London Ambulance Service NHS
NHS Trust

Infection Control Procedure Manual

DOCUMENT PROFILE and CONTROL.

Purpose of the document To ensure that proper arrangements are in place concerning access to Patient Information held under the control of the LAS and maintaining the protection and disclosure of Patient Information to patients and others.

Sponsor Department: Health, Safety and Risk

Author/Reviewer: Practice Learning Manager. Review by Oct 2011

Document Status: Final

Amendment History			
Date	*Version	Author/Contributor	Amendment Details
	1.0		
28/04/08	2.1	Records Manager	Major – Document reformatted, Handwashing, 11.10, 14.2, 14.2.4, 15, table in section 16, 18, Appendix D, comments made through out.
17/09/08	2.2	Records Manager	Major – 5, 6, 11, Communicable diseases table, 13.
26/09/08	2.3	Head of Governance	Major – sections: 11, 12, 13.1,14, 15, Personal Hygiene, Phlebotomy in the London Ambulance Service NHS Trust, rational standard precautions
01/10/08	3.0	Practice Learning Manager, Head of Governance	Full review and update of all sections
06/10/08	3.1	Updates from ATOS OH, Logistics	Minor - Revised immunisation information Equipment Disinfection
27/11/08	3.2	Records Manager	Minor - Added ratification date
16/12/08	3.3	Records Manager	Minor – Appendix F added. Reference added to s.15 para 3.

***Version Control Note:** All documents in development are indicated by minor versions i.e. 0.1; 0.2 etc. The first version of a document to be approved for release is given major version 1.0. Upon review the first version of a revised document is given the designation 1.1, the second 1.2 etc. until the revised version is approved, whereupon it becomes version 2.0. The system continues in numerical order each time a document is reviewed and approved.

For Approval By:	Date Approved	Version
SMG	06/10/08	3.0
Ratified by:		
CGC	12/11/08	3.0

Published on:	Date	By	Dept
The Pulse	27/11/08	Records Manager	GDU

Links to Related Documents or References Providing Additional Information		
Ref. No.	**Title**	**Version**

Document Status: This is a controlled record as are the document(s) to which it relates. Whilst all or any part of it may be printed, the electronic version maintained in P&P-File remains the controlled master copy. Any printed copies are not controlled nor substantive.

Contents

QUICK REFERENCE GUIDE

The 2008 version of this document contains important updates to practice, which are highlighted below. This guide is not intended to replace a full review of the document by staff, but to draw attention to key issues.

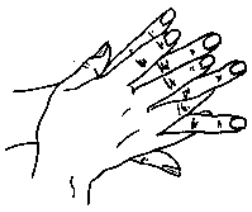
Cleanliness and Hygiene, Infection Prevention & Control

All staff are responsible for maintaining a high standard of hygiene and cleanliness in their personal presentation, area of work and service they provide. This can be achieved by using Standard Precautions;

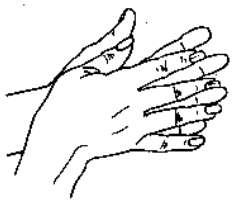
- Basic principles of hand hygiene
- Appropriate use of gloves and other personal protective equipment (PPE)
- Careful inspection & handling of 'clean' items
- Equipment and surface disinfection
- Safe disposal of waste

Handwashing and disinfection using soap and water, alcohol wipes or gel.

1. Rub palm to palm



2. Rub the backs of both hands



3. Rub palms again with fingers interlaced

4. Rub backs of interlaced fingers

5. Remember to wash both thumbs

6. Rub both palms with fingertips

7. Wash hands under running water using soap, rinse and dry thoroughly.

This handwashing technique is based on a procedure described by G.A.J. Aycliffe et al. J. Clin. Path. 1978; 31: 923
We would like to gratefully acknowledge ICI Pharmaceuticals UK for providing guide drawings.

Aseptic 'non-touch' Technique should include:

- keeping the exposure of susceptible sites to a minimum;
- ensuring appropriate hand decontamination prior to the procedure

- **additional hand gel application during activities when hands or gloves have handled non-sterile items (eg opening a packet);**

- using gloves where appropriate, and changing them if they become contaminated
- ensuring that all fluids and materials used are sterile;
- checking that all packs used are sterile and show no evidence of damage;

- **ensuring that contaminated and non-sterile items are not placed in the sterile field or 'clean area'**

- **handling sterile items with confidence and not touching 'key parts' (parts which come into contact with / are placed inside the patient*)**

- not reusing single-use items; and
- reducing staff and / or bystander activity (wherever possible) in the immediate vicinity of the area in which the procedure is to be performed.

* Key Parts; Needle shaft, Cannula tubes (any part beyond the winged area over the needle), Leur loc connections on all infusion lines and devices. Tip / male leur part of syringes. Spike of infusion sets, Endotracheal tubes (any part below the point which will lay at the patients lips), Any area of dressings that come in direct contact with damaged skin / puncture sites on patients

Category 3 Patients

There are two High Security Infectious Disease Units (HSIDU's) currently in operation in this country; Newcastle General Hospital in Northumberland and the Royal Free Hospital (RFH) in London where most patients from the London Ambulance Service NHS Trust (LAS) catchment area will initially be conveyed.

EOC will pre-alert the HSIDU that the crew have left scene and are en route. This will be done via the internal switchboard **(020 7794 0500) requesting extension 34017 or 34018** to alert the appropriate specialist staff that the ambulance is en route**. (There is a back up number direct to the HSIDU which is: 020 7830 2712.)**

Category 3 PPE Locations

- **West Area: Hillingdon Ambulance Station (1 kit)**
- **East Area: Camden Ambulance Station (1 kit)**
- **South Area: Deptford Logistics Support Unit (2 kits)**

1. Introduction

This manual has been developed as part of The London Ambulance Service NHS Trust's ongoing commitment to promote optimal standards of Hygiene, Infection Prevention & Control within the organisation. Its aim is to provide staff with an easy to use reference guide, that integrates relevant background information into a comprehensive LAS policy for everyday use.

The policy encompasses updated procedures that have been specifically designed to support staff in minimising the risks associated with infection prevention & control. It must be emphasised that every member of staff has a responsibility to reduce such risks, and adherence to the procedures contained in this manual will help ensure a safer environment for all concerned. In addition the increased potential for Biological (Chemical, Radioactive and Nuclear) contamination at incidents should feature as part of the environmental and scene safety assessment, where STEP 123 procedures should be followed (Appendix A).

Although the subject of Infection Control is broad and complex, the Department of Health are very clear that sustained practice of simple measures can have a major impact on reducing the transmission of infection between patients. The guidance contained within this manual reflects this and has received validation by external experts, and have in addition received approval from the LAS Medical Director.

All staff are responsible for maintaining a high standard of hygiene and cleanliness in their personal presentation, area of work and service they provide. This can be achieved by using Standard Precautions;

- Basic principles of hand hygiene
- Appropriate use of gloves and other personal protective equipment (PPE)
- Careful inspection & handling of ‘clean’ items
- Equipment and surface disinfection
- Safe disposal of waste.

Routine protection measures, which are more commonly referred to as 'Universal or Standard Precautions', follow the underlying assumption that all patients may be carrying an infection, or may have reduced immunity and be susceptible to infections. This in itself minimises a large area of risk from cross infection between patients and protection of staff, as the status of the vast majority of patients we convey is unknown.

Traditionally, the LAS has classified infectious diseases into one of three categories, and operated EOC/crew protocols that have been category specific. However, in adopting the comprehensive use of Standard Precautions, the need to retain the special measures of Categories 1 and 2 has now been negated. Our specialists have advised that the routine use of Standard Precautions is totally appropriate to the successful management of patients that previously fell within these two categories. Therefore, the old working practices associated with Categories 1 and 2 have been withdrawn, leaving only those patients with illnesses in Category 3 as requiring special measures.

This manual has been designed to allow for easy update, enabling the insertion of new information or procedural changes as required. Any such changes will be notified via the Routine Information Bulletin system, and the relevant updates distributed accordingly.

With the introduction of change, the Trust acknowledges the need to support staff with their understanding of the new procedures. This is one of the key purposes for the production of this manual, and it is hoped that its content will become largely self-explanatory. However, staff with any queries should contact either their health and safety representative, local manager, or any member of the training team, all of whom will be pleased to assist wherever necessary.

2. Policy Standards

Scope

The procedures detailed in this manual apply to staff of all grades, their managers, and those involved in the support and promotion of LAS Infection Control policy.

References

Technical References - (See Appendix E)
I.H.C.D. Ambulance Service Basic Training Manual
LAS Health & Safety Policy
LAS Accident/Incident Reporting Policy
Clean Safe Care; Reducing Infection, Saving Lives (DH, 2008)

Responsibilities

All staff have a responsibility to protect themselves, as well as making all reasonable efforts to safeguard the welfare of their patients and all other persons encountered in their daily duties. Adherence to the procedures contained in this manual will significantly assist staff in achieving this goal.

All Managers with operational or support service links to Infection Control are responsible for monitoring compliance with the procedures. This applies to the operation of the policy and/or in the supply of all specified equipment and materials.

All items of equipment that appertain to the procedures detailed in this manual are listed in Appendix A. Their respective LAS Supplies ordering number is also shown, and those responsible for replenishing station stocks must ensure that all orders correspond with the approved items listed.

The LAS Medical Director, in conjunction with our Infection Control Co-ordinator, Safety & Risk Advisers and external specialist, are all responsible for maintaining an ongoing review of this Policy. This will ensure that it remains current, and therefore continually reflects 'best practice' in the field of Hygiene, Infection Prevention & Control.

3. Basic Microbiology

Microorganisms and their Properties

The term microorganism, or microbe, is used to describe any organism which is too small to be seen with the naked eye. Many microorganisms live independently of man and those that are dependent, exist in a host-organism relationship that is generally harmless, and may even be mutually beneficial. Of the vast array of organisms, only about 50 or so species do in fact, cause harm to humans.

Microorganisms capable of causing disease are referred to as Pathogens. Infection is a pathological process which involves the damaging of body tissues by pathogens, or by the toxic substances produced by these pathogens. They generally thrive and multiply in darkness, warmth and moisture, and infection is usually accompanied by signs and symptoms in the patient, e.g. pain, swelling and/or fever. Pathogenic microorganisms may be classified as follows:

Bacteria are minute organisms about one-thousandth to five-thousandths of a millimeter across. They are susceptible to a greater or lesser extent to antibiotics.

Viruses are much smaller than bacteria and although they may survive outside the body for a time, they can only grow inside body cells. Viruses are not susceptible to antibiotics, but there are a few anti-viral drugs available which are active against a limited number of viruses.

Pathogenic fungi can be either moulds or yeasts. An example of a mould that causes infections in humans is ringworm, which can also infect nails. A common yeast infection is thrush, caused by an organism called *Candida albicans*.

Protozoa are microscopic organisms, but are larger than bacteria. Free-living and non-pathogenic protozoa include amoebae and paramecium. Examples of medical importance include *Giardia lamblia*, which causes enteritis, and the malaria parasite.

Worms are not always microscopic in size, but pathogenic worms do cause infection and some can spread from person to person. Examples include threadworm and tapeworm.

4. The Spread of Infection

Modes of Spread of Infection

An infectious disease can be transmitted by:

Direct Contact Direct spread of infection occurs when one person infects the next person by direct contact, i.e. via the skin, mucous membranes, or personal contact with contaminated body secretions/excretions. Sexually transmitted diseases are also examples of this mode of spread.

Indirect Contact Indirect spread of infection is said to occur when an intermediate carrier is involved in the spread of pathogenic microbes from the source of infection to another person.

Inhalation Inhalation spread occurs when microbes, exhaled or discharged into the atmosphere by an infected person, are inhaled by and infect another person.The common cold and influenza are often cited as examples, but it is likely that hands and fomites are also important in the spread of respiratory viruses.

Ingestion Infection by ingestion can occur when organisms capable of infecting the gastro-intestinal tract are ingested. When these organisms are excreted faecally by an infected person, faecal-oral spread may occur. Organisms can be carried by fomites or hands, or in food and drink, e.g. *Salmonella*.

Inoculation Inoculation infection can occur following a 'sharps' injury, when for example, blood contaminated with the Hepatitis B virus is inoculated into the blood stream of the victim, thereby causing an infection.

Fomite A fomite is an object which becomes contaminated with infected organisms, and which subsequently transmits those organisms to another person. Examples of potential fomites in the ambulance are resuscitation equipment, aspirators, splints, or practically any inanimate article.

Vectors A vector is an animal, usually an insect, that passively transmits pathogenic microbes. The common housefly is the most prevalent of these in the UK.

Hands The hands of ambulance staff, and others who handle patients, are probably the most important vehicles of cross-infection. Remember that the hands of patients can also be effective in carrying microbes to other body sites and equipment.

Air Droplet spread of infection causes inhalation spread of infectious disease e.g. chickenpox, mumps and measles.

The Chain of Infection

This refers to the process by which infection can be spread from one susceptible host to another, and can be thought of as a continuous chain. If the chain is allowed to remain intact, then infection can be transmitted to
another individual.

The Causative Organisms
To break the chain of infection, the causative organisms must be destroyed or rendered harmless. In the ambulance setting, many infection control measures are aimed at removing this link, e.g. the use of disposable equipment, or maintaining effective cleaning and disinfection procedures.

The Reservoir
In the ambulance, dust may act as a reservoir, although close attention to cleaning procedures will help reduce this link. A member of staff, or a patient, may also act as a reservoir of infection.

The Portals of Exit and Entry
The route by which a pathogen leaves its host is called the portal of exit, and the route by which it enters is called the portal of entry. The main portals of entry are:

- The Respiratory Tract through inhalation of organisms, e.g., tuberculosis, diphtheria and mumps.

- The Alimentary Tract through ingestion of contaminated food or water, e.g., salmonellosis and dysentery.

- The Skin and Mucosa either by the passage of organisms through damaged skin, as with infected wounds, or by the inoculation of organisms, e.g., Hepatitis B transferred from contaminated needles.

- The Placenta via transfer of organisms from the maternal circulation to the foetal circulation, e.g., rubella, cytomegalovirus and syphilis.

There are a number of routes by which infectious agents can leave their host. The exit route may be the same as that of entry, e.g. the respiratory tract in tuberculosis, or a different route, as in salmonella infections where the route of entry is usually via the mouth and the exit route is in the faeces.

Susceptible Host

For infection to occur once an organism has reached its target, the host must be susceptible. The competence of the body's innate and acquired defense mechanisms will affect whether or not illness occurs and the chain of infection may be broken at this point.

Host Defense Mechanisms

The concept and study of immunity goes back a long way in history. The Romans were aware that those who had recovered from an outbreak of plague could safely nurse new cases. We are also aware that the body has certain natural barriers against infection, such as the skin. If the skin is cut or damaged, infection can ensue.

Non-specific defense mechanisms are natural barriers which protect against invasion by pathogens. In addition, specific immune mechanisms are activated if an organism, for instance the measles virus, is able to evade the non-specific defense system. This specific response may not prevent an attack, but will ensure that a memory of the measles virus is retained so that the system can react quickly and destroy the virus when it is next encountered.

5. Rationale for Standard Precautions (Universal Precautions)

Effective control and prevention of healthcare associated infections (HCAI) should be imbedded into everyday practice and applied consistently by everyone.

In the pre-hospital environment there are three high risk areas for the transfer of infection to patients:

- Direct transfer through the hands of clinical practitioners or contaminated equipment
- Invasive devices e.g. I.V. cannulation
- The emergency environment

In addition, ambulance staff who come into contact with patients' blood or body fluids may be exposed to occupational risk from blood borne viral infections. The most likely means of transmission of these viruses to ambulance staff is by a sharps injury, scratches/bites, or by blood splashing onto broken skin or mucous membranes.

Body fluids which may contain pathogenic micro organisms are:

- Faeces
- Urine
- Vomit
- Sputum

The following may also contain the organisms of HIV or Hepatitis B / C:

- Blood
- Blood-stained body fluids
- Semen
- Vaginal secretions
- Body tissues
- CSF, amniotic, pericardial, pleural fluids etc.
- Exudate or other tissue fluid from burns or skin lesions

Most blood exposures in health settings are preventable. Standard precautions (which you may also see referred to as Universal Precautions) are a simple set of effective practices designed to protect ambulance staff and patients from infection. As it is not always feasible to identify those who are infected with bacterial and viral pathogens and take precautions only with them, these practices are used when caring for all patients.

All blood and body fluids are potentially infectious and standard precautions are necessary to prevent exposure to them. Decisions regarding the level of precautions to use should be proportionate to the possible risk based on the nature of the procedure and not on the actual or assumed infection status of the patient.

Standard Precautions are summarised in this manual, but should include:

- Hand washing before and after any direct contact with patients
- Cleaning hands with detergent wipes, followed by alcohol gel if soap and water are not available
- Safe disposal of sharps
- Wearing gloves for contact with blood and body fluids, non-intact skin and mucous membranes, and sharps or contaminated instruments
- Wearing a mask, eye protection and a plastic apron if blood or other body fluids might splash
- Wearing sleeve protectors where necessary
- Covering all cuts and abrasions with a waterproof dressing
- Promptly containing and carefully cleaning up spills of blood and other body fluids.

6. Aseptic Non-Touch Technique

Asepsis is defined as the absence of pathogenic organisms and is extremely challenging to achieve in the pre-hospital environment. Aseptic Technique is a method used by clinicians to keep wounds, other susceptible body sites and sterile instruments free of microbial contamination by adopting a non-touch technique. Adopting the precautions of aseptic technique plays a vital role in preventing the transmission of infection.

Aseptic technique should include:

- keeping the exposure of susceptible sites to a minimum;
- ensuring appropriate hand decontamination prior to the procedure
- additional hand gel application during activities when hands or gloves have handled non-sterile items (eg opening a packet);
- using gloves where appropriate, and changing them if they become contaminated
- ensuring that all fluids and materials used are sterile;
- checking that all packs used are sterile and show no evidence of damage;
- ensuring that contaminated and non-sterile items are not placed in the sterile field or 'clean area';
- handling sterile items with confidence and not touching 'key parts' (parts which come into contact with / are placed inside the patient*)
- not reusing single-use items; and
- reducing staff and / or bystander activity (wherever possible) in the immediate vicinity of the area in which the procedure is to be performed.

* Key Parts

Needle shaft
Cannula tubes (any part beyond the winged area over the needle)
Leur loc connections on all infusion lines and devices
Tip / male leur part of syringes
Spike of infusion sets
Endotracheal tubes (any part below the point which will lay at the patients lips)
Any area of dressings that come in direct contact with damaged skin / puncture sites on patients

7. Personal Hygiene

One of the key precautions of operating effective Standard Precautions is the need for each and every staff member to practice good standards of hygiene. This, in the first instance, involves close and constant attention to personal hygiene standards, which if maintained will help minimise the risk from cross-infection.

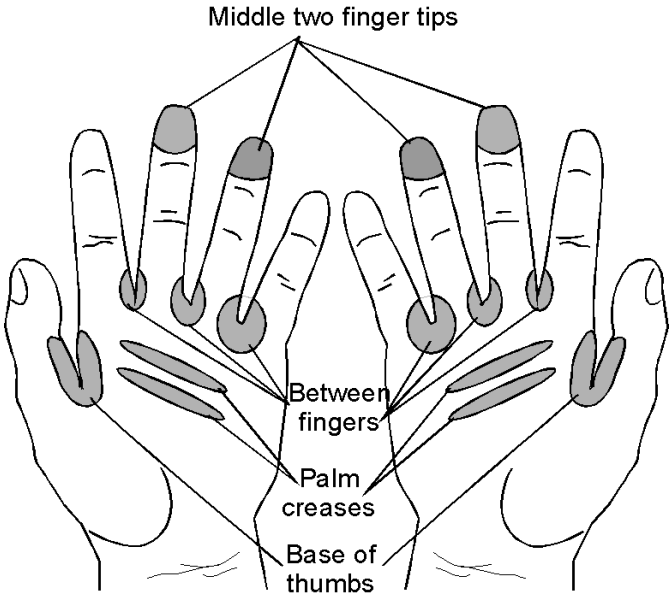
High standards of cleanliness also impact on the professional and social standing of individuals, as well as promoting a competent and efficient image of the service.

Hand Hygiene

Healthy, intact skin provides an effective barrier against infection. Therefore it is essential that all cuts, abrasions, open lesions etc are covered with a waterproof dressing. Any member of staff with extensive skin lesions must seek advice from the Occupational Health department.

Hand washing is recognised as the single, most effective method of preventing cross-infection.

The diagram below shows the areas of skin that are commonly missed during poor hand washing.

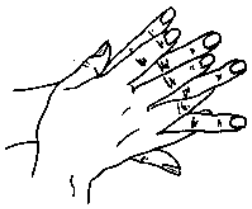


Effective hand washing technique involves 4 stages: preparation, washing, rinsing, and drying.

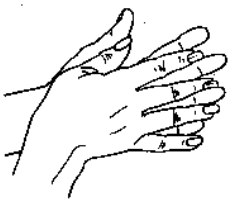
1) Preparation requires removing jewellery, wetting hands with water and then applying liquid soap.

2) Washing should include these six stages:

1. Rub palm to palm



2. Rub the backs of both hands



3. Rub palms again with fingers interlaced

4. Rub backs of interlaced fingers

5. Remember to wash both thumbs

6. Rub both palms with fingertips

7. Wash hands under running water using soap, rinse and dry thoroughly.

This handwashing technique is based on a procedure described by G.A.J. Aycliffe et al. J. Clin. Path. 1978; 31: 923
We would like to gratefully acknowledge ICI Pharmaceuticals UK for providing guide drawings.

3) Hands should be thoroughly rinsed under running water.

4) Hands should be thoroughly dried using disposable paper towels, drying wrists last as they are at the border of the clean and unwashed area.

Where facilities exist, hand washing must be performed:

- Before and after duty periods
- Before eating and drinking
- After visiting the lavatory, blowing nose or covering a sneeze
- After carrying out any cleaning procedure
- When hands are visibly dirty
- Before and after performing any invasive procedure
- When gloves are removed
- Before and after each patient contact (and / or after handling their belongings)
- After handling contaminated laundry and waste

It should be noted that the wearing of gloves does not preclude the need for regular hand washing.

Soap and moisturiser dispensers have been installed in toilet / washroom areas and as such should be utilised for general hand washing purposes. Staff will appreciate the

importance of avoiding kitchen / mess room areas for routine hand washing, or indeed any area where food and drinks are prepared.

Staff are advised to make full use of the moisturiser cream following hand washing. The moisturiser helps to prevent dry skin, which in turn will reduce the risks of lesions developing.

In addition, consideration should be given to suitable clothing choice to aid effective hand hygiene procedures. When staff are wearing long sleeved clothing or when high visibility jackets are required, the following steps should be taken:

- Always remove long sleeved coats and watches and / or roll up sleeve shirts to wash hands effectively.
- Ensure that watches are covered by gloves when there is a possibility of contact with blood or body fluid
- Wear sleeve protectors when necessary

When staff are unable to access hand washing facilities hands should be cleaned with detergent wipes first, followed by thorough drying either by paper towels or with air drying. Then alcohol disinfectant gel should be utilised. The disinfectant should be applied and rubbed in to all surfaces of the hands prior to evaporating naturally. Particular attention should be given to the spaces between the fingers and under the fingernails. In addition, alcohol disinfectant gel should be used between different care activities for one patient, and between caring for different patients at a scene. It is important to note that alcohol gel should only be used to decontaminate visibly clean hands, and can be ineffective if hands are soiled.

Staff should further note that the use of alcohol disinfectants offer temporary protection only, and a full and thorough hand washing with soap and water should be undertaken as soon as is practicable.

Gloves

Gloves should be worn in the following circumstances; for contact with blood and body fluids, non-intact skin and mucous membranes, and sharps or contaminated instruments. They can also be worn to protect the practitioner's hands from organic contamination, but should be changed for clean gloves before any invasive technique is performed on a patient.

Gloves should not be worn unnecessarily; there should be an assessment of the task to be carried out and of the risks to both the patient and the healthcare worker before the decision is made to wear gloves.

Before putting on gloves and after removing them, hand hygiene rules should be applied; washing with soap and water whenever possible or using detergent wipes and alcohol gel if no washing facilities are available.

Gloves should also:

• only be put on immediately before patient contact;
• be changed between each patient task;
• be changed between caring for different patients;
• be changed as soon as they are contaminated; and
• be discarded as **clinical waste**.

Gloves must **not** be worn:

• when driving to and from a scene; or for longer than necessary.

8. Personal Protective Equipment

General

The choice of protective clothing will depend on the anticipated risk of exposure to blood or body fluids during the particular activity intended. Many clinical activities involve no direct contact with blood and body fluids, and therefore do not require the use of any protective clothing. However, staff must use their judgement in determining the likely requirements in each case.

Scale of Issue

With respect to the control of infection, the LAS provides the following items of Personal Protective Equipment (PPE) to its operational members of staff. This is supplied either on a personal basis, or as part of vehicle issue (see Appendix A).

- Disposable Nitrile/ Latex Gloves (4 sizes)
- Disposable Plastic Aprons
- Disposable Face Masks
- Safety Eyewear
- Pocket Resuscitation Mask

Disposable Latex Gloves

It is important that gloves are worn for any activity where blood or body fluid may contaminate the hands. Staff should firstly familiarise themselves with the sizes available. Their choice in selecting the most appropriate size should be based on a comfortable fit that is not too tight to become restrictive, but equally not too loose as to compromise grip and/or increase the risk of puncture.

Nitrile/ Latex gloves are strictly for single patient use only. Alcohol disinfectant should be applied to the hands, before gloves are donned for performing any invasive procedure. Furthermore, the hands should in all cases be thoroughly washed with soap and water as soon as the gloves have been removed. A temporary measure of using the alcohol disinfectant can be adopted if conventional and washing facilities are not immediately available. After removal, the used gloves should be carefully discarded as clinical waste.

Staff should make every effort to avoid the gloves becoming punctured during use. For the occasions where such risks are increased, e.g. when rendering aid at RTA's etc., crews should consider wearing two pairs of gloves as an additional precaution. However, staff should remain mindful that the practice of 'double gloving' is only an added

safeguard, and so the wearing of debris gloves over disposable gloves is still indicated in circumstances where the potential for glove puncture is evident.

Remember that under the principles of Universal Precautions, the purpose of wearing gloves is to prevent the spread of infection in either direction, i.e. staff to patient, as well as patient to staff. Therefore, gloves should not be donned prematurely, e.g. while traveling/ driving to a call, but should ideally be placed on the hands just prior to contact with the patient. Emergency patient treatment regimes must never be withheld in the absence of wearing gloves, however, ensure hands are thoroughly washed at the earliest opportunity. Any member of staff who develops a skin irritation on their hands should seek advice from a complex trainer which may result in a referral to Occupational Health for further assessment and advice, in addition to completing an LA 52.

Disposable Plastic Aprons

Disposable plastic aprons must always be worn whenever contamination of clothing with blood or body fluid is anticipated. Since the front of the body is the part most frequently contaminated, the single-use plastic apron is deemed to provide adequate protection for staff in most instances. However, the disposable suit, normally carried for Category 3 removals, may be utilised on such occasions where the risk of uniform contamination or soiling is considered to be beyond the scope of an apron (see Section 17.6.5). Plastic aprons should also be worn during any cleaning activity, or on any occasion where the front of the uniform is at risk of being soiled. Staff must always ensure that they have at least one complete spare uniform in their station locker, for the occasions when uniform contamination has been unavoidable (see Section 17).

Used aprons that have been contaminated should always be discarded as clinical waste, followed by a thorough washing of the hands.

Disposable Face Masks

The use of disposable face masks should not be required routinely, as they would normally only be worn for illnesses caused by the more hazardous organisms found in Category 3. However, they should be worn if there is a risk of blood or body fluid being splashed into the mouth, or if the patient is prone to episodes of coughing or sneezing.

Confirmed or suspected cases of Pulmonary Tuberculosis should particularly prompt the crew to the wearing of face masks. It may also prove sensible under these circumstances to encourage the patient to similarly wear a mask, in that it would help to contain the spread of any infection. Disposable face masks are for single use only, and should accordingly be discarded as clinical waste.

Under Universal Precautions, staff should always attempt to avoid breathing while in close proximity to a patient's face, in order to help minimise the risk of cross contamination.

Safety Eyewear

This item of PPE is supplied as personal issue to all A&E & PTS staff. Safety eyewear should be worn on any occasion where there is a risk of blood or body fluids coming into contact with the eyes, or when similar risks arise from activities such as vehicle or equipment cleaning.

Safety Glasses are supplied with a carrying case. The eyewear should be cleaned on a monthly basis, even if they have not been worn. Please refer to Section 20 for the specific cleaning/disinfection procedure.

Note that this type of safety eyewear is not intended for major chemical incidents, or where physical impact damage could occur.

Pocket Resuscitation Mask

This device is provided to all staff in order to eliminate the need for mouth-to-mouth contact during resuscitation attempts. Although there are other advantages to its use, the major benefit is in the minimal risk of exposure to infection. The mask has been designed to be reusable, albeit the one-way valve is strictly for single patient use only, and should be carefully discarded as clinical waste. Remember that the use of the mask is only intended as an initial means of providing ventilatory support to patients, and should be replaced by the resuscitation pack at the earliest opportunity. After use, the mask should be cleaned and disinfected as detailed in Section 20, and a new replacement one-way valve should be drawn from station stocks.

9. Phlebotomy in the London Ambulance Service NHS Trust

Phlebotomy is not currently service wide practice within the Trust. However, phlebotomy is practiced on some complexes where NHS clinical partners have requested that such a service is established locally. The policy for undertaking phlebotomy is fully outlined in the [DRAFT] document 'Policy for Undertaking Phlebotomy – London Ambulance Service NHS Trust'.

Ambulance staff who come into contact with patients' blood or body fluids may be exposed to occupational risk from blood borne viral infections. The most likely means of transmission of these viruses to ambulance staff is by a sharps injury, or by blood splashing onto broken skin or mucous membranes.

Therefore Standard Precautions apply when considering taking bloods in the pre-hospital environment. All blood and body fluids are potentially infectious and standard precautions are necessary to prevent exposure to them. Decisions regarding the level of precautions to use should be proportionate to the possible risk based on the nature of the procedure and not on the actual or assumed infection status of the patient. It is not always feasible to identify those who are infected with bacterial and viral pathogens and take precautions only with them.

When taking bloods in the pre-hospital environment, Standard Precautions should include:

- Ensuring that all cuts and abrasions are covered with a waterproof dressing.
- Wearing a mask, eye protection and a plastic apron if blood or other body fluids might splash
- Where facilities exist, hand washing must be performed before and after the procedure
- When staff are unable to access hand washing facilities the detergent wipes and alcohol disinfectant carried on the vehicle must be utilised. Following thorough hand wiping, hands should be allowed to dry, or dried with paper towels, then disinfectant should be applied and rubbed in to all surfaces of the hands prior to evaporating naturally.
- Gloves should then be put on immediately before the procedure.
- The cannula should be inserted aseptically wherever it is physically possible to do so [see below].
- Sharps should be disposed of safely.
- Promptly and carefully cleaning up spills of blood.
- Gloves should be removed following the task and disposed of. Alcohol gel should ideally be used between different care activities.

- A full and thorough hand washing with soap and water should be undertaken as soon as is practicable.

The filled blood bottles should be correctly transported with the patient in the sealed plastic container provided.

10. Cannulation

The 'Policy for Undertaking Phlebotomy' indicates that phlebotomy should only be undertaken on patients where cannulation is already indicated, and not solely for the purpose of taking bloods. Evidence has shown that performing peripheral cannulation increases the risk of healthcare associated infections, therefore when the practitioner has taken the clinical decision to cannulate the patient, the following best practice should be applied:

1. Apply the tourniquet (single use and disposable).
2. Palpate the vein.
3. Decontaminate your hands.
4. Make a sterile field – for example using a sterile cannula dressing pack.
5. Clean the site for venepuncture using 2% chlorhexidine gluconate in 70% isopropyl alcohol – do not re-palpate the vein.
6. Leave skin to dry for 30 seconds.
7. Choose a cannula, open the pack and place the cannula aseptically in the sterile field.
8. Decontaminate your hands and don gloves.
9. Insert the cannula according to IHCD guidelines, ensuring that the insertion site is not touched. If insertion attempt is not successful, the same cannula should not be used again.
10. Use a sterile, semi-permeable, transparent dressing to secure the cannula.
11. Record the date and time of insertion on an 'ambulance' label.
12. Place the label on the dressing at the furthest point from the insertion site.
13. Dispose of any items used in the appropriate waste receptacles.
14. Decontaminate hands.
15. Record the date and time of insertion on a Patient Report Form.

If any of the above steps cannot be performed due to circumstances, for example life-threatening or environmental conditions, the inserted device must be classified as EMERGENCY INSERTED. Intravenous cannula must be recorded on a Patient Report Form and handed over to the hospital staff receiving the patient, so that the cannula can be replaced aseptically as soon as it is possible to do so – this should be within 24 hours.

Always ensure that the giving set and any syringes used for administering drugs through the cannula are handled aseptically using the non-touch of key-parts technique. For certain procedures, for example administering diazemuls slowly, titrated to response, or atropine for symptomatic bradycardia (following Joint Royal Colleges Ambulance Liaison Committee guidelines), retain the sterile field to hold the syringe(s) between doses.

11. Management of Sharps

General

The safe handling of sharps is a critical factor in the successful control of infection. Inoculation injuries arising from exposure to contaminated sharps represent a recognised route of infection spread, and subsequent risk to ambulance staff. It is therefore imperative that all staff adhere closely to the following precautions and procedures in order to minimise the risks associated with the use of sharps.

The term 'Sharps' obviously applies to a wide range of individual ambulance and hospital equipment. However, these may be more broadly classified as:

- Needles
- Syringes with an integral needle
- Cannulae
- Drug Ampoules/Containers
- Razors
- Scalpels/Blades
- Single use laryngoscope blades / Magills forceps & spikes from giving sets [which cause a tear risk to clinical waste bags]

All sharps are for single patient use only, and must be stored at all times in their designated containers and/or storage compartment in the vehicle. Staff must ensure that disposable gloves are worn as a minimum when handling sharps, and that the utmost of care is taken to avoid glove punctures and subsequent skin injury. All sharps must be disposed of as clinical waste, into designated LAS sharps containers, or hospital sharps containers for large items such as laryngoscope blades / Magills forceps.

All procedures involving the use of sharps must only be practised by staff who have received the relevant training, and as a result are duly authorised to perform the required procedure.

Extreme care must be taken when attempting invasive procedures on patients who are restless or aggressive.

Cannulation, and other procedures involving the use of sharps should only be attempted in the ambulance when it is stationary. The needle should only be removed from its sheath once the puncture site has been prepared, and only then just prior to the intended use of the item. Under no circumstances are needles to be resheathed at any time, including during disposal.

The LAS provides several sizes of sharps containers, both for bracket mounting in an ambulance, and smaller variations for insertion in the Primary Response Pack and Paramedic Packs as appropriate. It is important that staff only use the sharps containers approved and supplied by the Service (See Appendix B).

Safe Disposal of Sharps

Staff should familiarise themselves with the assembly instructions and locking devices on each of the sharps containers provided by the Service.

All used needles and sharps must be disposed of immediately after use, and placed directly into a sharps container by the person who has used the item. It is vital that sharps are never disposed of into waste bins, plastic bags, blankets, drugs packs etc., or anywhere other than in a recognised sharps container.

The use of safety devices such as safety cannulae does not alter the need to safely dispose of used sharps. The LA52 reporting mechanism should be used for any near miss incidents such as needles incorrectly disposed of.

Where possible, paper or plastic packaging should not be placed into sharps containers, as this reduces their capacity. However, should removal of the packaging present any risk of subsequent injury, then the packaging and the sharps should be disposed of together.

Needles and syringes must always be disposed of as one unit. Never attempt to re-sheath, or separate a needle from its syringe.

When depositing sharps, care must be taken to prevent the outside of the sharps container from becoming contaminated. If this occurs, apply Cleaning System 1 and Disinfection System 2 to the affected area.

The sharps container should be changed when it becomes two thirds full, or when the sharps will no longer drop cleanly through the flap. This must take place as soon as practicable, after either of these events has occurred. Under no circumstances should items be forced through the flap, and fingers must be kept out of the container at all times.

Staff must never attempt to transfer the contents from one container to another, e.g. from a small to a large sharps box.

Sharps containers must be sealed and routinely disposed of on a twice-monthly basis, even if the two thirds mark has not been reached. The date of expiry should be entered on each container as soon as it is put into use, together with its point of origin, i.e. vehicle fleet number, in addition to the station code.

The openings of sharps boxes must be closed and secured, prior to placing in the clinical waste bin on station. Sharps boxes must never be placed in yellow clinical waste bags.

12. Sharps/Blood Splash Injuries

Under the precautions of Standard Precautions, all blood and body fluids must be regarded as infectious, so any exposure should be viewed as a potential hazard to ambulance staff. It is therefore imperative that any inoculation incident that involves contact with blood or body fluids is treated with the utmost care, and with close attention to the following procedure.

Incidents involving risk of blood-borne infection include:

- Needle stick or other sharp
- Contamination of broken skin with blood/body fluids
- Contamination of broken skin with blood/body fluid soaked clothing or linen
- Blood/body fluid splashes to mucous membranes, e.g. eyes or mouth
- Oral contact with a persons blood, vomit or mucous, e.g. after performing direct mouth-to-mouth resuscitation
- Human / Animal bites or scratches (where the skin is broken)

Post Exposure Action

The following course of action must be taken if any of the above incidents occur:

1) Ensure the sharp, if present, is disposed of safely into a sharps container.

2) Encourage bleeding from the wound, but do not suck.

3) Wash the site immediately with soap and water, or apply alcohol disinfectant for five minutes if unable to access conventional handwashing facilities. However, still wash the wound thoroughly with soap and water at the earliest opportunity, and cover with an impermeable waterproof dressing.

4) Treat blood or body fluid splashes to the eyes with ample irrigation of water or saline, and those to the mouth with copious amounts of water. Wash the face thoroughly with soap and water.

5) Notify EOC / UOC and arrange immediate attendance at the nearest A&E department. The hospital will require details of how the incident occurred, as well as all information relating to the source patient. In the majority of cases, this process will of course be made easier by the fact that the patient and the staff member will be treated at the same hospital.

However, the potential exists for staff to sustain sharps or splash injuries when either the source of the contamination is not known, or when the patient involved refuses to travel. In each of these cases, it is still essential that the staff member reports immediately to their nearest A&E department, in order for the degree of risk to be assessed.

It is likely that blood samples will be sought from the member of staff, as well as the patient if present. Information relating to the crew member's Hepatitis B, and Tetanus immunisation status would also be helpful in this situation, so staff should maintain a current awareness of their vaccination record.

On completion of the risk assessment, the doctor may offer a course of prophylactic treatment. This will be fully discussed with the individual member of staff, and may be commenced before all investigations have been completed.

Advise EOC / UOC of the situation at the earliest opportunity, who will arrange notification to the relevant line manager, or Duty Station Officer as appropriate. Complete an Accident/Incident Report Form LA 52.

Contact the Occupational Health Department to inform them of the situation, and act on any further advice or guidance as provided.

13. Cleaning and Disinfection Agents

General

The maintenance of high standards of cleanliness on all surfaces and equipment items is a crucial factor in the control of infection. This naturally assists in removing the potential breeding grounds in which microorganisms need to survive, and subsequently multiply. While all dust, dirt and moisture can harbour infection, the key risks are associated with contamination arising from contact with blood and body fluids, mucous membranes or damaged skin. In all such cases, the affected surface or equipment item must still be thoroughly cleaned, but in addition must also be disinfected in order that any pathogenic microorganisms can be rendered harmless.

As a consequence, the LAS has introduced a new cleaning agent, and a new disinfectant, to compliment its range of infection control measures. Our specialist advisors have fully endorsed both products as being safe and appropriate for ambulance service use, and similar chemicals are currently in use in other ambulance authorities around the country. In addition, the chemicals are listed under Department of Health guidance as being the most appropriate chemicals available for disinfection purposes. However, as with all chemicals, their safety and effectiveness is governed largely by the manner in which they are used. Common sense therefore dictates that staff should fully comply with the following procedures in order to ensure a safe and infection free work environment for all.

Cleaning System 1 - Detergent Cleaner

This product has been selected to perform a core role in our cleaning and disinfection procedures. It originates from the group of quaternary ammonium compounds, and its content is similar to that of a number of household cleaners available for domestic use. The use of this product is known as 'Cleaning System 1'. It forms the primary cleaning agent for ambulance interiors, as well as for all items of equipment. It is simple and safe to use and is applied from a trigger spray container. The detergent cleaner (Cleaning System 1) should always be used as the primary cleaning agent, even when cleaning ambulance equipment at hospitals. This principle supports our Risk Management requirements, which determine a corporate and standardised approach to the use of cleaning and disinfection chemicals in the Service.

Method of Application (System 1)

On the occasions where surfaces and/or equipment items are particularly soiled, it is advisable to firstly rinse the worst of the contamination away using running water. However, other than on these occasions, the use of the detergent cleaner must always be the first cleaning agent of choice.

In addition to acting as a cleaning agent for general cleaning activities, the use of the detergent cleaner also plays a key role in maximising the effectiveness of the disinfection process. This allows the NaDCC (Sodium Dichloroisocyanurate) disinfectant to exert its full disinfection strength on the site of the potential infection, rather than have

its effect diluted by working on dust or grime. It is for this reason that the detergent cleaner must always be used as the primary cleaning agent, hence the title of 'Cleaning System 1'.

The detergent cleaner is applied in the same manner as most other products in a trigger spray presentation. However, staff should firstly don PPE, i.e. gloves as a minimum. Although the product is designed to be sprayed directly onto the selected surface, the principle of not spraying above head height should always be applied. This is to prevent possible inhalation/facial contact with the spray, which if considered likely, should be applied to the tissue first. Care too should be taken when spraying near or around electrical items, when the same method of firstly applying the spray to the tissue should be adopted. In addition, the safety eyewear should be utilised for all occasions where there is any likelihood of the spray coming into contact with the face.

Once safety measures have been addressed, the container should be held approximately 9 inches from the item to be cleaned, and the trigger pulled 3 – 4 times to evenly apply the fluid. After leaving for approximately 30 seconds, the surface or item can simply be wiped clean and dry with the use of blue tissue roll. Please note that any tissue which has been used on the site of any blood or body fluid contamination, must be discarded as clinical waste.

Storage and Refill Procedure (System 1)

The detergent cleaner trigger spray container should be stored in the ambulance and secured in the holder supplied. Its content must be checked regularly to ensure that there is sufficient cleaner to cover periods away from station.

Staff must ensure that the 'Cleaning System 1' container is refilled only with the detergent cleaner supplied by the LAS. Full instructions covering this procedure are located on each station complex, which must be adhered to at all times. Staff requiring any further advice should contact their line manager as necessary.

Disinfection System 2 - NaDCC Disinfectant

Following the application of Cleaning System 1, the use of the new chlorine based disinfectant should be utilised as indicated in Section 20. The use of chlorine releasing agents (e.g. bleach) have a long history in the control of infection, and as such they are widely used within the health profession. Older style chlorine releasing agents, e.g. Sodium Hypochlorite, were effective against controlling infection, but had the drawbacks of having a corrosive effect on soft metals, such as aluminium. The chlorine releasing agent that has been selected by the LAS is called Sodium Dichloroisocyanurate, although it is more commonly referred to as NaDCC. This is a modern chemical, which through being refined, is less aggressive on soft metal materials. However, an important characteristic of NaDCC is that it cannot be stored in liquid form for more than 24 hours. If left for longer than this period, the strength of its disinfection properties begin to subside. As a result, it will be necessary for crews to make up a fresh solution of this disinfectant on a daily basis, for each A&E ambulance in use. Please note that PTS and

tender vehicles etc., will not require this preparation of NaDCC, as they will be provided with pre-prepared spillage kits (see Section 9.4).

The use of NaDCC must always follow the application of the detergent cleaner in Cleaning System 1. This will ensure that the bulk of the contamination has firstly been removed and the site made visibly clean, in order that maximum effect is derived from the application of the disinfectant. Therefore, the use of NaDCC is referred to as 'Disinfection System 2'.

Mixing of Solution (System 2)

NaDCC is manufactured in different strengths, the use of which is dependent upon the nature of the disinfection task to be undertaken. In the LAS, a strength of 10,000 parts per million (ppm) will be used. This is the recommended concentration for dealing with blood or body fluid contamination. A 500ml trigger spray container will be used as a dispenser. However, this will be differentiated from the Cleaning System 1 container by having a pink label attached, in addition to a red trigger spray unit.

In view of the short life span of diluted NaDCC, it will be necessary for the crew of each AEU to make up a fresh solution at the start of each early shift. This task should be undertaken with the use of PPE, i.e. gloves and apron as a minimum, and initially involves carefully pouring away the remainder of the previous day's disinfectant. The sink in the washroom/toilet should be used for this purpose, thereby avoiding kitchen/mess room areas etc. A fresh solution should then be made by filling the bottle with cold tap water up to the 100 ml line depicted on the bottle, prior to adding a 3.25g NaDCC tablet. The tablet will then dissolve in approx. 1 minute, which in turn will produce a solution of NaDCC to the required concentration. Once the tablet has fully dispersed, the trigger spray top should then be reapplied, and the container placed back in the ambulance ready for use.
A back-up supply of NaDCC tablets will be carried on each A&E ambulance, which will allow the crew at any time to simply make up a fresh solution if the original 100ml's has been exhausted. However, as a matter of routine, early shift crews must still make up a fresh solution at the start of their shift, irrespective of the time of the last refill.

Method of Application (System 2)

Once the surface, or item requiring decontamination has been cleaned using Cleaning System 1, the NaDCC should be applied in a similar manner. However, it is important to leave the disinfectant for a period of three minutes, in order for the decontamination to take effect. There is no benefit in leaving the disinfectant for a longer period, as its maximum effectiveness will have already peaked by this time. Finally, the NaDCC must then be rinsed off, using running water wherever possible, and wiped dry with blue tissue roll. On the occasions where access to tap water is unavailable, the water carried in the gallon container should be utilised accordingly. Remember that the tissue (and gloves etc.) should now be regarded as clinical waste, and disposed of into a yellow clinical waste bag.

Please note that NaDCC should not be applied to surfaces where acids are present. Although exposure to acids as such is rare in the ambulance service, staff should be mindful that urine is acidic. In practice, this should not create any restriction for its use in the LAS, as any such spillage will have firstly been removed during the pre-cleaning stage. However, this reinforces the need to utilise Cleaning System 1, prior to the application of Disinfection System 2 (NaDCC) on each and every occasion.

In addition, there are a number of equipment items and surfaces that cannot withstand the use of NaDCC. This is due to its long-term corrosive nature on certain soft metal materials, and staff should refer to Section 20 for specific guidance on each item of equipment.

Disinfection System 3 - Alcohol Disinfectant

The use of an alcohol disinfectant will continue to fulfil an important role in the LAS disinfection procedures. It has already become an established disinfectant in the Service, having previously been used as both a skin and surface decontaminant. Although the role of the alcohol disinfectant as a skin decontaminant remains largely unchanged (see Sections 6 and 7), the new procedures have determined some modification to its use as a surface disinfectant. Alcohol disinfectants will now only be utilised as a surface decontaminant on equipment items, or surfaces, which cannot sustain the use of NaDCC (see Section 13). Alcohol is approved as an acceptable substitute to NaDCC, and the use of either the alcohol liquid or gel disinfectants for surface/equipment decontamination is referred to as 'Disinfection System 3'. In summary, all cleaning and disinfection procedures will always commence with Cleaning System 1 (Detergent cleaner), followed by the use of either Disinfection
System 2 (NaDCC), or Disinfection System 3 (Alcohol liquid/gel).

Method of Application (System 3)

The method of using the alcohol liquid/gel disinfectants as a skin decontaminant is detailed in Sections 6 and 7. For surface/equipment disinfection purposes, the disinfectant must firstly be applied to a clean piece of blue tissue roll. The impregnated tissue should then be used to thoroughly wipe over all surfaces of the item concerned. After a few minutes, the alcohol disinfectant will evaporate, leaving the item clean and decontaminated. The used tissue, along with any items of disposable PPE, should then be discarded as clinical waste. As with the use of the NaDCC disinfectant, it is imperative that all items requiring alcohol disinfection are pre-cleaned using Cleaning System 1. Staff are reminded that alcohol disinfectants are flammable, so added care should be taken in this respect.

14. Blood/Body Fluid Spillage

General

The effective management of blood and body fluid spillage is a crucial factor in the successful control of infection. Exposure to any such fluid presents a risk to the health of all persons involved with the working environment of the ambulance service. However, these risks are easily minimised by following the principles of Universal Precautions, in addition to maintaining a routine approach to simple cleaning and disinfection procedures. It is of course essential that all blood and body fluid spillages are cleaned and disinfected as soon as is practicable.

In general, the volume of most blood or body fluid spillages that occur on a daily basis are not excessive. They can be safely managed by the wearing of PPE, normally gloves and apron as a minimum, and following the cleaning and disinfection procedures detailed in Section 13. However, for the occasions when these provisions are considered insufficient, the use of the super absorbent deodoriser should be utilised as detailed below.

Super Absorbent Deodoriser

This powder has been designed to assist in the control of larger spillages of blood or body fluids, i.e. those considered in excess of 5 mls. The purpose of this is to congeal and deodorise the spill, and therefore stabilise the fluid until it is convenient for it to be safely cleared away. The use of this powder has many benefits, particularly on those occasions when, for example, the patient vomits whilst the vehicle is in motion.

Method of Application (Super Absorbent)

The powder is applied by simply sprinkling directly onto the spill, where its congealing action will be observed almost instantaneously. This should help determine the amount of powder required, and care must be taken to ensure that the container lid is firmly closed after use. Once the spill has been successfully stabilised, it should be covered with a piece of blue tissue roll until arrival at hospital, or whenever the earliest opportunity arises for its safe disposal.

It is again essential to exercise Universal Precautions when clearing away spillages, so full use of disposable gloves, aprons etc. is paramount. With the aid of blue tissue roll, the bulk of the contaminant should be disposed of into a yellow clinical waste bag. The spillage site must then be thoroughly cleaned and disinfected using Cleaning System 1, and Disinfection System 2 or 3 as appropriate.

Any materials used during the cleaning process, as well as the disposable items of PPE will now be classed as clinical waste, and must therefore also be discarded in the clinical waste bag.

Spillage Kits

All LAS vehicles must carry the means to enable staff to successfully manage blood and body fluid spills. Therefore, pre-prepared 'Spillage Kits' will be available on all PTS vehicles, Equipment Support Vehicles, staff cars etc. The design and purpose of these kits take account of the reduced frequency and risk of exposure to blood and body fluid spills on non-A&E vehicles. All A&E vehicles will also carry Spillage Kits as an emergency back-up to their normal supply of infection control provisions.

Spillage Kits contain:

- Disposable Gloves (1 pair)
- Disposable Apron
- Super Absorbent Powder
- 100ml Pump Spray
- 4 x 1.8g NaDCC tablets
- 2 x Disposable Wipes
- Disinfectant Wipe
- Scoop/Scraper
- Clinical Waste Bag

A supply of three Spillage Kits should be maintained on each LAS vehicle at all times.

Method of Application (Spillage Kits)

Appropriate items of PPE, e.g. gloves and apron, should firstly be worn. If the volume of spillage requires the usage of absorbent powder, the contents of the 10g bottle should be sprinkled accordingly.

Once the fluid has congealed, the bulk of the spill can now be removed using the cardboard scoop and scraper. The contaminant, along with the scoop and scraper, must then be placed into the clinical waste bag provided. The NaDCC disinfectant should now be mixed by removing the 4 tablets from their sachets, prior to being placed into the 100ml pump spray bottle. The bottle should now be carefully filled with water, which can be drawn from the drinking water flask if no other source of water is available. Once the tablets have dissolved, the pump spray top may then be replaced, leaving the disinfectant ready for use.

Note - Although the presentation of the NaDCC is different to that of the A&E fleet, the strength is identical, i.e. 10,000 ppm. This is the recommended strength for dealing with blood and body fluid contamination.

The area should then be thoroughly cleaned using 'Cleaning System 1' (Detergent Cleaner) with one of the disposable bonded wipes. After use, the wipe should be placed into the yellow bag as clinical waste.

Provided the site of the contamination can accept the use of NaDCC as a disinfectant (see Section 13), the spray should be applied to the spill, and then left for a period of three minutes.

Finally, after the three minutes has elapsed, the area should be rinsed with water and then wiped dry with the second bonded wipe. This, and all other items remaining from the Spillage Kit should now be placed into the clinical waste bag, along with the disposable items of PPE. The hands should then be cleaned with the disinfectant wipe as a temporary measure, if access to conventional handwashing facilities is likely to be delayed. Alcohol disinfectant is also carried on all PTS vehicles, and should be fully utilised as a hand disinfectant as required.

15. Staff Immunisation

General

The immunisation programme for all operational members of LAS staff is managed under contract by the Occupational Health Department (OHD). It is one of a wide range of services delivered by the Occupational Health team, whose primary aim is to protect the health of staff in the workplace. However, it must be remembered that immunisation is not available against all infections, and neither is it guaranteed to be 100% effective. Therefore, immunisation should not be regarded as an alternative to practicing high standards of hygiene, infection prevention and control.

If staff develop any signs or symptoms of an infectious disease (see Sections 11, 12, 13 & 14), they should seek advice via their GP, line manager, or by contacting the

ATOS Healthcare Occupational Health Helpdesk on 0845 371 3313.

An answer phone service is available to cover periods when the Department is closed.

Vaccination Programme

On entry to the LAS, all new entrants to the A&E and PTS services are routinely screened for their immunity status of:

- Tuberculosis
- Polio
- Tetanus
- Rubella
- Measles
- Varicella (Chicken Pox)
- Hepatitis B if undertakes Exposure Prone Procedures (EPP)
- Hepatitis C if EPP
- HIV if EPP

Tuberculosis

This involves checking for a BCG scar as a means of identifying previous vaccination. If this is absent, a Mantoux test is required and a Patient Specific Direction (PSD) is requested. Once the PSD has been received the test can be undertaken. The test must be read 48 – 72 hours after administration, therefore it is imperative that the employee is available for both appointments and that the test is undertaken on an appropriate day of the week. If the result is <6mm then a BCG will be given. This can be administered up to 3 months after the test reading. BCG will be offered regardless of age If the result is 6-15 mm then no further action will be taken and if the reading is >15mm then the individual will be referred to their GP for onward referral to a chest physician. Employees new to the NHS and entering the UK form a TB endemic area must also have a chest x ray undertaken.

Poliomyelitis

The Polio vaccination programme consists of a primary course of three doses given soon after birth, followed by a further two boosters during adolescence. Confirmation of staff having received this vaccination is sought on entry to the Service, where any further treatment or advice will be provided.

Tetanus

All staff should be immunised against Tetanus. A completed immunisation schedule consists of a primary course of three doses, followed by two further booster doses. This maintains satisfactory levels of protection, which will probably be life-long. Therefore, there is normally no need for further boosters of tetanus vaccine, although medical advice should be sought for a tetanus prone puncture wound or injury.

Rubella (German Measles) and Measles

All male and female new entrants born before 1970 will be considered immune to Rubella Measles and Mumps All male and female new entrants born after 1970 will be asked to provide documentary evidence of immunization or a lab report indicating immunity to Rubella and Measles If they are unable to produce this, they will be offered 2 doses of MMR vaccine. If they decline MMR a test for Rubella only will be undertaken. IgG tests for measles are not reliable indicators of past infection. If the test for Rubella is negative and they decline MMR then the employer will need to make a decision regarding working with specific patient groups who may be vulnerable

Varicella (Chicken Pox)

All new entrants born and raised in the UK who have a history of chicken pox are considered immune. All those born and raised outside of the UK or those born and raised in the UK who are unsure of their chicken pox history will be screened for Varicella immunity, via a blood test. Those who are found to be non immune will be offered 2 doses of Varivax. If they decline then the employer will need to make a decision regarding working with specific patient groups who may be vulnerable.

Hepatitis B

Immunisation against Hepatitis B is essential for all operational members of staff, who undertake exposure prone procedures (EPP). In addition it is strongly recommended for those who have a risk of contact with blood or body fluids, e.g. fleet support staff. The vaccination programme consists of a series of three injections, with the second and third doses administered after intervals of one and five months respectively, following which it is vital that staff attend OHD for a follow-up blood test 4 – 16 weeks following completion of the course. This is to ensure that adequate levels of antibodies have been achieved. Optimum levels are >100miu/ml, one booster injection will then be required after 5 years No further testing or boosters are necessary although boosters can be offered following a needlestick injury. Those who attain levels of 10 – 99 miu/ml will be offered an immediate booster and a further booster at 5 years. No further testing or boosters are necessary although boosters can be offered following a needlestick injury. Those with levels <10miu/ml will be offered a second course. Failure to respond to a second course indicates that the individual is a non responder and following a needlestick injury HBIG may need to be considered. For those who undertake EPP and fail to respond to 2 courses of vaccine, annual Hepatitis B surface antigen tests will be undertaken.

In addition, all new staff undertaking exposure prone procedures (EPP) must be able to demonstrate non infectivity to Hepatitis B, Hepatitis C and HIV in accordance with DH guidelines issued in 2007.

16. Specific Communicable Diseases

General

The purpose of this Section is to provide clarification of those communicable diseases, which may be encountered by staff.

On the rare occasions that crews are required to transfer patients with open wounds (e.g. external fixators etc.) then advice should be sought from the hospital's Infection Control Team (ICT) via hospital staff. This is to ensure that the intended journey plan is compatible with the needs of both the patient, and any other patients who may be travelling at the same time.

In general, it will be seen that only in specific circumstances will any special procedures or action by ambulance staff be required, other than closely following Standard Precautions. Equally, the majority of patients do not require the provision of special travel arrangements, as these are normally only necessary in 'Category 3' cases.

As a consequence, the need to routinely convey patients with infectious illnesses as a single patient journey is now negated. Similarly, there is no longer any justification to restrict the travel of these patients to A&E ambulances only, as Standard Precautions apply equally to staff of the Urgent Care / Patient Transport Service.

(CSD STAFF PLEASE NOTE: see appendix F for guidance on ‘Action to be taken by CSD staff when they become aware of a crew having attended a patient who has a reportable disease’)

Hepatitis

Hepatitis is a general term referring to inflammation of the liver. It can be caused by many factors, including viruses, drugs and chemicals. At present there are five different types of viruses that are known to cause Viral Hepatitis, i.e. A, B, C, D, & E. However, the A, B, & C viruses are those which are most likely to be encountered by ambulance staff. These viruses work by entering the body and then attacking the liver, causing inflammation and destruction of the liver cells.

Hepatitis A Virus (HAV)

This disease is caused by a virus and is commonly referred to as Infectious Hepatitis (Yellow Jaundice). The virus is present in the stools of an infected person, so it is mainly transmitted by the faecal-oral route. However, the disease can also be contracted from eating contaminated food.

Anyone who is not immune to this virus can become infected, especially children. The virus is present in the stools for approximately two weeks before the person shows any signs of illness. In some cases, there may not even be any signs or symptoms evident.

The illness can start with a fever, tiredness, loss of appetite, nausea and diarrhoea. After a few days, the patient may also become jaundiced, although this is uncommon in children. In some cases, the patient may also pass urine of a darker colour.

There is no specific treatment for Hepatitis A, other than general bed rest. Full recovery can, however, take several weeks. There is a vaccine available for this illness, although it is normally only recommended for those who travel to countries where Hepatitis A is common.

Other than exercising Standard Precautions, particularly hand washing after contact with the patient, there are no special procedures required by ambulance staff.

Hepatitis B Virus (HBV)

Hepatitis B is found in all of the body fluids of an infected person, including blood, semen, vaginal fluid, saliva, breast milk and urine. For this reason, the virus can be transmitted through sexual contact, injection or puncture of the skin with contaminated sharps. It can also be transmitted by contact with blood or body fluids via open cuts, sores, and mucous membranes, as well as from mother to baby during childbirth.

The symptoms are similar to those of Hepatitis A, although again they may be mild or even absent. Some infected people can continue to carry the virus in their blood, although they may appear well. These people are referred to as 'carriers' and can consequently pass on the disease to other susceptible persons. Some carriers may eventually develop long term liver problems, such as liver cancer.

Other than rigidly adhering to Standard Precautions, there are no special measures required by ambulance staff. There is a safe and effective vaccine provided by the Occupational Health Department, and this forms an essential means of protection for all members of staff at risk of contact with blood or body fluids.

Any incident resulting in staff exposure to blood or body fluids must be reported as soon as possible at the hospital to which the patient has been conveyed, or to the nearest A&E Department in cases of non-conveyance. In addition, the Occupational Health Department must be fully informed of all events, as well as meeting the requirements of LAS reporting procedures.

Hepatitis C Virus (HCV)

Previously known as non-A, non-B hepatitis, Hepatitis C is a parenterally (any route other than ingestion) transmitted virus. It is generally a mild illness, with a vague onset of anorexia, abdominal discomfort, nausea an vomiting. However, some people with the infection may have no symptoms for many years. Around 50-60% of infected people may develop a chronic infection, putting them at risk of developing cirrhosis or liver cancer later in life.

Hepatitis C is spread by blood to blood contact, which as a consequence places drug misusers in the key risk group. Prior to 1991, transmission may have been associated with blood transfusions, although the chances of this in the UK would have been extremely small. Since 1991, all potential blood donors have been screened for Hepatitis

C. The disease can also be spread through sexual contact, although the risks are as yet unquantified.

The incubation period ranges from 2 weeks to 6 months. Current estimates suggest that around 300,000 people in the UK could be suffering from chronic Hepatitis C infection. The disease, and its associated infection risk, can remain in the carrier's blood for many years.

There is no vaccine available for Hepatitis C at present. Although treatment with Interferon is now licensed in the UK, it is thought to be only 20-40% effective. Again there are no special measures required by ambulance staff, other than consistently applying Standard Precautions.

Human Immunodeficiency Virus (HIV)

Acquired Immunodeficiency Syndrome (AIDS) results from infection with the Human Immunodeficiency Virus (HIV). Transmission of HIV occurs from fluid-to-fluid contact with body fluids from an infected person, notably the blood, semen, or vaginal fluids. The disease attacks the body's natural immune defence system, which ultimately renders the person vulnerable to other infections. These in themselves would not ordinarily pose a threat to people with normal immunity; however, they can have serious consequences for the HIV carrier.

An AIDS diagnosis may be made when an HIV infected person develops an illness, or illnesses, associated with having a suppressed immune system. This can occur several years after becoming infected with HIV.

Clinical signs that are indicative of HIV infection include: swollen glands, fatigue, weight loss, skin rashes, night sweats and mild fever. However, these conditions can also be attributed to a host of other illnesses of far less significance, so they should therefore be considered in context.

Although the virus is capable of infecting others, it must be stressed that the disease is not easily transmitted. It can only be contracted by sexual or direct blood-borne contact with an infected person, as well as from mother to baby during pregnancy. Routine screening measures in the UK have now eliminated transmission by means of blood product and organ transplantation, albeit some risk may still exist in foreign countries. Therefore, normal social contact with HIV infected people presents no risk to ambulance staff.

Other than closely adhering to Standard Precautions, there are no special procedures required for the management and conveyance of HIV/AIDS patients.

Pulmonary Tuberculosis (TB)

TB is a bacterium that can affect any part of the body, although it has particular significance when present in the lungs. It is generally spread by the airborne (droplet) route, although it may be destroyed by the recipients own defence mechanisms and thereby prevent any illness occurring.

Where illness does follow, the symptoms can become evident in a few weeks, or even after several months have elapsed following exposure. These may include coughing and sneezing, which can be accompanied by sputum with possible blood staining. Other potential symptoms include chest pain, loss of appetite and weight, and fever with night sweats.

The disease is usually diagnosed by chest x-ray, and by examining a specimen of sputum. Most ambulance staff will have been routinely vaccinated against TB as a child; however, all staff are screened on entry to the Service and are subsequently vaccinated where necessary. TB can be completely cured by treatment, which is delivered via a course of tablets.

As with other illnesses, the best defence against TB is by the adoption of Standard Precautions. Staff's own immunity will in itself form a first line of defence. The avoidance of breathing while in close proximity to a patient's face and their exhaled air should be maintained wherever possible.

Patients who cough or sneeze should be encouraged to do so into a paper tissue, while turning their head away from others. Any tissues used for such purposes must be carefully discarded as clinical waste, followed by careful attention to hand washing procedures. The use of the disposable face mask should also be considered for these patients, particularly if a diagnosis of TB is known or suspected. This applies to both the crew and the patient, as well as to any other persons travelling in the vehicle.

Staff are reminded that the face mask is for single patient use only, and that it should be discarded as clinical waste on completion of the assignment.

If a patient has been prone to episodes of unprotected coughing and sneezing whilst in the ambulance, it would be wise to conduct localised cleaning and disinfection. This should include wiping over those areas that have been in close proximity to the patient, using Cleaning System 1 and Disinfection System 2. Particular attention should be given to the horizontal surfaces, as these are where droplets from an aerosol origin are likely to settle. Remember that all used tissues and disposable items of PPE should be discarded as clinical waste into a yellow clinical waste bag.

Meningitis

Meningitis is an illness that involves the inflammation of the membranes covering the brain and spinal cord. It can be caused by a variety of different organisms, including bacteria and viruses. Viral Meningitis is the more common disease, and despite the fact that it cannot be treated by antibiotics, is rarely proved serious and the patient recovers after a few days.

However, Bacterial Meningitis is a serious illness which requires urgent treatment with antibiotics. The bacteria which can cause this form of meningitis include the meningococcus and Haemophilus influenza type b (Hib). Besides meningitis, these bacteria can also cause septicaemia (blood poisoning), thereby adding a further serious complication to this illness.

The meningococcal and Hib bacteria live naturally in the back of the nose and throat of 10-20% of normal healthy people. Spread occurs by droplets (during sneezing, coughing etc.) from the nose and mouth of these carriers. However, the bacteria cannot live for more than a few seconds outside the body, so the contact with carriers has to be very close, e.g. kissing etc. The bacteria cannot be contracted from objects, or from sources such as water supplies or swimming pools.

People of any age can carry the bacteria in their nose and throat without becoming unwell. Only on rare occasions do the bacteria overcome the body's defences and cause illness. The time between contracting the bacteria and becoming ill is usually 2-10 days. However, it is not yet understood why these bacteria cause illness in certain people at certain times.

The symptoms of meningococcal disease include severe headaches, fever, vomiting, drowsiness or altered levels of consciousness, discomfort from bright light, neck stiffness and a rash of small red-purple spots or bruises. The rash can appear anywhere on the body and spreads rapidly. Furthermore, it will not fade if pressed on firmly by an object, such as a glass. If the rash is present, the disease is in an advanced stage and urgent treatment is necessary.

Other than the use of Standard Precautions, there are no special procedures required for the management of meningitis cases. Although prophylactic antibiotics are in existence, they do have side effects that can outweigh the risks associated with contracting the disease. Therefore, the use of antibiotics will generally be restricted to those members of staff who have performed high risk procedures, such as mouth-to-mouth resuscitation. Even then, this would only normally occur after the patient's diagnosis has been confirmed as meningococcal disease.

Any exposure of this nature must be reported to the local A&E hospital, which should ideally be the same hospital as to which the patient has been conveyed. The risk will then be assessed by the medical staff, and treatment initiated if appropriate. Contact should also be made with the LAS Occupational Health Department in order to advise them of the situation. In addition, it will be necessary to comply with all LAS reporting requirements. (Please refer to Section 15.4)

Staff are reminded to always carry their personal issue Pocket Resuscitation Mask whilst on duty. This has the dual benefit of enabling an immediate response to the ventilatory needs of patients, as well as providing an important barrier against the risks from infection for all operational members of staff.

Methicillin Resistant Staphylococcus Aureus (MRSA)

Staphylococcus aureus is a common bacteria that lives harmlessly in the nose, throat and on the skin of around 30% of the population. However, like many organisms, it can cause infection if transferred into a wound or into the body via a drip or catheter.

MRSA is a strain of the same Staphylococcus aureus organism. Although most strains have an acquired resistance to many antibiotics, MRSA has developed a resistance to most. This means that if an infection occurs, the choice of antibiotic used to treat the infection is particularly limited.

Those most at risk from MRSA infections are hospitalised patients, who have undergone surgery and, as a consequence, have breaks in their skin. These patients may already have weakened defence mechanisms as a result of their condition, and this leaves them particularly vulnerable to infection. It is therefore essential to ensure that all patients have any wounds covered at the earliest opportunity, prior to transportation.

There is no evidence to suggest that MRSA presents any risk to ambulance staff or their families, although it is possible for crews to become a cross infection risk to other patients. It is for this reason only that hospital staff may be observed wearing barrier clothing when dealing with MRSA infected patients, as opposed to any need for personal protection.

From an ambulance service perspective, the best defence measures that can be adopted to prevent staff becoming a cross-infection risk are essentially Standard Precautions. It is in any case imperative that these are routinely considered for all patient contact, and applied where necessary. These include giving close attention to all matters of personal hygiene, as well as to the use of PPE if contact with blood and/or body fluid is likely.

The importance of carefully attending to hand washing procedures, both before and after patient handling, cannot be overemphasised. Remember that the alcohol disinfectant can be used as an alternative to conventional hand washing facilities, when these are unavailable. However, remember also that the hands must still be thoroughly washed with soap and water at the earliest opportunity.

Patients with MRSA do not normally require any special travel arrangements, and therefore do not require a dedicated A&E or PTS vehicle for their journey.

The only exception will generally involve those patients with open skin lesions that are unable to be covered by an impermeable dressing. For any such patient, the advice of the hospital's Infection Control Team (ICT) should be sought, via a member of the hospital staff. This will require the crew to provide details of the intended journey plan,

together with an account of any other patients who are due to be conveyed during the same journey.

If the resultant advice indicates that the patient should be conveyed on a singular basis, then EOC / UOC or the respective PTS Control must be informed in order for the appropriate rescheduling arrangements to take place. The crew should then wear items of PPE as necessary, which will involve the use of disposable gloves and apron as a minimum.

On completion of the journey, any surfaces which have been in contact with the patient should be cleaned using Cleaning System 1, followed by Disinfection System 2 or 3. All items of disposable PPE, along with any used cleaning materials must then be discarded into a yellow clinical waste bag.

Clostridium *difficile*

Clostridium *difficile* is the major cause of antibiotic associated diarrhoea and colitis, an infection of the intestines. It is an anaerobic bacterium (i.e. it does not grow in the presence of oxygen) and its usual habitat is the large intestine, where there is very little oxygen. It produces spores that can survive for a long time in the environment, and most commonly affects elderly patients with other underlying diseases.

C. *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. The patient may present with watery diarrhoea which may be green in appearance, fever, loss of appetite, nausea, abdominal pain and tenderness.

C. *difficile* can be fatal; laboratory tests have identified over 100 different types of which type 027 is of particular concern because it causes a greater proportion of severe disease and appears to have a higher mortality.

C. *difficile* bacteria can be found living in the large intestine of a small proportion (less than 5%) of the healthy adult population. It is also common in the intestine of babies and infants. The 'good' bacterial population of the intestine normally keeps it in check. However, when antibiotics have killed off these good bacteria, C. *difficile* is able to multiply in the intestine and produces two toxins that damage the cells lining the intestine. The result is diarrhoea. Because it develops in this way, the patients who are most at risk of infection with C. *difficile* are those who have been treated with broad spectrum antibiotics [those that affect a wide range of bacteria, including intestinal bacteria], those who have been treated with multiple courses of antibiotics, or extended treatment with antibiotics.

Although some people can be healthy carriers of *C. difficile,* in most cases the disease develops in the health care setting 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 *C. difficile* diarrhoea excretes large numbers of spores in their liquid faeces which can survive for a long time in and be a source of hand to mouth infection for others. If these others have also been given antibiotics, they are at risk of *C. difficile* disease.

In the out of hospital setting, the use of Standard Precautions including gloves and aprons, and strict hand washing technique should be adopted to prevent the risk of cross infection. Ambulance staff should not rely solely on alcohol gel as this does not kill off the *C. difficile* spores.

Close attention should be paid to cleaning the environment with chlorine based disinfectant. However, there is no restriction on the transfer of patients who have had *C. difficile* associated diarrhoea and are now clinically asymptomatic, *i.e.*, they no longer have diarrhoea. Once someone has recovered clinically they are not a risk to others even if they continue to carry *C. difficile* in their stool for a period provided that they observe the normal personal hygiene precautions of hand washing after using the toilet.

A patient with a formed stool and who is continent is not considered to present a risk for environmental contamination or cross infection.

INFECTION	INCUBATION PERIOD	MODE OF TRANSMISSION	DURATION OF INFECTIVITY	GENERAL MANAGEMENT
ANTHRAX	2-7 days Usually within 48 hours	From infected soil and animal products such as bone meal	Not transmitted from person to person (unless it is sporating)	Standard Precautions.
CHICKENPOX	2-3 weeks. Commonly 13-17 days	Respiratory transmission and direct contact with lesions	From 1-3 days before the appearance of the rash until 6 days after	Standard Precautions Pregnant staff seek advice from Occ. Health Dept.
CHOLERA	Several hours to five days Usually 2-3 days	Infected water or seafood	Until diarrhoea ceases	Standard Precautions
CLOSTRIDIUM *DIFFICILE*	Most people who get a C. diff infection will get symptoms while they are taking antibiotics. However, symptoms can appear up to 10 weeks after they have finished taking antibiotics.	In most cases the disease develops in the health care setting after cross-infection from another patient, either through direct patient to patient contact, via healthcare staff, or via a contaminated environment.	Until diarrhoea ceases. A patient with a formed stool and who is continent is not considered to present a risk for environmental contamination or cross infection.	Standard Precautions. Additional cleaning of the environment using a chlorine based disinfectant.
CREUTFZFELD-JAKOB ENCEPHALOPATHY	1-20 years but not exactly known	Via brain/nervous tissue or pituitary extracts	Unknown	Standard Precautions Seek advice from hospital staff re. any additional measures

DIARRHOEA Amoebic Dysentery	2-4 weeks	Ingestion/faecal	As long as organism is present	Standard Precautions
Campylobacter	3-5 days	Ingestion/faecal	As long as organism is present	Standard Precautions
Clostridial	6-24 hours	Usually from meat products	Not directly transmissible from person to person	Standard Precautions
Giardiasis	7-10 days	Ingestion/faecal		
Rotavirus	48 hours	Faecal/oral Possibly respiratory	} As long as organism is present	} Standard Precautions
Salmonella	6-72 hours	Ingestion/faecal		
Shigellosis	1-7 days	Ingestion/faecal		
DIPHTHERIA	2-5 days	Direct	2-3 weeks or while organism is present	Standard Precautions
HENDRA VIRUS	4-18 days (possibly up to 12 months)	Via contact with contaminated tissue or body fluids from infected animals.	Whilst organisms remain present	Category 3 (See Section 17)

HEPATITIS A (HAV)	2-6 weeks (average one month)	Faecal/oral, contaminated food & water	From one week before until one week after onset of jaundice	Standard Precautions
HEPATITIS B (HBV)	6 weeks-6 months (average 2-3 months)	Via blood/body fluids, sexual contact and from infected mother to baby	Whilst virus is present in blood and body fluids	Standard Precautions **Immunisation**
HEPATITIS C (HCV)	2 weeks - 6 months	Blood-borne - small risk of sexual transmission	From one week before onset of symptoms, and indefinitely in the chronic carrier	Standard Precautions
HUMAN IMMUNODEFICIENCY VIRUS (HIV)	Variable Sero-conversion usually takes up to 6 months	Via blood/body fluids, sexual contact, and from infected mother to baby	For life	Standard Precautions
IMPETIGO	1-5 days	Respiratory route or direct contact	Until effectively treated(usually 24 hours), or as long as lesions are present	Standard Precautions
LEGIONNAIRES' DISEASE	2-3 days	Respiratory transmission from environmental sources (water)	Spread from person to person is unknown	Standard Precautions
LEPTOSPIROSIS (Weil's Disease)	4-19 days Usually 10 days	Via water or food contaminated with rodent urine	May be excreted for months but person to person spread is rare	Standard Precautions

LEPROSY	9 months - 20 years	Direct skin to skin contact	Until receiving treatment	Standard Precautions
MALARIA	Variable (dependant on species)	Mosquito borne	Not transmissible from person to person	Standard Precautions
MEASLES	1-2 weeks	Respiratory route	Up to 4 days before, until 4 days after onset of rash	Standard Precautions
HAEMOPHILUS MENINGITIS	2-10 days	Respiratory route	As long as organisms are present	Standard Precautions Prophylaxis only if mouth to mouth resuscitation has been performed
MENINGOCOCCAL MENINGITIS	2-10 days	Respiratory route	Until 48 hours after effective treatment	
NEONATAL MENINGITIS		From birth canal	Until effective treatment	
NIPAH VIRUS	4-18 days (possibly up to 12 months)	Via contact with contaminated tissue or body fluids from infected animals	Whilst organisms remain present	Category 3 (See Section 17)
PERTUSSIS (Whooping Cough)	1-3 weeks	Respiratory route and hands	1 week before, until 3 weeks after onset of symptoms	Standard Precautions
PLAGUE	1-7 days	Bubonic & Zoonic - usually via wild rodents	Many months	Category 3 (See Section 17)

PNEUMOCOCCAL PNEUMONIA	1-3 days	Possible respiratory transmission but usually endogenous	Until 48 hours after effective treatment	Standard Precautions
PNEUMOCYSTIS CARINII		Endogenous infection in immuno-suppressed patients	Unknown	Standard Precautions
POLIOMYELITIS	7-14 days Up to 35 days in paralytic cases	Usually faecal-oral spread	Faeces can remain infected for up to 6 weeks. This includes post-immunisation in children	Standard Precautions
PYREXIA (Travel & Non-Travel) -	Consider tropical disease dependant on causative organism			Standard Precautions
RABIES	Usually 2-8 weeks Occasionally more than one year	Via saliva of infected humans and other mammals	Throughout the course of the disease	Category 3 (See Section 17)
RUBELLA (German Measles)	2-3 weeks	Respiratory route	1 week before onset of rash until 4 days after	Standard Precautions. Pregnant staff seek advice from O.H.
SCABIES	2-6 weeks	Prolonged skin to skin contact	Until all mites and eggs have been destroyed	Standard Precautions
SHINGLES	13-21 days (Follows earlier Chickenpox)	Direct contact with lesions	Whilst blisters remain, can cause chickenpox in susceptible individuals	Standard Precautions

TETANUS	3-21 days	From soil	Not transmitted from person to person	Standard Precautions
TUBERCULOSIS	1-3 months	Respiratory transmission	Until effective chemotherapy renders cultures negative. Usually only open TB of the lungs is infectious and remains so while organism is present in the sputum (up to 2 weeks after start of chemotherapy)	Standard Precautions
TYPHOID FEVER PARATYPHOID FEVER	1-3 weeks 1-10 days	Faecal oral Food and water	Whilst organism is present in faeces or urine	Standard Precautions

Incubation Period: **The interval between contracting an infection and the appearance of the first symptoms.**
Infective Period: **The time during which a person is capable of passing on the infection.**

17. Category Three Diseases

Infectious diseases requiring Ambulance Category Three precautions

The national 'Ambulance Category Three' classification incorporates those infectious diseases that require the routine application of special precautions and procedures, i.e.

- Rabies
- Plague
- Zoonotic Infections caused by the Hendra and Nipah Viruses
- Viral Haemorrhagic Fevers, including; Lassa, Ebola, Marburg and Crimean/Congo Fevers

All of these diseases are extremely rare in the UK, and even then cases are more likely to be of a 'suspected' nature, as opposed to those with a 'confirmed' diagnosis. However, Category Three diseases are the subject of Department of Health (DoH) guidelines, and as such dictate strict compliance with nationally agreed policy.

Hospitals to which Category Three Patients may be Transferred

There are two High Security Infectious Disease Units (HSIDU's) currently in operation in this country; Newcastle General Hospital in Northumberland and the Royal Free Hospital (RFH) in London where most patients from the London Ambulance Service NHS Trust (LAS) catchment area will initially be conveyed. National policy dictates that in the case of 'suspected' Viral Haemorrhagic Fever cases, the local ambulance service will normally be required to convey the patient to their nearest HSIDU. However, patients with a 'confirmed' diagnosis will only be transported by either the LAS, or the North East Ambulance Service NHS Trust. Please refer to Appendix C for listings of the respective collection areas.

Staff should note that cases of Rabies may be accepted for admission to other hospitals with appropriate intensive care facilities. Similarly, DoH guidelines determine that patients suspected of having Plague may also be conveyed to an alternative hospital destination.

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In extraordinary circumstances, the Consultant at the RFH may determine that the patient is transported in an isolator. Although this situation has never arisen before in the UK, the crew will receive special training and instructions at the time by members of the hospital staff, and will be accompanied and supported by a member of hospital staff during the transfer.

The nearest available A&E crew will be deployed to undertake Category Three removals, although a female crew member can decline the call if she suspects that she may be pregnant. This is not due to increased risk of contracting an infection during pregnancy, rather that this would necessitate additional occupational health checks.

In the event of a crew being involved in the removal of a patient who is subsequently diagnosed as having a Category Three infection, they should follow the specific instructions provided by the Emergency Operations Centre (EOC). These are likely to involve proceeding with the vehicle to the RFH for further advice, together with guidance and support from the Occupational Health Department.

Crew/Vehicle Preparation

EOC will receive the call as either **confirmed** Category Three infectious disease [in which case, there will be a high security lockdown procedure at the RFH], or **suspected** Category Three infectious disease [in which case there will be a medium security lockdown procedure at the RFH]. In either event, the instructions for crew and vehicle preparation shown below should be taken.

On receiving the call, consideration will be given for the designated crew to be stood down for a rest break if they are within their rest break window or if the call is likely to extend into or past their rest break window. The crew will then be directed to one of the locations listed in Appendix B. The nearest available Duty Station Officer (DSO) will also be dispatched to rendezvous with the crew, where the following additional items of Personal Protective Equipment will be issued:

- Gum Boots
- White Boiler Suits
- Disposable Suit (with hood)
- Disposable Underwear and Socks
- Disposable Gloves (surgeon type)

Crews should ensure they have access to an Emergency Crew Assistance (ECA) phone as emergency back up to the radio, and will be provided with a copy of the LAS Infection Control manual which incorporates these instructions.

The DSO will supervise and assist in the vehicle preparation process, which must include a further inspection of fuel level, roadworthiness checks etc., as well as an R/T check with EOC. All unnecessary items of equipment should be removed from both the cab and the saloon compartments, and safely secured at the station for later collection.

The remaining core equipment must consist of:

- Defibrillator (including pads etc.)
- Paramedic Pack (if appropriate)
- Primary Response Case
- Resuscitation Bag and Mask (including Reservoir Bag)
- Resuscitation Pack
- Aspirator Suction Unit
- One Trolley Cot
- One Carrying Chair
- One Stretcher Canvas
- Self glide Transfer Board

- Three Blankets (old)
- Six Vomit Bags
- Six Clinical Waste Bags
- Six 'Infectious for Incineration' labels
- Six Pairs of Disposable Gloves (surgeon type)
- Six Disposable Face Masks (one to be worn by patient)
- Six Disposable Plastic Aprons
- Safety Eyewear (personal issue)
- Two Blue Tissue Rolls
- Two Boxes of Paper Handkerchiefs
- Detergent Cleaner - System 1 (full container)
- NaDCC Disinfectant - System 2 + three spare tablets
- Alcohol Disinfectant - System 3 (full container)
- Super Absorbent Powder (full container)
- Three Spillage Kits (for emergency back-up)
- Drinking Water Flask + Six Disposable Cups
- Disposable Bed Pan + Urine Bottle (with bung)
- Two ‘E’ Size Oxygen Cylinders + Flow meter + Masks
- Copy of LAS Infection Control manual
- Torch
- ECA phone
- Map Book + specific maps, directions etc.
- Patient Report Form + board, pens etc.

The level of any additional equipment should largely be established by EOC when the vehicle is ordered, as this will be dependent upon the anticipated needs of the patient. If necessary, EOC staff can liaise with the Clinical Support Desk for further advice. In addition, if a medical escort team is to accompany the patient, they may wish to utilise their own items of equipment, so this too should be identified in a bid to avoid unnecessary duplication. However, if any doubt exists, the crew must ensure that LAS emergency resuscitative equipment is carried as a minimum.

The crew must then remove all items of clothing, and put on the disposable underwear and the white boiler suit. The infectious disease suit must then be worn over the boiler suit, and fastened up to the neck. Staff should ensure that their hair is tucked inside the hood of the suit, and that the elasticated legs are allowed to lap over the top of the boots.

All articles of clothing, together with personal items, should be left with the Duty Station Officer in an appropriate storage container. Once final checks have been completed, the crew should then plan their routes of travel for both journeys. Finally, after visiting the toilet, the crew should leave for the patient's address and report mobile to EOC.

Action at Patient's Home

Any resuscitation regime must include the use of either the Bag and Mask, or resuscitation pack. Under no circumstances should any form of direct oral resuscitation be carried out.

Prior to entering the patient's home, the crew will don disposable gloves, disposable face mask and their safety eyewear. Any other items of equipment will be selected as required to aid the removal of the patient to the ambulance. Care must be taken to treat any spillage of blood or body fluids immediately, using Cleaning System 1 and Disinfection System 2, together with the super absorbent powder if necessary. In addition, care must also be taken to ensure that all items of ambulance equipment are removed from the address. This includes the removal of any materials that have been used for cleaning spillages etc., which must be stringently collected as clinical waste.

The crew should attempt to keep well wishers at a distance whilst transferring the patient to the ambulance, particularly where physical contact is anticipated. On leaving the patient's address, the crew will report mobile to EOC and provide an ETA to the designated hospital.

EOC Pre-Alert Actions

EOC will pre-alert the HSIDU that the crew have left scene and are en route. This will be done via the internal switchboard **(020 7794 0500) requesting extension 34017 or 34018** to alert the appropriate specialist staff that the ambulance is en route.

There is a back up number direct to the HSIDU which is: 020 7830 2712.

Action En-Route to Hospital

Other than for emergency evacuation purposes, the crew must not leave the vehicle under any circumstances. This policy must also apply to 'running calls', where a further ambulance response should be summoned via the radio or ECA phone

In the event of a breakdown, the crew will notify EOC, or contact the relevant control listed in Appendix C. In the event of radio failure, assistance should be requested via the ECA phone.

If problems occur with both radio and telephone communications, the attention of a passer-by should be gained by means of a shout, in order for the police to be summoned.

In most instances of vehicle breakdown, the repair can be effected at the roadside without the need for fleet support staff to enter the vehicle. However, if this is not possible, then arrangements will be made to complete the journey with the vehicle under tow.

The specific nature of these arrangements, coupled with any additional measures required, will be co-coordinated by EOC. This will be determined after due consultation with the crew and fleet support staff, together with a clinical judgment from the Consultant at the RFH.

Action on Arrival at the Royal Free Hospital – Rowland Hill Street Entrance

EOC will arrange for the same DSO (or his/her shift successor) to rendezvous with the crew at the Hospital. After liaising with hospital staff, the storage boxes containing the crews clothing and personal items, should then be taken to the 'clean' changing room, in readiness for when decontamination procedures have been completed. The DSO will then oversee the remainder of the cleaning and disinfection procedure, from a suitable distance.

The crew should then proceed as directed to the Rowland Hill Street entrance for ambulance patients.

Confirmed Category Three Cases ('High Security')

If the patient has confirmed Category Three infectious disease, the RFH undertake a high security lockdown procedure. This involves blocking off the route between the Rowland Hill Street entrance and the HSIDU from other members of hospital staff and the general public, until the patient has been transferred to the ward and the crew has exited the building.

The crew and patient will be met at the Rowland Hill Street entrance by specialist hospital staff and escorted to the HSIDU [situated on the eleventh floor of the building]. The transfer of the patient into the infectious disease bed therefore occurs within the HSIDU itself.

All blankets and linens carried into the HSIDU should be placed and secured into a yellow clinical waste bag, and an 'Infectious for Incineration' label attached. After endorsing the label with the patient's diagnosis, the bag should then be handed over to the hospital staff for subsequent incineration or sterilisation.

The crew should then return to the Rowland Hill Street entrance using the same protected route in preparation for decontamination. The lockdown will continue until the crew has exited the building at the Rowland Hill Street entrance.

Suspected Category Three Cases - cases where the diagnosis is suspected but not confirmed ('Medium Security')

If the patient has suspected Category Three infectious disease, but the diagnosis has not been confirmed, the RFH undertakes a medium security lockdown procedure.

The crew and patient will be met at the Rowland Hill Street entrance by specialist hospital staff; the patient will be handed over directly to these staff, and the transfer onto hospital equipment (wheelchair, bed or trolley) will occur here.

All blankets and linens should then be placed and secured into a yellow clinical waste bag, and an 'Infectious for Incineration' label attached. After endorsing the label with the patient's diagnosis, the bag should then be handed over to the hospital staff for subsequent incineration or sterilization. The patient will then be taken to the HSIDU by hospital staff in accordance with specific hospital policy, and the crew will exit via the Rowland Hill Street entrance.

Procedure for Vehicle Decontamination

In either suspected or confirmed Category Three cases, the ambulance should then be driven to the designated area beyond the A&E (Pond Street Entrance), and prepared for cleaning and disinfection. This will firstly involve the opening of all doors and windows, followed by the removal of all detachable items of equipment.

The cleaning and disinfection process will require the comprehensive application of Cleaning System 1 and either Disinfection System 2 or 3, as specified in Section 20. These procedures must be applied to all interior surfaces of the vehicle, fixtures and fittings, as well as to the detachable items already removed. The doors and windows of the ambulance should be left open to assist drying.

Care must be taken to ensure that any items of non-disposable equipment that have been used during the transfer, are thoroughly cleaned and disinfected. Although it is anticipated that existing LAS procedures (as detailed in Section 20) will prove adequate for these purposes, the crew must still seek advice and confirmation from a member of the hospital's nursing staff. These measures are regarded as special precautions, and reflect the significance of Category Three transfers. It is imperative that all surfaces are thoroughly cleaned and disinfected, irrespective of whether any direct contamination of blood or body fluids has occurred.

All disposable items of equipment must be placed into a yellow clinical waste bag, along with all tissues and items used during the cleaning and disinfection procedure.

On leaving the vehicle, all clinical waste bags must be removed, secured, and tagged with an 'Infectious for Incineration' label. The label must be endorsed with the patient's diagnosis, and handed to hospital staff for subsequent disposal.

Procedure for Crew Decontamination

The crew will be guided to the dedicated showering suite, located outside of the A&E entrance. They will firstly enter the 'dirty' changing room, where they will undress. All disposable items should be placed into a yellow clinical waste bag for incineration, while recoverable items should be placed in the clear plastic bags provided. The crew will then go through to the shower room and wash themselves thoroughly, including shampooing their hair.

Each member of staff will be responsible for cleaning the shower after use. The towel and paper floor mat should be thrown back into the dirty changing room, before the crew enter the 'clean' changing room. Care should be taken to ensure that all doors are left unlocked as staff progress through the showering suite.

On arrival in the clean changing area, the crew will retrieve their clothing and personal items from the storage containers, and put on their uniform. They will then be free to leave the unit by the side door, where they should return the storage containers to the DSO.

All reusable items of Service clothing will be dealt with by the hospital staff and returned at a later date, whereas the disposable items will be destroyed by incineration.

Once the crew and DSO are satisfied that any outstanding matters have been addressed, the crew should report their status to EOC. It is likely that the crew will then return to the ambulance station holding the remaining items of equipment, in order for their vehicle to be fully replenished. Once this has been completed, the ambulance will be available to return to normal operational duties.

Post Exposure Vaccination

In general, ambulance staff will only be offered vaccination if they have undertaken a rabies removal. However, crews will receive initial advice and support from hospital staff, together with any treatment deemed necessary.

EOC will maintain detailed records of all Category Three removals. It is therefore essential that crews keep EOC updated with all developments as they occur, which should also include details of any advice and/or treatment provided by the receiving hospital. Such information must also be sort by both EOC and the DSO, in order that a clear plan of communication and support can be established for the individual crewmembers involved. The initial responsibility for formulating and actioning this plan will rest with the respective Ambulance Operations Manager in EOC, who will ensure that all relevant details are passed to Occupational Health, and the crew's local managers, at the earliest opportunity.

As soon as circumstances allow, the responsibility for managing subsequent communication and support measures will be assumed by the local manager. He/she will continue to liaise with the crew, as well as co-coordinating the involvement of Occupational Health, and any other associated authority. Crews concerned about their health following an infectious removal can seek advice at any time from the Occupational Health Department (for referral details see Section 15).

18. Control of Infestation

General

Ambulance staff may occasionally come into contact with patients who are suffering from a parasitic disease, caused by an infestation of animal parasites. In the majority of cases, the source of the infestation will be an 'ectoparasite', an organism that lives on, or in the skin.

There are three types of ectoparasite which staff are likely to encounter, i.e.,

- Scabies
- Lice (Head, Clothing and Pubic)
- Fleas

The broad application of Standard Precautions, including the need for PPE, as well as for localised cleaning where necessary is the best means of controlling infestation.

Scabies

Scabies is a skin infection, caused by the mite burrowing under the skin and laying eggs. The excreta and saliva from these mites may then induce an allergic reaction, which often presents as a rash on the wrists, elbows, axillae, and occasionally the waist and thighs. The sites of this reaction may not always correspond with the sites of burrowing.

The disease can occur in all individuals, both young and old. The allergy is accompanied by intense itching, which is further aggravated by warmth and moisture. The itching is particularly prevalent at night, or after a hot bath or shower, and continued scratching can lead to the development of secondary infections.

Scabies is spread by direct, prolonged skin-to-skin contact (approx. 5-10 minutes) with an infected person, predominantly by holding hands. It can also be spread by sharing clothing and bedding. This determines that ambulance staff are not considered as a high risk group for contracting scabies, providing simple hand hygiene precautions are observed. It should be noted that any cross-infection is most likely to occur before the patient's diagnosis is confirmed.

Lice

Lice are wingless insects, which are found worldwide as ectoparasites of mammals. There are more than 550 species of lice, of which three are known to infest humans. All three of these, the human head louse, the clothing louse and the pubic louse are minute, but visible to the naked eye.

Head Lice Head lice are small insects up to 2.5mm in length. They are blond when they hatch, but have the ability to change to the colour of the host hair so they are not easily seen. This species of lice are typically found on the head and tend to remain in that region. However, they are unable to survive away from their host, and will dehydrate and die on leaving the head.

Head lice are only spread by direct, prolonged head-to-head contact, i.e. in excess of 1 minute. They cannot fly, hop or jump, and any lice found on hats, furniture or bedding are either dead or dying. The female lays around ten eggs a day close to the scalp. After seven days or so, the eggs hatch, leaving the empty eggshell, or nit, firmly attached to the hair.

Clothing Lice Clothing lice (formerly known as Body lice) are capable of surviving for a limited time in infested stored clothing. Their eggs attach to cloth fibres in seams, and sometimes to body hairs. Infestations usually affect patients with poor personal hygiene, who do not regularly change their clothing.

Pubic Lice Pubic lice (also known as Crab Lice) live permanently attached to body hair, particularly that of the pubic region. They may also be found in the eyebrows and eyelashes, as well as in the hairs of the axillae.

Fleas

Fleas are wingless insects, of which the many species include human, cat and dog fleas. The adult flea is 2 - 3.5mm in length, and although they show a certain degree of host preference, they will feed on other animals in the absence of their normal host. In the UK, fleas are generally not responsible for the transmission of disease. However, they are of course highly objectionable in view of the bites they inflict, and the social stigma attached to human flea infestation.

The cat flea has become the major biting nuisance of the Western world, accounting for 95% of flea problems in this country. Although they will not remain on a human, the cat (and dog) flea has the ability to jump onto a person and bite, before jumping off again.

Measures to control infestation

The best means of defence to safeguard against infestation is by the use of Standard Precautions. This dictates that high standards of personal hygiene must be maintained at all times, particularly with regard to handwashing procedures. Disposable gloves and an apron should be worn at all times when having direct contact with an affected person or their laundry. Forearms should also be covered using over sleeves. Consideration should also be given to donning the 'Tyvex' oversuits, found in the infectious control kits.

All blankets and items of linen should be placed in a red alginate bag, and laundered as 'contaminated linen'. (Refer to Section 17 - Management of Linen).

In general, no specific cleaning of the vehicle is required, other than close attention to the area immediately occupied by the patient. This will involve utilising Cleaning System 1 on either the seat or the trolley mattress, as well as the adjacent wall and floor surfaces.

In cases where the patient is visibly infested with fleas, crews may wish to request a return to station for a shower and uniform change. This would normally follow confirmation of an infestation by hospital staff, as such conditions usually become evident as the patient is undressed. The crew must advise EOC / UOC of the outcome from any examination, in order that arrangements on station can be made.

Staff must ensure that they only utilise the shower soap provided during subsequent showering, as insecticidal shampoos or soaps are not recommended. Any member of staff who suspects that they may have become infested should contact the Occupational Health Department, or their GP, for further guidance and advice.

19. Management of Waste

General

All members of the London Ambulance Service have a legal responsibility for the safe and proper disposal of waste. This includes waste produced from Service establishments, and in particular, all items of waste generated from operational activities and patient care interventions. It is crucial that staff recognise and understand their individual responsibilities in complying with LAS waste disposal procedures, and seek advice and guidance from local managers if any area of uncertainty should arise. In this way, the health and safety of staff, patients and any other persons with whom we come into contact, can be suitably protected.

Types of Waste

Domestic Waste

All household waste, including glass, aerosols and batteries, but excluding any item generated from a clinically related activity.

Clinical Waste

Any used disposable item which comprises of, or contains any human tissue, blood or other body fluid, excretions, drugs or other pharmaceutical products, swabs or dressings, syringes, needles or other sharp instruments, and any other waste arising from any clinical intervention, which may prove to be hazardous or cause infection to any persons coming into contact with it.

NB. The LAS has separate policies to cover the handling and disposal of other forms of waste, e.g. confidential paper waste, date expired drugs, etc.

Segregation of Waste

Different types of waste require different procedures to ensure their safe and appropriate disposal. It is therefore essential that waste is correctly identified and segregated at source, in order to remove all avoidable risk during subsequent handling, storage and transportation.

Similarly, care must be exercised in segregating items of non-disposable equipment and linen from clinical waste, prior to adopting the relevant cleaning and decontamination process. However, an alternative course of action may be required in the case of a ‘Category 3’ patient, whereby crews should work under the guidance of hospital staff. Safe and effective waste segregation requires the use of colour coded storage bags and containers, appropriate to the waste type.

These are listed in the table overleaf:

Receptacle	Waste Type Procedures	Procedures
Black Plastic Bags	All domestic waste, but excluding glass, aerosols, batteries, and any item generated from a clinically related activity.	Ensure that bags are not overfilled prior to sealing securely. Handle bags by the neck only, and place in palladin or other secure site according to local refuse collection arrangements.
Cardboard Boxes (designated for purpose)	All glass bottles, broken domestic glass and crockery, used aerosol cans and batteries.	Care must be taken to prevent overfilling prior to disposal via local refuse/recycling collection.
Orange (formally Yellow) Plastic Clinical Waste Bags	All NON-SHARP clinical waste, e.g. used gloves, aprons, masks, dressings, swabs, sanitary items, incontinence pads, guedel airways, empty IV infusion bags & giving ets (tubing only), tissues/blue roll in contact with blood and body fluids, and any other 'soft' disposable item similarly contaminated.	Seal securely when max. 2/3 full, or at end of shift. Enter date, fleet number, and station code on label. Consider double bagging if the integrity of bag is in doubt. Handle bags by the neck only. Stow safely in vehicle, prior to off-loading into STATION clinical waste bin at first opportunity.
Plastic Sharps Boxes	All SHARP clinical waste, e.g. needles, syringes, cannulae, drug mampoules, disposable razors, scalpel blades, sharp connectors from IV lines, small broken glass items, and any other used disposable 'sharp' item.	Please refer to Section 15.2 – Safe Disposal of Sharps. It is essential that all staff are fully conversant with the procedures listed, and follow them implicitly.
Plastic Clinical Waste Bins	All SEALED clinical waste bags and sharps boxes.	Staff must ensure that the temporary red cover is replaced with the locking yellow cover as soon as the bin is full. The bin must then be placed in the station's designated storage area, after ensuring that it has been marked with the station code and date. A fresh bin should then be provided, suitably endorsed with the station code.

All items of clinical waste must be placed in the appropriate receptacle at source, as soon as is practically possible. This should always be performed by the person immediately involved in the generation of the waste, particularly where the use of sharps are concerned.

Prior to departure, crews must make every effort to ensure that no items of clinical waste are left on scene. Where sharps are used away from the vehicle, the sharps boxes carried in either the Paramedic or Primary Response Packs should be utilised as appropriate, along with clinical waste bags for any other contaminated item.

Under no circumstances should any item of clinical waste be placed in any domestic waste bin, or left abandoned outside designated containers, e.g. in the rear of ambulances, etc.

Handling and Storage of Clinical Waste

The importance of personal protection, and in particular hand care, is once again emphasised for all staff engaged in the handling of clinical waste. It is essential that staff apply an impermeable waterproof dressing to any cuts or abrasions during any period of duty, in addition to the wearing of protective equipment where necessary. Section 6 - Personal Hygiene and Section 7 - Personal Protective Equipment, provide comprehensive guidance in this respect.

All staff must wear disposable gloves as a minimum when handling clinical waste. This also applies to the handling of clinical waste bags, boxes or bins, where the use of additional protection, e.g. aprons, should be considered if leakage is suspected. Remember that all used disposable protective items should themselves be disposed of as clinical waste. Any spillage or contamination resulting from the movement of clinical waste must be thoroughly cleaned and disinfected at the earliest opportunity. This will ordinarily involve the use of Cleaning System 1, followed by Disinfection System 2, via the trigger spray presentation on the A&E fleet, or the Spillage Kits on PTS vehicles, tenders etc. Full guidance is provided in Section 8 - Cleaning and Disinfection Agents, and Section 9 - Blood/Body Fluid Spillage. Any such incident must be reported to line managers, followed by the completion of an LA52.

For incidents which involve a needlestick or blood splash injury, refer to Section 12 Sharps/Blood Splash Injuries, & Post Exposure Action.

Clinical Waste Collection

Responsibility for the final collection of clinical waste from the LAS is held by an external contractor. However, LAS tender drivers are still responsible for the carriage of full clinical waste bins and their replacements, between station complexes and agreed collection sites. Storage sites for clinical waste bins have been designated and marked at LAS station complexes. Any subsequent change to an existing location must involve the agreement of the Safety and Risk Adviser, who will ensure compliance with the relevant legislation. Local Support Service and Station Officers will also monitor, record and oversee clinical waste collection, in accordance with contractual and Service requirements.

20. Management of Linen

General

In the LAS, the term 'linen' refers to all materials that require laundering. As most linens have the potential to harbor microorganisms, it is important that all Service linens are appropriately managed in order to minimise any risk from cross infection. Although the risks of cross infection from linen are small, particular attention should be directed at those items utilised in the direct care of patients. Ambulance blankets are naturally the main items of linen used in this respect, along with supplementary articles such as canvasses and carry sheets.

As laundry services to the LAS are provided under a dedicated contract, it is vital that all blankets etc., remain in the internal laundry system. Crews must therefore ensure that all items requiring laundry are not left elsewhere, e.g., hospital establishments, unless absolutely necessary. In such cases, an LA 108 must be completed in order that collection can be duly arranged.

Segregation of Linen

For laundry purposes, linen must be segregated into one of the following groups:

Used Linen

Linen which has become soiled by general use but has not been contaminated by blood or body fluids.

Contaminated Linen

Linen which has become contaminated by blood or body fluids, or which has been used in the care of a patient with a known infectious disease, or infestation.

The importance of hand care is again emphasised, together with the need for staff to apply an impermeable waterproof dressing to any cuts or abrasions during any period of duty. Section 7 - Personal Hygiene, and Section 8 - Personal Protective Equipment, provide comprehensive guidance in this respect.

Staff must exercise all due care when preparing items for laundry. Disposable gloves and aprons must always be worn as a minimum, particularly when handling contaminated linen. Items of linen should always be held away from the body to reduce the risks of contact with uniform.

Furthermore, particular care should be exercised during the handling of laundry, as incidents have been reported where items of clinical waste, such as used sharps and contaminated dressings, have been discovered wrapped in blankets. If any incident of this nature occurs;

- Wearing disposable gloves and apron as a minimum, carefully extract the item and place directly into a sharps box or clinical waste bag as appropriate. Dispose of PPE as clinical waste, and thoroughly wash and dry hands.

- If the incident has resulted in a needlestick or splash injury, notify CAC and report to the nearest A&E department, following the procedure detailed in Section 12 - Post Exposure Action.

- The line manager, or Duty Officer, should be informed of the incident as soon as possible and an LA52 Accident/Incident Reporting Form completed. Please remember that the incident must still be reported, even if no apparent harm or injury has occurred.

Safe and effective linen segregation calls for the use of colour coded storage bags and containers, appropriate to the laundry type. All items requiring laundry must be bagged at source, after ensuring that any item of equipment etc. has firstly been removed.

All A&E, PTS and support service vehicles must carry an adequate supply of clear plastic, and red alginate bags to allow compliance with the following procedures.

Disposal of Used Linen
Used Linen must be placed in a clear plastic bag, prior to being stowed in a safe position in the rear of the ambulance. On returning to station, the bag should be off-loaded and placed in the red laundry bin, and the lid secured. Staff are reminded to attend to handwashing procedures after any activity involving linen disposal.

Disposal of Contaminated Linen
After donning disposable gloves and apron, contaminated linen must be placed in a red alginate bag, prior to being sealed with the tie provided. The biodegradable nature of alginate bags allows for the bag to dissolve during the wash cycle, thus eliminating the need for any further direct contact with its contents. Each bag should not be filled in excess of 2/3 of its capacity, and staff should remain mindful of the ease with which alginate bags can tear.

Once the red alginate bag has been sealed, it must then be placed within a clear plastic bag for added protection. Again, care must be taken to ensure the clear bag is not overfilled, prior to stowing safely in the rear of the vehicle.

On returning to station, the bags must be off-loaded at the first opportunity and placed complete with the clear outer bag, into the red laundry bin. The lid should again be secured, with any disposable items of PPE being discarded as clinical waste. The hands should then be thoroughly washed and dried as a matter of routine.

Sundry Linens
Arrangements for the laundry of items such as shower and tea towels are included in the LAS laundry contract. These should be considered as ‘used linen’ and as a consequence be sealed within clear plastic bags, prior to being placed in the red laundry bin.

Operational Staff Uniform
The smart and clean appearance of LAS staff not only enhances the professional image of the Service, but also helps to minimise the risk of staff becoming a source of cross infection for patients in their care. In general, the responsibility for uniform laundering rests with individual members of staff. As with other items of clothing, staff uniforms should be laundered on a regular basis in accordance with the care label instructions

attached to each garment. Any clarification required should be sought via line managers, or by referring to the laundry advice booklet provided on station by the uniform suppliers.

In the majority of cases, staff uniform falls under the category of ‘used linen’, and should therefore be included as part of the general domestic washing arrangements undertaken by each member of staff.

On occasions, however, staff uniforms are exposed to splashes with blood and body fluids. This should naturally be avoided wherever possible, so staff must make every effort to protect both themselves and their uniform. The LAS provides a comprehensive range of Personal Protective Equipment to support staff in this aim, so items such as aprons must be fully utilized whenever necessary.

For cases where the soiling or contamination of uniform is clearly inevitable, a disposable suit should be worn as a protective outer garment, in addition to any other items of PPE deemed necessary. After use, the suit should be disposed of as clinical waste, and the uniform checked to ensure that its cleanliness has been maintained.

If, despite all efforts, contamination of the uniform occurs with either blood or body fluids, then CAC must be contacted and arrangements made for the crew to return to station for a uniform change. All staff should have at least one complete spare uniform in their station locker, and further spare shirts, jumpers and trousers etc. wherever possible.

The contaminated item of uniform should initially be treated in the same manner as ‘contaminated linen’, and secured in a red alginate bag. However, the alginate bag should then be placed in a separate red linen laundry bag, as opposed to being placed within the red laundry bin.

It is of course important that each uniform item can be readily identified to the respective member of staff, so an indelible laundry pen will be made available for this purpose. Staff should enter their name and station code in a discreet area on the item of uniform and thus help eliminate the risk of loss.

A laundry record book will be kept on each station, where staff must enter details of the date and uniform item placed in the red laundry bag. The LAS laundry contractors will then launder the item in order to remove the contaminant, and return it to the respective station as soon as possible. It must be stressed that the laundry process will involve only a wash and dry cycle, so staff will still need to press and prepare the uniform item as normal.

Station Officers and Support Service personnel will monitor this process, along with all other laundry provisions on station, and record when laundered uniform items have been returned to staff.

All members of staff should be reassured that the risk of disease transmission from uniform items is negligible. Expert advice has highlighted that any risks are minimised even further by strict adherence to the principles of Universal Precautions. This includes staff ensuring that all cuts and lesions are covered with impermeable waterproof dressings, in addition to the wearing of Personal Protective Equipment.

Stab Vests Laundering

The cover of your vest can be washed or dry cleaned, please pay attention to the laundering symbols as shown on care labels sewn into the cover.

Before laundering you stab vest cover put the protective inserts **must** be removed. Access is gained to these inserts by opening the zips found on the bottom of both the front and back sections of the stab vest cover. Please take care when removing these inserts so as not to unnecessarily bend of crease them. The inserts can be sponged down if required using warm water and a mild soap then sponge again using plain warm water. Please take this opportunity to examine the covers of these inserts, which are waterproof.

Before washing the vest cover, close all the zips and fastenings (with the front an back sections assembled) and turn the vest cover inside out. The laundering of products containing touch and close fasteners such as the cover of your stab vest is best done separately from other items. Any exposed hook of the touch and close system will try to fasten itself to any other fabric it comes into contact with, and all will be come contaminated in the process.
When replacing the protective armour inserts into the cover, please observe the information label, which contains instruction as to which side of the protective inserts is to be worn towards the body

Collection of Used and Contaminated Linen

Responsibility for the final collection of laundry from the LAS is held by an external contractor. However, LAS tender drivers are still responsible for the transfer of used and contaminated linen between station complexes and agreed collection/delivery sites.

All movement of linen between stations and contractor collection sites will involve the use of colour coded linen laundry bags:

- **Red Laundry Bags** for all used and contaminated linen, which has previously been bagged into red alginate and/or clear plastic bags at source.

- **Green Laundry Bags** for all clean linen being returned to stations from the laundry.

Tender drivers, and those involved in the handling and transportation of linen, must comply with all requirements to wear PPE. Disposable gloves and aprons will be worn when transferring used and contaminated linen from red laundry bins into red laundry bags, and similarly during the loading of the bags into the vehicle.

Used and contaminated linen must always be kept separate from clean linen.Each tender vehicle has therefore been specially adapted with a barrier for this purpose, the principle of which must be maintained at all times.

Storage sites for laundry bins and bags have been designated and marked at LAS station complexes. Any subsequent change to an existing location must involve the agreement of the Safety and Risk Adviser, who will ensure compliance with the relevant

legislation. Local Support Service and Station Officers will also monitor, record and oversee laundry collection, in accordance with contractual and Service requirements.

Storage of Clean Linen

Clean linen should be stored in a closed cupboard to prevent the entry of dust. The internal storage area must be dry and at least 15 cms above the floor. As dust can act as a reservoir for infection, the shelves should be damp dusted on a weekly basis, with the linen being drawn in strict rotational order.

Category Three Patients

Any linen used during the removal of a 'Category 3' case may prove to be the subject of special procedures for its disposal. Crews must always act under the guidance of hospital staff in such circumstances.

Handling of Deceased Patients

On the occasions where staff are required to remove, or handle deceased patients, it is imperative that Universal Precautions remain an integral element of the crews actions. The presence of blood or body fluids should particularly alert staff to wear disposable gloves, along with other protective equipment as required. Similarly, on completion of the assignment, all items of disposable PPE must be disposed of as clinical waste.

Staff should also remain mindful of the availability of disposable body bags within the Service, which are carried on Command & Control, and Emergency Support Vehicles. The attendance of a Duty Officer should therefore be requested on any occasion where the use of a body bag will help to protect the crew from blood/body fluid contact.

21. Domestic Cleaning

General

The role of domestic cleaning on LAS premises in the main is the responsibility of an external contractor. In some cases the LAS do have some directly employed staff. . However, all staff still retain responsibilities for the health and safety of their working environment, and this of course includes supporting the cleaning arrangements and procedures on station. As with ambulance vehicles, it must be remembered that **dust**, **dirt** and **moisture** are the three factors that favour the survival and growth of microorganisms. Good cleaning techniques should be focused around removing dust and dirt, as opposed to redistribution, which is a consequence of dry dusting and sweeping. Hot water and general purpose detergent are suitable for routine domestic cleaning activities in and around the station. Drying too, is equally important, and therefore surfaces or items which have been cleaned with fluids should be allowed to dry as thoroughly as possible, before being reused. Remember to make full use of hazard warning signs/cones to indicate wet floors, or for any other hazard that may arise during cleaning duties.

The use of PPE should again be fully considered for any cleaning activity on station. Providing staff have not been exposed to any blood or body fluid contamination while performing these duties, any disposable items can safely be discarded as general waste. Non-disposable equipment, e.g., safety eyewear, should be cleaned as detailed in Section 22.

Station Cleaning Equipment and Procedures

Mops & Mop Buckets
Separate colour-coded mops and buckets will be provided for specific key areas within ambulance stations:

- Kitchen and Food Preparation Areas (Green)
- Toilets and Washrooms (Blue)
- Vehicle Interiors (Red)

Care should be taken to ensure that mops are not interchanged with other buckets during use. Fresh water/detergent solutions should be made for each occasion that the mop is utilised, after which the bucket should be emptied, rinsed and stored inverted.

Disposable mop heads will be provided for each mop, and these must be changed on at least a weekly basis. However, if the ‘vehicle’ mop is used to clean blood or body fluid contamination, then the head should be discarded as clinical waste and a replacement head fitted.

Floors
It is usually sufficient to clean carpeted floors with a properly maintained filtered vacuum cleaner. Bags should be changed as necessary, and the brush or nozzle should be cleaned of fluff etc. before storage. Dust from non-carpeted floors should also be removed with a vacuum cleaner, prior to the surface being cleaned with a mop or other suitable implement.

Kitchen Areas
All areas where food is prepared and/or consumed must naturally be kept in a clean and hygienic condition at all times. Sinks, worktops and kitchen units must be washed regularly with hot water and detergent, and should not be allowed to become cluttered with items that are unrelated to kitchen use.

Cookers, microwaves and other kitchen appliances must also be kept clean, either with hot water and detergent, or with a specific cleaning agent. Crockery, cutlery and cooking utensils must be thoroughly washed immediately after use, prior to being dried and put away in their designated storage areas.

Refrigerators and freezers must also be defrosted and cleaned regularly with hot water and detergent. This task should be undertaken at the earliest opportunity if a food item has either spilled, or become stale.

Shower and Wash Rooms
Shower rooms and hand basins should be cleaned regularly with an appropriate cleanser and rinsed thoroughly. Care should also be taken to ensure that the soap and moisturiser dispensers are maintained in a clean and hygienic condition, and that they are replenished with new cartridges as soon as they become empty. Anti-slip shower mats should be washed with hot water and detergent after use, before being allowed to thoroughly dry. Roller towel dispensers should be replenished with a fresh towel as soon as required, and subsequently tested to make sure they function correctly.

Toilets
Toilets should be cleaned regularly with a toilet brush and/or a specific toilet cleaner. Toilet brushes should be cleaned after use in hot water and detergent, and stored dry in the brush holder.

General Waste Bins
Waste bins should be cleaned both inside and out with hot water and detergent, on at least a weekly basis. Black bin-liners should also be safely secured when full, prior to the bag being removed for subsequent disposal.

22. Vehicle Cleaning and Disinfectant

General

The importance of maintaining high standards of hygiene, and its direct correlation with the control of infection has been highlighted in numerous sections of this manual. This factor has a distinct relevance to ambulance vehicles as they, like staff, come into contact with a multitude of potential infection sources on a daily basis.

As the microorganisms that cause infection thrive in soiled, moist and dusty environments, it is of course of particular importance that vehicles are maintained in a clean and hygienic condition at all times.

In adopting the principles of Universal Precautions, all patients who enter the vehicle should be regarded as a potential biohazard. This recognises the fact that it is impossible to determine which patients are carriers of infection, from the multitude of those who are conveyed on a daily basis.

However, as the key source for the spread of infection emanates from contact with blood and body fluids, it follows that the potential risks from such contact can be successfully minimised by paying specific attention to the actual areas that have become contaminated.

This means that other than general day to day cleaning activities, the only areas that will require definitive cleaning and disinfection procedures are those where blood or body fluid contamination has occurred.

Although infection can be spread by airborne (droplet) mechanisms, the pathogenic microorganisms that emerge from this route can only survive for a few seconds outside the body of the host. Therefore, with the routine use of Universal Precautions e.g. attempting to avoid breathing while in close proximity to the patients face, and the use of the disposable face mask (staff and/or patient use) where indicated, the risks are minimised even further. It is for the above reasons that the old vehicle decontamination practice of ‘fogging out’ has been withdrawn, in favour of simple, more appropriate measures that reflect best practice in modern day Infection Control procedures.

The Vehicle Exterior

The exterior surfaces of all LAS vehicles should be maintained in a consistently clean and hygienic condition. A variety of vehicle wash facilities are available on ambulance stations throughout the Service, and these should be utilised as necessary. Careful attention should be given to all aspects of safety, including adherence to any locally applied instructions.

The use of PPE should also be considered whenever it is deemed necessary. This would ordinarily include eye protection and disposable aprons, particularly when using the manually operated vehicle wash systems. Hand protection is always of particular importance, so rubber household gloves, or even the heavy-duty ‘debris’ gloves, should be worn in preference to the normal latex disposable variety.
Any injuries sustained must receive immediate attention, and be cleaned and dressed with an impermeable waterproof covering. An LA52 Accident/Incident Report form must be completed at the earliest opportunity.

No emergency or urgent call should ever be delayed as a result of a vehicle appropriate time to attend to vehicle cleaning, in order to avoid any operational disruption in the vehicle's deployment. If pressures of work prevent a thorough cleaning of the vehicle exterior, then attention should be prioritised to the relevant safety and legal requirements, i.e., windscreen, windows, lights, indicators, reflectors, mirrors and number plates. In addition, staff should pay particular attention to the areas where dirt is likely to be transferred to the crew's hands and thus create a route for cross infection, e.g. door handles.

The detergent based cleaning agents currently used in LAS vehicle wash systems are satisfactory for general exterior vehicle cleaning. However, on the occasions where an exterior surface becomes contaminated with blood or body fluids, then 'Cleaning System 1' and 'Disinfection System 2' must be utilised to eradicate the potential source of infection. Remember that the use of PPE (disposable gloves and apron as a minimum) should be worn throughout. Once the procedure has been completed, the items of disposable PPE, along with the used blue tissue etc., must be disposed of into a yellow clinical waste bag.

The Vehicle Interior

The relevance of maintaining high standards of hygiene and cleanliness has an even greater significance to the interiors of ambulance vehicles. The very nature of ambulance work determines that all interior surfaces are prone to becoming dirty and dusty during normal everyday use. This can lead to a rapid build up of contamination, which if left unchallenged, potentially creates an ideal breeding ground for infectious organisms to grow and multiply.

It is therefore imperative that all staff meet their individual responsibilities in keeping the ambulance clean and thus help to reduce the risks of cross-infection to themselves, their colleagues and their patients. This can best be accomplished by all crews participating in frequent and routine cleaning activities, thereby enabling this requirement to be achieved in an easier and more effective manner.

During each shift, all interior surfaces that become directly contaminated should be cleaned as soon as possible. This process must always include the use of 'Cleaning System 1' as the primary cleaning agent, followed by the use of 'Disinfection System 2' if the contamination is likely to contain either blood or body fluids. Remember to use PPE as appropriate, and discard any disposable items that have been in contact with blood or body fluids as clinical waste. It is also advisable to provide as much ventilation as possible during cleaning activities, so ambulance doors and windows should be opened accordingly.

In addition, staff should undertake regular 'damp dusting' throughout the shift. This simply involves spraying detergent from 'Cleaning System 1' onto a piece of blue tissue roll, and then using this to wipe over the relevant areas. Staff should pay particularly attention to the horizontal surfaces in the ambulance, as well as all fixtures and fittings that are regularly handled. The ambulance floor should be mopped clean on a regular basis throughout the shift. As the floor carries a comparatively low risk of cross infection, this can be undertaken satisfactorily using hot water and a general detergent. However,

if blood or body fluids have been involved, then ‘Cleaning System 1’ and ‘Disinfection System 2’ must be used as required.

On most occasions, the floor will be mopped clean at hospitals so staff should ensure that they utilise a mop suitable for ambulance cleaning purposes. The same principle will apply at ambulance stations, where the red ‘ vehicle mop’ should be used (see Section 18.2).

On a weekly basis, all ambulance interiors should be subjected to a comprehensive clean. This again will involve the use of ‘Cleaning System 1’, as well as ‘Disinfection System 2’ for any areas where blood or body fluid contamination is evident.

Detachable items should firstly be removed in order that all surfaces can be accessed for cleaning. Ensure that appropriate items of PPE are worn, and that doors and windows have been opened. All walls, ceilings and the inside of cupboards, in addition to all fixtures and fittings, can then be cleaned accordingly. The same procedures should also be applied to the detachable items already removed. Remember that it is good practice not to spray fluids above head height, nor directly onto or around electrical fittings. When such needs arise, the fluid should firstly be sprayed onto blue tissue roll, before being applied to the specific area. It should also be remembered that the process of drying is an important element of good infection control, so this should be aided wherever possible by leaving the vehicle in a well ventilated position.

It is accepted that operational demands are likely to restrict opportunities for the weekly clean to be undertaken as a singular activity at a designated time. This factor is further complicated by local shift patterns and vehicle resourcing issues, which ultimately determine that vehicle cleaning arrangements must be devised and agreed at station level. Staff and Station Officers should therefore meet with a view to designing suitable cleaning rotas for each of the vehicles on their complex, which in turn must be jointly monitored and reviewed at regular intervals.

23. Equipment Cleaning and Disinfection

General

As all items of ambulance equipment can potentially become a source of cross-infection, it is of particular importance that close attention is given to their respective cleaning and disinfection procedures.

To support staff with this requirement, a series of proformas have been produced which are specific to each individual item of non-disposable ambulance equipment. These list the necessary actions to help ensure that effective cleaning and disinfection measures are appropriately applied in each case.

Under the principles of Universal Precautions, it is imperative that ambulance equipment is maintained in a clean and hygienic condition at all times. This highlights the need to regularly check and clean equipment, with any shortfalls being addressed as soon as operational demands allow. In particular, it is vital that any equipment contaminated with either blood or body fluids is cleaned and disinfected at the earliest opportunity.

The methodology in applying the relevant cleaning and disinfecting procedures is described in detail, in Section 13 of this manual. This determines that ‘Cleaning System 1’ is applied during all vehicle and equipment cleaning activities, followed by the use of ‘Disinfection System 2’ or ‘3’ where blood or body fluid contamination is either suspected or evident.

Staff are once again reminded to make full use of PPE while performing cleaning and disinfection procedures. In view of the nature of ambulance work, the majority of equipment cleaning activities will inevitably be performed at hospitals. However, as previously indicated, it is important that only LAS cleaning and disinfection fluids are used during this process.

All decontamination procedures should be carried out as soon as possible, once the patient has been placed in the care of the hospital staff. These will ordinarily be undertaken by the driver of the vehicle, leaving the attendant to finalise any outstanding matters of patient handover, or PRF completion.

Index of Equipment Cleaning and Disinfection Procedures

The following tables have been included as an index to the Equipment Cleaning and Disinfection procedures, which form the remainder of this section. The procedures are subject to ongoing review, and will be amended to reflect future developments in LAS equipment purchases.

Appendix A

Patient ASSESSMENT	
A-1	Welch Allyn Propaq Monitor
A-2	Nonin Finger Probe
A-3	Stethoscope
A-4	Peak Flow Meter
A-5	Lifescan BM Test Kit
A-6	Stethoscope
A-7	Otoscope
COMMUNICATION and Radio	
C-1	Handportable Radio
Automated External DEFIBRILLATION	
D-1	Medtronic Lifepak 12 Defibrillator
D-2	Laerdal Heartstart FR2 & FR2+ Defibrillator
IMMOBILISATION and Support	
I-1	Kendrick Extrication Device (KED)
I-2	London Extrication Device (LED)
I-3	Universal Head Immobiliser
I-4	Laerdal Baxboard Head Immobiliser
I-5	Sager Traction Splint
LIFTING and Handling	
L-1	Ferno 35A Trolley Cot
L-2	Ferno York 4 Trolley Cot
L-3	Ferno Falcon 6 Trolley Cot
L-4	Ferno Pegasus Trolley Cot
L-5	Ferno Compact 2 Chair
L-6	Ferno Orthopaedic Stretcher
L-7	Ferno Hi-Tech Long Board
L-8	Millenium Spinal Board
L-9	Laerdal Baxboard Spinal Board
RESUSCITATION and Ventilation	
R-1	Microvent Resuscitator
R-2	Timesco Laryngoscope Handle
R-3	Oxylitre Entonox Kit
SUCTION Equipment	
S-1	Laerdal Suction Unit (Mk 3)
S-2	Vitalograph Emergency Aspirator

SUNDRY Items	
Sundry 1	Aneroid Sphygmomanometer
	Variable Oxygen Flowmeters
	Vacuum Splints AS 120 & AS 150
	Frac Pac
	Loxley Box Splints
	Westholme Manual Handling Kit
	Pacific Safety Helmet
	Safety Eyewear
	Primary Response Bag (AED & Oxygen)
	Equipment Bags
	Pac Rac Tray
	Survival Blanket
	Red Blanket
	Drugs Packs
	PALS Kit
Sundry 2	
	Oxy-Clip
	I.V. Pole
	Rescue Tools
	Handlamp
	Stifneck Extrication Collars and Bag
	Stab Vest
	Triage Pack

Equipment Cleaning and Disinfection A-1

Item: Welch Allyn Propaq Monitor

Disassembly Procedure:

Turn off power supply and disconnect **charging lead**. Remove **monitor** from **carry case**. Disconnect all **leads** from **monitor**.

Cleaning & Disinfection of Component Parts:

Carry Case	1 & 2
Welch Allyn Propaq Monitor	1 & 2
BP Cuffs (x5)	1 & 2
BP Hose	1 & 2
Vehicle Charging Lead	1 & 2
Sensor Cable	1 & 2
Probe Leads	1 & 2
Finger Probe Casing	1 & 2
Finger Probe Photo-Detector Sensor	1 & 2
Monitoring Leads (set of 3)	1 & 2

N.B. Do not immerse the unit in water or any other solution, or allow liquid to penetrate the outer casing.

Reassembly Procedure:

Reversal of Disassembly Procedure.

Equipment Cleaning and Disinfection A-2

Item: Nonin Finger Probe

Disassembly Procedure:

Remove from case followed by removal of battery.

Cleaning & Disinfection of Component Parts:

Nonin Finger Probe	1 & 2
Battery	1 & 2
Case	1 & 2

N.B. Do not immerse the unit in water or any other solution, or allow liquid to penetrate the outer casing.

Reassembly Procedure:

Reversal of Disassembly Procedure.

Equipment Cleaning and Disinfection A-3

Item: Stethoscope

Disassembly Procedure:

Remove **diaphragm/bell unit** from **tubing.** Unscrew bezel to **diaphragm.** Unscrew **earpieces** from **headset.**

Cleaning & Disinfection of Component Parts:

Diaphragm/Bell Unit	1 & 3 (Do not immerse)
Diaphragm	1 & 3
Headset	1 & 3
Tubing	1 & 3 (Do not immerse)
Ear Pieces	1 & 3

Reassembly Procedure:

Reversal of Disassembly Procedure

Equipment Cleaning and Disinfection A-4

Item: Mini-Wright Peak Flow Meter

Disassembly Procedure:

Remove **disposable mouthpiece,** unscrew nut and remove red non-return **valve housing**. Carefully withdraw **spring assembly** from **main body**, avoiding any stretching of the spring.

Cleaning & Disinfection of Component Parts:

Disposable Mouthpiece:	Single Patient Use -Dispose as Clinical Waste
Valve Housing	1 & 2
Spring Assembly	1 & 2
Main Body	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure
Ensure correct positioning of spring assembly

Equipment Cleaning and Disinfection A-5

Item: Lifescan BM Test Kit

Disassembly Procedure:

Remove from carry case, followed by removal of battery.

Cleaning & Disinfection of Component Parts:

Carry Case	1 & 2
BM Test Kit	1 & 2
Battery (x 2)	1 & 2
Test strips	Single patient use – dispose as Clinical Waste

N.B. Do not immerse the unit in water or any other solution, or allow liquid to penetrate the outer casing.

Reassembly Procedure:

Reversal of Disassembly Procedure.
Replenish Disposables

Equipment Cleaning and Disinfection A-6

Item: Braun Tympanic Thermometer

Disassembly Procedure:

Remove from **carry case**, followed by removal of **battery**.

Cleaning & Disinfection of Component Parts:

Braun Tympanic Thermometer	1 & 2
Carry Case	1 & 2
Battery	1 & 2
Probe covers	Single Patient Use – dispose as Clinical Waste

N.B Do not immerse the machine in water or any other solution, or allow liquid to enter the interior of the unit.

Reassembly Procedure:

Reversal of Disassembly Procedure

Equipment Cleaning and Disinfection A-7

Item: Welch Allyn Elite 3.5V Otoscope

Disassembly Procedure:

Remove from **carry case**, followed by removal of **battery**.

Cleaning & Disinfection of Component Parts:

Welch Allyn Elite 3.5V Otoscope	1 & 2
Carry Case	1 & 2
Battery	1 & 2
Probe covers	Single Patient Use – dispose as clinical waste

N.B. Do not immerse the machine in water or any other solution, or allow liquid to enter the interior of the unit.

Reassembly Procedure:

Reversal of Disassembly Procedure
Replenish Disposables.

Equipment Cleaning and Disinfection C-1

Item: Handportable Radio

Disassembly Procedure:

Release popper button and remove **radio** from **leather case.** Remove **battery** by releasing locking catch and sliding battery towards base of unit. Remove **remote speaker/mike** by unscrewing knurled screw and detaching connector from main body. Remove **earpiece** by withdrawing mini-jack from **remote speaker/mike.**

Cleaning & Disinfection of Component Parts:

Leather Case	1 & 3
Radio	1 & 3
Battery	1 & 3
Remote Speaker/Mike	1 & 3
Earpiece	1 & 3

N.B. Do not immerse the unit in water or any other solution, or allow liquid to penetrate the outer casing.

Reassembly Procedure:
Reversal of Disassembly Procedure.Perform function test.

Equipment Cleaning and Disinfection D-1

Item: Medtronic Lifepak 12 Defibrillator

Disassembly Procedure:

Turn off power supply and disconnect charging lead. Remove **defibrillator** from **carry case,** followed by removal of **battery** and all **accessories.**

Cleaning & Disinfection of Component Parts:

Defibrillator Unit	1 & 2
Carry Case	1 & 2
Power Lead	1 & 2
Cables	1 & 2
BP Cuffs	1 & 2
Defibrillator Pads	Single Patient Use - Dispose as Clinical Waste
Electrodes	Single Patient Use - Dispose as Clinical Waste
Razor	Single Patient Use - Dispose as Clinical Waste
Skin-Prep Tape	Single Patient Use - Dispose as Clinical Waste
Skin Swabs	Single Patient Use - Dispose as Clinical Waste

N.B. Do not immerse the machine in water or any other solution, or allow liquid to enter the interior of the unit.

Reassembly Procedure:

Reversal of Disassembly Procedure
Replenish Disposables

Equipment Cleaning and Disinfection D-2

Item: Laerdal Heartstart FR2 & FR2+ Defibrillator

Disassembly Procedure:

Remove **defibrillator** from **carry case,** followed by removal of **battery**. Remove leads.

Cleaning & Disinfection of Component Parts:

Defibrillator Unit	1 & 2
Carry Case	1 & 2
Cable	1 & 2
Battery	1 & 2
Defibrillator Pads	Single Patient Use - Dispose as Clinical Waste
Electrodes	Single Patient Use - Dispose as Clinical Waste
Razor	Single Patient Use - Dispose as Clinical Waste
Skin-Prep Tape	Single Patient Use - Dispose as Clinical Waste
Skin Swabs	Single Patient Use - Dispose as Clinical Waste

N.B. Do not immerse the machine in water or any other solution, or allow liquid to enter the interior of the unit.

Reassembly Procedure:

Reversal of Disassembly Procedure
Replenish Disposables.

Equipment Cleaning and Disinfection D-3

Item: Secca CT8000i Defibrillator

Disassembly Procedure:

Turn off power supply and disconnect charging lead. Remove **defibrillator** from **carry case,** followed by removal of battery, leads and other accessories.

Cleaning & Disinfection of Component Parts:

Defibrillator Unit	1 & 2
Carry Case	1 & 2
Cables	1 & 2
Battery	1 & 2
Defibrillator Pads	Single Patient Use - Dispose as Clinical Waste
Electrodes	Single Patient Use - Dispose as Clinical Waste
Razor	Single Patient Use - Dispose as Clinical Waste
Skin-Prep Tape	Single Patient Use - Dispose as Clinical Waste
Skin Swabs	Single Patient Use - Dispose as Clinical Waste

N.B. Do not immerse the machine in water or any other solution, or allow liquid to enter the interior of the unit.

Reassembly Procedure:

Reversal of Disassembly Procedure
Replenish Disposables

Equipment Cleaning and Disinfection I-1

Item: Kendrick Extrication Device (K.E.D)

Disassembly Procedure:

Straps, cushions etc., are detachable (velcro fastening)

Cleaning & Disinfection of Component Parts:

K.E.D (main unit)	1 & 2
Carry Case	1 & 2
Cam Cushion	1 & 2
Forehead Strap	1 & 2
Chin Strap	1 & 2

Reassembly Procedure:
N/A

Equipment Cleaning and Disinfection I-2

Item: London Extrication Device (LED)

Disassembly Procedure:

Straps, cushions etc. are detachable (velcro fastening)

Cleaning & Disinfection of Component Parts:

L.E.D. (main unit)	1 & 2
Torso Belts (x2)	1 & 2
Cam Cushions (x2)	1 & 2
Head and Chin Straps (x2)	1 & 2
Leg Straps (x2)	1 & 2
Shoulder Straps (3 components)	1 & 2
Carry Bag	1 & 2

Reassembly Procedures:
N/A

Equipment Cleaning and Disinfection I-3

Item: Universal Head Immobiliser

Disassembly Procedure:

Side support pads, and **forehead** and **chin straps**, are all detachable from **base plate** (velcro fastening).

Cleaning & Disinfection of Component Parts:

Base Plate	1 & 2
Side Support Pads (x2)	1 & 2
Forehead Strap	1 & 2
Chin Strap	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure.
Exchange if evidence of puncture.

Equipment Cleaning and Disinfection I-4

Item: Baxboard Head Immobiliser

Disassembly Procedure:

Side support pads, and **forehead** and **chin straps**, are all detachable from **base plate** (velcro fastening).

Cleaning & Disinfection of Component Parts:

Base Plate	1 & 2
Side Support Pads (x2)	1 & 2
Forehead Strap	1 & 2
Chin Strap	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure.
Exchange if evidence of puncture.

Equipment Cleaning and Disinfection I-5

Item: Sager Traction Splint

Disassembly Procedure:

Groin cushion and **straps** are detachable (velcro fastening)

Cleaning & Disinfection of Component Parts:

Carry Bag `	1 & 2
Sager Traction Splint	1 & 2
Large Elasticated Cravat	1 & 2
Small Elasticated Cravat	1 & 2
Ischial Perineal (Groin) Cushion	1 & 2
Thigh Strap	1 & 2
Padded Ankle Straps (x2)	1 & 2

Reassembly Procedure:

N/A

Equipment Cleaning and Disinfection L-1

Item: Ferno 35A Trolley Cot

Disassembly Procedure:

Mattress, pillow and **support cushions** are all detachable by the release of velcro tabs.

Cleaning & Disinfection of Component Parts:

Main Frame	1 & 3
Mattress	1 & 2
Pillow	1 & 2
Support Cushions	1 & 2
Patient Safety Straps (2 Sets)	1 & 3

Reassembly Procedure:

Ensure all velcro tabs are securely attached to main frame.
Perform function test.

Equipment Cleaning and Disinfection L-2

Item: Ferno York 4 Trolley Cot

Disassembly Procedure:

Mattress is detachable by the release of velcro tabs.

Cleaning & Disinfection of Component Parts:

Main Frame	1 & 3
Mattress	1 & 2
Patient Safety Straps (2 Sets)	1 & 3

Reassembly Procedure:

Ensure all velcro tabs are securely attached to main frame.
Perform function test.

Equipment Cleaning and Disinfection L-3

Item: Falcon 6 Trolley Cot

Disassembly Procedure:

Mattress, pillow and **support cushions** are all detachable by the release of velcro tabs.

Cleaning & Disinfection of Component Parts:

Main Frame	1 & 3
Mattress	1 & 2
Pillow	1 & 2
Support Cushions	1 & 2
Patient Safety Straps (2 Sets)	1 & 3

Reassembly Procedure:

Ensure all velcro tabs are securely attached to main frame.
Perform function test.

Equipment Cleaning and Disinfection L-4

Item: Ferno Pegasus Trolley Cot

Disassembly Procedure:

Mattress, pillow and **support cushions** are all detachable by the release of velcro tabs.

Cleaning & Disinfection of Component Parts:

Main Frame	1 & 3
Mattress	1 & 2
Pillow	1 & 2
Support Cushions	1 & 2
Patient Safety Straps (2 Sets)	1 & 3

Reassembly Procedure:

Ensure all velcro tabs are securely attached to main frame.
Perform function test.

Equipment Cleaning and Disinfection L-5

Item: Ferno Compact 2 Chair

Disassembly Procedure:

Unfasten zip for removal of **backrest,** or **seat,** as required.

Cleaning & Disinfection of Component Parts:

Mainframe	1 & 3
Seat	1 & 2
Backrest	1 & 2

Reassembly Procedure:

Ensure zips are fully fastened
Perform serviceability check
Test for weight bearing (hand pressure only)

Equipment Cleaning and Disinfection L-6

Item: Orthopaedic Stretcher

Disassembly Procedure:

Split stretcher, as in normal use.

Cleaning & Disinfection of Component Parts:

Orthopaedic Stretcher	1 & 3
Straps (x3)	1 & 3
Carry Case	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure.

Equipment Cleaning and Disinfection L-7

Item: Ferno Hi Tech Long Board

Disassembly Procedure:

N/A

Cleaning & Disinfection of Component Parts:

Ferno Hi Tech Long Board	1 & 2
Straps and Clips (x 4 Sets)	1 & 2
Straps Case	1 & 2

Reassembly Procedure:

N/A

Equipment Cleaning and Disinfection L-8

Item: Ferno Millennium Spinal Board

Disassembly Procedure:

N/A

Cleaning & Disinfection of Component Parts:

Ferno Millennium Spinal Board	1 & 2
Straps and Clips (x 4 Sets)	1 & 2
Straps Case	1 & 2

Reassembly Procedure:

N/A

Equipment Cleaning and Disinfection L-9

Item: Laerdal Baxstrap Spinal Board

Disassembly Procedure:

N/A

Cleaning & Disinfection of Component Parts:

Laerdal Baxstrap Spinal Board	1 & 2
Straps and Clips (x 4 Sets)	1 & 2
Straps Case	1 & 2

Reassembly Procedure:

N/A

Equipment Cleaning and Disinfection R-1

Item: Microvent Resuscitator

Disassembly Procedure:

Remove the **silicone face mask** and **anti-air inhalation valve** from the **patient valve**. Unscrew patient valve from **resuscitator body** being careful to ensure that the **diaphragm** is not mislaid. Shake out any contaminant from the patient valve, face mask, anti-air inhalation valve and diaphragm. Operate the manual trigger to blow out any contaminant. Unscrew **blow-off valve,** remove **sounding board** and shake out any contaminant.

N.B. Ensure that the residual oxygen left in the therapy head is purged after the cylinder is turned off, prior to disengagement of oxygen therapy head from cylinder yoke.

Cleaning & Disinfection of Component Parts:

Carry Case	1 & 2
Silicone Face Mask (Adult & Child)	1 & 2
Anti-Air Inhalation Valve	1 & 2
Patient Valve	1 & 2
Resuscitator Body	1 & 2
Diaphragm	1 & 2
Blow-Off Valve	1 & 2
Sounding Board	1 & 2
Anti-Static Tubing	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure.
Perform function test

Equipment Cleaning and Disinfection R-2

Item: Timesco Laryngoscope

Disassembly Procedure:

Unscrew the **bulb** from the **blade**, prior to unclipping the blade from the **Laryngoscope handle.**

Cleaning & Disinfection of Component Parts:

Bulb	1 & 3
Blade	Single patient use – dispose as clinical waste
Laryngoscope Handle	1 & 3

Reassembly Procedure:

Reversal of Disassembly Procedure.

Equipment Cleaning and Disinfection R-3

Item: Oxylitre Entonox

Disassembly Procedure:

Remove **cylinder** from **demand regulator,** taking care to retain **bodok washer.** Disconnect **face mask**, or **mouthpiece** from **expiratory valve assembly**. Remove **corrugated tube** complete with **elbow** from **demand regulator**. Disconnect **elbow** and **expiratory valve assembly** from **corrugated tube.**

Cleaning & Disinfection of Component Parts:

Cylinder	1 & 3
Valve Key	1 & 3
Bodok Washer	1 & 3
Demand Regulator	1 & 3
Face Mask	1 & 3
Mouth Piece	1 & 3
Expiratory Valve Assembly	1 & 3
Corrugated Tube	1 & 3
Elbow	1 & 3

Reassembly Procedure:

Reversal of Disassembly Procedure.
Perform function test.

Equipment Cleaning and Disinfection S-1

Item: Laerdal Suction Unit (Mk 3)

Disassembly Procedure:

Open the **casing**, remove the **suction tubing & catheter**, remove and empty the **vacuum bottle.**

Continue further disassembly only if contamination exists beyond the vacuum bottle.

Carefully disconnect all tubes from their respective nipples, disconnect the **power pack** from the **motor unit** by pulling the spade connectors from their terminals and undo all retaining straps. Unscrew the bolts and separate the **motor** from the **piston cylinder.** Unscrew the **lids** from both ends of the cylinder and push out the **piston.** Remove the **piston rings, 'O' rings & flap valves** from both ends of the **piston.** Remove the **strainers, flanged gaskets & flap valves** in both cylinder lids.

Cleaning & Disinfection of Component Parts:

Casing	1 & 2
Suction tubing	Single patient use - Dispose as Clinical Waste
Catheter	Single patient use - Dispose as Clinical Waste
Connecting Tubes	If contaminated - Dispose as Clinical Waste
Vacuum Bottle	1 & 2
Power Pack (if necessary)	1 & 2 (do not immerse)
Motor Unit (if necessary)	1 & 2 (do not immerse)
Suction Regulator	1 & 2 (do not immerse)
Piston Cylinder	1 & 2
Cylinder Lids	1 & 2
Piston	1 & 2
Piston Rings	1 & 2
'O' Rings	1 & 2
Flap Valves	1 & 2
Strainers	1 & 2
Flanged Gaskets	1 & 2
Water Bottle	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure.
Perform function test.

Equipment Cleaning and Disinfection S-2

Item: Laerdal Suction Unit 2005 Style

Disassembly Procedure:

Open the **casing**, remove the **suction tubing & catheter**, remove and empty the **vacuum bottle.**

Continue further disassembly only if contamination exists beyond the vacuum bottle.

Carefully disconnect all tubes from their respective nipples and slide out the **cylinder**. Disconnect the **power pack** from the **motor unit** by removing the plastic cover and pushing the battery inwards and releasing.

Cleaning & Disinfection of Component Parts:

Casing	1 & 2
Suction tubing	Single patient use - Dispose as Clinical Waste
Catheter	Single patient use - Dispose as Clinical Waste
Connecting Tubes	If contaminated - Dispose as Clinical Waste
Vacuum Bottle	1 & 2
Power Pack (if necessary)	1 & 2 (do not immerse)
Suction Regulator	1 & 2 (do not immerse)
Cylinder	1 & 2

Reassembly Procedure:

Reversal of Disassembly Procedure.
Perform function test.

Equipment Cleaning and Disinfection S-3

Item: Vitalograph Emergency Aspirator

Disassembly Procedure:

Remove the **catheter** and **catheter mount adapter** from the **quick release cap.** Open the **aspirate container** carefully by unscrewing the **quick release cap,** followed by removal of the **mesh filter.**

Cleaning & Disinfection of Component Parts:

Catheter	1 & 2
Aspirate Container	1 & 2
Catheter Mount	1 & 2
Quick Release Cap	1 & 2
Mesh Filter	1 & 2
Casing	1 & 2
Carry Bag	1 & 2

N.B. Do not operate the trigger during the cleaning process

Reassembly Procedure:

Reversal of Disassembly Procedure.
Perform function test.

Sundry 1: Equipment Cleaning and Disinfection

Item	Cleaning and Disinfection of Component Parts	
Aneroid Sphygmomanometer	Inflatable Cuff	1 & 3
	Pressure Gauge	1 & 3
	Carrying Case	1 & 3
Variable Oxygen Flowmeter	Flowmeters (x 2)	1 & 3
Vacuum Splints AS 120 & 150	Vacuum Splints (x 2)	1 & 2
Frac Pac	Straps (x 5)	1 & 2
	Case	1 & 2
Loxley Box Splints (Set of 3)	Loxley Splints (x 3)	1 & 2
Selfglide Transfer Board	Selfglide Transfer Board	1 & 2
Emergency Rescue Sheet	Emergency Rescue Sheet	1 & 3
Pacific Safety Helmet	Bag	1 & 3
	Helmet	1 & 3
	Shield	1 & 3
Axia Safety Eyewear	Safety Glasses/Overglasses	1 & 2
	Carry Case	1 & 2
Primary Response Bags	Primary Response Bag (AED)	1 & 2
	Primary Response Bag (O2)	1 & 2
Equipment Bags	Burns Bag	1 & 2
	Dressings Bag	1 & 2
	Maternity Bag	1 & 2
	Infectious Bag	1 & 2
Pac Rac Tray	Pac Rac	1 & 3
	Velcro Straps (x 4)	1 & 2
Survival Blanket	Survival Blanket	1 & 3
Drugs Packs	Paramedic Drugs Bag	1 & 2
	General Drugs Bag	1 & 2
PALS Kit and Bag	PALS Kit	Disposable
	PALS Kit Bag	1 & 2

Sundry 2: Equipment Cleaning and Disinfection

Item	Cleaning and Disinfection of Component Parts	
Oxy-Clip	Oxy-Clip	1 & 3
I. V. Pole	IV Pole	1 & 3
	Velcro Strap	1 & 3
Rescue Tools	Bolt Cutters	1 & 3
	Crowbar	1 & 3
	Flat Head Screwdriver	1 & 3
	Phillips Screwdriver	1 & 3
	Insulated Pliers	1 & 3
	Tool Holdall	1 & 3
White Knight Handlamp	White Knight Handlamp 1 & 3 (Do not allow fluid to enter unit)	
Stifneck Extrication Collars (x 6) and Bag	Stifneck Collars Stifneck Collar Bag	1 & 2 1 & 2
Single Patient Use	- if foam becomes contaminated with blood or body fluids. Dispose as Clinical Waste.	
Carrysheet	Carrysheet Refer to Section 17 (Management of Linen)	

Appendix B

LAS Infection Control Equipment

This table lists all items that have been approved for use in support of the LAS Infection Control procedures. In order to satisfy all safety and clinical risk measures, it is imperative that only these items are ordered for subsequent utilisation within the Service.

Item	**Issue**	**Quantity**	**Order Reference Number**
Diversey Lever All Purpose Cleaner/Sanitiser Concentrate (D10) 1.5Kg Pack *(Cleaning System 1)*	Station	1 in use*	LA008001
NaDCC 3.25g Disinfectant Tablet (Tube of 10) *(Disinfection System 2)*	Station Vehicle	1 in use* 1 per A&E Ambulance*	LA007966
500ml Refillable Trigger Spray Container NaDCC Disinfectant *(Disinfection System 2)*	Vehicle	1 per A&E Ambulance*	LA007991
Response Super Absorbent Deodoriser 100g Shaker Container	Vehicle	1 per A&E Ambulance*	LA007964
100g Refill Sachet for Response Super Absorbent Container	Vehicle	1 per A&E Ambulance*	LA007965
Response Spillage Kit *(Pre-prepared - incl. 4x1.8g NaDCC tablets)*	Vehicle	3 per LAS Vehicle* (1 per MRU)	LA007994
Amphisept Alcohol Disinfectant 500ml *(Disinfection System 3)*	Vehicle	1 per LAS Vehicle* (excl. MRU)	MFB765
Cutan Alcohol Gel 150ml *(Disinfection System 3)*	MRU	1 per MRU*	MRB745

Item	Issue	Quantity	Order Reference Number
Leverline Mild Hand Soap 800ml Refill Cartridge	Station	As required*	MED936
Leverline Dermasoft Hand Cream 800ml Refill Cartridge	Station	As required*	MRB123
Leverline Lux Shower Gel 800ml Refill Cartridge	Station	As required*	LA006375
Safety Glasses+ Case	Personal	1 pair per operational Staff Member (as appropriate)	LA007998
Safety Overglasses+ Case	Personal	1 pair per operational Staff member (as appropriate)	LA007999
PFR Disposable Mask	Vehicle	1 box per LAS Vehicle*	BTP001
Laerdal Pocket Mask (Product Code 820011)	Personal	1 per operational staff member	MED83001
Disposable One-Way Valve for Laerdal Pocket Mask (Product Code 820410)	Personal	*	MED82410

*Denotes that a spare stock will be maintained on station, commensurate with the local fleet/staff establishment.

Item	Issue	Quantity	Order Reference Number
Sharps Box 4 Litre	Vehicle	1 per A&E Ambulance*	FM4100
Sharps Box 0.6 Litre	Vehicle	1 per Paramedic Pack*	FM4150
Sharps Box 0.25 Litre	Vehicle	1 per Primary Response Pack*	FM4135
Safeskin Non-Sterile Disposable Gloves Large (Box of 100)	Vehicle	1 per LAS vehicle*	52513
Safeskin Non-Sterile Disposable Gloves Medium (Box of 100)	Vehicle	1 per LAS vehicle*	52512
Safeskin Non-Sterile Disposable Gloves Small (Box of 100)	Vehicle	1 per LAS vehicle*	52511
Disposable Aprons(Roll of 75)	Vehicle	1 per LAS vehicle*	BTB248
Clinical Waste Bag – Small (Roll of 50)	Vehicle	1 per LAS vehicle*	MVN013
Clinical Waste Bag Large (Roll of 50)	Vehicle	1 per A&E Ambulance*	MVN020
Red Soluble Bag (Pack of 50)	Vehicle	1 per LAS vehicle	MVF063
Clear Plastic Bags (Roll of 50)	Vehicle	1 per LAS vehicle*	MVK032
Black Plastic Bags Large (Roll of 50)	Station	As required*	MED1552
Black Plastic Bags Small (Roll of 50)	Vehicle	1 per LAS vehicle*	MED2077
Tyvek Disposable Suit Ex-Large	Vehicle	2 per A&E Ambulance*	BQD003
Tyvek Disposable Suit Large	Vehicle	2 per A&E Ambulance*	BQD002
Tyvek Disposable Suit Medium	Vehicle	2 per A&E Ambulance*	BQD001
Tyvek Disposable Suit Small	Vehicle	2 per A&E Ambulance*	BQD000

*Denotes that a spare stock will be maintained on station, commensurate with the local fleet/staff establishment.

Appendix C - Location of Category Three PPE

The following list identifies the LAS locations where stocks of 'Category Three' PPE are held and maintained, in preparation for issue as described in Section 17 of this manual.

- **West Area:** Hillingdon Ambulance Station (1 kit)
- **East Area:** Camden Ambulance Station (1 kit)
- **South Area:** Deptford Logistics Support Unit (2 kits)

Appendix D - LAS Catchment Area for Confirmed Category Three Cases

The table shown below lists the ambulance services to which the LAS is responsible for the collection of patients with a confirmed 'Category Three' disease. The contact details of each respective Control Centre are included for use as described in Section 17 of this manual.

AMBULANCE SERVICE	COUNTY	CALL SIGN	SPEED DIAL	PRIMARY	BACK UP	FAX NUMBER
GREAT WESTERN	**Avon**	AVAM	601	01454 455420	01454 455400	01454 455448
EAST ENGLAND	**Beds/Herts 1**	FORDAM	602	01234 351729	01234 272266	01234 215399
EAST ENGLAND	**Beds/Herts 2**	FORDAM	603	01234 359630		
SOUTH CENTRAL	**Berkshire Royal**	BERKHAM	604	01189 742551	01189 742559	01189 891726
WEST MIDS	**Coventry & Warwickshire**	WARAM	605	01926 885010	01926 885050	01926 338725
SOUTH WEST	**Dorset**	DORAM	607	01202 897697	01202 896689	01202 870511
EAST ENGLAND	**East Anglia (Cambridge, Norfolk, Suffolk)**	ANGAM	608	01603 482373	01603 422755	01603 422778
EAST MIDS	**East Midlands (Nottingham)**	LESTAM	609	01159 296351	01159 296451	01159 299415
EAST ENGLAND	**Essex**	ESSAM	610	01245 442211	01245 443241	01245 441444
GREAT WESTERN	**Gloucester**	GLOSAM	611	01452 883635	01452 505050	01452 753151
SOUTH CENTRAL	**Hampshire**	HANTSAM	613	01962 872202	01962 850633	01962 833100
WEST MIDS	**Hereford & Worcester**	SHIREAM	614	01886 833099	01886 834244	01886 834249
SOUTH CENTRAL	**Isle of Wight**	WIGHTAM	615	01983 535639	01983 825111	01983 534104
SOUTH EAST COAST	**Kent**	KENTAM	616	01622 741063	01622 744212	01622 744627
SOUTH CENTRAL	**Oxfordshire/ Bucks**	OXAM	621	01908 568181	01908 265494	

AMBULANCE SERVICE	COUNTY	CALL SIGN	SPEED DIAL	PRIMARY	BACK UP	FAX NUMBER
SOUTH EAST COAST	**Surrey**	**SURRAM**	**624**	**020 8786 4277**	**01737 371 632**	**020 8786 4229**
SOUTH EAST COAST	**Sussex**	**SUSSAM**	**625**	**01273 488571**	**01273 488303**	**01273 489445**
WEST MIDS	**West Midlands**	**METRO**	**628**	**01384 215500**	**01386 215520**	**01384 451697**
SOUTH WEST	**West Country (Devon & Cornwall, Somerset)**	**WESTAM**	**629**	**01392 360414**	**01392 360413**	**01392 360198**
GREAT WESTERN	**Wiltshire**	**WILTAM**	**630**	**01249 447010**	**01249 651271**	**01380 733429**
WALES	**North Wales**	**GWYNAMB**	**650**	**01248 689089**		
WALES	**Central Wales**	**WESTAMB**	**651**	**01267 235381**		
WALES	**South Wales**	**SEWAT**	**652**	**01495 767784**		

Appendix E - Technical References

Health & Safety Executive **www.hse.gov.uk**

Health & Safety at Work Act 1974
http://www.hse.gov.uk/legislation/hswa.pdf

COSHH: A brief guide to the Regulations What you need to know about the Control of Substances Hazardous to Health Regulations 2002 (COSHH)
http://www.hse.gov.uk/pubns/indg136.pdf

Chemicals causing harm via skin or eye contact S100
http://www.hse.gov.uk/pubns/guidance/s100.pdf

Selecting personal protective COSHH essentials: equipment (PPE) S102
http://www.hse.gov.uk/pubns/guidance/s102.pdf

Controlling the risks of infection at work from human remains A guide for those involved in funeral services (including embalmers) and those involved in exhumation
http://www.hse.gov.uk/pubns/web01.pdf

Advisory Committee on Dangerous Pathogens Protection against blood-borne infections in the workplace: HIV and Hepatitis
http://www.hse.gov.uk/biosafety/diseases/bbv.pdf

SIM 7/2006/22 Management of Healthcare Waste
Safe Disposal of Clinical Waste 1992

Department of Health **www.dh.gov.uk**

www.clean-safe-care.nhs.uk

Ambulance guidelines Reducing infection through effective practice in the pre-hospital environment

Going further faster: Implementing the Saving Lives delivery programme Sustainable change for cleaner, safer care.

The Health Act 2006 Code of Practice for the Prevention and Control of Healthcare Associated Infections

Biological agents: Managing the risks in laboratories and healthcare premises
http://www.advisorybodies.doh.gov.uk/acdp/managingtherisks.pdf

Management and Control of Viral Haemorrhagic Fevers

Guidance for Clinical Health Care Workers - Protection Against Infection with Blood-borne Viruses

Appendix F

Infectious Diseases

Action to be taken by CSD staff when they become aware of a crew having attended a patient who has a reportable disease

Information might come from a crew, hospital, GP or the Regional Health Protection Unit. Immediate actions remain the same.

Inform the on duty EOC AOM.

Identify where possible:

- When was the date of onset of first symptoms?
- Has a diagnosis been made / confirmed?
- Has the patient been in contact with someone else who has similar symptoms?
- Have they had this disease in the past? How was this confirmed?
- Who have they had face to face contact with?

Contact the South East London Health Protection Unit on 020 3049 4280 or out of hours 08700 555500 and ask for pager SELPH1

Contact the ATOS Healthcare OH Helpdesk on 0845 371 3313

Information message to on call TSO via pager

Contact the local DSO if one is on duty

Email the local station management group(s) confirming the actions that you have taken

Ensure all actions are recorded in the CSD log, including who has been spoken to and when.