



# HEALTHY SETTINGS

## Breaking the chain of infection

Infection control and prevention is critical in childcare settings as there are essential activities that could put both children and staff at risk of passing on or contracting an infection. The highest risk of these is dealing with clinical waste, also known as changing nappies! Infections can be easily contracted and transmitted, but are equally easy to avoid if everyone plays their part and puts into practice proper preventative actions.

### Infections explained

Infections are caused by bacteria, fungi or viruses entering the body. They can be minor and stay in one area, like an abscess or boil, or spread through the body, like flu or a blood infection. General infections are easily dealt with, but sometimes they can cause more serious health problems. Infections like flu or norovirus can be spread from person to person, but not all infections are transmittable.

There are many infections that people can pick up, at work, around the home and in public places. They can be spread by blood, bodily fluids, waste, skin contact or infectious aerosols (e.g. from) sneezing, dust and water droplets.

### The chain of infection

The spread of infection is also known as the 'chain of infection', and by breaking a link we can halt the process. There are six links to consider:

- Organism – the bacteria, virus or fungi.
- Reservoir – a reservoir can be environmental, such as the workplace setting, the water supply or in a living organism such as a rodent or bird. Humans are the only reservoir for many human pathogens.
- Portal of exit – how the organism leaves the reservoir. It could leave in faeces, blood, mucus, in contaminated water or in the bloody meal of an insect.
- Mode of transmission – how the organism is transmitted from one host to the next.
- Portal of entry – how the organism enters the body.
- Vulnerable host – commonly the most vulnerable are the very young, the elderly and people with a suppressed immune system.

Infections generally enter the body via one of four routes:

- Inhalation** – meaning, we breathe it in.
- Ingestion** – entry through the mouth. This often occurs accidentally through hand-to-mouth transfer, when a person has a substance on their hand and then does something like bite their nails, smokes or eats lunch.
- Injection** – caused by sharp objects that penetrate the skin and allow harmful substances into the body. Particular hazards include discarded needles and syringes.
- Absorption** – this usually takes place

through cuts or other breaks in the skin, although there are other substances that can penetrate and be absorbed by unbroken skin.

Infection can occur in a number of ways within a childcare setting, most commonly putting contaminated hands, fingers or pens into the mouth, nose or eyes, or inhaling infectious aerosols or droplets from the air (e.g. breathing in after someone has sneezed). Other ways include contamination via broken skin (a wound) or coming into direct contact with a micro-organism or something contaminated by micro-organisms. More serious method of contamination could involve splashes of bodily fluids such as blood or excrement coming into contact with the eyes, nose, mouth or open wound, or a skin-penetrating injury – e.g. being contaminated via a discarded needle or animal/insect bite.

In order to control and prevent a potential infection you have to assess the level of risk. Once a source of infection has been identified you must consider how likely it is that infection will occur. In order to do this, think

about how often the task is carried out, how many employees are exposed, and how much infectious material is handled. If you consider that there's a risk, decide whether existing control measures are sufficient or if more are required.

### Occupational hygiene

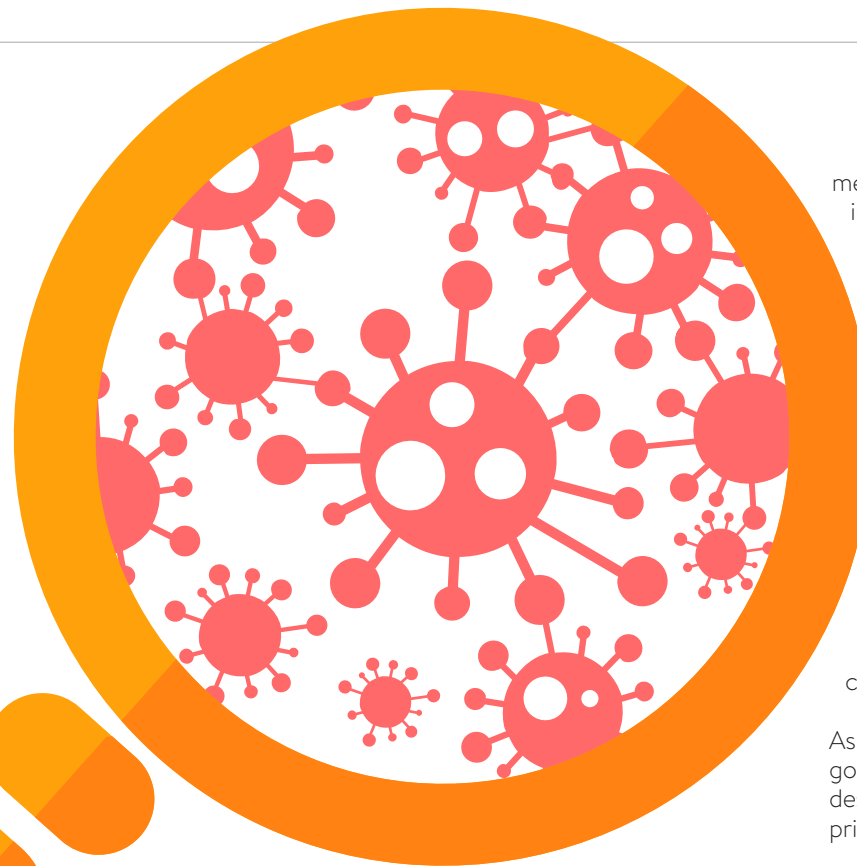
Within industries where people work with people (adults and children) or animals, the basic control principles of occupational hygiene should be applied in all situations. Occupational hygiene principles that all staff should be following include the following:

- Washing hands and arms thoroughly if needs be before eating, drinking, smoking, using the telephone, taking



## 8 of 10 Infectious diseases spread by touch.

SOURCE: BIT.DO/EF3JA



medication, applying makeup or inserting contact lenses.

- Covering all existing and new cuts and grazes with waterproof dressings and if needed wearing gloves before starting work.
- Taking meal breaks away from the main work area.
- Wearing appropriate protective clothing to stop personal contamination, e.g. plastic aprons, gloves, disposable shoes, waterproof clothing.
- Avoiding hand-to-mouth or hand-to-eye contact. Don't put pens and pencils in your mouth and dispose of contaminated water safely.

As well as occupational hygiene, good environmental hygiene and design are also essential. These principles include the following:

- Use equipment that is easy to clean and decontaminate.
- Clean all work surfaces and work areas regularly.
- Ensure, where possible, that the workplace and its services such as water systems and air condition systems are designed to be safe to use, easily cleaned and well maintained.
- Treat water systems to either kill or limit micro-organisms' ability to grow.
- Control pests, such as rats or insects within the premises.

### Effective cleaning

Cleaning products is the next area of control and prevention to consider. Disinfectants can be used to reduce bacteria to a safe level; this is achieved by using the disinfectant along with very hot water (82°C or higher) for best effectiveness. But remember, they must be diluted to the correct levels and left in place for the specified 'contact time' before rinsing. Disinfectants won't break down grease and dirt. Detergents will break down grease and dirt but will not kill bacteria. However, sanitizers are a combined detergent and disinfectant that will kill bacteria if left for the correct 'contact time'.

## DON'T FORGET...

Washing your hands is one of the most important ways of controlling the spread of infection...

- Use a designated hand-washing sink.
- When washing your hands thoroughly, don't forget the backs of your hands and in between your fingers.
- Use liquid soap (antibacterial is best) and hot water.
- When drying your hands, never use shared towels – always use disposable paper towels or an air-dryer.
- Hand-washing needs to be done for a duration of 40–60 seconds.

Washing your hands regularly, effectively and thoroughly is the best way to keep the level of hand-based bacteria to a low or zero level.

### Emergencies

As well as controlling the day-to-day risks it's important to consider potential action that may be required in an emergency situation. If an employee is exposed to blood or potentially infectious materials, you will need to wash the exposed area thoroughly with soap and running water. If blood or bodily fluids are splashed in the eyes or mucous membrane, flush the eye area with running water for at least 15 minutes.

Report the exposure to your supervisor, document the incident and investigate how this happened using health and safety procedures. It's also advisable to seek medical advice. It is a good idea to have a 'clean up' or 'spill kit' available.

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