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## Infection Control



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### Course Objectives

- To understand how individuals become infected through the chain of infection
- To have an awareness of the different types of germs/infection
- To have an awareness of Health Care Associated Infections and management.
- How to wash your hands effectively and appropriately
- To have an awareness of personal protective equipment and their indications in practice
- To have an awareness of the ways to prevent infection
- To Understand the importance of policy and legislation regarding infection control

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### The Chain of Infection



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**Types Of Infection**

- **Bacteria** – found in air, water soil and food and on the bodies of humans and animals i.e. MRSA
- **Viruses** – are smaller and cause disease reproducing inside living cells i.e. Flu, Mumps, HIV/Aids
- **Fungi** – mould-like cause local infections such as thrush and ringworm
- **Protozoa** (parasites)– Head lice, Intestinal worms, Scabies

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**Health Care Associated Infections**

(Spread within clinical or care environment)

- MRSA (*Methicillin Resistant Staphylococcus Aureus*)
- C. difficile (*Clostridium Difficile*)
- E. coli (*Escherichia Coli*)
- Norovirus



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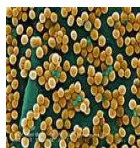
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**MRSA**

- It is a Bacteria
- Lives harmlessly in around 25-30% of people
- It is resistant to 'methicillin' based antibiotics
- Can be difficult to treat
- Can require a lengthy stay in hospital
- Can lead to serious blood poisoning
- Can be fatal



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**Clostridium Difficile**

- It is a Bacteria
- It is naturally present in the gut of around 3% of adults and 66% of children
- It does not require oxygen to survive
- Tends to live well in the large intestine
- Spores are able to survive for a long time outside of the body
- Symptoms range from mild abdominal cramps and watery diarrhoea to colitis and perforation of the bowel
- Can be fatal

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**Health Care Associated Infection**

- It is estimated that 9% of in-patients have a HCAI at any one time
- They are thought to cause 5,000 deaths
- They contribute to over 15,000 deaths in the UK  
National Audit Office 2004
- A study found that 80% deaths from MRSA were elderly (>70yrs old) and there was only one case under 50 yrs.  
HPA & ONS 2005-07

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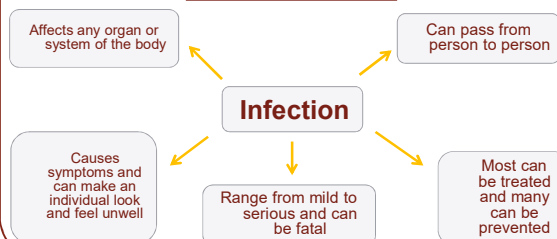
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**What Is Infection ?**



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**Costs Of HCAI's**

**TO THE NHS**

- Increases hospital stay
- Extra treatment
- Extra resources
- Increases community costs

**TO THE PATIENT**

- Increases time away from family
- Increase in medical treatment
- Personal finances (time off work, financial strain)
- Increased visiting time
- Morbidity and mortality

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**Signs and Symptoms of Infection**

Flushed & Sweaty      Painful aching joints  
Generally feeling unwell  
Lack of appetite      Raised temperature      Rash  
Enlarged lymph glands in the neck, armpit or groin  
Diarrhoea and Vomiting      Inflammation and swelling  
Blood in urine, faeces or sputum  
Discharge which can smell offensive  
Change in behaviour – agitation, restlessness and confusion

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**Why Is Infection Control Important ?**



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**Why Is Infection Control Important ?**

- People can suffer and die
- People using health and care services are usually more vulnerable and need protecting
- Infection is more likely spread when vulnerable people are together
- Infection cost health care services huge amounts of money
- Education and work time is lost when people are off sick
- Infection can spread quickly affecting whole populations right across the world
- It can impact on people's social and family life
- New diseases develop and old diseases reappear – infection never goes away
- Some infections have become resistant to standard treatments

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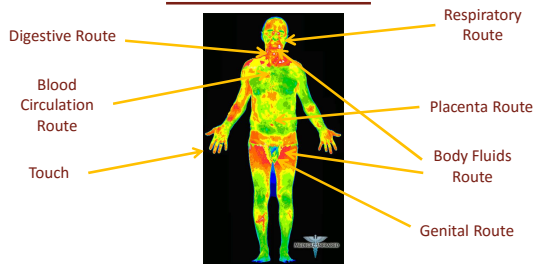
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**Routes In and Out**



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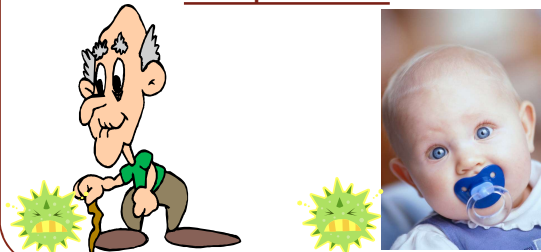
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**Susceptible Hosts**



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**Breaking the Chain of Infection**

- Safe Systems of Work
- Hand Washing
- Protective Clothing
- Appropriate Cleaning
- Inform, Instruct, Train & Supervise

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**Management of HCAI's**

- Pre-operative patient screening
- Staff screening
- Improved cleaning
- Alcohol gel
- Barrier or isolation nursing
- COSHH Risk Assessments
- Policy & Procedure
- Mandatory Surveillance

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**Why are people not washing their hands ?**

Studies have found hand washing compliance to be <50%

- Lack of appropriate hand washing facilities
- Ignorance
- Wearing gloves
- Skin complaints
- Work pressures

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**Hand Washing**

**Before and After –**

- Work
- Using disposable gloves
- Preparing, serving and eating food
- Handling clean and dirty laundry
- Contact with your own and others body fluids



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**Hand Washing**



- Areas most frequently missed during hand washing
- Less frequently missed
- Not missed

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**Personal Protective Equipment (PPE)**

- Disposable Gloves
- Disposable Aprons
- Disposable Masks
- Overshoes
- Safety Glasses
- Hair Nets/Caps



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**Removing Gloves**

**Step 1**

- Pinch the lower palm of one contaminated glove with the gloved fingers of your other hand, and pull it toward your fingertips so that it rolls off your hand with the inside facing outward. Do not remove it completely, though.

**Step 2**

- Pinch the lower palm of the other glove with the fingers of the partially-gloved hand, and pull it off completely by pulling it upward and inside-out. Do not dispose of this glove yet--hold it with the fingertips of your partially gloved hand.

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**Removing Gloves**

- **Step 3**
  - Insert the thumb and forefinger of your bare hand between your wrist and the inside-out cuff of the partially-removed glove. Use caution to avoid touching the outside of the contaminated glove with your bare fingers.
- **Step 4**
  - Pull the glove toward your fingertips and then over the other contaminated glove.
- **Step 5**
  - Dispose of the gloves in a marked infectious waste container. Wash your hands immediately with soap and hot water.

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**Safe Systems of Work**

- Decontamination
  - Cleaning, Disinfection, Sterilisation
- Disposal of Waste
  - Clinical Waste, Soiled Linen, Household Waste, Sharps
- Barrier Nursing
- Immunisation
- Education

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**Reducing the Risk of Infection**

- A Risk Assessment is required before a task is carried out
  - What have I done
  - What am I about to do
  - What equipment do I need
  - Am I at risk
  - How susceptible is the host
  - Disposing of waste

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**Risk Assessment**



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**Policy and Procedures**

- Infection Control
- Storage and Preparation of Food
- RIDDOR
- Use of PPE
- Hand Washing
- Management of Outbreaks
- MRSA
- Cleaning of Spillages
- Disposal of Clinical Waste
- Handling and Storage of Specimens

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**Legislation and Regulations**

- The Health & Safety at Work 1974
- Management of Health & Safety at Work 1999
- The Public Health (Control of Disease) Act 1984
- Food Safety Act 1990
- The Environmental Protection Act 1990
- The Health Protection Agency Act 2004
- The Control of Substances Hazardous to Health Regulations 2002
- The Reporting of Diseases and Dangerous Occurrence Regulations 1995
- The Public Health (Infectious Diseases) Regulations 1998
- The Food Safety (General Food Hygiene) Regulations 1995
- The Environmental Protection (Duty of Care) Regulations 1991
- The Hazardous Waste Regulations 2005

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**REMEMBER !**

Inadequate Hand Hygiene

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A Health Care Associated Infection  
which can result in patient death

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**QUIZ !**



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**Further Information**

- The Health & Safety Executive  
[www.hse.gov.uk](http://www.hse.gov.uk)
- The World Health Organisation (WHO)  
[www.who.int](http://www.who.int)
- The Health Protection Agency (HPA)  
[www.hpa.org.uk](http://www.hpa.org.uk)
- The National Institute for Health and Clinical Excellence (NICE)  
[www.nice.org.uk](http://www.nice.org.uk)
- The Food Agency Standards  
[www.food.gov.uk](http://www.food.gov.uk)

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