



**Infection.  
Prevention.  
Control.**

You're in safe hands

**NHS**

# Preventing Infection Workbook

## Guidance for Dental Practice

Name

Job Title



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## 1. Introduction

As an NHS community Infection Prevention and Control (IPC) team based in North Yorkshire, our aim is to support the diversity of health and social care providers in promoting best practice in infection prevention and control. This evidence-based Workbook for Dental Practice complements a range of educational infection prevention and control resources which can be viewed at

[www.infectionpreventioncontrol.co.uk](http://www.infectionpreventioncontrol.co.uk).

This Workbook is intended to be the foundation for best practice for infection prevention and control. By applying the principles within the Workbook, you will demonstrate commitment to high quality care and patient safety. The Workbook aims that all staff working in a Dental Practice, this includes not only clinical staff, but all staff groups including receptionists and cleaning staff. It is not necessary for non-clinical staff to complete the 'Decontamination of equipment' and 'Aseptic technique' sections.

Completion of the Workbook means your Dental Practice demonstrates compliance with the *Health and Social Care Act 2008: Code of practice on the prevention and control of infections and related guidance (The Code of Practice)* and Care Quality Commission registration requirements in relation to infection prevention and control training.

The Workbook has been designed to be undertaken in stages. This will allow you to complete the 'Test your knowledge' questions before moving on to the next section. On completion, a manager will check that you have achieved 100% competency in your infection prevention and control knowledge and then sign the 'Certificate of completion'. You should keep the Workbook as evidence of learning and as an on-going reference guide to provide you with easily accessible advice for day-to-day care of patients.

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Consultant Microbiologist**  
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## 2. Verifiable CPD

This Workbook provides documentary evidence to demonstrate that when completed, it counts as **5 hours** of verifiable Continuing Professional Development (CPD) which includes reflection individually or with others.

### Aims and objectives

To help reduce healthcare associated infection by raising awareness of the importance of infection prevention and control and standards of cleanliness by covering:

- ◆ Hand hygiene
- ◆ Personal protective equipment (PPE)
- ◆ Sharps management
- ◆ Blood and body fluid spillages
- ◆ Waste management
- ◆ Laundry including uniforms
- ◆ Decontamination of equipment
- ◆ Isolation
- ◆ Environmental cleanliness
- ◆ Aseptic technique
- ◆ Specimen collection
- ◆ Creutzfeldt-Jakob disease
- ◆ Herpes simplex virus type 1
- ◆ Viral gastroenteritis/Norovirus
- ◆ MRSA

### Outcome

The learner will have an understanding of:

- ◆ The risks of transmission of infection
- ◆ The 'chain of infection' and how to break it
- ◆ The importance of hand hygiene, how and when to perform it, and transient and resident micro-organisms

## 2. Verifiable CPD

- ◆ The benefits of wearing PPE, risk assessments for PPE, applying and removing PPE
- ◆ Sharps management, use of safer sharps, disposal and actions following a sharps/splash injury
- ◆ The risks from blood and body fluid spillages, actions to be taken following a spillage and the use of disinfectants
- ◆ Waste management, responsibility, segregation, disposal and how to handle accidental waste spillage
- ◆ Laundry at work and washing uniforms worn at work
- ◆ The three levels of decontamination, the different risk categories and decontaminating dental instruments
- ◆ Isolation precautions, preparation and decontamination of an isolation area
- ◆ The importance of environmental cleanliness, the national colour coding scheme, cleaning standards, cleaning products and equipment, and cleaning frequencies
- ◆ The aims of aseptic technique, when to use an aseptic technique and aseptic technique competency
- ◆ The procedure for obtaining and storing specimens
- ◆ The risk of transmission of Creutzfeldt-Jakob disease (CJD) from dental instruments
- ◆ Herpes simplex virus type 1 and management of patients with the virus
- ◆ Viral gastroenteritis/Norovirus, how it is spread and cleaning after an episode of diarrhoea or vomiting
- ◆ MRSA colonisation, infection and management of patients

### Quality controls for verifiable CPD

This workbook is robustly quality assured as it is evidence-based and in line with national guidance and has been produced by highly experienced NHS Infection Prevention and Control Nurses with input from Consultant Microbiologists. The Workbook has been peer reviewed.

An assessment is carried out by Managers to check that 100% competency has been achieved before the 'Certificate of completion' in the back of the Workbook is signed.

### 3. Infection prevention and control

*The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance (The Code of Practice)* states that, “Good infection prevention (including cleanliness) is essential to ensure that people who use health and social care services receive safe and effective care”.

Infection prevention and control is a key priority for the Department of Health, reinforced with the standards set out in *The Code of Practice* and the Care Quality Commission (CQC) requirements. Infection prevention and control spans the five key questions the CQC will be asking about your service:

**Are you safe? Are you effective? Are you caring?  
Are you responsive to people's needs? Are you well-led?**

#### Infection

Infection prevention and control means doing everything possible to prevent infection from both developing and spreading to others. Understanding how infections occur and how different micro-organisms (germs) spread, such as bacteria, viruses and fungi, is essential to preventing infection.

An infection occurs when micro-organisms enter the body and cause damage. These micro-organisms can come from a variety of sources and often take advantage of a route into the body provided by a wound or an invasive medical device, e.g. needles.

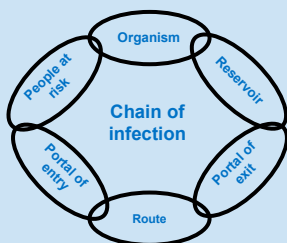
Some infections can reach the bloodstream. When this occurs it is known as a bloodstream infection, which can cause serious or life threatening infection and can result in death.

#### Healthcare associated infection

The term healthcare associated infection (HCAI) refers to infections associated with the delivery of healthcare in any

### 3. Infection prevention and control

#### The chain of infection



The spread of harmful micro-organisms from their source to a person is frequently referred to as the 'chain of infection' which is made up of six links. Each link represents one of the six elements required to spread infection.

Each link of the chain must be present for an infection to occur.

Breaking the chain by removing one of the links will stop the infection spreading. Good infection prevention and control practice (standard precautions) applied at all times will break a link in the chain.

<b>Organism</b>	Micro-organisms (bacteria, viruses, fungi), e.g. herpes simplex, hepatitis B, TB, MRSA.
<b>Reservoir</b>	A reservoir for the micro-organisms (where the infection comes from), e.g. people, contaminated equipment or surfaces.
<b>Portal of exit</b>	The way in which micro-organisms leave the body, e.g. aerosols generated during procedures, and coughing.
<b>Route</b>	The way in which micro-organisms are transmitted, e.g. hands, equipment, airborne, injection, ingestion.
<b>Portal of entry</b>	The way in which micro-organisms enter the body, e.g. mucous membranes, mouth, nose, exposed wounds, non-intact skin, inoculation injury.
<b>People at risk</b>	A person's susceptibility to infection is determined by their age, well-being, level of immunity and any medical or dental interventions.

## 4. Standard precautions

### 4. Standard precautions

All Dental Practice staff in all situations involving the care of patients and the environment, must use infection prevention and control 'standard precautions'.

There are seven control measures known as standard precautions (see table below). These underpin routine safe practice and break the chain of infection, which in turn protects patients and staff. There is often no way of knowing who is infected, so by applying standard precautions to all patients and at all times, best practice becomes second nature and the risks of infection are minimised.

- ◆ In most cases, without laboratory test, it is impossible to tell who has or is carrying an infection. Since every patient is a potential infection risk, it is essential that all staff apply safe systems of working at every opportunity.
- ◆ Safe working practices take the guesswork out of protecting yourself and others as you provide care.

Standard precautions	
	Hand hygiene
	Personal protective equipment
	Sharps management
	Blood and body fluid spillages
	Waste management
	Laundry
	Decontamination of equipment



(other than one plain band ring). Nails should be free from nail varnish, false or gel nails and nail jewellery. Long sleeves, if worn, should be rolled or pushed up to the elbows.

### Your 5 moments for Hand Hygiene for Dental Practice



Adapted from the WHO Alliance for Patient Safety 2012

1	<b>BEFORE TOUCHING A PATIENT</b>	<b>WHEN?</b> Clean your hands before touching a patient. <b>WHY?</b> To protect the patient against harmful germs carried on your hands.
2	<b>BEFORE CLEAN/ASEPTIC PROCEDURE</b>	<b>WHEN?</b> Clean your hands immediately before a clean/aseptic procedure. <b>WHY?</b> To protect the patient against harmful germs, including the patient's own, from entering his/her body.
3	<b>AFTER BODY FLUID EXPOSURE RISK</b>	<b>WHEN?</b> Clean your hands immediately after a procedure involving exposure to body fluids (and glove removal). <b>WHY?</b> To protect yourself and the environment from harmful patient germs.
4	<b>AFTER TOUCHING A PATIENT</b>	<b>WHEN?</b> Clean your hands after touching a patient at the end of the encounter or when the encounter is interrupted. <b>WHY?</b> To protect yourself and the environment from harmful patient germs.
5	<b>AFTER TOUCHING PATIENT SURROUNDINGS</b>	<b>WHEN?</b> Clean your hands after touching any object or furniture in the patient surroundings when a specific zone is temporarily and exclusively dedicated to a patient—even if the patient has not been touched. <b>WHY?</b> To protect yourself and the environment from harmful patient germs.

For example, of when hand hygiene should be performed:

- ◆ **Whenever** hands are visibly dirty
- ◆ **Before** work, **between** each task and **before** you go home
- ◆ **Before** putting on and **after** removing clinical or domestic gloves
- ◆ **Before** contact with unwrapped sterilised instruments
- ◆ **After** coughing, sneezing or blowing your nose
- ◆ **After** using the toilet
- ◆ **Before** and **after** having a coffee/tea/lunch break

## 6. Personal protective equipment (standard precaution)

### Order for putting on PPE



Pull apron over head and fasten at back of waist.



Secure mask ties at back of head and neck. Fit flexible band to nose bridge.



Place eye protection over eyes.



Extend gloves to cover wrists.

### Order for removing PPE



Grasp the outside of the glove with opposite gloved hand, peel off. Hold the removed glove in the gloved hand. Slide fingers of the ungloved hand under the remaining glove at the wrist and peel off.



Unfasten or break apron tie. Pull apron away from neck and shoulders lifting over head, touching inside of the apron only. Fold or roll into a ball.



Handle eye protection only by the headband or the sides.



Fasten the mask ties—first the bottom, then the top. Remove by handling ties only.

Clean your hands before putting on and after removing PPE.

### Remember

- The type of PPE worn should be based on an assessment of the risk of transmission of micro-organisms.

### Test your knowledge

Please tick the correct answer

	True	False
1. Hand hygiene is not required after removing gloves.	<input type="checkbox"/>	<input type="checkbox"/>
2. Aprons should be removed as soon as the activity is completed.	<input type="checkbox"/>	<input type="checkbox"/>
3. When removing PPE, gloves should be removed first.	<input type="checkbox"/>	<input type="checkbox"/>
4. Prescription glasses are acceptable as eye protection.	<input type="checkbox"/>	<input type="checkbox"/>

## 7. Sharps Management (Standard precaution)

### Select the correct colour coded sharps containers

**Yellow lid on a yellow container** for the disposal of sharps - including needles and syringes contaminated with non-cytotoxic or cytostatic medicines, non-amalgam teeth and used medicine vials.

**White lid on a white container with mercury suppressant** for the disposal of teeth containing amalgam.

**Orange lid on a yellow container** for the disposal of sharps not contaminated with medicinal products.

### Sharps containers

- ◆ Should be the correct size according to usage.
- ◆ Must be assembled correctly as per manufacturer's instructions, ensuring the lid is snapped firmly in place all around the rim to avoid spillage or injury.
- ◆ Must have the label dated and signed on assembly for traceability purposes.
- ◆ Must be located in a safe position that avoids spillage and at a height that allows the safe disposal of sharps. They should not be placed on the floor.
- ◆ Must be away from public areas, e.g. waiting rooms, and out of the reach of children, to avoid accidents.
- ◆ Must have the lid temporary closure in position after each use to prevent the risk of spillage.
- ◆ Must be disposed of when the 'fill line' is reached, to avoid sharps protruding from the opening, or every 3 months even if not full, in accordance with NICE Clinical Guidance.
- ◆ Containers awaiting disposal should be stored in a secure location. They must be locked, dated, signed and the location put on the label.
- ◆ Must only be used for the disposal of sharps.

## 8. Blood and body fluid spillages (Standard precaution)

### Note

- To ensure they are within the expiry date, regularly check spillage kits, wipes and chlorine-based disinfectant products.

### Remember

- Personal protective equipment should always be worn when dealing with blood and/or body fluid spillages.
- It is not necessary to clean the area before using Chlor-Clean or Actichlor Plus, as they contain both a detergent and chlorine-based disinfectant.
- Disinfectant solutions become less effective after 24 hours, therefore, a new solution should be made each day.

### It's a fact

- Annual occupational exposures to blood-borne viruses increased from 73 in 2004 to 496 in 2013.

### Test your knowledge

Please tick the correct answer

	True	False
1. For a blood/blood stained body fluid spillage, the correct concentration of chlorine-based disinfectant is 10,000 ppm.	<input type="checkbox"/>	<input type="checkbox"/>
2. When dealing with a body fluid spillage, the correct available chlorine is 1,000 ppm.	<input type="checkbox"/>	<input type="checkbox"/>
3. A weak solution of chlorine-based disinfectant will kill any blood-borne virus, e.g. hepatitis B, C and HIV.	<input type="checkbox"/>	<input type="checkbox"/>
4. Body fluid spillage waste should be disposed of as domestic waste.	<input type="checkbox"/>	<input type="checkbox"/>

## 9. Waste management

The appropriate management of healthcare waste is an essential part of ensuring that Dental Practice activities do not pose a risk or potential risk of infection, in line with the Department of Health guidance. Therefore, all staff are responsible for the safe management and disposal of waste and should follow their organisation's Waste Policy guidance on segregating waste.

### Dental Practice's responsibility

- ◆ To correctly segregate waste into the correct colour waste stream, e.g. orange, yellow and black, black.
- ◆ To appropriately label all waste.
- ◆ To ensure waste is packaged appropriately for transport.
- ◆ To store waste safely away from public access.
- ◆ To provide a pre-acceptance audit of waste for the contractor.
- ◆ To describe the waste type accurately on accompanying documentation, e.g. consignment note.

### Assessing waste for segregation

Waste should be assessed by the member of staff at the time it is produced. Healthcare waste which does not have medicinal, clinical or infectious properties is classed as 'offensive' waste. If you believe there is an indication that a patient has an infection or suspected infection at the time the waste is produced, it should be classed as 'infectious' waste.

### Disposal of waste

- ◆ Waste bins should be positioned where they are easily accessible to staff.
- ◆ Bins in clinical areas should have a lid and be foot pedal

## 10. Laundry including uniforms (Standard precaution)

- ◆ To further reduce any micro-organisms, where possible, uniforms or workwear should be tumble dried and/or ironed.
- ◆ Always wash hands after placing uniforms or workwear in the washing machine.

### Note

- Fabric hand towels should not be used in Dental Practice by staff or patients as they can harbour micro-organisms which can be transferred from one person to another.

### Remember

- ◆ Laundering of curtains should be documented.
- ◆ Best practice is to wear short sleeves.

### It's a fact

- ★ In the second half of the 19th century, commercial laundries began using steam-powered mangles or ironers.
- ★ In 1937 the first automatic electric washing machine was invented.

### Test your knowledge

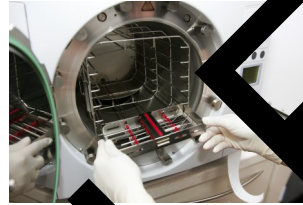
Please tick the correct answer

		True	False
1.	It is best practice to use disposable paper products in Dental Practice.	<input type="checkbox"/>	<input type="checkbox"/>
2.	Curtains should be laundered three monthly.	<input type="checkbox"/>	<input type="checkbox"/>
3.	Best practice is to wash uniforms at 30°C for 10 minutes.	<input type="checkbox"/>	<input type="checkbox"/>
4.	Wearing short sleeves aids effective hand hygiene.	<input type="checkbox"/>	<input type="checkbox"/>

## Decontaminating dental instruments

### Level 3: Sterilisation

Benchtop sterilisers should be used, maintained, validated and tested, in accordance with the manufacturer's instructions and national guidance, e.g. HTM 01-05 *Decontamination in primary care dental practices*. A record of each cycle should be kept for a minimum of two years.



For sterilisation to be effective, steam should contact all surfaces of the instrument. To facilitate this, instruments should be loaded to allow circulation of the steam to all surfaces and overloading of the steriliser should be avoided.

In Dental Practices, the most frequently used benchtop sterilisers used are Type N and Type B.

- ◆ **Type N (non-vacuum)** are removed by passive displacement with steam. Only suitable for sterilising non-wrapped solid instruments.
- ◆ **Type B (vacuum)** are removed by a vacuum. Suitable for sterilising wrapped hollow and solid instruments.
- ◆ An additional **Type S** steriliser can be used. This type of steriliser is specially designed to reprocess specific load types, defined by the manufacturer. These sterilisers should only be used in strict accordance with the manufacturer's instructions.

The water reservoir should be:

- ◆ Filled at least daily with freshly distilled or RO water as per manufacturer's instructions

# 13. Environmental cleanliness (Key topic)

## 13. Environmental cleanliness

Cleanliness is an integral part of infection prevention and control of the Dental Practice environment. Cleanliness helps reduce the incidence of healthcare associated infections and ensure patient confidence. All staff, and in particular cleaning staff, play an important role in improving the quality of the environment and maintaining standards.

### National colour coding scheme

All Dental Practices are recommended to adopt the 'National colour coding scheme for cleaning materials and equipment in primary care medical and dental premises' (see below). All cleaning items, both re-usable and disposable, such as cloths, mops, buckets, should be colour coded.

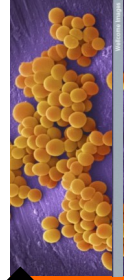
<b>Red</b> Sanitary areas including sinks in sanitary areas.	<b>Blue</b> General areas, e.g. waiting/consulting rooms including sinks in general areas.
<b>Green</b> Kitchens.	<b>Yellow</b> Treatment and minor operation rooms.

### Cleaning standards

Each Dental Practice should have a designated person who leads on cleaning and decontamination of the environment.

It is essential that all staff undertaking cleaning activities follow their cleaning specification and task requirements. Personal protective equipment should be worn, e.g.





## 19. MRSA

MRSA stands for **M**eticillin **R**esistant **S**taphylococcus **A**ureus. It is a variety of the common bacteria *Staphylococcus aureus* which live harmlessly on the skin and in the nose and throat of about one third of people. MRSA is resistant to some of the commonly used antibiotics, e.g. Flucloxacillin.

### Where is MRSA found?

MRSA prefers to live in the nose, armpit, groin and wounds of people. It can also be found in the environment in dust and on equipment.

### How is MRSA spread?

MRSA can be spread on hands that have not been washed thoroughly, from person-to-person by direct skin contact and contaminated surfaces or equipment.

### MRSA colonisation

People carrying MRSA bacteria e.g. on their skin, in their nose, or in long-standing wounds such as leg ulcers, who do not have clinical signs of infection are said to be colonised, but not infected. The MRSA bacteria are simply 'hitching a ride' on the surface of the body without causing an infection or illness and are not usually harmful to healthy people.

Many people are usually never aware that they are carrying the bacteria. Colonisation may be long-term.

### MRSA infection

People can become infected with MRSA when the bacteria enter the body and causes illness, e.g. abscess, boil, local skin infection. It may cause serious illness such as a bloodstream infection. Signs of infection include fever, redness, pain and increased wound discharge. If infection is present, antibiotic treatment should be prescribed.

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