

Silton Surgery

BIOLOGICAL SUBSTANCES - INFECTION CONTROL PROTOCOL

Introduction

The following measures to be taken by all staff to limit the risks of infection from the following biological substances. Local and national guidelines relating to the control of infection should be consulted.

All new staff will be provided with training on infection control as part of induction procedures, and will also receive an annual update.

General Precautions - Spillages

If there is any blood or other body fluid spillage outside the workplace then it can be rinsed away with a 2% bleach / water solution.

If there is spillage within the workplace a spillage kit is available containing antiseptic granules which may be poured onto blood spills. Follow the guidance on the packaging for application and removal. The kit also contains rubber gloves and goggles to prevent splashes into the eyes. Disposable aprons should also be used.

Block off spillage areas from patients and staff until the spillage has been removed. Always use Personal Protective Equipment (PPE), and note the following general guidelines:

- Paper towels etc, once used, should be placed in clinical waste
- Non-disposable items such as buckets etc should be disinfected using a suitable bleach / disinfectant solution
- All used PPE should be disposed of as clinical waste
- Always wash your hands using thorough techniques immediately after the event - see also Handwashing Techniques ^[1]

HIV is much less infectious than Hep B. The former will not live long outside the human body. The latter will survive for over a week in a drop of dried up blood. Consequently clinical staff in the practice will need to be up to date and vaccinated against hep B, Everyone will receive training on infection control on an annual basis.

In the case of infection by an HIV patient drugs are available which, if administered within 1 hour will give an 80%+ chance of killing the HIV infection. The A&E department at Salisbury District Hospital is to be contacted immediately for advice on obtaining this treatment.

Handling of Pathology Specimens – Danger of Infection Samples

All specimens pose a risk of infection, however compliance with the Advisory Committee for dangerous Pathogens (ACDP) guidelines necessitate additional labelling to denote a high risk of infection. The guidance divides micro-organisms into four hazard groups and identifies high-risk patients as those infected (either confirmed or suspected) with Hazard Groups 3 and 4 pathogens.

The onus is on the requestor to label correctly. Examples of samples from the following will require "Danger of Infection" labelling:

- Patients with proven infection with a Hazard Group 3 (HG3) pathogen e.g. Hepatitis B and C, HIV, Tuberculosis and other mycobacteria, typhoid, brucella and anthrax.
- Patients suspected of having a HG3 pathogen (information from clinical history and examination e.g. injecting drug user, haemophiliac vCJD)
- A patient who is part of an ongoing outbreak caused by HG3 pathogen.
- Inmates of prisons.

The remainder of this protocol will deal with specific substances and procedures listed below:

- Blood
- Urine
- Faeces
- Vomit
- Semen
- Sputum/phlegm
- Vaginal specula
- Microbiological swabs
- Vaccinations
- Decontamination and disposal of materials contaminated with biological substances
- Transportation of biological specimens

Blood

Two major potential hazards from blood are contraction of Hepatitis B and C and the HIV virus. The risk of contracting any of these is minimal if the operator does not inject his or her self with the patient's blood. If the operator has an open wound and spills an infected patient's blood there is a potential for transmission of one of these infective agents; in these circumstances it is advisable that the operator wears gloves.

Medical personnel who either handle blood samples or take blood from patients are therefore to take the following precautions:

The Taking of Blood:

The risk of contamination to personnel is always less if the patient and the operator are relaxed and still. It is recommended that patients lie down during blood letting where appropriate. It is imperative that the operator takes his/her time and does not rush.

Sterile disposable syringes and needle are to be used only once. Care is to be taken that no blood comes into contact with the operator's skin by taking the following precautions:

- Always withdraw the needle from the vein whilst covering the site of the needle puncture with a cotton wool ball (not a medi-swab).
- Should a drop of blood escape from the end of the needle following the withdrawal, allow it to drip into the cotton wool ball.
- Do not sheath the needle as this is the most common cause of needlestick injury.
- If a vacutainer system is not used, carefully pull back on the syringe to draw a little air into it.
- Carefully remove the needle from the syringe/vacutainer holder and place it immediately into the sharps box.
- Where syringe and needle are used, insert the required amount of blood into the bottle and do not fill beyond the line, since this increases the risk of spillage during transportation.
- With the introduction of vacutainers, the risk of spillage from filling bottles has diminished but care still needs to be taken when removing the bottle from the inducer when two or more specimens are needed to be collected.
- Replace the cap on the bottle and ensure a good seal.

- If required the bottle may be mixed with the preservative by gently rolling or tipping the bottle. Do not shake.
- When the required number of bottles has been filled, the syringe and any contents need to be disposed of in the sharps box. This will decrease the risk of spillage of blood onto the outside of the container from the syringe.
- If the amount of surplus blood in the syringe is more than 5 mls it should first be sealed in a blood bottle, like other blood samples, to reduce the risk of spillage.
- Once the sharps box is two thirds full it is to be sealed and returned for disposal. Under no circumstances attempt to force a syringe into a sharps box.
- All specimens are to be sealed in plastic pathology sample bags ready for transportation. Each sample should have its own bag. All forms that accompany the sample should be in a separate part of the plastic bag.
- Specimens should be stored in a cool safe place.
- All personnel who work with or may handle blood or pathological specimens are to be vaccinated against Hepatitis B and have their antibodies measured following vaccination to reduce the risk of contracting this infection.

Handling of Samples:

- All samples of blood are to be in the approved sample tubes provided, which are sealed by a top. Should leakage of blood occur due to imperfections in the bottle or incorrect fitting of the top, the sample is not to be transported out of the practice in the container.
- All sample tubes containing blood are to be inserted into an approved plastic bag, which should be sealed to minimise the risk of contamination of personnel should leakage occur.
- If there is a leak or spill the action will depend on the extent of the leak. If the leak is contained within the plastic bag the bag should not be opened and should be inserted within another plastic bag, which should then be sealed. A suitable person (doctor/nurse) is to be informed if a leak occurs and will decide whether to dispose of the sample or to transfer the remains of the sample into another bottle. The transfer of blood should only be undertaken when the risk of contamination of personnel is minimal and when gloves are used. Otherwise the sample is to be disposed of as above in a plastic bag inserted to the clinical waste container.
- If the leak is not contained within the bag and contaminates either the outside of the bag or external objects the following action is to be taken:
 - Avoid any further contamination by containing the sample within another plastic bag - if possible without undoing the bag. Tighten the top of the tube as this may be loose.
 - Dispose of the sample within an approved clinical waste container.
 - Ensure that your hands are washed thoroughly with hot water and/or alcohol gel or soap. Any cut or open wound that comes into contact with the patient's blood should be thoroughly washed to ensure that none of the patient's blood remains in contact with the wound. See Handwashing guidelines ^[1]
 - Any contaminated objects should be cleaned and disinfected as described below.

- All blood should be treated as high risk and universal precautions applied.

Sharps Boxes:

The purpose of a sharps box is to protect personnel from injury. The most likely time that injury will occur is when inserting an object into the sharps box. Therefore it is important that the box is not used beyond the two-thirds full stage. If the box is more than two thirds full, seal it and start a new box. Never force objects into the box - if the syringe is too big to fit into the box, even though the box is not yet two thirds full, start a fresh box.

Always ensure that sharps and sharps boxes are well out of the reach of children who might venture into the treatment room.

Always follow our policies on Needlestick Injuries.

Patients Who are Bleeding:

The situation of a patient who is bleeding rarely poses a significant risk to the staff. However, some risk does exist and extra precautions are therefore needed:

- Always wear gloves when dealing with open wounds whether or not they have stopped bleeding.
- In the event of significant bleeding, such that would lead to contamination of medical staff clothing, a plastic apron must be worn.
- Patients should not leave the practice whilst they are still bleeding as this poses a risk to the general public.
- Contaminated clothing belonging to the patient should be placed inside a plastic bag and returned to the patient with appropriate advice about soaking clothing in cold water

before washing and about prevention of contamination of the clothing of other personnel. The patient should be advised to disinfect the bowl or sink that the clothing is soaked in.

Major Accidents:

Occasionally, personnel will be involved with a major incident or accident where many people are injured, possibly seriously. All personnel are to take reasonable steps to protect themselves from injury and contamination. However, it is recognised that this may fall far short of the guidelines above. Personnel should remember that their prime duty under these circumstances is to the patient whilst maintaining as many safety precautions as possible. For this reason vaccination with the Hepatitis B vaccine is mandatory for all medical personnel.

Urine

(to be read in conjunction with Taking Specimens From Patients)

Urine, whether non-infected or infected, poses less of a risk than blood; however sensible precautions should still be taken to avoid contamination of personnel or their clothing. Gloves should be worn when handling urine containers as it is impossible to tell whether or not the container is contaminated with blood or faeces.

Samples in Sealed Containers

Samples of urine in sealed containers should pose no health risk provided that the bottle is adequately sealed and no urine contaminates the outside of the bottle.

Analysis of Samples of Urine

- Pregnancy tests and dipstick testing make necessary the opening of urine bottles and exposure of personnel to urine. Gloves should be worn whilst testing urine and hands must always be washed after handling urine and testing urine.
- Disposal of urine. Urine is to be disposed of down the sluice or toilet. Under no circumstances is it to be disposed of down a sink.
- Disposal of urine containers. Urine containers are disposable and are to be used once only. Urine bottles are to be emptied when analysis is complete, rinsed and the bottle resealed and disposed of in the clinical waste bin.

Faeces

Faeces pose a risk to medical personnel. Through faeces a number of diseases are transmitted that can be serious (though they are rarely as serious as blood diseases). It is important to handle specimens correctly to avoid the risk of disease.

Samples

- Samples should be handed in inside a blue top specimen pot. Other containers are not acceptable. The patient should label his specimen container before defecation with his name, date of birth and date and time of production. The specimen should then be placed inside a specimen bag and sealed by the patient. The patient should be advised to wash his hands thoroughly after defecation before touching the specimen pot and again after inserting the specimen pot into the bag.
- The cleaners will clean the toilets 5 times a week. In the event of a patient having diarrhoea the toilet should be cleaned by the patient if they are well enough, or by medical staff in the event of the patient being too ill to perform this task. Medical staff and cleaners should wear gloves when cleaning the toilet. Hands must always be washed afterwards.

Vomit

Vomit can contain infective organisms and is thus a risk to personnel. Always work on the assumption that the vomit is infected. Patients will usually have time to obtain a bowl or find their way to the toilet, but occasionally patients will vomit on the floor or furnishings.

Disposable paper bowls are available in reception, but if any other container is used it should be emptied down the sluice or toilet and washed out immediately after being emptied and then disinfected. Toilets should be cleaned and sterilised in the same way that they are for diarrhoea. Personal Protective Equipment should be used. Spillages are to be cleaned in accordance with the practice spillage guidelines within this document.

Semen

Semen should be collected by the patient into a universal container and delivered to [*details on the envelopes with the pot*]

Sputum/Phlegm

Sputum should be collected by the patient into a universal container and labelled by the patient. The container should be inserted into a plastic specimen bag with the request form in the pocket separate to the specimen itself. In the event of the specimen leaking out of the bottle or the bottle breaking the specimen is to be disposed of and a new specimen obtained.

Vaginal Specula, Spatula and Smears

One type of speculum is in use; the disposable speculum. The doctors and qualified nurses are the only persons permitted to perform vaginal examinations and smears. Disposable specula are to be put in the clinical waste bag after use and this can be done by appropriately trained staff who may be assisting with the procedure. Gloves are to be worn when disposing of these instruments. Used spatulas are to be placed in the clinical waste bag.

Cervical smear specimens are to be placed upon a collection box to dry following collection or directly into the slide specimen box.

Microbiological Swabs

Swabs are taken from many infected areas of the body to assess the cause of the infection, thus a swab by definition contains an unknown hazard. Provided the swab is not removed from the transport medium, no risk of transmission of infection exists unless there has been contamination of the outside of the container. The following guidelines are to be followed:

Taking Swabs from Infected Lesions:

- The infected area must not be touched with the hands.
- The infected area must not come into contact with the operator's clothes.
- The container for the swab and the patient are to be as close together as is reasonably possible in order to minimise the distance that the swab needs to travel once the specimen has been taken.
- Care is to be taken that the swab contains enough material for analysis but not so much that there is a likelihood of dripping pus during the transit of the swab from the patient to the specimen container.
- The top of the bottle must be sealed adequately before insertion into a sealed plastic hazard bag. The form that accompanies the specimen is to be placed in the appropriate pocket of the bag and not in the same compartment as the specimen.
- In the event of the top becoming loose and parting from the container whilst in the bag, the top is to be re-sealed either through the bag, or by opening the bag.
- The transport medium is solid and unlikely to leak out of the bag, however, in the unlikely event of this occurrence it has to be assumed that microbiological material has also leaked; therefore the specimen is to be disposed of and re-taken.

Vaccinations

Advice about blood taking also applies to vaccination of patients. Always avoid contact with blood by the use of cotton wool swabs after withdrawing the needle. Never sheath the needle; always dispose of needles safely and without delay. When disposing of the needle it is to remain attached to the syringe or vacutainer.

Decontamination and Disposal of Materials Contaminated with Biological Substances

Clothes:

Precautions should always be taken to avoid contamination of clothing whenever possible by the use of protective clothing, e.g. plastic apron when the situation can be anticipated. However there will be occasions when it is difficult to anticipate the situation. Contamination of clothes with biological material necessitates the following measures:

- Remove as much surplus material as possible using gloves and a disposable wipe.
- Change into clean clothing if any risk exists to either the operator or patients whom the operator will treat during that shift. If in doubt - change.
- Personnel should ensure that the clothing does not come into contact with any surface on which food is prepared.
- Blood stained clothing should be soaked in cold water prior to washing to facilitate removal of the stain.
- Soiled clothing should ideally be washed separately from other non-soiled clothing and the washer used at the maximum temperature that the clothing could tolerate without being damaged.
- There may be occasions when it is deemed fit for an item of clothing to be destroyed due to contamination with biological material. Under these circumstances the item is to be sealed in a hazard bag and disposed of in the clinical waste bin.

Transportation of Biological/Clinical Waste

- Biological or clinical waste is to be placed in appropriate containers only. Sharps are to be placed only in sharps boxes. Only contaminated material that cannot penetrate the plastic is to be placed in hazard bags. Contaminated or non-contaminated material that may penetrate the hazard bags must be placed in a sharps box. This includes unbroken glass that may become broken if the bag is damaged in transit.
- Yellow hazard bags are to have no contamination of their outer surface. If there is contamination of the outer surface of the bag with biological material, the bag is to be placed inside another bag and sealed ready for transportation.
- Once boxed or bagged in hazard containers, waste is to be stored in the Clinical Waste bin [outside by the back door of the nurses room]. The waste material is to remain inside these solid containers until collected by the clinical waste contractor.

References

Waste Management / Disposal Protocol