Chapter 6: Environmental Hygiene

Hygiene and the Environment

Inadequate routine cleaning of the environment has been implicated in the transmission of gastrointestinal and respiratory illnesses.

Germs are everywhere and are introduced into school settings in a variety of ways e.g. on people, food, and pets. Germs can survive on environmental surfaces (e.g. floors, tables, door handles, and toys) for long periods. Viruses, in particular, can be shed in large numbers in respiratory secretions and in faeces and can survive on surfaces for days, or in the case of certain viruses such as norovirus (the virus responsible for winter vomiting illness), for weeks. Environmental hygiene is therefore a vital part of good infection prevention and control.

Terminology

Cleaning is a mechanical process (scrubbing) using detergent and water to remove food residues, dirt, debris and grease.

Disinfection is a process that uses chemicals (disinfectants e.g. household bleach) or heat (e.g. dishwashers) to reduce the number of bacteria on environmental surfaces to a safe level.

Disinfectants are chemicals that will reduce the number of germs to a level at which they are not harmful.

Detergents are chemical cleaning agents (e.g. soap, washing-up liquid, washing powder) that remove soil, grease and dirt but do not kill germs.

Cleaning

Cleaning is essential in the prevention of infection. Normal cleaning methods, using household detergents and warm water is considered to be sufficient to reduce the number of germs in the environment to a safe level.
The routine use of disinfectants **is not necessary and is not recommended**.

How to Clean

- Cleaning is best achieved using a general purpose detergent and warm water, clean cloths, mops and the mechanical action of wiping/scrubbing. The area should then be rinsed and dried.
- Thorough cleaning with detergents should remove all contaminants including dust, dirt, faeces, blood, pus, urine, other body fluids and large numbers of germs.
- The manufacturer's instructions for mixing, using and storing solutions must always be followed. Using excessive amounts of cleaning agents will not kill more germs or clean better but it will damage work surfaces, make floors slippery and give off unpleasant odours.
- Cleaning products should be suitable for their intended use.
- Expiry dates on packaging should be checked routinely.
- Cleaning staff should always read the hazard warning labels and ensure that they observe any specified health and safety precautions. Product material safety data sheets should be available.
- Chemicals should be stored in a cool, dry place out of reach of young children. They should never be stored in recycled food or drinks containers.

Routine Cleaning – General Principles

- All areas should be cleaned regularly as part of a **written cleaning policy.**
- **Written cleaning schedules** should be available and should be monitored to ensure that they are adequate and are being followed.
- Warm water and a general purpose detergent are sufficient in most instances.
- Water should be changed when it looks dirty, after cleaning bathrooms and after cleaning the kitchen.
- Always clean the least dirty items and surfaces first (e.g. countertops before floors, sinks before toilets).
- Always clean high surfaces first, and then low surfaces.
- Separate **colour coded** cleaning cloths and cleaning equipment should be used for kitchen areas, classrooms and toilets.
- Cleaning cloths can either be disposable or reusable. Disposable cloths should be disposed of each day.
- Ideally, reusable cloths should be laundered daily on a hot wash cycle (at least 60°C) in a washing machine and then tumbled dried.
- Ideally, mop heads should be removed and washed in the washing machine at 60°C at the end of each day or in accordance with the manufacturer's instructions.
- If a school does not have a washing machines, after use the cloths and mops should be cleaned thoroughly with warm water and detergent, then disinfected using a low concentration of household bleach (see Chapter 3), rinsed and air dried.
- Mop heads/buckets should not be cleaned in a sink that is used for food preparation. Mop heads should not be left soaking in dirty water.
- Buckets should be emptied after use, washed with detergent and warm water and stored dry. If equipment is stored wet, it allows germs to grow increasing the risk of cross infection.
- Equipment, fixtures and fittings should be cleaned regularly depending on the frequency and intensity of use and not just when visibly dirty.

Cleaning Schedules

A written cleaning schedule should be available for cleaning staff which details:

- Item(s) and area(s) to be cleaned.
- The frequency of cleaning.
- Cleaning materials to be used.
- Equipment to be used and its method of operation.

Disinfection

The routine use of chemical disinfectants for environmental hygiene is **not recommended** as thorough regular cleaning with detergent and warm water is sufficient for most situations.

A disinfectant is recommended however, in circumstances where there is a higher risk of cross-infection (e.g. during outbreaks of gastrointestinal illness) or if there has been a spillage of blood, faeces or vomit (see Chapter 3).

Disinfectants are potentially hazardous and must be used with caution and according to the manufacturer's instructions (see Chapter 3).

Surfaces and items must be cleaned **before** a disinfectant is applied as most disinfectants are inactivated by dirt.

Toilets and Wash Hand Basins and Showers

Inadequate and inaccessible toilet facilities have been found to result in pupils drinking less in order to avoid using the toilet. This results in dehydration, headaches, constipation, fatigue and poor concentration. Toilets that are locked or remote may not be cleaned regularly.

School toilets should be clean and in good repair and monitored regularly.

All toilet areas should have hand washing facilities including hot and cold running water.

Toilets, wash hand basins and surrounding areas should be cleaned at least daily and whenever there is visible soiling. Toilets should be cleaned thoroughly using a general purpose detergent paying particular attention to frequently touched areas such as toilet flush handles, toilet seats, basins and taps, and toilet door handles.

A chlorine releasing disinfectant (see Chapter 3) should be applied for visible soiling or during outbreaks of diarrhoea or vomiting, after pre-cleaning with detergent.

Cream cleansers are suitable to use on ceramics e.g. wash hand basins and showers.

Separate cloths should be used for cleaning the toilet and wash hand basin to reduce the risk of spreading germs from the toilet to the wash hand basin.

Cleaning staff should inspect the toilets and hand washing facilities at regular intervals to ensure;

- The toilets and wash hand basins are in good working order (e.g. the locks on toilets are working, toilets are not blocked).
- There is a plentiful supply of liquid soap, paper towels and toilet rolls.
- Waste bins are not overflowing.

A checklist should be located in the toilets which is dated and signed at regular intervals.

Showers can act as a potential source of cross infection if they are not cleaned after use. Infections that are known to spread in showers include verruca (viral) and athlete's foot (fungal). Shower heads need regular cleaning to prevent scaling and a build up of dirt which will impede flow

Water fountains and other drinking outlets should not be located in the toilets.

Water system maintenance
Poorly maintained water systems can harbour bacteria including legionella that could cause infections so it is very important to maintain constant circulation in a water system. If a school has been closed for a prolonged period of time, e.g. during school holidays, water outlets, toilets, taps and especially showers should be flushed when the school re-opens by running them for 3 minutes. Shower heads should be cleaned and maintained (de-scaled) regularly. Water storage tanks should be cleaned periodically. Part 2 of the HSA's *Guidelines on Managing Safety and Health in Post-Primary Schools* contains a risk assessment template (General School Risks Assessments - No. 30, page 107-108) for the management of *Legionella* bacteria in a school's water distribution system. These guidelines are available on the HSA website at: http://www.hsa.ie/eng/Publications_and_Forms/Publications/Education. Further guidance on *Legionella* is available on the HPSC website http://www.hpsc.ie/hpsc/A-Z/Respiratory/Legionellosis/

Toys and educational/recreational materials and appliances

Toys may become contaminated with germs that are picked up on unwashed hands. If toys are shared between pupils they may become a source of cross infection.

General points

All toys (including those not currently in use) should be cleaned on a regular basis e.g. weekly. This will remove dust and dirt that can harbour germs.

Toys that are visibly dirty or contaminated with blood or body fluids should be taken out of use immediately for cleaning or disposal.

When purchasing toys choose ones that are easy to clean and disinfect (when necessary).

If cloth or soft toys are used they should be machine washable.

Jigsaws, puzzles and toys that young pupils may be inclined to put in their mouths should be capable of being washed and disinfected.

All play equipment should be checked for signs of damage e.g. breaks or cracks. If they cannot be repaired or cleaned, they should be discarded.

Clean toys and equipment should be stored in a clean container or clean cupboard.

The manufacturer's cleaning instructions should always be followed.

Soft modelling materials and play dough should be changed regularly.

Cleaning Procedure

- Wash the toy in warm soapy water, using a brush to get into crevices.
- Rinse the toy in clean water.
- Thoroughly dry the toy.
- Some hard plastic toys may be suitable for cleaning in the dishwasher.
- Toys that cannot be immersed in water i.e. electronic or wind up should be wiped with a damp cloth and dried.

Disinfection Procedure

In some situations toys/equipment may need to be disinfected following cleaning. For example:

- Toys/equipment that pupils place in their mouths.
- Toys/equipment that have been soiled with blood or body fluids.
- During an outbreak of infection.

If disinfection is required:

- A chlorine releasing disinfectant should be used diluted to a concentration of 1,000ppm available chlorine (see Chapter 3).
- The item should be rinsed and dried thoroughly.

Waste Disposal

The majority of waste produced in schools is non hazardous and can be disposed of in black plastic bags in the normal waste stream through the local authority. Waste should be recycled in accordance with local authority policy.

Disposal of Sharps

Pupils who require injections may need to bring needles and syringes to school (e.g. adrenaline pens, insulin syringes) which may present an infection risk to other pupils or staff members once used. It is important to dispose of these items properly. Pupils who need to self inject during school hours should bring in their own sharps boxes which can be returned to them to be discarded through their local hospital, health centre or GP, once used.