

# Infection Control and Blood Pathogens

## Work Manual

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### Infection Control and Blood Pathogens

**Work through this manual and answer the questions at the end returning to your team leader as soon as possible discussing any issues arising**

#### INFECTION

##### *What does it mean?*

Infection means that harmful microorganisms invade and multiply which results in some degree of discomfort or can lead to death.

Harmful microorganisms are termed pathogenic while those are harmless are termed non-pathogenic.

Pathogenic organisms come in 3 forms: -

- Bacteria e.g. streptococcus which is responsible for throat infections
- Viruses e.g. influenza or HIV/AIDS
- Fungi e.g. athlete's foot, or thrush

Often our bodies can resist and kill off the invading microorganisms. However there are times when the pathogens will be effective causing harm. This may occur when the micro-organisms are too toxic for the body to resist: when the person has lowered resistance perhaps during times of stress or when another illness is present or when the number of micro-organisms are too large for the body to cope with.

Some organisms cause infectious diseases that require the doctor to notify the public health dept. so that the prevalence of modifiable diseases (e.g. tuberculosis) can be monitored

### SOURCES OF INFECTION

#### *What are the main sources of infection?*

There are 4 main sources of infection:

- Humans
- animals, including insects
- soil
- inanimate objects such as cutlery, crockery, taps, sinks, baths, bedclothes and furniture

*Think about where infection comes from in humans. In which areas of the body do microorganisms live naturally? How are microorganisms transferred out of the body?*

Microorganisms can live naturally in the skin, urine mouth and gut. They are transferred around the body and out by blood, urine, faeces (stools), vomit, sweat, tears, saliva, and mucus, discharge from wounds, semen, sperm and vaginal secretions. **Therefore it is highly important that when dealing with any body fluids you take precautions.**

Humans are a major source of infection so both staff and clients are potential sources. Residential institutions group people together with the result that infection can spread easily from one person to another. Domiciliary care workers can also spread infection from one client to another. What may be a very minor infection for you can be a very serious illness for someone who is frail or ill already. The control of infection is a very important aspect of care work.

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### THE SPREAD OF INFECTION

To reduce the spread of infection you will need to know the ways in which microorganisms can be transferred from the source to a person.

#### *What are the main methods of transfer?*

There are 5 main methods of transfer:

- Through the air via dust and airborne droplets as occurs for example after sneezing
- Carried by food or drink, which is then consumed by the recipient. Stomach upsets can be caused in this way by food that has been prepared by contaminated hands or utensils.
- By direct contact between the source and the recipient. In this way organisms can be transferred directly onto the skin (e.g. Some skin diseases and sexually transmitted diseases) or directly onto a mucus membrane (e.g. Eye infections)
- Invasion into body tissues via a cut in the skin or membrane a wound needle-stick injury or an animal/insect bite
- Via the placenta from a mother to her baby

### PREVENTION AND CONTROL OF INFECTION

There are many ways in which you can and should be involved in preventing and controlling cross infection and most of the methods come directly from a knowledge of the sources of infection the reasons for infection and the methods of spreading infection

- **Destroy the organisms** by heat (sterilization) chemicals (disinfectants) or drugs (antibiotics). Ensure that disinfectants are not out of date. Accidental spillages of body fluids such as blood should be treated with a disinfectant
- **Immunization** is an effective means of preventing the harm caused by contact with some microorganisms such as tetanus, influenza, and hepatitis B
- **Good personal hygiene** such as tying back long hair or hand washing. Hand-washing has been described as the single most important preventative measure for infection control
- **Using protective barriers** protective equipment is a barrier between you and the source of infection. Appropriate protective equipment

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such as gloves and aprons should be worn whenever you could be exposed to infections

- **Cover your mouth** when coughing and your nose when sneezing.
- **Cover all cuts or abrasions** especially on the hands with a waterproof non-permeable adhesive dressing when handling blood or other body fluids wear gloves.
- **Ensure safe and appropriate disposal of waste** - including careful disposal of used aprons gloves etc
- **Follow safe food storage and handling** - check food/drink is not out of date, is stored correctly at suitable temperatures, and is cooked correctly
- **Safe handling of soiled linen** - wear gloves, and minimise the contact with other articles, encourage the washing of soiled linen at appropriate temperatures to kill bacteria
- **Ensure that pests** such as fleas, cockroaches are reported so they can be appropriately treated
- **Report** - look out for signs of infection in your clients and report immediately
- **Be an example** of good hygiene practice and encourage it within others

### *What are some of the signs/symptoms of infection?*

#### **Some signs of infection**

A raised temperature	Inflammation	Pain
A discharge	Feeling tired	Irritability
Restlessness	Reduced appetite	Localised swelling
Chills	Change in behaviour	Redness

**To control cross infection you need to assume that anything that makes contact between one person and another could be a route of infection**

### **WASHING HANDS**

Hand-washing is the most important preventative measure for infection control, but studies have shown that it is rarely carried out in a satisfactory manner. The areas of hands which are often missed are the wrist, creases, thumbs, fingertips and under the finger nails and jewellery, which should for this reason be kept to an absolute minimum and removed while washing.

### **WHEN?**

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It is important to wash your hands:

- before preparing food
- before and after meals
- after using the toilet
- after handling bedpans, commodes, toilets or soiled linen
- after coughing, sneezing and blowing your nose
- before and after attending to any dressings
- before and after providing care
- after handling animals
- after handling rubbish bins
- before and after your work shift

Some of the above will also apply to clients and provision should be made for this if they require help

### **HOW?**

Hand washing should be performed as follows:

- Wet the hands up to the wrist **before** applying hand/soap
- Apply the cleanser/soap
- Smooth it evenly all over the hands, including the thumbs and in between the fingers and lather well rubbing vigorously
- Rinse off every trace of lather with running water
- Dry thoroughly taking special care between the fingers

### **Protective Clothing**

Contaminated clothing can spread infection if used correctly protective clothing can prevent such spread and also protect the wearer

### **Gloves**

Always wear gloves and a plastic apron when you:

- tend people, who are bleeding, have open wounds or any broken skin, pressure sores, rashes
- handle blood or any other body fluids or waste and soiled linen
- clean up spills containing blood or body fluids, and using some cleaning materials

### **Always wash after disposing of the gloves safely**

Putting on gloves

- check for cracks, punctures or tears
- discard if damaged

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### Removing gloves

- Hold the glove at the cuff and pull inside out. Hold the removed glove in the hand that is still gloved then hold the second glove at the cuff and pull that one inside out, enclosing the first glove inside the second glove
- Dispose of the gloves appropriately in a separate bag for waste or double bag if possible and wash your hands

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### Blood Pathogens

#### HIV and hepatitis B

Aids is caused by a virus called *human immunodeficiency virus* (HIV) People can have the virus for greater or shorter periods of time before they have Aids. Simply having the virus is called being HIV positive. Aids stands for acquired *immune deficiency syndrome*

This means that people who have AIDS are losing or have lost their body's natural defences against diseases. Aids itself doesn't kill people what kills them are the diseases that their body cannot fight: diseases such as pneumonia and cancer

#### **The risks**

Many people including many care workers are frightened of catching AIDS. There is really no reason for fear It is very difficult to catch the HIV virus in the normal course of care work

***How do you think you would catch HIV during the course of your work?  
Write down suggestions of 3 activities you would have to be carrying out***

In order to catch HIV in the course of care work you would have to do one or more of the following:

- have sexual intercourse with a HIV positive client without the use of a condom
- take a sample of blood or semen from an HIV- positive person and inject it into yourself
- Open a large wound in yourself and rub in large quantities of blood or semen from a HIV-positive client

*None of these activities are normal parts of care work There is no risk of catching the HIV virus from touching and kissing, hugging, from tears, nasal mucus saliva, from lavatory seats, linen or eating from utensils of a HIV positive person*

#### **Hepatitis B**

Hepatitis B is not usually a fatal illness for anyone in good health but it can be very nasty It is spread in much the same way as HIV but in addition you can catch it from faeces, urine or saliva The HIV virus does not survive long in the open air is easily killed by sterilising and doesn't survive drying out. The hepatitis virus is much tougher it can survive much longer outside the human body Therefore there is a risk from dried blood or faeces The risk of Hepatitis B infection is



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made greater by the fact that some people are carriers They have the virus and can infect others but they never get the illness themselves so are difficult to detect.

If you work with high-risk clients it would be wise to get your doctor to give you an injection to protect you against this disease

If you take the correct precautions against catching hepatitis B you will have done much more than is necessary to prevent yourself from catching HIV Remember also that you are most unlikely to spread HIV infection among your clients but you are much more likely to spread Hepatitis and other infections if you do not take care

**Carers have an important role to play with regard to infection** particularly by carrying out all the preventive measures identified

You also need to look for signs of infection report them and care for clients with infections

It is important to note that you will not always know who has an infection Therefore you should always assume that everyone presents a risk so that precautions should never be dropped

You could be the source of infection and precautions are there to protect the client also who often is frail and vulnerable

Maintaining hygiene is an activity that can become very clinical if the human element is overlooked. It is all too easy for clients to be made to feel 'dirty or dangerous' if procedures are insensitively carried out

It is important to have a sensitive caring approach to clients respecting their individuality and rights - **How?**

- Give the clients control and encourage them to be as self managing as possible - ask the client/provide choices and discuss the clients preferences
- Do not judge clients to your personal standards and beliefs
- Maintain confidentiality
- Ensure privacy and dignity at all times

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5) What are the 4 main sources of infection?

6) What is Aids?  
(Possibly support with leaflets)

7) Explain what it means if someone is a carrier of Hepatitis B?

8) Tick which is correct -  
You can catch Hepatitis B from: -  
Blood  Saliva  faeces  semen  urine

9) How can you avoid a clinical approach when maintaining of your clients hygiene?

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## Infection Control Questionnaire

### Answers

1) List ways to prevent and control infection

(A) **Destroy the organisms** - by heat (sterilisation) chemicals (disinfectants) or drugs (antibiotics). Ensure that disinfectants are not out of date. Accidental spillage's of body fluids such as blood should be treated with a disinfectant; **Immunization; Good personal hygiene; Using protective barriers (Gloves apron etc.); Cover your mouth** when coughing and your nose when sneezing; **Cover all cuts or abrasions; Ensure safe and appropriate disposal of waste** (including aprons gloves) **Follow safe food storage and handling; Safe handling of soiled linen; Ensure that pests** such as fleas, cockroaches are reported so they can be appropriately treated; **Report** - look out for signs of infection in your clients and report immediately; **Be an example** of good hygiene practice and encourage it within others

2) What is the most important preventative measure for infection control?

(A) *Washing hands*

3) Why is it highly important that you take precautions when dealing with body fluids?

(A) *Micro organisms can live naturally in the skin urine mouth and gut They are transferred around the body and out by body fluids such as blood, urine, faeces, vomit, mucus, etc.*

4) What are pathogens?

(A) *Harmful organisms*

5) What are the 4 main sources of infection?

(A) *Humans, animals including insects, soil, and inanimate objects*

6) What is Aids?

(A) *Aids is caused by a virus called human immunodeficiency virus (HIV) Aids stands for acquired immune deficiency syndrome. This means that people who have Aids are losing their natural defences against diseases. Aids itself doesn't kill people what kills them are the diseases that their body cannot fight*

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7) Explain what it means if someone is a carrier of Hepatitis B?

*(A) People that have the Hepatitis B infection and can infect others but they never get the illness themselves so are difficult to detect*

8) You can catch Hepatitis B from? (tick as appropriate)

*(A)  Faeces;  urine  saliva  semen*

**9) How can you avoid a clinical approach when maintaining hygiene in clients?**

*(A) Have a sensitive caring approach to clients*

*Give the clients control and encourage them to be as self-managing as possible - ask the client, provide choices and discuss the client's preferences*

*Do not judge clients to your personal standards and beliefs*

*Maintain confidentiality*

*Ensure privacy and dignity at all times*