed consent. If the screening test is reactive, this result is then confirmed by two different additional assays. A provisional report is issued requesting an additional blood sample before sending out a final HIV report.

All individuals, other than neonates, who have antibodies to HIV also have the virus; viral nucleic acid may be detected by polymerase chain reaction (PCR) and the level of viraemia quantified. It should be stressed that antibodies to HIV do not appear immediately after primary infection. The median time is 3-6 weeks but, during this ‘window period’, patients may have a high viral load and be highly infectious.

In general, HIV is the least infectious of the blood borne viruses, with HIV-2 being considerably less infectious than HIV-1.

4.1.6 Acquired Immune Deficiency Syndrome (AIDS)

Acquired immune deficiency syndrome is diagnosed when a person with HIV infection is found to have one or more of a number of specific infections, such as Pneumocystis pneumonia, Kaposi sarcoma or Tuberculosis. These infections are described as opportunistic, and become life threatening due to the breakdown of the individual’s immune system or the direct effect of the virus on the nervous system.

Control is by prevention of acquisition of the virus. This is accomplished by applying vigorous universal infection control precautions, education about safe sex and the use of needle exchange facilities for intravenous drug users.

Post exposure prophylaxis for HIV is also available (see Section 2 – 2.5).

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4.2 MENINGOCOCCAL MENINGITIS/SEPTICAEMIA

The infective agent is Neisseria meningitidis. Different strains of meningococci are groups A, B, C, Y and W135. The most common strains of meningococcal meningitis in the UK are groups B and C.

Meningococcal disease can affect any age group although babies, children and young people in their teens and early 20's are most at risk. It usually presents as sporadic cases, but localised outbreaks do occur. Cases occur throughout the year, but the incidence is highest in winter.

Droplets from nose or throat of infected persons transmit the organism from one person to another. Between 10-25% of the population at any one time are asymptomatic carriers. Carriage rate varies from time to time and tends to be higher in closed communities such as schools, colleges and army barracks. The incubation period varies from 2-10 days, however it is commonly 3-4 days. The period of communicability is until the meningococci bacteria are eliminated from the nasopharynx. This is usually within 24 hours of Rifampicin therapy. Penicillin treatment does not reliably eradicate the organism from the nasopharynx.

Meningococcal disease and all types of meningitis are statutory notifiable diseases (Section 1, Table B). The Consultant in Communicable Disease Control (CCDC) should be notified by telephone, by the Doctor in charge, of all cases, or suspected cases, of meningitis and meningococcal disease, in order that contact tracing is promptly carried out.

4.2.1 Vaccination

4.2.1a Meningococcal Group C Conjugate Vaccine

This was introduced in 1999 and the objective is to achieve a major impact on Group C Neisseria meningitidis, which is responsible for 40% of cases of meningococcal disease in this country. Most other cases are from Group B infection and there is, as yet, no effective vaccine against sero-group B.

It is immunogenic in children from 2 months of age and induces an effective immunological memory. Babies 2, 3 and 4 months: three doses of the new vaccine, given with DTP, Hib and Polio vaccines. No booster is recommended for the meningococcal Group C conjugate.

4.2.1b Plain Polysaccharide Meningococcal Group A and C vaccines

The meningococcal Group plain polysaccharide A and C vaccines are effective for 3 to 5 years from 18-24 months of age. Studies have shown that boosting with a second or third dose in adults tends not to produce a response. Pasteur Merieux Vaccine may be boosted every 3 years, SmithKline Beecham vaccine every 5 years.

Travellers to Sub-Saharan Africa from Senegal and Gambia in the west to Ethiopia and Somalia in the east (anywhere within the meningitis belt) are advised to be vaccinated with the plain A and C polysaccharide, if visiting for longer than one month. Protection is required for the 'A' sero-group portion of the vaccine, which is not available separately.

It is particularly important to be vaccinated if the traveller is to be in close contact with the local population or staying for long periods. On this basis the risk is usually small for package tourists. Travellers to Saudi Arabia attending Mecca during the Haj

annual pilgrimage require immunisation for immigration purposes and will be required to produce a certificate on arrival and when obtaining a visa. Quadrivalent vaccine gps A,C,W125 and Y is recommended for these travellers, with further advice from the regional epidemiologist. The A and C vaccine is effective from 7 days.

A subject who has already received a scheduled conjugate vaccine may require the travel polysaccharide vaccine. This can be administered after a period of two weeks. Giving conjugate vaccine after polysaccharide vaccine - If the polysaccharide vaccine has been given first then a gap of 6 months is suggested before the conjugate vaccine is administered.

University students e.g. first years not already vaccinated should be given the conjugate gp. C vaccine

4.2.2 Control

4.2.2a Index Case Contacts

The Health Protection Agency (HPA) has developed a policy for the control of meningococcal meningitis and septicaemia. A précis of this policy has been included, to give an understanding of the present action taken following the presumptive diagnosis of a case in Cambridgeshire.

Definition of an outbreak, or cluster, of meningococcal disease exists when there are two or more linked cases, within a four-week period.

The index case should be treated with antibiotics as soon as a presumptive diagnosis is made. The general practitioner should start treatment with Benzylpenicillin if a diagnosis of meningococcal disease is suspected, prior to admission to hospital. As Benzylpenicillin will not reliably eradicate the organism from the nasopharynx of the patient, a two-day course of Rifampicin should be given prior to discharge from hospital to ensure eradication. This prevents the re-introduction of the organism to the household and other close contacts.

Once the Health Protection Unit has been notified of an individual (presumptive) case the communication and information cascade will commence for which the CCDC is responsible.

- A professional from the HPU office will be available, during office hours, to answer questions from any professionals (see Section 1 - 1.4).
- The HPU will carry out any contact tracing necessary outside of the hospital. The hospital will provide prophylaxis to household contacts able to visit the hospital.

The aim of prophylaxis is to prevent secondary cases by eliminating nasopharyngeal carriage of N. meningitidis in close contacts of the index case, thereby reducing the risk of invasive disease in other susceptible members of the household.

Chemoprophylaxis should be given as soon as possible (ideally within 24 hours of diagnosis of index case) to all close contacts. Rifampicin is licensed for this purpose, but ciprofloxacin is an acceptable alternative and cetriaxone should be used for pregnant women.

4.2.2b Prophylaxis

Is recommended for:

- All household contacts, i.e. living in the same house during the preceding 7 days before the illness occurred.
- Kissing contacts (girl/boyfriends) of the case also within the last 7 days.
- Room mates, close friends in boarding schools or other residential institutions if they share a dormitory.
- A child-minder looking after one or more children for many hours daily – may fall into the 'household' setting.

Adult	over 12 years	Ciprofloxacin 500mg as single dose Rifampicin 600mgs BD for 2 days
	Pregnant female	Ceftriaxone 250mgs IM as single dose
Child	over 1 year	Rifampicin 10mg/kg BD for 2 days
Infants	under 1 year	Rifampicin 5 mg/kg BD for 2 days

Is not recommended:
- After a single case in a school, playgroup or nursery, but it is important to give information.
- Medical and nursing staff caring for the case, unless they have given mouth-to-mouth resuscitation or encountered splash contamination.

The hospital clinician caring for the index case will normally be responsible for provision of prophylaxis for household contacts (able to visit the hospital) within 24 hours of a diagnosis being made. The Health Protection Unit is responsible for identifying all non-household close contacts. The CCDC or officer on call will inform the GPs of the other contacts, who have been identified. These GPs will be responsible for prescribing the prophylaxis. When there are contacts in other Health Districts, it is the responsibility of the CCDC to provide details of contacts requiring prophylaxis in that area to the appropriate CCDC.

Single case occurring in child attending a pre-school group
Family household contacts should be managed as previously described. Information about the case, and about meningococcal disease, should be disseminated to carers, parents and local GPs, because early diagnosis can improve outcome.

Single case occurring among those attending primary or secondary schools, colleges or universities
Prophylaxis with antibiotics or vaccine should not be offered to contacts in the educational setting, unless the proximity and duration of contact has been comparable to that experienced in households (e.g. dormitory contacts in a boarding school).

Immediately after a case has arisen in a nursery, playgroup, school or other institution, the Consultant for Communicable Disease Control or other professional from the department should liaise closely with the Principal to inform parents that:

- A case has occurred.
- The chance of another case is very small.
- Antibiotics are not normally given to students after a single case.
- It is important to know the signs and symptoms of Meningococcal Disease.

When two or more cases occur in secondary schools, higher learning institutions and other institutional settings, decisions about further actions should involve the Health Protection Agency.

A polysaccharide meningococcal vaccine for protection against sero-group A and C is available and licensed for use in the UK (it is now mostly used as a travel vaccine). A quadrivalent vaccine for protection against A, C, W, Y is also available on a named patient basis, though not licensed for routine use. If the index case is confirmed as group C or A (or W135, Y) vaccination should be offered to those contacts who were given oral antibiotic prophylaxis. The CCDC will make a decision on which vaccine should be administered, however, this will usually be the conjugate vaccine rather than the polysaccharide.

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4.3 CREUTZFELDT-JAKOB DISEASE AND VARIANT CREUTZFELDT-JAKOB DISEASE (CJD & VCJD)

4.3.1 Background

Creutzfeld Jacob Disease (CJD) is one of a group of conditions known as transmissible spongiform encephalopathies. They are caused by agents currently thought to be infectious proteins known as prions, which do not share the normal properties of viruses and bacteria and are resistant to conventional chemical and physical decontamination methods.

The greatest risk of transmission is from neural tissue of an infected individual. Spinal fluid and lymphoreticular tissues pose a lower risk and blood, other body fluids and most other tissues a negligible risk of transmission. Although these conditions do not appear to be highly contagious, there have been documented cases of spread via contaminated medical instruments or contaminated human pituitary hormone.

Standard infection control practice is sufficient in most circumstances to prevent spread. Isolation of patients with CJD is not necessary. Additional precautions are necessary during invasive interventions involving the brain, spinal cord and eye on a patient known, suspected or at risk of having CJD.

4.3.2 Symptomatic patients

- Patients who fulfil the diagnostic criteria for definite, probable or possible CJD or vCJD
- Patients with neurological disease of unknown aetiology who do not fit the criteria for possible CJD or vCJD but where the diagnosis of CJD is being actively considered

Asymptomatic patients at risk from familial forms of CJD linked to genetic mutations

- Individuals who have been shown by specific genetic testing to be at significant risk of developing CJD or other prion disease
- Individuals who have a blood relative known to have a genetic mutation indicative of familial CJD
- Individuals who have or have had two or more blood relatives affected by CJD or other prior disease

4.3.3 General Ward procedures

Available epidemiological evidence does not suggest that normal social or routine clinical contact with a CJD or vCJD patient presents a risk to healthcare workers, relatives and others in the community. Isolation of patients with CJD or vCJD is not necessary and they can be nursed in an

open ward using standard infection control precautions in line with those used for all other patients.

4.3.4 Blood

Careful attention to standard infection control precautions will minimise any risks from blood. Drug administration by injection should involve the same precautions used for all work of this type with any patient i.e. avoidance of sharps injuries and other forms of parenteral exposure and the safe disposal of sharps and contaminated waste.

4.3.5 Invasive medical procedures and sample labelling

Because of the unusual resistance of the TSE agents, single use disposable equipment should be used wherever possible, and all other small items of equipment contaminated whilst obtaining specimens should be destroyed by incineration (please refer to waste guidance).

4.3.6 Spillages

The infectious agent associated with TSEs is unusually resistant to inactivation techniques. Dilution is the most important element in cleaning up spillages in general.

4.3.7 Occupational exposure

Although cases of CJD/vCJD have been reported in healthcare workers, there have been no confirmed cases linked to occupational exposure. However, it is prudent to take a precautionary approach. The highest potential risk in the context of occupational exposure is from exposure to high infectivity tissues through direct inoculation (e.g. as a result of 'sharps' injuries, puncture wounds or contamination of broken skin) and exposure of the mucous membranes (e.g. conjunctiva) should also be avoided.

Healthcare personnel who work with patients with definite, probable or possible CJD or vCJD, or with potentially infected tissues, should be appropriately informed about the nature of the risk and relevant safety procedures.

4.3.8 Storage of instruments for research purposes

In some cases, instruments which are destined for disposal by incineration may be retained for uses in research. Anyone considering such a course of action should contact the Surgical Instrument Store, Health Protection Agency, Porton Down on 01980 612643 (answer phone on out-of-hours) to discuss whether it would be helpful to retain a particular instrument for research, and where and how it should be stored.

4.3.9 Community healthcare

No special measures over and above standard infection control precautions are required for caring for CJD patients in the community. Although CJD and vCJD are not though to present a risk through normal social or routine clinical contact, those caring for patients at home should be advised of the standard infection control practices that would apply to any patient.

Spillages of body fluids, including blood, should be removed using absorbent towels e.g. kitchen paper and the surface washed thoroughly with detergent and warm water. Disposable gloves and an apron should be worn.

4.3.10 Dentistry

The risks of transmission of infection from dental instruments are thought to be very low provided optimal standards of infection control and decontamination are maintained. General advice on the decontamination of dental instruments can be found in guidance prepared by the British Dental Association (BDA) on 'Infection control in dentistry'.

There is no reason why any patients or their relatives should be refused routine dental treatment. Such people can be treated in the same way as any member of the general public.

4.4 TUBERCULOSIS

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis* and rarely by *Mycobacterium bovis*, or *Mycobacterium africanum*. The lungs are the most frequently affected site although miliary TB (the result of blood borne spread) may affect the meninges, kidneys or bone.

TB infection is said to occur when TB bacteria are in the body, but the immune system controls them and the infection heals spontaneously. Disease may develop over the coming weeks and months and in about 10% of people infection reactivates in later life causing active disease. People with TB infection have no symptoms, and cannot spread TB to others.

TB disease is said to occur when TB bacteria are present in the body and cause symptoms making the person feel unwell. These symptoms may include a cough, weight loss, fever, fatigue, night sweats and loss of appetite. Sometimes people with TB in the lungs may also cough up sputum streaked with blood. Symptoms in some people may be only mild and in others more severe, but all will be likely to spread the infection before treatment is commenced.

4.4.1 Transmission

The infection can be acquired in several ways, but by far the most important is the inhalation of organisms in airborne droplets coughed by a person with TB of the lungs. Prolonged, close contact is usually required for transmission of infection from person to person. The people likely to be affected would include people living in the same house as the case and those with whom they socialise on a frequent basis. The type of work environment will be assessed for risks to colleagues from the case.

4.4.2 Prevention

Prompt identification of cases and contacts is necessary to reduce the spread of infection. **The notification of each case to the Health Protection Unit**, by the clinician in charge of the case is a statutory requirement, and facilitates the **contact tracing** process where it is not carried out by respiratory nurses. The National Enhanced Surveillance forms, should be used for this purpose.

Bacillus Calmette-Guerin (BCG) immunisation confers a degree of immunity and has been shown to protect against TB with an efficacy of greater than 70% in British schoolchildren, with protection lasting at least 15 years. There is a schools programme of immunisation within Cambridgeshire.

Neonatal BCG is recommended by the DoH and British Thoracic Society (BTS) for babies born to immigrants from countries with a high prevalence of TB, i.e. where local incidence exceeds 40/100,000 population per year.

Health care workers who have contact with infectious patients or their specimens should also be protected by immunisation.

All entrants to the UK planning to stay longer than 6 months should be screened for TB Port forms are part of this process and if appropriate entrants will be contacted to attend a chest clinic for investigation.

4.4.3 Control

Early identification and treatment of cases especially sputum **smear positive** is vital in the control of TB, and good communication networks between health care professionals is essential. Prompt identification of **close contacts** is necessary for screening purposes. Screening of new arrivals and refugees and asylum seekers should be undertaken.

4.4.4 Treatment

This is usually for a minimum of 6 months and during this period patients should receive regular checks not only to ensure that they are compliant with their medication but to provide support and note if there are any side effects. Patients who have infectious TB are not usually considered infectious after 2 weeks of anti-tuberculous therapy.

Multi-Drug Resistant TB

This can occur if treatment is not completed as prescribed.

Drug resistance is more common in people who:

- have spent time with someone with drug resistant TB;
- do not take medication regularly;
- do not take all the prescribed medication;
- develop TB disease again, after having taken TB medication in the past;
- come from areas where drug resistant TB is prevalent.

Multi-Drug Resistant TB is a very serious problem, which must be monitored by a specialist respiratory clinician in consultation with the Consultant Microbiologist.

4.4.5 Quick reference guide

A quick reference guide for health professionals is also available from the NICE website (***WWW.NICE.ORG/CG033QUICKREFGUIDE***) or from the NHS Response Line (telephone 0870 1555 455; quote reference number N1008).

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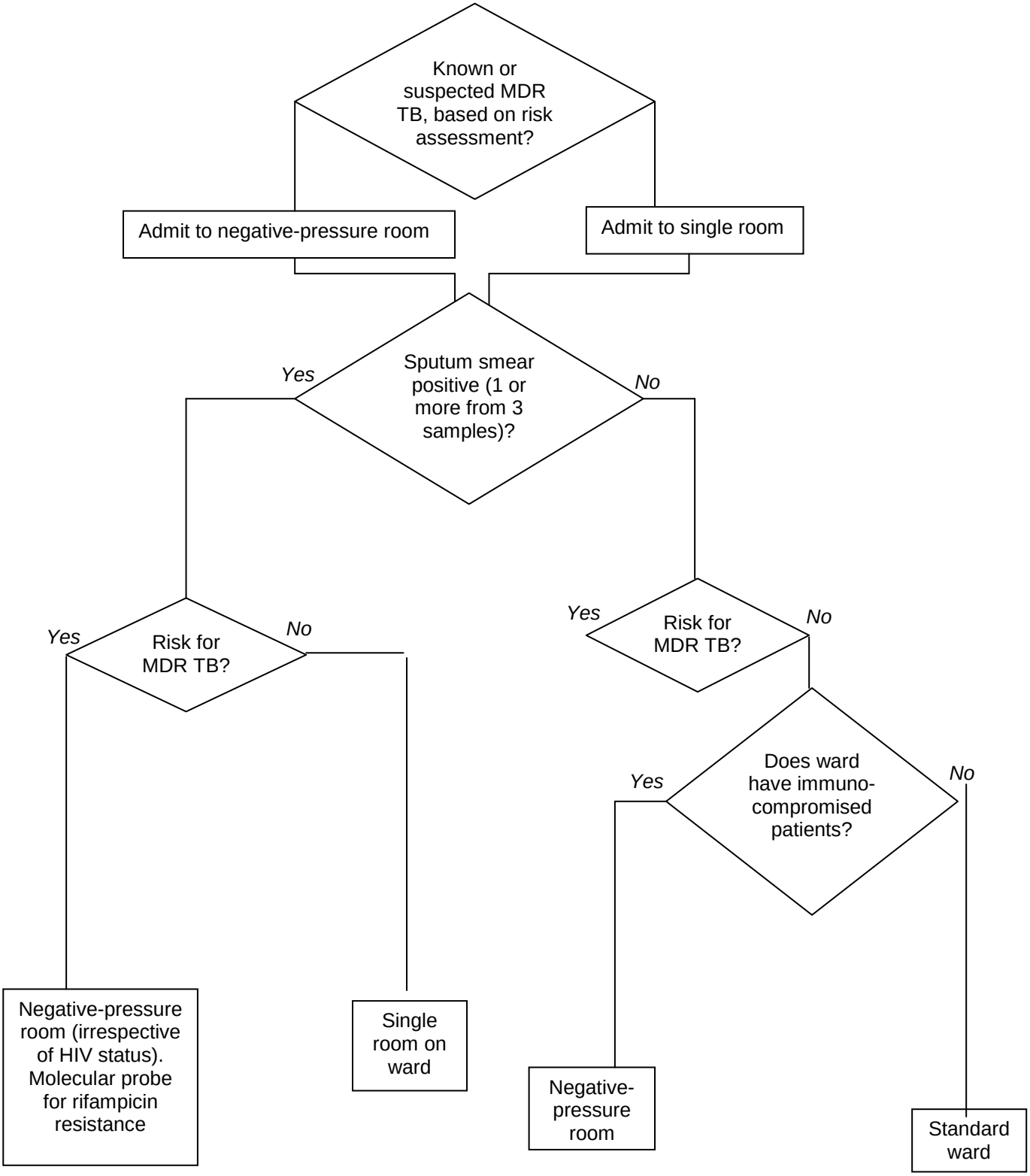
APPENDIX 1 – Section 4.4

Isolation decisions for patients with suspected respiratory TB



4.5 GASTRO-INTESTINAL DISEASES

4.5.1 Hepatitis A

The illness caused by Hepatitis A is usually mild, symptoms usually improve and disappear as jaundice develops. Fulminating disease can occur, but this is found to be overall less than 0.5%. Only 5% of children under 3 years develop jaundice, but this rises to about 50% in adults. The fatality rate also rises with age to approximately 2% in adults.

The Department of Health recommends vaccination against Hepatitis A for certain occupational groups such as sewerage and laboratory workers who may come into contact with it during their work. There is no evidence available that identifies health care workers as high risk, therefore, routine vaccination is not recommended. Other areas such as residential institutions for those with learning disability and challenging behaviours should conduct a risk assessment and provide measures to protect both staff and residents.

A much more serious illness may occur when patients with chronic liver disease become infected. Although these people are at no greater risk of acquiring Hepatitis A than the rest of the population they should be considered for immunisation. This group may include intravenous drug abusers with chronic liver disease and haemophiliacs. The **local environmental office** must be informed of cases of Hepatitis A.

4.5.2 Vaccination and Control

Hepatitis A is not part of the routine UK childhood schedule.

The regime for adults is a single dose of vaccine. A booster dose at 6-12 months results in a substantial increase in antibody titre and will give immunity for up to 10 years. The regime for children up to 15 years is a single dose of vaccine, however, immunity can be boosted by giving a second dose between 6-12 months.

Active protection for Hepatitis A normally starts approximately 2 weeks after the first dose of vaccine although some evidence suggests that this may be sooner. Immediate passive protection is offered by Hepatitis A immunoglobulin.

Vaccination is recommended for travellers to high risk areas and can be given to infants from 1 year of age. It is worth noting that those with a history of jaundice or who have lived for a long time in endemic areas may have become naturally immune as a result of infection.

In common with other inactivated viral vaccines the manufacturers advise caution during pregnancy or lactation unless the risk of infection is substantial. Passive vaccination with pooled immunoglobulin (a blood product with its own potential risks) is an alternative. This can be useful when active vaccination may be ineffective, e.g. in the immunocompromised. There is now evidence that active vaccination gives good protection against illness even if administered shortly before, or immediately after exposure. There are no carriers of the virus. Virus is normally excreted in bile 7-14 days before the onset of jaundice, excretion then declines over the next 5-7 days. Virus is present in both urine and faeces of infected patients.

Human immunoglobulin (HNIG) offers short term protection against hepatitis A for up to 4 months and is sometimes used in the control of an outbreak where it should

be given to close household contacts within 14 days of the inset of symptoms.

Hepatitis A vaccination in a defined population has been used to prevent further infections. However guidance should be sought from the Health Protection Unit.

4.5.3 Hepatitis E (HEV)

The clinical course of this infection is similar to that described for hepatitis A. There is no evidence of a chronic form and the case fatality rate is generally the same as hepatitis A.

Diagnosis depends on clinical and epidemiological features and exclusion of other aetiologies of hepatitis, especially A, by serological means.

Primarily the faecal-oral route transmits hepatitis E. Outbreaks of HEV and sporadic cases have occurred, principally in countries with inadequate environmental sanitation.

Period of communicability is not known; it has been detected in stools 14 days after onset of jaundice and approximately 4 weeks after oral ingestion of contaminated food or water. Control of infection is the same as that described for hepatitis A, although no vaccine is available.

4.5.4 Salmonella, Shigella and Campylobacter

These are **notifiable** infections and some of the most common causes of gastrointestinal disease.

A stool sample is usually required to provide a definitive diagnosis but notification should be made on an index of suspicion to the environmental health department.

Salmonella is the second most commonly reported cause of infectious intestinal disease in the UK and can result in large outbreaks particularly due to food borne transmission. All cases are reviewed by the environmental health officers and follow up of cases carried out. Person to person spread may occur through the faeco oral route without food as an intermediary. This risk is highest during the diarrhoeal phase of the illness and risks are greater among babies and toddlers and faecally incontinent adults. Incubation ranges from 6 hours to 3 days or occasionally longer and the period of infectivity varies considerably, but is usually a few days to a few months. However approximately 1% of adults and 5% of children under 5 will excrete the organism for at least a year.

Shigella are a group of bacteria that cause intestinal infection including bacillary dysentery. Numbers of reports have decreased dramatically since the fifties and sixties when 20-40,000 cases were reported annually. Shigellosis is primarily a disease of children with the highest rates in the under fives, followed by the 5-14 age group. Common settings for outbreaks of S.Sonnei are schools and nurseries. Man is the only significant reservoir of infection and transmission is via the faeco oral route either directly or by contaminated food or water. Food borne outbreaks are relatively rare.

The incubation period is between 12 and 96 hours, but may be up to a week for some strains. The infective dose is very low; and may follow ingestion of as few as 10 organisms. Cases may maintain low levels of infectivity for up to 2-4 weeks.

Campylobacter species causes diarrhoeal and systemic illness in humans and

animals and is the most commonly identified cause of infectious intestinal disease in developed countries. Campylobacter is found in the gastrointestinal tract of birds and mammals and animals develop a lifelong carrier state. Although food borne outbreaks are rarely identified occasional large outbreaks due to contaminated water or milk may occur.

Campylobacter infection may vary from asymptomatic (about 25%) to a severe disease similar to ulcerative colitis or acute appendicitis. Most cases settle after 2-3 days of diarrhoea. Incubation is related to the dose ingested usually about 3 days, but with a range of 1-10 days. Person to person may occur, but is likely to be associated with poor hygiene. Duration of excretion may be up to 7 weeks falling exponentially after the end of symptoms.

Campylobacters are commonly found in bulked raw milk samples, but properly conducted pasteurisation destroys the organism.

If any of the above are suspected every effort should be made to segregate the person if in a residential setting, and specimens collected and precautions taken such as use of gloves and aprons and thorough hand washing.

VIRAL INFECTION

4.5.5 Small Round Structured Virus (SRSV)

This section covers gastroenteritis caused by calciviruses, particularly Norwalk like agents. Although generally causing mild illness, spread particularly in institutions may be rapid. Other causes of viral gastro enteritis include rotavirus, adeno virus and astrovirus. All ages are affected and although cases are reported throughout the year greater numbers are notified in the cooler months. Recorded outbreaks in the UK occur mainly in hospitals or residential institutions such as nursing homes although outbreaks have occasionally been reported in hotels, ships and schools.

This must be **notified** to relevant infection control team/environmental health departments and health protection unit.

SRSV infection is relatively mild, lasting 12-60 hours. Abdominal cramps and nausea are usually early symptoms, followed by vomiting and/or diarrhoea. Forceful vomiting is especially characteristic. Diarrhoea is usually mild with no blood mucus or white cells. Other symptoms may include anorexia, lethargy, myalgia, headache and fever. Illness may be debilitating in the elderly.

Transmission is person to person via the faecal-oral route either directly through contaminated food or water, or indirectly through contamination of environmental surfaces and other items. SRSV can remain viable for many days on curtains and carpets which might explain spread in some outbreaks. Humans are the only known reservoir of SRSV and the infectious period lasts until 48 hours after the resolution of symptoms. Every effort should be made to segregate any individual suspected of infection and specimens collected. Thorough handwashing and use of protective clothing is important in reducing spread.

Electron microscopy of faecal specimens collected early on is the mainstay of confirmation of the infection. **Specimen forms should clearly state a request for virology ? SRSV.**

If laboratory confirmation is lacking, clinical symptoms can be used to assess the likelihood of an outbreak.

4.5.6 Rotavirus

Rotaviruses are the commonest cause of childhood diarrhoea. Peak incidence is at 6 months to 2 years of age and clinical infection is unusual above 5 years. Onset is usually sudden with vomiting and diarrhoea but illness usually only lasts a few days. Confirmation is by electron microscopy and serology may also be used. Spread is person to person via the faeco oral route although there may also be spread from respiratory secretions and sometimes contaminated water. Outbreaks may occur in any setting where the virus may contaminate the environment. Incubation is usually 1-3 days. Every effort should be made to segregate a person with infection and specimens should be collected and sent to laboratory promptly. Thorough handwashing and the use of protective clothing will help in the reduction of spread to other susceptible individuals.

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4.6 METHIILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* (MRSA)

Staphylococcus aureus is a type of bacterium carried in the nose and on the skin usually without causing harm. However, in certain circumstances, particularly when the patient is elderly and living in residential care or terminally ill in a hospice or at home, *staphylococcus aureus* can cause infections. *Staphylococcus aureus* also represents problems to certain acute hospital units, especially surgical, intensive care and burns, where the patient is immuno compromised and the skin is not intact due to invasive procedures such as wounds and intravenous infusion.

Some strains of *staphylococcus aureus* have become resistant to methicillin (a once commonly used antibiotic), as well as to other antibiotics. Methicillin resistant *staphylococcus aureus* (MRSA) behaves in the same way as ordinary *staphylococcus aureus* and does not cause more severe or different infections. However, MRSA is more difficult to treat as there are fewer antibiotics with which to treat it, and some of these antibiotics must be given by injection or infusion. They may also have unpleasant side effects. MRSA rarely causes infection in healthy people.

Outside acute hospital units people may carry MRSA without it causing harm to themselves or others. They are said to be MRSA carriers or to be colonised with MRSA. Although attempts are made to eradicate colonisation in acute hospital patients, this is not always necessary for patients in low-risk clinical areas of the hospital, or anywhere where the situation is similar to that found in community residential or nursing homes.

Carriage of MRSA is not a contraindication to the transfer of a patient to a nursing or residential home or their own home. There is also no indication for routine screening before hospital discharge to the community. MRSA carriage should not be a reason for discriminating against individuals. Should a patient need to be admitted to hospital, then they should inform the hospital that the patient is, or has been, positive for MRSA.

4.6.1 Control and Care in the Community

- Isolation of MRSA carriers is, generally, not necessary in residential/nursing homes.
- A colonised person without open wounds may share a room if the other person does not have open lesions, but a colonised person who has open wounds should be in a single room, if one is available.
- All cuts or breaks in the skin of staff or patients should be covered, with an impermeable dressing.
- The patient should be encouraged to practice normal hygiene with hand washing after using the toilet and before eating.
- If a resident of a nursing home, the patient may also join other residents in communal areas, such as sitting or dining rooms, providing any sores or wounds are covered with a dressing.
- No special precautions are necessary with crockery or cutlery.
- Clothes and bedding should be machine washed, preferably on a hot-wash setting, or dry-cleaned if unsuitable for machine washing, or in accordance with manufacturers instructions.
- Equipment that has been in contact with the patient such as a commode should be thoroughly cleaned with detergent and water.
- Positive patients may be transported with other patients in the same vehicle without special precautions (other than those mentioned above). No extra cleaning of the vehicle is usually necessary.
- All staff should maintain good infection control practice when carrying out nursing procedures on all patients regardless of MRSA status.

4.6.2 Eradication of MRSA in colonised patients

Good hand washing practice by staff and patients is the single most important infection control measure and is essential to prevent spread of MRSA as well as other infections.

Older people who are generally healthy, but frail are at minimal risk of developing an infection when colonised with MRSA. It is not always possible to eradicate MRSA, and routine screening is not necessary unless there is a clinical reason (e.g. a wound is getting worse). In this situation, swabs should be taken for general microbiological investigation, not just MRSA screening, although the laboratory will need to be informed that the resident is, or has been, positive.

In certain cases it may be necessary to attempt to eradicate colonisation. Frail, elderly people recovering from surgery or serious illness may not be able to tolerate MRSA sensitive antibiotic treatment, whilst topical antiseptics may exacerbate pre-existing skin conditions or cause irritation. However, if the benefits clearly outweigh any potential drawbacks, medical staff may prescribe an eradication programme. In 1998 the Working Party recommended in the 'Revised Guidelines for the Control of Methicillin-Resistant *Staphylococcus Aureus* Infection in Hospitals' the following prescribed treatment of carriers, colonised sites and infections.

3.6.3 Nasal carriage

2% Mupirocin in a paraffin base (Bactroban Nasal) 3 times a day to each nostril for 5 days. Swab 2 days later. If the patient is still positive - repeat treatment once. If still positive contact should be made with the consultant microbiologist.

3.6.4 Skin carriage

MRSA in any site – bathe daily for 5 days with Octenisan. Moisten skin, apply solution thoroughly to all areas before rinsing in bath or shower. Wash hair in same

solution twice a week (day 2 and 4). Pay special attention to axilla, groin, perineum and buttock area. If not eradicated, the course may be repeated. It is necessary to change towels and flannels/cloths daily, as well as bed linen.

Daily damp dusting of the patient's bedroom, careful hygiene and general domestic cleaning should be thorough.

Systemic treatment should be considered only in special circumstances or if there is significant local skin infection.

3.6.6 Follow-up

Three negative swabs from previously positive sites should be obtained before accepting that MRSA has been cleared. However there may be individual circumstances where patients are frequently positive. Indivial guidance can be obtained through the Consultant Microbiologist.

Risk factors for acquisition of MRSA apart from antibiotic treatments include frequent to healthcare settings and nursing / residential homes.

Please note: There may be some local variation between the acute trusts in their management of MRSA colonisation/infection. Where appropriate please follow the advice given for individual cases.

4.6.3 Care of the Patient in their Own Home

Carers who attend a patient with MRSA in their own home usually require no special management apart from routine practice of hand decontamination and use of protective clothing for procedures where contamination is possible. This should be no different to care delivered to other patients. However, the minimal risks to other patients could be reduced further by seeing patients with infections or MRSA colonisation at the end of the shift although this may not always be practicable.

If a patient has a wound with MRSA healing is the priority not eradication. Regular swabbing is rarely recommended as MRSA usually clears once healing has taken place.

4.6.4 Wound Carriage

Dressings containing certain antiseptics i.e. silver may be applied to infected or colonized wounds. These are unlikely to eradicate the organisms but should prevent further growth.

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MRSA

What is MRSA?
MRSA stands for Methicillin Resistant Staphylococcus Aureus. Staphylococcus aureus is a common bacterium, which is carried by 20- 40% of the population.

Methicillin is an antibiotic in the same group as penicillin. MRSA therefore means that the staphylococcus aureus has become resistant to treatment with these types of antibiotics. If someone has MRSA infection there are a limited number of antibiotics that can be used to treat the infection.

Is MRSA any more harmful than ordinary Staphylococcus?
No. The MR part makes no difference to the virulence of the infection.

What is the difference between being colonised and infected with MRSA?
Colonisation means that the MRSA is present on skin, nose or sometimes on leg ulcers, but it is not causing any harm to the person.

However, sometimes Staphylococcus aureus (and therefore MRSA) can cause an infection. This may be in any wound or the urine when the bacterium damages tissue. These types of antibiotic- resistant infections are more common in vulnerable patients.

Where does MRSA live on the body?
MRSA lives in the nose, armpits, groin, wounds and any tubes or drains which is why these are swabbed when looking for MRSA. It can also survive for a short time on hands, which is why good hand hygiene should be maintained especially after skin contact with the person.

How do you know whether the person is colonised or infected?
When a person is infected they will have signs and symptoms of an infection diagnosed by the Doctor. If they are colonised they are not ill and will not have any

How is MRSA spread?
On the hands of those caring for people who are carrying MRSA. It survives on skin, and as dust contains dead skin cells the environment should be maintained in a clean state.

What can I do to stop MRSA spreading to others?
Careful hand washing after helping with any personal hygiene, for example, helping with a wash or taking the person to the toilet.

Health care workers should wear gloves and aprons when they are undertaking personal care or dealing with body fluids.

Why then do people who are just colonised with MRSA get isolated in hospital?
This is done to stop MRSA spreading to other patients in hospital who may have had surgery or have other risk factors. It is not necessary to isolate people when they are in the community.

Can MRSA be treated?
Yes. This is referred to as 'decolonisation' and you can discuss this option with your doctor. Decolonisation is sometimes not as successful when people have skin conditions like eczema and psoriasis, or if they have a catheter, a drip or a large wound.

Where can I get more information?
More information is available from:

- Your GP or Practice Nurse.
- Your District Nurse.
- Manager of the nursing/residential home.
- The Public Health Protection Team Nurse or Community Infection Control Nurse.

signs or symptoms of an infection.	

APPENDIX 1 – Section 4.6

ADVICE FOR PATIENTS, RELATIVES AND FRIENDS

4.7 SCABIES, HEADLICE AND WORMS

4.7.1 SCABIES

What should you know about scabies?
Scabies is a parasitic infestation caused by a whitish, translucent mite, **Sarcoptes scabiei** that can burrow tunnels in the epidermis.

Transmission of scabies occurs by prolonged skin to skin contact and is increased in those individuals who harbour a greater number of parasites, e.g. immunodeficient patients.

The full life cycle of Sarcoptes scabiei from egg to adult takes 10 to 15 days. It has four stages: *egg, six legged larval stage, eight legged nymphal stage* and *adult*.

The fertilised adult female lives and lays eggs in the epidermis in small linear burrows that she forms by tunnelling. After the eggs hatch, the six legged larvae excavates a new burrow in a skin fold or hair follicle. Adult males move more actively between burrows seeking to mate.

When should you suspect scabies?
There are three main clinical manifestations of scabies: **classic** (the form that is usually seen), **atypical** and **crusted** scabies.

- **Classic scabies**
  Individuals present with an itchy symmetrical allergic rash, especially worse at night. Other allergic lesions such as papules or vesicles may accompany it.

  Normally, the incubation period in adults is 3 weeks, but in re-exposed individuals symptoms can present after 1 to 4 days.

  The areas that are particularly affected by lesions include the:

  - Interdigital web spaces of the hands.
  - Flexor surfaces of the wrists and elbows.
  - Axillae.
  - Male genitalia.
  - Women's breasts.

- **Atypical**
  In the atypical form, individuals usually have very minor symptoms with no itching or a diffuse papular lesion.

- **Crusted scabies**
  The crusted form is characterised by hyperkeratotic skin lesions (**Norwegian scabies**).

  Itchy bullous lesions, lichenification and or erthrodermic reactions may also be present.
  Lesions are particularly found on the:

  - Palms and soles, nail beds of hands and feet and wrists.
  - Buttocks and penis.

What should you do?

DIAGNOSE The definitive diagnosis of scabies is made by microscopic identification of the mites, eggs or mite faeces. Skin scrapings and detection of the mite at the end of its burrow are both recommended methods.

TREAT The infested individual and their close physical contacts should be treated at the same time. This includes household family contacts.

The lotion or cream is applied to the whole body with particular attention to the groin, fingernails, toenails and behind the ears. The product should be washed off as instructed by the manufacturer leaflet and clothes and bed linen changed.

The classic form of scabies usually responds to one or two applications of permethrin or malathion.
Benzyl benzoate is not first choice treatment because it is not ovicidal, multiple treatments are required, and it is an irritant.

In the crusted form of scabies at least three treatments may be necessary, 48 hours apart.

ADVISE Patients should be advised that itching could persist for up to 1-2 weeks after the end of correctly applied scabicide therapy.

All staff MUST inform Occupational/Staff Health if they suspect that they are infected.

4.7.2 Head Lice

What should you know about head lice?
The adult louse is 3mm long and spends its whole life cycle on human hair.
They can live on the scalp for up to 4 weeks but cannot live free of the head.

They do not jump or fly, and can only be spread by prolonged contact of more than one minute.

Infection with head lice is most common in children aged 6-11 years.

It is usually asymptomatic (only 15-35% of people experience itching) although re-infections are likely to produce itching.

When should you suspect head lice?
A diagnosis of head lice can only be made if a **living, moving louse** is found.

It cannot be based on the presence of nits (the empty shell) alone, as nits can remain stuck to hair long after an infection has been eradicated.

Head lice and live eggs are difficult to see, and in most infections at any one time there are approximately 10-12 lice on the scalp.

Usually, it is easier to find head lice on damp hair using a specially designed plastic detection comb. Ideally, combing should be done over a pale piece of paper.

What should you do?

DIAGNOSE t is essential to make the correct diagnosis, verified by direct observation. Ask for verification from the parent by instructing them to bring the louse stuck to a piece of paper with sticky tape.

TREAT Treatment is only required for those who are infected, there is no need to automatically treat all household members.

Insecticides

This is the only treatment for which there is clear evidence of effectiveness. There are three types of head lice insecticides available: malathion, pyrethoids and carbaryl.

Recommended products

First choice:

- *Malathion: Suleo M, Derbac M Lotions*
- *Pyrethoids: Lyclear creme rinse, Full Marks liquid, lotion or mousse*

For treatment failures try Carbaryl: Carylderm liquid or lotion (prescription only).

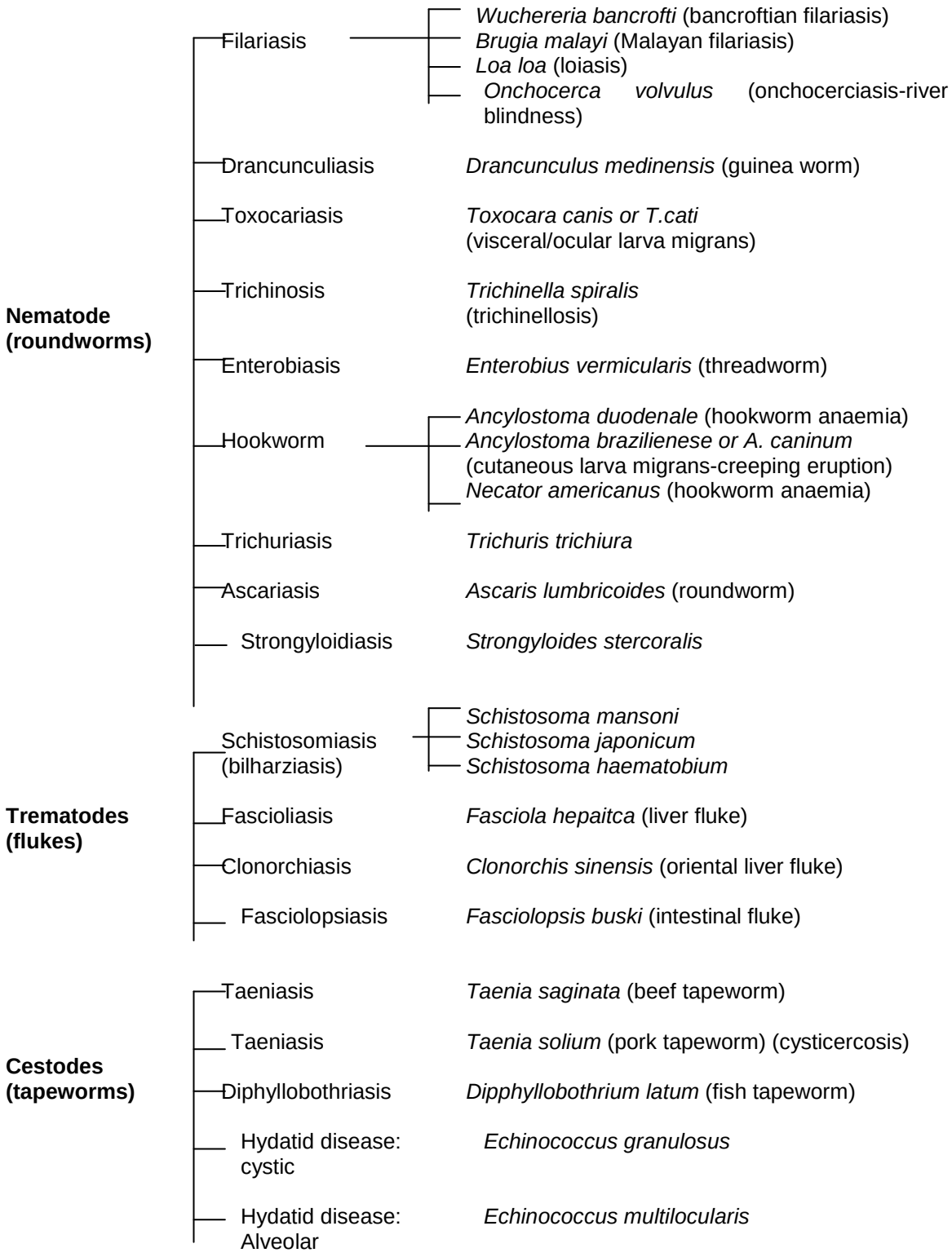
Each application will require a minimum of 50 mls (a small bottle), people with thick hair may need up to three bottles. Lotions and liquids need a contact time of at least 12 hours or overnight. Two applications are recommended, 7 days apart. A maximum of one treatment per week for three consecutive weeks should not be exceeded.

Bug Busting

An alternative treatment method is Bug Busting. This involves washing hair with shampoo, applying conditioner thoroughly, and combing hair with a plastic detection comb. The hair is combed until no more lice are found.

Each treatment session takes about 30 minutes, and has to be repeated every 3 to 4 days for a minimum of 2 weeks. At least three combing sessions are needed after the last adult louse is found. Bug Buster kits are available from pharmacies.

4.7.3 WORMS: A QUICK GUIDE



Reference:Medicine vol 25:2 1997

4.7.4 FILARIASIS

What causes it?
The nematodes Wuchereria bancrofti, Brugia malayi, Brugia timori.

Where is it found?
It is endemic in most of the warm humid regions of the world: Latin America, Africa, Asia and the Pacific Islands.

How do you get it?
It is transmitted by the bite of a mosquito that harbours infective larvae.

What are the symptoms?
They may be asymptomatic or present with recurrent fever, lymphadenitis, elephantiasis of the limbs and pulmonary eosinophilia syndrome. They are long threadlike worms that dwell in the lymphatic system.

How do you make the diagnosis?
It is diagnosed by the appearance of characteristic sheathed microfilariae on microscopic examination of peripheral blood. It usually takes three to six months before microfilariae appear in the blood for B.malayi and 6 to 12 months in W.bancrofti.

Is it communicable?
It is not transmitted from person to person.

4.7.5 SCHISTOMIASIS OR BILHARZIA

What causes it?
The trematodes Schistosoma mansoni, S. haematobium and S.japonicum

Where is it found?
Africa, Arabian Peninsula, Brazil, Suriname, Venezuela, Middle East, China and Philippines.

How do you get it?
By an individual working, swimming or wading in water contaminated with free swimming larval forms of Schistosoma (cercariae). The cercariae develop in snails but mature in the human lung and liver by entering the skin and then bloodstream. The adult forms migrate and remain in the veins of the abdominal cavity. Their eggs are deposited in the venules, but may escape or lodge in other organs including the liver and the lungs.

What are the symptoms?
The symptoms depend on the number and location of the eggs in the human host. For *S.Mansoni* and *S.japonicum* the symptoms include diarrhoea and abdominal pain. *S.Haematobium* usually gives urinary symptoms such as dysuria, frequency and heamaturia at the end of micturition.

How do you make the diagnosis?
Demonstrating live eggs in urine, stools or in a biopsy specimen.

Is it communicable?
It is not communicable form person to person.

4.7.6 ASCARIASIS OR ROUNDWORM INFECTION

What causes it?

The nematode *Ascaris lumbricoides*

Where is it found?
It is a common infection worldwide with a high occurrence in tropical countries.

How do you get it?
By the ingestion of infective eggs of *A. lumbricoides* from soil contaminated with human faeces or from uncooked produce contaminated with soil containing infective eggs.

Eggs when they reach the soil become embryonated (infective) after 2 to 3 weeks (summer temperatures) and may remain infective for several months or years.

The ingested infective eggs hatch in the gut lumen, and then the larvae penetrate the gut wall to reach the lungs via the blood stream. The larvae grow and develop in the lungs passing into the alveoli, and then ascend the trachea and are swallowed. They reach the small intestine where they mature 14 to 20 days after the eggs have been ingested.

The usual life span of an adult worm is 12 months.

What are the symptoms?
Usually, there are few or no symptoms. Live worms can be passed in the stools or occasionally from the mouth or nose. Some may develop lung symptoms caused by larval migration and characterised by wheezing, coughing, fever and blood eosinophilia.

How do you make the diagnosis?
Microscopic examination of faeces for eggs.

Is it communicable?
It is not directly communicable from person to person.

4.7.7 HOOKWORM INFECTION

What causes it?
The nematode *Nector americanus*, *Ancylostoma duodenale*, *A ceylanicum* and *A. caninum.*

Where is it found?
It is endemic in tropical and subtropical countries. *N.americanus* is a common species found in South East Asia, sub Saharan Africa and tropical America.

How do you get it?
Human infection occurs when the infective larvae penetrate the skin, usually the foot.

Under favourable conditions of moisture, temperature and soil type, larvae develop from eggs deposited on the ground in faeces. They become infective in 7 to 10 days.

The larvae of *A. caniinum* die within the skin having produced cutaneous larva migrans.

The other types of larvae enter the skin to the lung alveoli via the lymphatic system and bloodstream. They migrate up the trachea, are swallowed and reach the small intestine where they attach to the wall. They mature after 6 to 7 weeks and then produce thousands of eggs a day.

What are the symptoms?
Larval penetration of the skin can lead to intense local itching whilst larval migration to the lungs can lead to respiratory symptoms such as a cough and tracheitis. Larval

attachment to the gut wall is often asymptomatic, but in heavy infestations anaemia may result.

How do you make the diagnosis?
By microscopic examination of stools for eggs.

Is it communicable?
It is not transmitted from person to person.
However, infected people may contaminate the soil for several years.

4.7.8 STRONGYLOIDIASIS

What causes it?
The nematode *S.stercoralis*

Where is it found?
It is widely distributed in the tropics but it can occur in temperate climates.

How do you get it?
Free living adults produce eggs, *rhabditiform* larvae (noninfective) and *filariform* larvae (infective).
The *filariform* larvae can directly penetrate the skin to enter the circulation to the lungs becoming adults in the intestinal tissues.
In some individuals, rhabditiform larvae may develop to the infective stage before leaving the body and penetrate the intestinal mucosa and perianal skin.

What are the symptoms?
The most common symptoms are a rash and pruritus at the larval entry site. Larval migration may cause symptoms such as pneumonitis and intestinal symptoms can occur on maturation. The intestinal symptoms comprise epigastric pain, diarrhoea, flatulence and vomiting.

How do you make the diagnosis?
By identification of the larvae in stools.

Is it communicable?
As long as living worms remain in the intestine.

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4.8 MANAGEMENT OF CLOSTRIDIUM DIFFICILE POLICY

4.8.1 Introduction

Clostrium difficile (C.Difficile; C.Diff) is a spore-bearing anaerobic bacterium that is a major cause of healthcare-associated diarrhoea. It is often a compilation of broad-spectrum antibiotic therapy and is particularly associated with the use of Clindamycin, Ampicillin or Cephalosporins.

Clinical onset of Clostrium difficile associated with diarrhoea (CDAD) often occurs when patients are on antibiotics or within four weeks of finished a course of antibiotics.

Antibiotic prescribing should be in accordance with the Trusts prescribing guidelines, inappropriate administration of broad-spectrum antibiotics should be avoided, and prescribing should be regularly monitored, with feedback to prescribers as appropriate.

Diarrhoea may be self-limiting in some cases. Stools may be watery and/or bloody with a distinctive foul smell and green or yellowish-brown appearance. Patients may have related fluid and electrolyte disturbance and a low-grade temperature. In some cases pseudo-membranous colitis may result, which can be fatal.

The risk of colonisation with Clostrium difficile increases with the proximity of an infected person and the length of inpatient stay. Patient groups at risk are surgical, renal, older people and oncology. The incidence increases significantly in patients over the age of fifty years.

Transmission of infection can occur owing to the large numbers of organisms shed by an affected patient and from spores that can survive for prolonged periods in a dry environment. Prevalence of infection tends to be higher in the winter.

All cases of diarrhoea (3 or more loose stools in 24 hours), and particularly more than one case of diarrhoea on a unit within 48 hours, must be reported to the Infection Prevention & Control Team.

For more than one case of diarrhoea out of office hours, staff should contact the senior manager on call who should contact the on call microbiologist.

The Consultant in Communicable Disease Control (CCDC) at the Health Protection Unit should be called on to investigate and manage outbreaks of diarrhoea of any cause in independent care homes.

Any diarrhoea should be suspected of having an infective cause until proven otherwise. Standard infection control precautions must be used for contact with faecal matter, in particularly gloves and aprons must be worn and effective hand hygiene practiced.

4.8.2 Management of patients suspected of having Clostrium difficile associated diarrhoea (CDAD)

Patients must <u>not</u> be admitted of transferred into any inpatient unit if they have had any <u>diarrhoea within the previous 48 hours</u>.

The transferring hospital or unit must send a fax (signed by the nurse-in-charge) to the PCT unit to confirm that the patient has not had diarrhoea in the preceding 48 hours. This should arrive on the PCT unit before the patient leaves the transferring unit.

If a patient is admitted or transferred in with diarrhoea e.g. because of inaccurate information being supplied by the transferring hospital, an incident form must be completed and the Modern Matron and Infection Prevention& Control Team must be notified. Staff must make every effort to obtain accurate patient information from the transferring hospital to avoid this situation occurring.

Admission of a patient with diarrhoea on to an open ward, or to a double room in a nursing home, could put other patients at risk of infection. Therefore the points above must be strictly enforced in these areas.

Patients must not be transferred from ward to ward or from floor to floor within a unit if they have diarrhoea, unless this is necessary to move them to single room accommodation. Movement to other departments must be restricted and only on the advice of the Infection Prevention Control Team.

If a patient is suspected of having CDAD, follow these guidelines:-

- Maintain standard and contact infection control precautions and use soap and water for effective hand hygiene as, in the presence of bacterial spores, alcohol hand gel is less effective. Wash hands after any contact with the patient or their immediate environment.
- Patients with diarrhoea should be isolated in a single, where possible, en suite room. Any excess equipment should be removed from the room before the patient is isolated.
- Where isolation is not possible, due to a lack of single rooms, patients may need to be transferred back to single room accommodation at the hospital or unit from which they came. Please discuss this with the Infection Prevention & Control Team.
- If the patient is incontinent, wear gloves and apron from contact with faecal matter and dispose of these and other contaminated material as clinical waste.
- Treat contaminated laundry as infectious and place in a red alginate bag inside a clear outer laundry bag.
- If the patient is mobile, a toilet should be dedicated for his or her personal use, if this is feasible. Alternatively a commode should be designated for the use of a patient/patients with CDAD.
- On units with affected patients, there may be significant contamination with Clostridium difficile on toilets, bedpans, floors, the bed area, lockers, patient call buttons and the hands of personnel. Spores can survive for prolonged periods in the environment. Therefore thorough daily cleaning of equipment and the environment and disinfection with chlorine-releasing solution (e.g. Presept 1,000 ppm) is essential.
- Clean and disinfect toilet/commode seat, commode arm rests and toilet flush lever after each use by a patient with CDAD.
- Clean and disinfect frequently touched surfaces such as taps and door handles at regular intervals (i.e. 6 times per day) during an outbreak of CDAD.
- Separate cleaning equipment must be clearly marked and used for isolation rooms and toilets used by patients with CDAD. Disposable cloths must be disposed of after each use.

Specimens must be sent to the laboratory as soon as possible. A diarrhoeal sample occupies the shape of its container. Non-diarrhoeal stools should <u>not</u> be sent for Clostridium difficile screening. For any patient with potentially infectious diarrhoea, send

a specimen of stool (five to ten millilitres) for 'bacteriology, including Clostridium difficile toxin testing,' to the laboratory immediately following collection.

Collect a further stool specimen from the same episode of diarrhoea for virology 9electron microscopy) to eliminate other infective causes, such as norovirus and rotavirus.

In consultation with medical staff, check the prescription chart and stop laxatives and iron supplements if currently prescribed. Consider the use of Brewer's Yeast, which has been found to be effective in alleviating CDAD. Dietary changes may help to relieve symptoms.

Request that medical staff review antimicrobial medication (particularly if the patient is receiving broad-spectrum antibiotics) and discontinue antibiotics if clinically indicated. Discuss alternative treatment with Microbiology or the Pharmacist if necessary.

Anti-diarrhoeal agents should be avoided if Clostridium difficile is suspected, as these may aggravate colitis symptoms, which could lead to toxic megacolon.

Isolation of the patient may be discontinued when the patient has not had diarrhoea for 48 hours. Transmission of Clostridium difficile to others does not occur in the absence of diarrhoea and there is no need for further stool samples to be sent for toxin testing. However, it should be recognised that the stools may remain positive for the toxin some time after resolution of symptoms.

After the patient comes out of isolation, the room should be terminally cleaned, i.e. all surfaces cleaned with hot water and detergent, following by disinfection with Presept 1,000 ppm and all curtains laundered.

Microbiology and Pharmacy should be consulted for advance on further antibiotic treatment.

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Appendix 1 – Section 4.8

A simple guide to Clostridium difficile for staff

This guide explains that Clostridium difficile is, how it has developed and ways in which it can cause infection.

Clostridium difficile is the major cause of antibiotic-associated diarrhoea and colitis, a healthcare associated intestinal infection that most affects older people with other underlying diseases.

Background

Clostridium difficile is a bacterium of the family of Clostridium (the family also includes the bacteria that cause tetanus, botulism and gas gangrene). It is an anaerobic bacterium (i.e. it does not grow in the presence of oxygen) and it produces spores that can survive for a long time in the environment. Its usual habitat is the large intestine, where there is very little oxygen. It can be found in low numbers in small proportion (less than 5) of the health adult population. It is kept in check by the normal 'good' bacteria of the intestine. It is common in the intestine of babies and in fact but does not cause disease because its toxins (*the points sit produces), do not damage their immature intestinal cells.

Although Clostridium difficile was first described in the 1930's, it was not identified as the cause of diarrhoea and colitis following antibiotic therapy until the late 1970's.

What does it cause?

Clostridium difficile can cause diarrhoea ranging from a mild disturbance to a very severe illness with ulceration and bleeding from the colon (colitis) and, at worst, perforation of the intestine leading to peritonitis. It can be fatal.

Generally it only able to do this when the normal healthy intestinal bacteria have been killed off by antibiotics. When not held back by the normal bacterial, it multiplies in the intestine and produces two toxins (A & B) that damage the cells lining the intestine. The result is diarrhoea.

Who gets Clostridium difficile infection?

Patients who have been treated with broad spectrum antibiotics (those that affect a wide range of bacteria, including intestinal bacteria) are at greatest risk of Clostridium difficile disease. Most of those affected are older people with serous underlying illnesses. Most infections occur in hospitals (including community hospitals) and nursing homes, but infections can also occur in primary care settings.

How does it spread?

Although some people can be healthy carriers of Clostridium difficile, in most cases the disease develops after cross infection from another patient, either through direct patient to patient contact, via healthcare staff, or via a contaminated environment. A patient who has Clostridium difficile diarrhoea excretes large numbers of the spores in their liquid faeces. These can contaminate the general environment around the patient's bed (including bed tables, lockers, call buttons, equipment), toilet areas, sluices, commodes and bed pan washers. Spores can survive for a long time and can be a source of hand-to-mouth infection for others. If these others have also been given antibiotics, they are at risk of Clostridium difficile disease.

How is it diagnosed?

A sample of diarrhoeal faeces is tested for the presence of the Clostridium difficile toxins (A and B). This is the main diagnostic test and gives a result within a few hours.

In outbreaks, or for surveillance of the different types circulating the population, Clostridium difficile can be cultured from faeces (this involves the local laboratory sending specimens on to the regional Health Protection Agency laboratory) the isolates can then be sent on to the anaerobe reference Laboratory (National Public Health Service, Wales; Microbiology, Cardiff) for ribo typing and testing for susceptibility to antibiotics.

How common is it?

When Clostridium difficile was first recognised as the cause of antibiotic-associated diarrhoea and colitis in the late 1970's, laboratory diagnosis was difficult and the number of cases was not monitored. Since 1990, laboratories have reported the number of cases diagnosed to the Health Protection Agency in a voluntary system. The number of reports increased from less than 1,000 in the early 1990's to 22,000 in 2002, 28,000 in 2003 and 44,488 in 2004. Some of this increase was due to improved diagnostic tests and improved reporting by laboratories, but there has clearly been a very significant increase in the number of cases.

Since January 2004 Clostridium difficile has been part of the mandatory surveillance programme for healthcare associated infections in acute Trusts.

What is Type 007 and why is it of concern?

The typing system analyses part of the Clostridium difficile DNA (chromosome) in a test called ribotyping. Over 100 types have been identified. Type 007 was rare in the UK, the first isolate was identified in 1999 and the second in 2002. Individual isolates were identified in 2003-5. When outbreaks at Stoke Mandeville and the Royal Devon and Exeter Hospitals were investigated in 2004-5, Type 027 was found to predominate in their cases. The same type has caused a large outbreak of severe disease in hospitals in Canada (Quebec) and north eastern USA since 2000. Type 027 produces greater quantities of the toxins than most other types of Clostridium difficile because a mutation has knocked out the gene that normally restricts toxin production. It causes a greater proportion of severe disease and appears to have a high mortality. It also seems to be very capable of spreading between patients.

Prevention and control

Important components in the prevention and control of Clostridium difficile disease are:

- Antibiotic prescribing policies to reduce the use of broad spectrum antibiotics
- Isolation of patients with Clostridium difficile diarrhoea and enhanced infection control practice
- Hand washing (not replying solely on alcohol gels as these do not kill the spores)
- Wearing gloves and aprons, especially when dealing with bed pans and commodes
- Enhanced environmental cleaning and use of a chlorine-releasing disinfectant where there are cases of Clostridium difficile disease, to reduce environmental contamination with the spores.

Appendix 2 – Section 4.8

Information for patients and carers on Clostridium difficile

What is Clostridium difficile?
C.diff stands for Clostridium difficile, which is bacterium (germ). Clostridium difficile lives in the bowel of some people without causing any illness.

Why does Clostridium difficile make people ill?
Clostridium difficile makes people ill when the germs increase in the bowel and start to produce a toxin (poison) which causes diarrhoea.

Antibiotics can contribute to Clostridium difficile illness as they kill the normal 'good' bacteria that live in the bowel. Clostridium difficile is resistant to these antibiotics so it is able to increase in number and then produce the toxin, resulting in the infection.

What is the treatment?
How we treat Clostridium difficile will vary from one person to another because every patient is an individual case. There are specific antibiotics that can be given to reduce the number of Clostridium difficile germs in the bowel. Whenever possible you will stop taking the antibiotics that were originally prescribed. This will give your bowel a chance to recover and the normal protective bacteria will start to grow again.

Will I be isolated?
Clostridium difficile can be passed from one person to another. You may be given a single room if one id available. Alternatively you may need to be placed at one end of a ward or in the same area as other patients with the infection, to make it easier to protect those that not affected.

You should wash your hands very thoroughly with soap and water after using the lavatory and before any meals. If you have any concerns about standards of cleanliness on the ward or unit, please speak to the nurse in charge.

Are my visitors at risk?
No, not if they are in good health. It is also safe for pregnant women to visit you. Your visitors do not normally need to wear gloves or an apron, but they should thoroughly wash and dry their hands with soap and water before leaving your room or bed area.

Further information
Thank you for reading this leaflet. We hope you have found it useful. If you need any further information, please ask the nurse or doctor who is attending to your care. If necessary, they can arrange for you to speak to one of the Infection Prevention & Control nurses.

SECTION 5 : OUTBREAKS

5.1 INTRODUCTION AND PURPOSE

This is a clinical policy for use in the organisation's inpatient services within Cambridgeshire Community Services. This document provides guidance on outbreak of communicable diseases which would not engage the Major Outbreak Policy.

The purpose of this document is to provide clear infection control guidelines and a management process for the closure of an inpatient setting following the identification of an outbreak of transmissible infection. It supplements the guidance provided in the Organisation's Outbreak Plan/Policy.

5.2 DEFINITIONS

Outbreaks of infection within a hospital or healthcare setting vary greatly in extent and severity; ranging from a few cases restricted to a single ward or area to a hospital wide outbreak involving many services, patients' staff and visitors. The number of cases required for a situation to be regarded as an outbreak varies according to the infectious agent, severity of symptoms and number of cases in a given time, period and location. National Health Protection definitions are followed by the Infection Prevention and Control Team (IPCT). The decision to classify a situation as an outbreak will be made by the IPCT in consultation with the Director of Infection Prevention and Control (DIPC) and the Consultant in Communicable Disease Control (CCDC Health Protection Agency). The IPCT will have the discretion as to whether or not to instigate an outbreak plan. Individual ward closures can be initiated without the activation of an outbreak meeting. If the safe operation of the hospital is compromised then an outbreak meeting will be called by the DIPC with expert advice from the consultant in Communicable Disease Control.

An outbreak is normally characterised by a cluster of similar infections occurring in one area of the Trust within a concentrated period of time. Total or partial closure may be necessary to prevent transmission if significant risks to patients and staff are identified following a risk assessment.

5.2.1 <u>Definition of Ward/Department Closure</u>
A closed ward/department is unable to accept new admissions or inter ward transfers; neither can it discharge patients to other health or social care premises.

5.2.2 Major Outbreak
Full guidance on the management of a major incident can be found in the organisation's Major Outbreak Policy.

5.3 CLOSURE OF A WARD/DEPARTMENT

Where two or more patients are complaining of diarrhoea and vomiting, the IPCT should be notified immediately during normal working hours. Out of hours the on call consultant microbiologist should be notified, ensuring that the IPCT have been contacted on the next working day.

The IPCT will assess the situation. Following a risk assessment the final decision to close a ward or department will be made by the IPCT.

5.3.1 If deemed necessary, the DIPC will convene an Outbreak Control Team meeting:

a) Membership of Outbreak Control Team:

- Infection Control Doctor (Consultant Microbiologist)
- DIPC
- Lead Nurse of Infection Prevention & Control
- Consultant in Public Health (Health Protection)
- Modern Matron
- Medical Director
- Communication Lead

b) The following may also be present:

- Occupational health Advisor
- Catering Manager (if outbreak is food poisoning)
- Other Trust Managers, depending on nature of outbreak
- Director of Pharmacist Lead

c) The remit of the Outbreak Control team will be to:

- Discuss the situation relating to the outbreak and plan the appropriate action
- Ensure that the outbreak is reported to relevant public health bodies
- Ensure that infection control measures are in place and are working
- Monitor that adequate additional resources are available i.e. pharmaceutical supplies, cleaning, portering and laundry supplies
- Monitor progress and arrangement of containment
- Update the organisation's board on developments
- Provide infection control advice to health professionals and others
- Provide briefing for staff and patients/visitors
- Provide relevant information to the Communication Lead in the event of press enquiries for the outbreak investigation
- Review the outbreak when it is over and provide a final report with recommendation to the CE

5.3.2 For the duration of any period of closure the CE will be regularly informed and updated by the DIPC.

5.3.3 Guidance on caring for patients that require any additional or specific advice will be provided by the IPCT.

5.3.4 Staff transfers both into and out of departments should cease unless agreed by the MIPC.

5.4 REOPENING THE WARD

5.4.1 Ongoing review of the need for closure will be undertaken by the IPCT and reported to the interested parties and Outbreak Control Meetings (where appropriate). The IPCT will recommend the re-opening of a ward as soon as it is appropriate.

5.4.2 Once re-opening is sanctioned arrangements for terminal cleaning of the area will be made by the ward/unit manager and undertaken in advance of the re-opening.

SECTION 6 - QUALITY ISSUES AND AUDIT TOOLS

6.1 STANDARD SETTING, AUDIT AND CLINICAL GOVERNANCE

The effective control of preventable infections has always been seen as an indicator of the quality of care a patient may receive. Elements incorporated into a quality assurance framework continue to sit within an infection control strategic plan. Activities such as standard setting and audit programmes have become essential components of an infection control programme. Clinical governance is now emerged as an umbrella term of all these quality assurance programmes. Its broad aim is to reassure people that quality is the essence of healthcare at all levels of the organisation.

Accountability and responsibility for risk assessment and quality of care will be an issue for all health professionals not just those involved in clinical activity. Managers, including Chief Executives of NHS Trusts, have a clear responsibility for their risk assessments and the quality of the service they provide.

All practitioners will be expected to follow practices that are clinically safe, effective and evidenced based. Particular commitment will be given to following the guidelines and recommended practices introduced by the National Institute for Health and Clinical Excellence (NICE).

The commissioning PCT will monitor performance of NHS Trusts. This statutory body will offer support and advice to any NHS Trust that may be experiencing difficulties.

6.1.1 Clinical Governance

Clinical governance established the importance of canvassing the opinion of all service users particularly patients/clients. Users' opinions will be sought and valued. Encouragement of service users becoming involved with planning the future NHS will become a key element in clinical governance.

Embodied into clinical governance is the commitment to life long learning for all professionals, and a recognition of individual responsibility to identify learning needs and maintain professional development.

Points to be considered when reviewing practice:

- What systems are there in place?
- What risk assessments are required?
- Are the systems effective?
- Is there a need to review activity?

There are elements of clinical governance that are familiar such as:

- Standard setting.
- Clinical audit.
- Evidence based practice.
- Risk management.
- Life long learning.
- Team building.
- Peer review.
- Clinical leadership.

There are also more unfamiliar elements of clinical governance such as:

- Users involvement.
- Clinical supervision.

- Management of poor practice.
- Reflective practice.

6.1.2 Infection Control Programmes

Infection control in all health care settings is gaining a higher profile. In practice, large numbers of patients are seen and the potential for cross infection is substantial if good practice is not maintained. It is essential to maintain public confidence by the production, implementation and audit of robust policies and the documentation of activities such as sterilisation processes.

All action plans should commence with the setting of standards for infection control. An audit tool can be used to monitor infection control practices and provide data on compliance with policies within the primary setting. This data has other uses, including the planning of educational needs or evaluating the overall effectiveness of infection control programmes.

Following an audit it is important that all relevant staff are given the opportunity to discuss the findings. Urgent problems identified in the audit would have to be addressed at that time.

A report should be written that highlights areas of good practice as well as those of concern, along with recommendations and time scales for the recommendations to be put into practice.

Re-audit of the area will ensure that recommendations have been accepted.

REFERENCES – Section 6.1

Griffiths-Jones A (1999) Clinical Governance – Infection Control British Journal of Infection Control p20 May 1999

Infection Control Nurses Association (1998) 'Community Infection Control Audit Pack'. April 1998, reprinted June 1999 and February 2000. Edgbaston Birmingham